MENTAL LIFE AND MEDICAL ILLNESS:
A STUDY OF GENERAL PRACTICE PATIENTS

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Abstract

Most research on the mental life of medical patients has focused on personality characteristics said to influence the experience and reporting of physical symptoms. This is despite minimal support for personality as causally related to physical illness. The popularity of daydreaming (and dreaming) is widespread in the self-help market. Yet research definitions of mental life have seldom included imaginal activities. The aim of this research was to establish a health (and mental life) profile of patients in general practice to the west of Melbourne. The principal focus was to determine if the health of patients could be predicted by mental life. Two studies were conducted. The first study investigated mental life in the form of daydreaming. Patients, approached prior to their consultation with a general practitioner, completed the Short Form Health Survey (SF-36), Severity of Physical Symptoms Checklist (SPSC), Daydream Frequency Scale (DFS), and Short Imaginal Processes Inventory (SIPI). The mental health of the sample was below the norm in the general population. The physical health of males, but not females, was also below the norm. Most patients reported less frequent daydreaming. They did, nevertheless, report more negative daydreams (than the norm). Patients unable to maintain sufficient mental control reported more negative daydreams, but not more (or fewer) positive daydreams. More negative daydreams predicted lower mental health. Patients reported fewer positive daydreams than the norm, and more positive daydreams did not improve their mental health. These findings were only partially consistent with the research literature. The second study sought to explore these findings further by determining if they were mediated by life orientation. Patients completed the Revised Life Orientation Scale (LOT-R), in addition to the SF-36 and SIPI. There were important sex differences in relationships between measures of mental life and mental health. For females, more pessimism was related to more negative daydreams and predicted lower mental health. For males, insufficient mental control predicted lower mental health. Consistent with the first study, positive daydreams (and optimism in the second study) was not related to male or female mental health. Results for females support recent research indicating that it is pessimism, and not optimism, that is the principal determinant of mental health. It is clear, however, that much more research on the correlates of male mental health, and how these differ from those of females, is warranted. The findings of the present research suggest that daydreaming is not a mundane activity: rather it is an important dimension of mental life requiring further consideration in mental health research.

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It is good to have an end to journey towards; but it is the journey that matters in the end.
(Ursula Le Guin, 1929-).

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Declaration

I, Michael Gruis, declare that this PhD thesis entitled “Mental Life and Medical Illness: A Study of General Practice Patients” is no more than 100, 000 words in length, exclusive of tables, figures, appendices, references, and footnotes. This thesis contains no material that has been submitted previously, in whole or part, for the award of any other academic degree or diploma. Except where otherwise indicated, this thesis is my own work

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Michael Gruis Date

INTRODUCTION TO THESIS

I perfectly agree with you in considering castles in the air as more useful edifices than they are generally allowed to be. It is only plodding matter-of-fact dullness that cannot comprehend their use.

(Elizabeth Hamilton, 1758-1816).

This introduction highlights the widespread popularity of daydreaming in the self-help market. Yet it describes the apparent disregard of daydreaming within the scientific community. It highlights the recent shift in research attention towards holistic health. It argues that this research is yet to include daydreaming as a dimension of mental life that might be important to maintaining a sense of wellbeing. This introduction reports that much previous research, such as that on guided imagery in medical settings, has been limited to controlled visualisation where imagery sequences are given to participants. The present research investigated daydreaming as an autonomous activity that usually occurs without manipulation. This introduction concludes by presenting the research questions to be answered by the present thesis. It also provides an outline of the structure of the thesis.

The Neglect of Daydreaming in the Discipline of Psychology

Many earlier researchers were encouraged by the emergence of 'introspective psychology' in the early 19th century, proclaiming that daydreams would be a fruitful avenue of future scientific endeavour (Green, 1923; Freud, 1908; Varendonck, 1921). Yet the importance of daydreaming continues to remain unappreciated in academic psychology. Researchers have seldom considered the study of daydreaming as legitimate scientific research. The relative absence of research would be even more striking if not for the invaluable individual contributions of researchers such as Giambra, Klinger, and Singer. The study of daydreaming is also unheard of in Australia. An extensive search of the literature identified a single study that was conducted by Stone in collaboration with Giambra (1983) more than 20 years ago. The scientific inattention to daydreaming is perplexing given it has been acknowledged by many researchers (Antonietti & Colombo, 1997; Klinger, 1993; Morley, 1998; Raphling, 1994; Varendonck, 1921). Green (1923) reported more than 80 years ago that most academics considered daydreaming as unworthy of scientific

interest. He wrote that researchers referred to it as "a queer activity unworthy of the attention of anyone but the superstitious" (p.26).

More recent studies have continued to ignore the research potential offered by daydreaming, which is bewildering given it was the focus of some research in the print media no more than two decades ago. The scarcity of research has also contradicted the recent resurgence of research interest in mental life. This interest has lead to an impressive volume of research on personality that has yet to include imaginal activities, with the exception of guided daydreams as a remedial process.

The credibility of research on daydreaming has been hampered by the popular view it is mere 'idle wool gathering' that draws attention from rational thought (Gold & Cundiff, 1980). Those who daydream are often described by statements such as 'off with the fairies', 'staring into space', or 'building castles in the air' (Singer, 1981). The need to daydream has been denounced by some social commentators as evidence of a weak personal character (Dantes, 1995). The content of some daydreams highlight personal inadequacies. The disclosure of these personal needs generates feelings of vulnerability (Klinger, 1990), hence the desire to conceal daydreams.

Most people consider daydreams as private property, seldom disclosed to others (Klinger, 1990). Hence, little is known about the daydreams of most people, since they are not often shared with others. Freud (1908) wrote, "the daydreamer falsely believes that he (she) is the only person who invents such daydreams and has no idea that these creations are similar to those of others (p.128)". It was reported more recently that the inhibition about sharing daydreaming appears to be a 'shared understanding' (or general rule) in society that even manifests in clinical practice where patients tend to be more inclined to explore their mental life (Person, 1995).

A common view of daydreaming is that it is a pathologic activity, symptomatic of 'mental disturbance' (Green, 1923; Freud, 1908; Varendonck, 1921). This view is based on the argument that withdrawing from reality endangers mental health (Singer, 1981), as it reflects an inability to cope with events in the real world (Starker, 1982). Robinson and Horrocks (1959) claimed, for instance, that too frequent daydreaming is suggestive of an imminent 'schizophrenic episode'. Yet in most populations studied thus far, there has been minimal support for the argument that daydreaming is characteristic of mental disorder. Even so, more frequent daydreaming continues to be included in most definitions of psychopathology (Greenwald, & Harder, 1995; 1997).

It is also now considered a prominent feature of more recently identified forms of mental disorder such as attention deficit disorder (Aaron, Joshi, & Phipps, 2004).

There are reports (for example, Gold & Cundiff, 1980; Starker, 1982) that some researchers have been reluctant to study daydreaming because of negative connotations that continue to plague this area of research. Much research has, however, exposed the falsehood of these connotations, indicating that most daydreams concentrate on realistic problem solving (Klinger, 1990; Singer, 1981; Starker, 1982). This problem solving includes the ability to foresee future events that may, or may not, occur and to plan for them. It also includes the capacity to invent 'new things'. These daydreams maximise positive emotions by imagining, for example, satisfying outcomes to concerns that are of present worry (Klinger, 1993). They can also provide temporary relief from the emotional stress of harsh realities by encouraging more comforting thoughts that foster relaxation (Lang, 1995; Novey, 2000).

Spiritual Empowerment: Daydreaming as a form of Self-Help

The fascination with interpreting the personal meanings of daydreams (and dreams) is widespread in the self-help market (Barth, 1997; Person, 1995). The authors of these texts claim to empower readers with the wisdom to understand the 'spiritual meaning' of their personal daydreams. The texts, however, draw their claims with little, if any, reference to the psychological literature. The material in them often comprises the personal opinions of the authors who generalise their daydream experiences to those of all others, contrary to established scientific principles. Singer (1981, p.6), a prominent researcher, warned of this danger in his early work writing:

> It must be examined in a systematic way that lends itself to empirical research approaches. In daydreaming *all* of us are authorities because of the very private nature of our experiences. It is tempting to use private experiences and to generalise from these to all mankind. This temptation must be resisted.

The social commentary on the importance of daydreaming contained within these self-help books has led to many contradictions. Dantes (1995) in *Your Fantasies may be Dangerous to your Health* argued that the capacity to have thoughts on events in the real world is the most productive form of thinking. Upon personal reflection she wrote that daydreams are immature thoughts that serve no worthwhile purpose in

reality. In opposition to Dantes (1995), Langs (1995) in *The Daydream Workbook* argued that daydreaming is the most unappreciated form of mental activity. He wrote that understanding the meaning of daydreams is crucial for personal growth. They are guardians of our health, he wrote. He argued that they cure, or at least lessen, the experience of physical symptoms. He further claimed that, if harnessed, the power of daydreams also resolves symptoms of mental illness by alleviating the stress of painful realities. Unfortunately, neither of these two texts draws reference to peer reviewed research to support their assertions on the merit of daydreaming.

The Holistic Approach to Health

The present research examined the daydreams of medical patients in general practice. It sought to explore how daydreams relate to changes in health status. It was developed on the basis of recent empirical research on 'holistic wellbeing'. Much of this recent research has focussed on the use of 'guided imagery' as a psychological intervention for medical patients, in particular those with serious medical conditions. The present research also examined conflicting reports of relationships between affective daydreams and health status, with a particular focus on mental health. A succinct summary of research that formed the basis of this thesis is provided below:

Affective Guided Imagery:

- The use of holistic medicine, an integrated approach to healing concerned with the connection between mind and body, is widespread within the health care system.

- This popularity has inspired much research on physiological sensations that occur during affective imagery (when scenarios are suggested to patients by researchers).

- Some patients appear more sensitive to these sensations that represent underlying emotion, which they interpret as further signs of ill health (Novey, 2000).

- These patients are often unable to distinguish the experience of emotion from physiological sensations that accompany affect (Posse & Hallstrom, 1998).

- The sensations aroused by negative imagery have adverse effects on health. They are associated with heightened risk for diseases of the cardiovascular system, particularly when they are experienced too often (Vrana & Rollock, 2002).

- Negative imagery arouses intense physiological sensations when based on personal experiences as they evoke stronger emotions (Sinha, Lovallo, & Parsons, 1992).

- The psychological intervention of positive imagery stimulates the parasympathetic nervous system leading to reduced physiological activity (Louie, 2004).

- This imagery relieves intensity of pain and diverts attention from anxiety and fear to pleasant thoughts of peaceful tranquillity that encourages relaxation (Dennis, 2004).

- Positive imagery has mostly been researched with medical patients with high health needs: those undergoing invasive surgery or chemotherapy for progressive cancers.

- Up to 50 percent of surgical patients undergoing positive imagery have a reduced use of pain medication and lower length of hospital stay (Antall & Kresevic, 2004).

- Cancer patients participating in positive imagery have longer times in remission (Diespecker, 1990), and fewer side effects of chemotherapy (Walker, 2004).

- The health benefits of positive imagery are most pronounced when it is personalised to the health needs of individual patients (Novey, 2000).

Daydreams of Medical Patients:

- Medical patients have a marked reduction in frequency of daydreaming as they adopt realistic thought patterns (Kreitler, Chaitchik, &, Kreitler, 1990).

- The focus on events (or tasks) in the external environment also means that patients have fewer opportunities for mindwandering (Bagby, Taylor, & Parker, 1994).

- Patients with chronic conditions sometimes adopt wishful daydreams as a defensive manoeuvre to the stressful demands of the situation (Feifel, Strack, & Nagy, 1987), as these daydreams allow them to escape emotional strain into comforting fantasy.

- These patients are, unfortunately, more likely to have feelings of helplessness, and to be diagnosed with affective disorders (Vingerhoets & Menges, 1989).

- The adoption of realistic thinking suppresses the spontaneous expression of intense emotions (Sifneos, 1991), in particular positive emotions (Kreitler et al. 1990).

- Patients reported more unwanted negative daydreams, which were followed by intense negative reactions (Streissuth, Wagner, & Wechsler, 1969).

- Patients having more negative thoughts are more likely to be managed in general practice for affective disorders (Berthoz, Consoli, Perez-Diaz, & Jouvent, 1999). An important characteristic of most affective disorders is more negative daydreams that manifest intense unpleasant emotions (Gold, Gold, Milner, & Robertson, 1987).

- It is unknown if 'better' mental health stems from more positive daydreams. These daydreams emphasise positive outcomes to life experiences even when individuals are confronted with challenging obstacles (Kreitler & Kreitler, 1991).

- It has been argued that a characteristic of affective disturbance is more negative daydreams, but not fewer positive daydreams (Greenwald & Harder, 1995; 1997). It has, however, remained largely unclear as to why positive daydreams are not related to indices of psychopathology (Greenwald & Harder, 1995; 1997).

- Some patients reporting more positive daydreams have recorded the worst health outcomes (Oettingen & Mayer, 2002), as they tend to underestimate the seriousness of the situation (Felton & Revenson, 1987). These patients and are often unwilling to accept the limitations imposed by health concerns on participation in the physical activities of everyday living (Brown & Nicassio, 1987; Felton & Revenson, 1984).

- Positive daydreams also hinder successful recovery from illness as they provide little motivation to act: they embellish future events and the probability of them occurring. This discourages patients from preparing for potential obstacles to their recovery and from planning how to overcome them (Oettingen & Mayer, 2002; Oettingen, Pak, & Schnetter, 2001).

- More uncontrolled thought, including more frequent daydreaming, also appears to be an important characteristic of affective disturbance (Baskin & Goldstein, 1986).

- The inability to maintain mental control has been found to correspond with reports of more negative daydreams (Giambra & Traynor, 1978; Wenzlaff & Bates, 1998).

Research Questions of the Present Research

The present research differed from previous investigations by focussing attention on the mental life of patients in general practice. It defined mental life as autonomous daydreams that occur without manipulation by a researcher. This research was designed to answer the following questions:

- What comprises the health profile of patients in general practice to the west of Melbourne? How does this profile compare to that reported in health research?
- How is the daydreaming of these patients related to their health status?

Subsequent research questions were:

- How does the health of these patients compare to norms in the general population?
- How severe are the physical symptoms experienced by these patients?
- How is severity of physical symptoms related to physical and mental health?
- Do males and females differ in their daydreaming and health status?

Structure of the Thesis

The thesis is divided into eight chapters. The first chapter reviews available literature. The second chapter outlines the research questions to be answered by the first study. It also includes research hypotheses, generated from a review of the literature. The third chapter describes how the first study was conducted to answer these research hypotheses. It presents the demographic characteristics of participants in the first study. The fourth chapter provides the results, and subsequent conclusions, of the first study. It includes a succinct summary of the main findings referring to research presented in the literature review. It concludes with an outline of the research questions of the second study, designed to expand upon the findings of the first study. This outline includes the research hypotheses of the second study. The fifth chapter describes how the second study was conducted to answer these research hypotheses. It details the demographic characteristics of participants in the study. The sixth chapter provides the results of the second study. The seventh chapter is a discussion that draws together the results of the two studies. It evaluates the literature review in light of the findings obtained. This includes stating whether the hypotheses were, or were not, supported. The last chapter outlines the main implications of the two studies for future research as well as their importance for providers of primary health care.

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CHAPTER ONE: LITERATURE REVIEW

OVERVIEW OF CHAPTER

The literature review is divided into three sections: Psychology of Daydreaming, The Health Profile of General Practice, and Daydreaming and Health Status. The first section defines daydreaming, highlighting when and where it is most likely to occur. It describes the function of daydreaming, arguing that most daydreams occur in response to current concerns that arouse emotion. It shows that, although a widespread phenomenon, daydreams are shielded in secrecy protected by a reluctance to share them. It argues, nevertheless, that most participants provide honest responses to self-report measures of daydreaming. This section does highlight the research value of measures that evaluate well-established patterns of daydreaming. It concludes with a discussion of reported differences in daydreaming due to demographic characteristics.

The second section emphasises the importance of general practitioners to the wellbeing of the community, as they manage most physical conditions of ill health. It defines 'health', highlighting the mounting interest in 'wellness', defined to include multiple dimensions of functional wellbeing. This section argues that wellness is more inclusive than the biomedical model of health as the absence of bodily malfunction. It notes the previous reliance on biomedical measures that seek to determine departure from biological normality. It describes more recent measures that evaluate favourable (and unfavourable) states of health. It concludes with a discussion of reported differences in health (and utilisation patterns) due to demographic characteristics.

The third section argues that affective imagery arouses emotion that elicits physiological responses that are interpreted by patients as ill health. It shows that physical responses to negative imagery have adverse implications for health, with the reporting of worsening health not uncommon. It provides evidence that positive imagery is an effective intervention tool for patients and leads to more favourable health outcomes. It argues that it is not known if daydreams free from manipulation are related to health status. This section argues that medical patients relinquish daydreaming in favour of concrete forms of thinking focussed on realism. It shows that although more negative daydreams increase affective disturbance it remains unknown if more positive daydreams improve mental health. This section argues that it remains unknown if daydreaming is related to life orientation. Moreover, debate persists as to whether more optimism or less pessimism (or a combination of both) is beneficial to mental health.

SECTION ONE:

THE PSYCHOLOGY OF DAYDREAMING

All these dream-pictures of fatherland, freedom, honour, happiness and pride, which have inspired so many outstanding men to perform great and noble deeds are in truth no more than human day-dreams.

(Christina of Sweden, 1626-1689).

CHARACTERISTICS OF DAYDREAMING

Definition of Daydreaming

It is widely recognised that daydreaming is one manifestation of the 'ongoing stream of thought' (Kunzendorf & Wallace, 2000; Pope & Singer, 1978). The content of this stream ranges from static visual images to elaborate fantasy stories (Singer, 1974; 1981). It also comprises thoughts related to events in the external environment (Singer, 1992). Singer (1981) in his definition included awareness of emotions, as well as physiological sensations that accompany emotion. The content of the on-going stream is difficult to suppress as thoughts compete, and sometimes merge, with one another for expression through conscious thought (Klinger, 1990; Singer, 1992).

Most definitions of daydreaming have referred to an inward focus of attention (Giambra & Stone, 1983; Goldstein & Baskin, 1988; Singer, 1981) described as a shift from on-going tasks to thoughts unrelated to the immediate environment (Derry, Deal, & Baum, 1993; Singer, 1992; Singer & Antrobus, 1963). Klinger (1979; 1990) referred to this shift as an internal distraction from the 'here and now'.

In addition to being removed from the 'here and now', Klinger and Cox (1988) argued that daydreams comprise two defining characteristics: spontaneity (versus deliberate) and realism (versus fanciful). They proposed that these characteristics (task distraction, spontaneity, and realism) are independent of each other. Spontaneity refers to the degree to which daydreaming is under deliberate, voluntary control (Klinger, 1971). In deliberate (directed) thought, one has the impression that the stream of thought is under conscious control, whereas in spontaneous (undirected) thought the stream of thought seems to steer itself. Realism refers to the likelihood or plausibility of depicted events or situations in the daydream and distinguishes regular thoughts from those that are more bizarre, dreamlike, or nonsensical which sometimes intrude into waking thought. Klinger (1971) also noted that daydreaming can be intermixed with task-related thought - in such cases there is no clear distraction (from on-going tasks) towards thoughts unrelated to the external environment. Thus, to

Klinger (1978; 1990) daydreams are not exclusively irrelevant to a current task situation; they can occur at any given time and situation and can incorporate themes realistic or improbable in nature (or a combination of the two)".

Conditions Favourable to Daydreaming

In drawing upon personal introspection Varendonck (1921) argued that most daydreams "originate while the mind is vacant" (p.54). More recent research has confirmed that daydreams occur most often when there are minimal demands for attention, such as when undertaking tasks in familiar surroundings (Henderson, Gold & Clarke 1984; Singer, 1981). These mundane environments provide little opportunity for pleasure. Sutherland (1971) argued that daydreaming becomes a more attractive alternative to these environments. Daydreams are also more likely to occur when there are fewer social demands to interact with others such as when one is alone like prior to falling asleep or when on a long bus ride (Klinger, 1990; Singer, 1981).

Green (1923) offered a thought-provoking alternative to the argument that daydreaming represents a shift of attention from the external environment. He argued that daydreaming is the everyday state of thought that would comprise almost all daily thoughts if not for the 'forceful' demands of the external environment. He wrote:

> They (daydreams) monopolise attention except at such times as attention is turned from them and concentrated upon activities connected with the real world, by means of voluntary effort (p.25).

This argument by Green (1923) has received minimal empirical support. Even so, he was one of the first researchers to acknowledge the common occurrence of daydreaming in everyday thought. He also recognised the importance of daydreaming to the continuous competition between content within the on-going stream of thought.

Control Over Daydreams

The majority of daydreams are spontaneous in that 'they just happen' (Klinger, 1990). Welwood (1979) described them as 'hijacking' attention from the external environment. These automatic daydreams often represent unwanted thoughts (Derry, et al. 1993; Baskin & Goldstein, 1986) that are difficult to suppress (Giambra & Stone, 1983). Beck (1971) suggested that intrusive daydreams often cannot be 'turned off' in spite of the will of the individual. They continue to ruminate despite deliberate

efforts to prevent them. Some people are unable to control the content of daydreams, in addition to where and when they occur (Baskin & Goldstein, 1986).

There are daydreams that represent deliberate attempts at self-distraction (Beck, 1970; Giambra, 1989). These daydreams instigate arousal through the creation of novelty. This arousal compensates for that which cannot be provided by the external environment. Klinger (1990) considered these daydreams, which comprise almost half of all daydreams, as deliberate attempts to 'combat boredom'. Other reports indicate that individuals have 'favourite daydreams', planned with deliberate intent for self-entertainment (Green, 1923; Singer, 1981; Varendonck, 1921). Segal (1985) argued that 'self-satisfying daydreams' often serve to provide relief from emotional stress.

Once started, however, the direction of intentional daydreams often unfolds without deliberate intent (Klinger, 1990; Singer, 1974). Varendonck (1921) referred to 'chains of thought', in which one daydream initiates another daydream or a different version of the same daydream. He argued that daydreams depict interwoven series of events. These daydreams sometimes continue, or ruminate, without the daydreamer being able to interrupt them (Beck, 1970; Klinger, 1971; Singer, 1974). They 'finish' with an awakening sensation as a result of an external distraction or the internal awareness of having being 'lost in thought' (Green, 1923; Singer, 1981). This awakening includes the realisation that awareness of the passage of time has been momentarily lost (Marsh, 1977). Green (1923) described this awakening as being:

> Withdrawn like the dreamer from the life which is going on about him, of which he is, in less or greater measure oblivious. And it was realised, too, that the end of the daydream coincided with a 'waking up', less complete than that which is the ordinary cessation of sleep, but yet very like it (p.25).

Bagley (1987) reported that, despite this waking up, daydreams can continue for as long as the individual maintains concentration on them, even if distracted for a short period of time by events in the external environment.

Visual Qualities of Daydreams

There is wide agreement that daydreams represent the innate capacity to create 'mental pictures' (Bagley, 1987; Klinger 1993; Singer, 1992). These mental pictures are more likely to occur when the 'mind can freely wander' as when daydreaming (Antonietti & Colombo, 1997). Klinger (1990) estimated that two-thirds of daydreams incorporate visual attributes that depict everyday objects or events not present in the external environment at the time of the daydream. He found that most (70%) visual images in daydreams depicted a person, car, house, or familiar scene. These images combined to produce daydreams that appeared 'life-like' (Bagley, 1987). These daydreams were often so vivid that people sometimes "believed that the people or objects in them were nearby" (Klinger, 1990 p. 72).

The majority of daydreams comprise continuous sequences of images that unfold like elaborate fantasy stories (Klinger, 1990; Langs, 1995; Person, 1995). The daydream experience has been likened to that of a cinema production (Segal, 1985). In drawing this analogy Varendonck (1921) wrote:

> Nearly all thoughts were translated into moving scenes just as in the cinema. The screen was scarcely ever a blank; there was practically no interruption as long as the film lasted. The daydreams were represented by vivid animated pictures, which unrolled themselves automatically (p.59).

Klinger (1990) found that most daydreams are brief episodes lasting, on average, about 15 seconds each (with a median duration of five seconds). Lang (1995) also argued that some daydreams also take the form of isolated images.

Auditory Qualities of Daydreams

Daydreams tend to have an interior monologue that accompanies visual images (Klinger, 1993; Klinger & Cox, 1988; Singer, 1992). Singer (1981) reported that this monologue is a 'running commentary' of sequences of events contained within the daydream. This includes the recall of conversations with or between others. Klinger (1990) estimated that three-quarters of daydreams contain 'self-talk' with half of all daydreams including 'more than a few words'. The latter daydreams incorporate everyday sounds like music, noise, traffic sounds, as well as the voices of others. Klinger (1990) suggested that daydreams comprise most features encountered in everyday happenings. These include sights, sounds, actions, events, and emotions.

THE FUNCTION OF DAYDREAMS

It is often assumed that the function of daydreaming is to reduce boredom through the creation of novelty (Singer, 1975). They are also seen as providing a 'peaceful sanctuary' by allowing the individual to enjoy flights of improbable fantasy. The ability to imagine scenes of pleasant tranquillity serves to maximise positive emotion and to minimise the effect of negative emotion (Singer, 1981). Segal (1985) argued that negative emotions often accompany life dilemmas that are of concern.

The ability to escape from upsetting emotion is possible because daydreams are not limited by the constraints of reality. They have the luxury of containing actions that cannot be undertaken in the real world as they violate natural laws or those enforced by society. This freedom encourages the daydreamer to modify reality as desired. This includes creating sequences of how the future may, or may not unfold (Derry et al. 1993). Klinger (1990) argued that the capacity to relive memories makes daydreams 'timeless'. He wrote, "we relive in our minds episodes of real lives as we remember them – or regrettably as we wish they had transpired" (p. 18).

Klinger (1990) also argued that the use of daydreams to escape from reality into flights of improbable fantasy is often temporary. Sutherland (1971) reported earlier that unmet emotional needs resurface through daydreams despite repeated efforts to focus on 'fanciful imagery'. She implied that upsetting emotions materialise because of the inability of the individual to control the production of all thoughts.

Much research has suggested that not all daydreams are improbable (Giambra, 1989; Singer, 1981). Singer and McCraven (1961) found that fanciful daydreams serving a wish-fulfilling function were the least common form of daydream reported. Similarly, Klinger (1990) estimated that no more than 20 percent of daydreams contain actions that are 'physically improbable'. He argued that most daydreams focus on realistic problem solving, namely the planning of future actions that may or may not occur. Other researchers referred to these daydreams as practical role taking (Sarbin, 1972) in that they demonstrate the ability to anticipate future involvement in life events (Sutherland, 1971). This includes preparing alternative plans for possible events before mentally reviewing the possible outcomes of these plans. Klinger (1990) argued that most daydreams combine fanciful actions that create wish-fulfilling situations and realistic actions that generate solutions to practical problems.

It has been argued that daydreams serve as safety valves to regulate the expression of intense emotion (Giambra, 1989; Varendonck, 1921). Diespecker

(1990) reported that 'affective daydreams' arouse emotions that are similar to those that occur in response to actual events. Segal (1985) argued that these emotions trigger secondary daydreams that either enhance or lessen the experience of emotion. These affective daydreams influence the mood of the daydreamer both during and after the daydream (Gold et al. 1986). They are also the most intrusive of all daydreams (Beck, 1970). Varendonck (1921), in describing his intrusive daydreams, emphasised that they were not always negative in affect. Some fostered positive feelings by imagining favourable outcomes to stressful situations.

Klinger (1990; 1993) argued that the cues that start a daydream are reminders of unresolved concerns. These cues can be of an internal origin (Klinger, 1993) or objects in the external environment that act as a reminder of worrisome concerns that are yet to be resolved (Aylwin, 1990). The concerns requiring accommodation are 'timeless' (Varendonck, 1921) in that they represent unfinished business from the past or present (Langs, 1995). Freud (1900) observed that like the night-dream, events of the day seem to provide most of the material contained within a daydream. Klinger (1990) more recently argued that some daydreams represent concerns of potential outcomes to anticipated events that may, or may not transpire in reality.

Klinger (1990) defined current concerns as the pursuit of personal ambitions that have not yet been obtained or abandoned. Giambra (1982) included in his broad definition all the events in the life of the individual that are of present interest. He emphasised that current concerns can include imagining positive events, in addition to those that are worrisome. It has been estimated that two-thirds of daydreams reproduce current concerns in the life of the individual (Klinger, 1990).

The current concerns of an individual compete for attention in everyday thought with the most influential concerns governing the direction of daydreams. These concerns are those that arouse the most intense emotion (Klinger, 1990; 1993). Gold and Reilly (1986) found that most daydreams recalled by college students (n = 62) represented their current concerns. The greatest percentage of recalled daydreams was for those containing concerns classified as 'emotionally significant'. Those who reported the most current concerns also daydreamed the most often. Gold and Reilly (1986) argued that daydreams do not occur as a random production: rather they are determined by the current concerns of the individual at the time of the daydream.

THE SECRET WORLD OF DAYDREAMING

The production of daydreams has been referred to as a private theatre of the mind that is hidden from the view of others (Morley, 1998). Klinger (1990) argued that they are shielded in secrecy protected by a strong reluctance to share them. According to Freud (1908) the deliberate concealment of daydreams is testament to the need of adults to hide their desires from others. He wrote, "they are cherished as the most intimate possessions: we would rather confess our misdeeds than tell anyone our daydreams" (p.128). Klinger (1990) argued that desires underlying a daydream contain personal weaknesses that are deemed necessary to conceal from others. Green (1923) wrote earlier that the "daydream is the furniture of a secret chamber of the soul. Its exposure is a kind of sacrilege" (p.61). The ability of daydreams to disclose intimate thoughts generates feelings of vulnerability (Starker, 1982). These thoughts are hidden if they challenge perceptions of the self as held by the daydreamer or those that the daydreamer wishes to project to others (Klinger, 1990).

The secrecy afforded to daydreaming is due, in large part, to its portrayal as a pathologic activity, which is symptomatic of 'mental disturbance' (Starker, 1982). The common view is that the capacity to withdraw from reality as offered by daydreaming endangers mental health (Singer, 1981) because it reflects an inability to cope with actual events in the real world (Starker, 1982). For instance, Robinson and Horrocks (1959) claimed that too frequent daydreaming is suggestive of an imminent 'schizophrenic episode' as it represents the need to retreat from the outside world. Varendonck (1921) reported that many people in the general population believe that daydreaming is an abnormal 'psychic process' that is not to be discussed with others. Similarly, Green (1923) observed that many researchers have referred to daydreaming as "a queer activity unworthy of the attention of anyone but the superstitious" (p.26).

The view that daydreaming threatens mental health was founded on early case studies of psychiatric patients. The clinical experience of Freud (1908) with neurosis patients led him to surmise that 'well' individuals do not need to daydream. He argued that it is characteristic of individuals frustrated by constraints in the real world. These individuals, he wrote, have the need to retreat into a fantasy life that is oblivious to happenings in reality: it is this retreat that, he argued, is suggestive of mental disorder. He observed that the daydream is the "mental precursor of the distressing symptoms reported by patients" (p. 130). The need to daydream (and to daydream more often)

continues to be included in many studies of psychopathology, in particular when individuals are coping with stressful situations (Greenwald & Harder, 1995; 1997).

The activity of daydreaming continues to receive social criticism. This criticism is drawn from the belief that daydreaming draws attention from 'rational thought'. Dantes (1995), for instance, denounced daydreaming as a 'waste of time'. She insisted that time spent daydreaming would be more productive if channelled into accomplishing concrete tasks in the real world. She argued that daydreaming in adults is a form of 'childish thinking'. She quoted Freud (1908) who reported that adults are aware that it is an infantile activity not 'permissible' beyond childhood. Freud (1908) wrote, "the adult knows he is expected not to go on playing or fantasising any longer, but to act in the real world; on the other hand, some wishes which give rise to his fantasies are of a kind which it is essential to conceal" (p. 128). Dantes (1995) suggested that, unlike young children, adults must focus on living in the *now* by taking action in present reality. This is the most constructive form of thinking, she wrote. She also argued that daydreaming is an asocial activity responsible for relationship difficulties in the home as well as reduced productivity in the workplace.

A study of college students (n = 60) by Gold and Cundiff (1980) illustrated that negative connotations remain attached to the activity of daydreaming. They found a significant escalation in the number of recorded daydreams following the provision of positive information about daydreaming. It was argued that, instead of having more daydreams, positive information made individuals believe it was now acceptable to report them. It was reported that, "many people believe that daydreaming is a waste of time. This belief may have been eased by the giving of positive information" (p. 926).

Most researchers assumed that the secrecy surrounding daydreaming would hinder the effectiveness of self-report measures (Klinger 1971; Singer 1981). It was argued that people would be reluctant to provide full accounts of their daydreams without self-censorship (Giambra, 1982; Green, 1923). Yet the majority of research evidence indicates that most people provide honest descriptions of their daydreams, particularly when anonymity is guaranteed (Giambra, 1989; Klinger 1971; Singer 1981). Singer and Antrobus (1963) found that most people denied being embarrassed by the content of their daydreams and did not provide 'defensive responses'. Most measures have, nevertheless, taken into account self-censorship by including items of social desirability (Page, 1960; Schoenfeld, 1970). Brannigan (1977) argued that social desirability is a pervasive determinant of behaviour, characterised by enhanced

conformity to the evaluations of societal norms. It includes self-presentation tailored to create the most positive image to avoid social disapproval (Paulhus, 1984; 1986).

There have, however, been few studies of the influence of self-censorship on self-reported daydreaming. Giambra and Trayner (1978) found 'the need to promote a good impression had little' influence on self-reported content of daydreams. There continues to be concern, nevertheless, that participants favour the reporting of daydreams that highlight socially favourable qualities. Giambra (1994) replaced the term 'daydreaming' with 'task-unrelated-thoughts' in an endeavour to reduce the 'potential unhelpful effects of self-censorship'. Other researchers have continued to control for social desirability, even though they reported that it did not alter the 'general picture' of their main findings (Greenwald, & Harder, 1995; 1997). This later research did not comment, however, on the direct effect of social desirability on self-reported daydreams: it was simply included as a covariate in statistical analysis.

A study of college students (n = 200) found that those 'in need of social approval' reported fewer sexual daydreams (Brannigan, Schaller, & McGarva, 1993). It is most likely, however, that this finding is exclusive to this form of daydreaming: the reporting of sexual thoughts might be deemed socially unacceptable. Even so, there has been concern that people tend to present an overly positive evaluation of their daydreams. There are reports that most people describe daydreams of socially favourable themes such as self-improvement, practical planning, and attainment of financial security on self-report measures (Singer, 1981; Singer & McCraven, 1961).

THE MEASUREMENT OF DAYDREAMING

Operational Definition

A defining property of daydreaming is that it is a 'private thought process': it is not an observable action. They are also autonomous in that they usually occur without the deliberate manipulation of a researcher (Klinger, 1971). Klinger (1971) noted, nevertheless, that individuals are increasingly being asked to communicate behaviours such as imaginal activities that are hidden from public view. He wrote:

> It is normally never communicated, but since science requires that phenomena under study be communicated in some form, all operational definitions of fantasy require an overt manifestation of the covert process (p.7).

The overt reporting of daydreaming is usually written and in most studies takes the form of retrospective recall (Klinger 1971). This reporting requires participants to estimate the frequency with which certain daydreams have occurred (Klinger 1971). A small number of studies asked participants to narrate their daydreams in daydream diaries (Cundiff & Gold, 1979, Gold & Gold, 1982; Gold & Reilly, 1986). The daydreams were then rated according to content themes preset by the researcher.

The difficulties in defining daydreaming have been the catalyst of much debate in the psychological literature (Klinger, 1971; 1990; 1993). This debate has centred on whether a single definition can encompass the wide array of imaginal activities reported to be examples of daydreaming (Klinger, 1971; Starker, 1977). For example, it remains undecided whether (or not) it is practical to differentiate daydreams from the reliving of past memories (Starker, 1982). It is also contentious as to whether daydreams can be separated from intellectual thoughts comprising visual qualities (Klinger, 1990). These thoughts help develop solutions to problems, as well as prepare for future actions. Klinger (1979) referred to daydreaming as a 'fuzzy' term because imaginal activities sometimes merge into each other making it difficult to distinguish them. Mueller (1990) in illustrating the complexity of defining a daydream wrote:

> It refers to sequences of thought reported in a verbal protocol where thoughts comprise self-attitude, goals, emotions, beliefs about the thoughts of others, beliefs about world states and events, hypothetical past, present, or future thoughts of varying degrees of realism and memories of the past (p. 21).

The popular emphasis on fanciful phrases such as 'off with the fairies' contributes even further to the conjecture about what constitutes 'a daydream'. Most dictionary definitions 'simply' refer to fanciful or wishful daydreams. The Collins Compact Dictionary (1995) referred to daydreams as positive fantasies indulged in while awake. The Oxford Dictionary (1994) suggested that daydreams are pleasant thoughts of something one would like to happen. The diversity of opinion as to the composition of a daydream led Klinger (1993) to surmise that it is a multi-media presentation.

The absence of a uniform definition led some researchers to ask participants to use their own definitions when completing measures. Sutherland (1971) argued that most people when questioned about daydreaming acknowledge that it does exist, and

are able to provide a definition. Green (1923 p.60) noted earlier that most people define daydreaming as ‘thinking about other things’. Most studies have, nevertheless, provided participants with an explanation of how daydreams differ from thoughts related to the external environment. The most common explanation is as follows:

> When we use the word 'daydream', we are using popular terminology that has no 'official' definition. You may have a particular idea of what you mean by a daydream. Make a distinction between *thinking* about an immediate task you're performing, for example working, doing school work, and thinking directly about it while you are doing it, and *daydreaming* which involves thoughts unrelated to a task you are working on, or else thoughts that go on while you are getting ready for a long bus or train ride (Huba et al. 1982).

It has also been recommended (Singer, 1981; Starker, 1982) that researchers employ measures that evaluate well-established patterns of daydreaming. According to Singer (1981) the use of these measures might counterbalance the possible adverse implications of not having an adequate research definition of daydreaming.

Patterns of Daydreams:
The Imaginal Processes Inventory

The findings of early studies were drawn from projective tests administered as broad measures of mental life. These tests have, however, received much criticism (Leichtman, 1996; Semeonff, 1976). The principal criticism is that they are difficult to administer to groups of participants. It is also time-consuming for participants to narrate the fantasy stories created from the scenarios (or pictures) presented to them. In addition, the narrative requirements of the tests are often ineffective for participants with inferior descriptive abilities who are unable to narrate fantasy stories in sufficient detail: researchers often cannot rate these stories with acceptable reliability.

In the decade from 1960 to 1970 a number of self-report measures were developed in response to the limitations of projective tests (Page, 1960; Schoenfeld, 1970). The aim of these early measures was ‘simply’ to ask participants to recount their daydreams, which were recorded in writing (Singer, 1981). The daydreams were then analysed from a statistical standpoint to determine which were most common. From these daydreams a number of patterns were identified. The patterns were then

used to develop measures that comprise lists of individual daydreams, and participants are asked to indicate the frequency with which each has occurred to them.

One of the most commonly administered measures of daydream patterns is the Imaginal Processes Inventory (IPI; Singer & Antrobus, 1963). The IPI comprises 400 items rated according to the frequency that 'best' represents the content of the respondents daydream experiences. The items of the IPI were drawn from introspective studies conducted by Singer (1966) and from interviews with others regarding the content of their daydreams. Singer (1966) used these daydreams to compile a list of items including, 'I suddenly find that I can fly to the amazement of others' and 'I picture myself risking my life to save someone I love'. Other items were drawn from factor-analytic studies of several popular measures of personality, mostly from the subscales of neuroticism, extroversion, introversion, attention, curiosity, and creativity (Singer & McCraven, 1961). The 400 items were divided into 28 subscales (Singer & Antrobus, 1963), which were later condensed into seven dimensions (Singer & Antrobus, 1972). These dimensions are presented in Table 1.

Table 1. Dimensions and Subscales of the IPI *.

Dimensions of Daydreaming	Subscales of the IPI
1. Frequency of Daydreaming	• Daydreaming Frequency • Night Dreaming Frequency
2. Mental Habits	• Absorption in Daydreaming • Mindwandering • Interpersonal Daydreams • Impersonal-Mechanical Curiosity • Boredom Susceptibility • Mentation Rate • Distractibility • Need for External Stimulation
3. Time Setting of Daydreams	• Present Orientation in Daydreams • Future Orientation in Daydreams • Past Orientation in Daydreams
4. Affective Reactions to Daydreams	• Positive Reactions to Daydreaming • Frightened Reactions Daydreaming
5. Type of Imagery in Daydreams	• Visual Imagery in Daydreams • Auditory Imagery in Daydreams • Hallucinatory-Vividness Daydreams
6. Content of Daydreams	• Problem Solving Daydreams • Bizarre-Improbable Daydreams • Achievement Oriented Daydreams • Fear of failure Daydreams • Hostile Daydreams • Sexual Daydreams • Heroic Daydreams • Guilt Daydreams
7. Honesty in Reporting Daydreams	• Acceptance of Daydreaming • Self-revelation

* Source: Giambra, 1974; Singer & Antrobus, 1972; Starker, 1982.

Three Patterns of Daydreaming:
Short Imaginal Process Inventory

A 45-item Short Form of the IPI (Short Imaginal Process Inventory [SIPI]) has become the preferred measure of patterns of daydreaming (Huba, Singer, Aneshensel, & Antrobus, 1982). The SIPI was developed in response to the length of the 400-item IPI that often precluded its use in studies where a shorter measure was preferred (Huba et al. 1982). There was also criticism regarding the large number of redundant items on the IPI that contributed to its lengthy completion time (Huba et al. 1982).

The 45 items comprising the SIPI were drawn from several factor analytic studies of the IPI (Giambra 1980; Segal, Huba & Singer, 1980; Singer & Antrobus, 1972). These studies consistently identified three patterns of daydreaming: positive constructive daydreaming, guilt and fear of failure daydreaming, and poor attentional control. The subscale positive constructive daydreaming measures acceptance and enjoyment of daydreaming, daydreams accompanied by positive thoughts, positive emotions and vivid sensory imagery, and daydreams that focus on realistic problem solving. The subscale guilt and fear of failure daydreaming measures daydreams of a negative-depressive character, dominated by anxieties and worries, guilt, and self-doubt. These individuals show much striving for achievement through heroic activities, yet they also have considerable fear of failure and resentment of others. The subscale poor attentional control measures difficulty in attending to concrete tasks and includes daydreams marked by drifting thoughts, mindwandering, and loosely connected fantasies. It reflects an inability to maintain a prolonged inner-orientation without distraction from the external environment (Singer, 1992). Table 2 provides example items for each of the three patterns of daydreaming as measured by the SIPI.

Table 2. Sample items and IPI subscales comprising the SIPI *.

Daydream Patterns	Sample Items	IPI Subscales
Positive Constructive Daydreaming	• A really original idea can sometimes develop from a really fantastic daydream. • I find my daydreams worthwhile and interesting	• Acceptance of Daydreaming • Positive Reactions to Daydreams • Visual Imagery in Daydreaming • Auditory Imagery in Daydreams • Problem Solving Daydreams • Future Orientation in Daydreams
Guilt & Fear of Failure Daydreaming	• My daydreams often contain depressing events that upset me. • In my daydreams, I am always afraid of being caught doing something wrong.	• Frightened Reactions • Achievement-Oriented Daydreams • Fear of Failure Daydreams • Hostile Daydreams • Guilt Daydreams
Poor Attentional Control	• No matter how hard I try to concentrate thoughts unrelated to my work always creep in. • My mind seldom wanders from my work.	• Mindwandering • Boredom Susceptibility • Distractibility.

* Source: Huba et al. 1982; Singer & Antrobus, 1972; Starker, 1982.

Starker (1977) argued that although most individuals participate in each of these three patterns their daydreams tend to reflect mostly one pattern. The characteristics of being 'high' in each of the three patterns of daydreaming are presented in Table 3.

Table 3. Characteristics of those 'high' in a pattern of daydreaming *.

Patterns of Daydreaming	High Characteristics †
Positive Constructive Daydreaming	Believes that daydreams are worthwhile, solve problems, help generate original ideas, are stimulating, leave warm pleasant feelings and generate pleasant thoughts. Daydreams have vivid visual and aural qualities. Believes that daydreams provide answers to problems, help plan alternatives and have significance. Daydreams have future time frame.
Guilt & Fear of Failure Daydreaming	Has daydreams with depressing, frightening, panicky qualities. Has fantasies of winning awards, being expert, and in a recognised group. Has fantasies of fearing responsibilities, not being able to finish a job, failing loved ones, becoming angry, getting even, and aggressive toward enemies, having friend discover lies, feeling guilty, and afraid of doing something wrong.
Poor Attentional Control	Tendencies toward mindwandering and drifting thoughts. Easily loses interest, tends to become bored, cannot work at something for a long time, easily distracted by telephone, television set, or talking.

* Source: Huba et al. 1982.

† Huba et al. (1982) did not define 'high scores' (or provide cut-off scores) for the three patterns.

The reliability of the SIPI has been confirmed with internal estimates of at least .80 for each pattern of daydreaming (Singer & Antrobus 1972, Huba et al. 1982; Huba & Tanaka, 1984; Gold & Gold 1982). Gold and Gold (1982) also found scores on the IPI subscales comprising the SIPI resembled 'actual' daydreams recorded in daydream diaries by college students (n = 52). Those who reported daydreams on the IPI characterised by guilt, fear, aggression, and hostility also recorded these themes in their written daydreams. Those who reported more pleasant daydreams on the IPI recorded fewer written daydreams that were fearful or anxious in content.

Negative Imaginal Activities

There is wide agreement that the inability to maintain attention on external tasks corresponds with more negative daydreams (Beck, 1971; Starker, 1982). These daydreams often manifest worrisome concerns that heighten the experience of unpleasant emotion (Giambra & Traynor, 1978). Beck (1971), drawing upon clinical experience, argued that individuals unable to maintain attention on concrete tasks experience the most unwanted thought intrusions. It is believed that these intrusions are also the most difficult to suppress (Baskin & Goldstein, 1986; Derry, et al. 1993).

Wenzlaff and Bates (1998) also argued that individuals experiencing negative thoughts are the most ineffective in controlling the occurrence of them. They suggested that focussing on happenings in the external environment restrains negative thoughts until mental control weakens, allowing them to resurface. Starker (1982) had written earlier that poor attentional control and guilt and fear of failure daydreaming "may not be as independent as previously thought" (p. 240).

It has been argued that, contrary to negative thoughts, the production of positive thoughts requires concerted mental effort; they are not an automatic occurrence (Macrae, Bodenhausen, & Milne 1998). There is also no evidence with the SIPI that the ability (or conversely inability) to maintain attention corresponds with reports of more positive daydreams (Cundiff & Gold, 1979; Tanaka & Huba, 1986).

Difficulties in Measuring Daydreaming

A number of studies have asked participants to describe daydreams that are remembered retrospectively without the aid of a researcher (Gold et al. 1987; Gold & Reilly, 1986). This recall often required participants to provide written accounts of their daydreams that tended to take the form of a novel: they were asked to describe the setting, main characters, and their actions. These studies depended on the descriptive aptitude of participants to recall their daydreams with the clarity required for accurate scoring. They also assumed that participants would provide honest recounts of their daydreams without self-censorship (Cazavelan & Epstein, 1961).

Singer (1974) reported that participants often excluded significant features of a daydream when they were asked to record them. This exclusion was found to be most prominent among studies using daydream diaries. Up to 80 percent of daydream diaries were disregarded from some studies because of insufficient descriptions that hindered accurate analysis (Gold et al. 1986; Gold & Reilly, 1986). Gold and Gold

(1982) also omitted large numbers of daydream diaries from their study because they did not contain a minimum number of daydreams required for reliable scoring.

The vast majority of self-report measures of daydreaming evaluate only those daydreams that are remembered by participants. Cundiff and Gold (1979) argued that most daydreams are followed by partial, if not complete, forgetting. Green (1923) wrote that this forgetting restricts the ability of participants to reproduce a daydream in its entirety. "Recollection would be imperfect", he wrote (p.27). Green (1923) was so astounded by the extent of this forgetting that he wrote:

> There were difficulties in remembering, so that the daydreamer, a few minutes after the fit of abstraction in which the daydream occurred to him had passed, found that he could not recall it, even with effort. Later some fragments of it were recollected but others had passed altogether beyond recall (p.26).

It has been further argued (Beck, 1970) that all daydreams are forgotten with the exception of those containing the most intense emotion (Klinger 1971; Singer 1981). These latter daydreams tend to manifest negative emotions that have a profound influence on the individual, and are therefore remembered (Gold & Gold, 1982). Pleasant daydreams that fail to create intense arousal are least recalled (Green, 1923).

Klinger (1971) and Singer (1981) also showed that most people are unaware of the extent to which they daydream until they are asked to monitor and record their daydreams. Green (1923) was so surprised by the inability of many participants to recall a single daydream that he wrote:

> The inattention is so complete that people often deny with all sincerity that they daydream at all only to discover, when their attention has been drawn to the fact, they daydream a great deal (p.60).

Teague and Gold (1981) confirmed with a sample of college students (n = 51) that daydreaming is reactive to self-monitoring. Students were given information about daydreaming and asked to record how often they daydreamed each day over a one-week period. There was a significant escalation in number of recalled daydreams. Teague and Gold (1981) argued that, rather than increasing their daydreaming activity, the information made students more aware of when they were daydreaming.

Most studies of daydreaming have relied on a narrow range of populations, namely college students (Streissguth et al. 1969). There has also been much interest in

the daydreams of psychiatric patients (Baskin & Goldstein, 1986). The reliance on these populations has continued, despite the earlier plea of Singer (1966) for studies to investigate the daydream patterns of diverse samples. The daydream patterns of most populations remain unknown (Gold & Gold, 1982; Gold, Teague, & Jarvinen, 1981; Morley, 1998). There is also a marked absence of daydream research in Australia. An extensive search of the literature identified a single study that examined cultural differences in daydreaming between Australians and Americans (Giambra & Stone, 1983). No published research has been conducted in Australia for at least 20 years.

Many studies of daydreaming enticed students to participate with either monetary rewards (Giambra, 1980; Giambra & Stone, 1983) or extra credit towards college grades (Cundiff & Gold, 1979; Giambra, 1980; Gold et al. 1987). Mitchell and Jolley (1992) questioned this form of sampling as it sometimes coaxes participants to behave as 'good research subjects'. To ensure their reward participants may contrive, not always with deliberate intent, responses to ensure the hypothesis is supported. Mitchell and Jolley (1992) further argued that limiting research populations to 'convenient samples' such as college students increases the likelihood of obtaining inaccurate findings. They provided evidence that students often provide artificial responses, as instead of being naïve they possess some research knowledge. They wrote that "with the use of subjects from psychology courses you might worry that they have figured out the hypothesis" (p. 340) and tailored responses accordingly.

In response to the limitations of survey methods to measure daydreaming (such as relying upon retrospective recall) Klinger (1978; 1979) and Klinger and Cox (1988) investigated the use of 'thought sampling' methods. Participants in these studies were interrupted at irregular intervals as they undertook physical activities of everyday living via a random alarm device (a 'beeper'). This device emitted a soft tone at random intervals (with a mean of about 40 minutes). At the sound of each tone, participants provided narrative descriptions of their thoughts (or detailed written reports). According to Klinger (1978; 1979) the advantage of thought sampling is that participants are able to reconstruct thoughts that were experienced immediately prior to the interruption of the beeper (rather than relying upon retrospective recall). Participants also recorded thoughts that would have otherwise been forgotten: that is, thoughts that are neutral were also recorded in addition to those containing intense emotion. Klinger (1978) observed, nevertheless, that the order in which thoughts occurred (and some of their detail) was sometimes lost during their reconstruction.

Klinger (1978; 1979) and Klinger and Cox (1988) supplemented narrative descriptions of thoughts with a series of rating scales (23 subscales in total). These scales asked participants to rate the amount of detail in the imagery, its vividness, the presence of an interior monologue, the degree to which actions contained in the imagery were realistic, and the time orientation within the imagery; past, present, or future. They found that most (64%) research participants were 'very confident' with the accuracy of the estimates they had provided on the rating scales.

Despite the reported advantages of thought sampling it has seldom been used in studies of daydreaming (with the exception of Klinger and his colleagues) as it is a time-consuming method of data collection. Most researchers have replied upon surveys (namely the SIPI) that have shorter completion times, are able to be administered to groups, and are relatively simple to score (in comparison to narrated descriptions of daydreams that are difficult to score reliably).

INDIVIDUAL DIFFERENCES IN DAYDREAMING

All studies presented in this section administered questionnaire measures of daydreaming (namely, the SIPI or IPI), unless otherwise specified, and are therefore subject to many of the methodological limitations outlined above. Findings reported by Klinger and his colleagues were obtained using thought-sampling methods.

Daydreaming in Everyday Life

The capacity to daydream has long been recognised as a widespread phenomenon that occurs frequently in the course of everyday life (Bagley, 1987; Gordon, 1972; Green, 1923; Freud, 1908). Singer and McCraven (1961) reported that at least 95 percent of adults daydream daily. A more recent estimate by Klinger (1990) suggested that daydreams account for about half of all daily thoughts. He also reported that a third of all thoughts are daydreams removed from the 'here and now'.

The 'fantasy-prone' individual has been of interest to some researchers (Wilson & Barber, 1983). These individuals spend more than half their waking hours absorbed in an elaborate fantasy world (Wilson & Barber, 1983). Singer (1977) also referred to 'practiced daydreamers', who frequently redirect their attention towards imaginal activities. He reported that these individuals have deliberate daydreams regardless of external demands for attention: they daydream even when demands from the outside world are extreme. Wilson and Barber (1983) reported that the fantasy-prone individual considers daydreaming a necessary activity of life as it provides meaning to

their daily living. They wrote that most of these individuals have enjoyed an enriched fantasy life since early childhood, and continue to do so into old age. These findings were supported by later research (Lynn & Rhue, 1986; 1988; Rhue & Lynn, 1987) on 'fantasizes': individuals who live much of the time in a world of imagination.

Daydreams of Males and Females

There are reports that males and females do not differ in how often they daydream (Goldstein & Baskin, 1988; Gold et al. 1981). There is some evidence suggesting, nevertheless, that females are more frequent daydreamers (Sutherland, 1971). Giambra (1980) argued that females are more bored with their external environment, which provides them more opportunities for mindwandering. Similarly, Sutherland (1971) wrote that females are more inclined to daydream, as they are more dissatisfied with their immediate lives. She argued that activities like household chores offer females 'little intellectual stimulation'. On the other hand, daydreams allow females to fantasise about 'imaginary situations' not available to them in the real world. This includes daydreams containing memories of better times. Giambra (1980) found females were often so absorbed by their daydreams they were oblivious to happenings in the immediate environment, regardless of external demands.

There are important differences in patterns of daydreaming, as measured by the IPI, between males and females. Males are more likely than females to report unpleasant daydreams that serve to heighten the experience of upsetting emotion (Giambra, 1980; Giambra & Traynor, 1978). These daydreams tend to depict situations of hostility and aggression such as 'imagining ways of getting even with someone disliked' (Goldstein & Baskin, 1988). Brannigan, Hauk and Guay (1991) found that the daydreams of males mirrored the need to be successful in career choices and sporting pursuits. These daydreams included the themes of heroism (for example, 'I imagine putting myself in danger to save my family') and achievement (for example, 'I picture myself as an expert whose opinion is sought by all'). Males also reported having more sexual daydreams than females (Wagman, 1967; 1969).

Goldstein and Baskin (1988) argued that daydreams of males resemble traditional stereotypes of masculinity and are determined by 'aggressive drives and active lifestyles'. These stereotypes include the pressure to achieve, generated by a culture of ambition and competition. This intense competition can lead to worry of under-achievement with the reporting of daydreams like 'not being able to finish a job' or 'failing loved ones' not uncommon (Brannigan et al. 1991). Hence, males are

also more likely (than females) to report frightened reactions to daydreams such as 'my daydreams often contain depressing events which are upsetting'. Even so, Giambra (1980) argued that the daydreams of males represent an endeavour to enhance self-concept of 'what it is' to be male by satisfying their masculine strivings.

Starker (1982) argued that the daydreams of females are more passive than those of males, and are often oriented towards improving personal relationships. This is particularly evident when there has been a disagreement with a loved one (Sutherland, 1971). The daydreams of females are also more likely than those of males to involve planning for future events, as well as 'offering useful clues to tricky situations' (Brannigan et al. 1992; Giambra & Traynor, 1978). It is not surprising, therefore, that females consider daydreaming as more useful to them than do males (Henderson et al. 1984). They are more likely than males to refer to daydreaming as a 'stimulating and rewarding' experience that provides 'a warm and happy feeling'. Hence, females are more likely to enjoy their daydreams (Giambra, 1980). Giambra (1980) argued that because the daydreams of females are more comforting they are also more accepting of them than are males. They are also more willing than males to provide honest accounts of their daydream experiences (Goldstein & Baskin, 1988).

Giambra (1980) argued that the daydreams of females differ from males because their everyday concerns are different. He suggested that reported sex differences in daydreaming mirror current concerns appropriate to each sex. In support of Giambra (1980), Goldstein and Baskin (1988) argued female daydreams are determined by maternal instincts that encompass passive, nurturing, and protective qualities.

An important question posed by Giambra (1983) was whether female patterns of daydreaming would alter as more women entered the paid workforce. He found that females over 40 years of age (n = 477) reported more achievement daydreams. He argued that this increase was due to females re-entering the workforce following the early years of motherhood. This argument is consistent with the finding of Yanico (1981) that the content of the daydreams of females (n = 50) was determined by their occupation. Females in 'masculine occupations' reported more non-traditional female daydreams focussed on career achievement including ambition and competition, but also the worry of under-achievement as reflected in more fear of failure daydreams. Yanico (1981) argued that the daydreams of females are more likely to mirror males as more of them seek employment or further career opportunities.

There is a small volume of research suggesting that males and females do not differ in patterns of daydreams (Goldstein & Baskin, 1988; Starker, 1985). Gold and Gold (1982) found no sex differences in the content of daydreams recorded by college students (n = 52) over a two-week period. These daydreams were categorised into content themes such as aggression, heroism, sexuality, and recreation. However, more than 40 percent of daydream diaries were excluded from the study, as they did not contain at least 10 scorable daydreams, a condition preset by the researchers. Gold et al. (1986) found, contrary to previous studies, that males (not females) reported more positive reactions to their daydreams. However, more than 70 percent of daydreams were omitted from this study because they could not be rated due to insufficient detail.

Daydreaming through Adulthood

Giambra (1974; 1989) showed that advancing age is accompanied by a steady reduction in likelihood of daydreaming. He found that while 95 percent of adults daydreamed daily, this figure declined to 30 percent by age 74 years. Moreover, while all adults below 40 years reported having daydreamed during their lifetime, one in six above the age of 74 years claimed to have never daydreamed. These findings led Giambra (1983) to argue that daydreaming peaks during early adulthood before declining steadily through middle adulthood and rapidly thereafter.

It has also been argued by Giambra (1981; 1989) that older adults experience a shift in cognitive framing towards concrete forms of thinking that favour realism. This preference for realistic thoughts provides fewer opportunities for imaginal activities. In addition, the desire to achieve success in external tasks corresponds with a reduction in boredom with the immediate environment (Giambra, 1989). According to Giambra (1989), older adults are less able to maintain an inner-orientation for an extended period of time without interruption from events in the external environment.

Parks, Klinger, and Perlmutter (1989) sought to determine if fewer current concerns in later adulthood was responsible for the reduction in daydreaming. The number of current concerns reported by older adults (60 to 82 years, n = 42), was much lower than that reported by younger adults (aged 17 to 28 years, n = 42). It was argued by Parks et al. (1988) that there are fewer current concerns available in later life for intrusion into conscious thought. Giambra (1974) had found earlier that older adults reported fewer affective daydreams, particularly negative daydreams. He speculated that this reduction occurred because older adults had fewer unmet current

concerns that aroused unpleasant emotions. They were also more likely to have had realistic thoughts focussed towards achieving a practical goal in the external world.

Contrary to popular perception, Giambra (1977) found in a life span sample (n = 110) that older adults did not have more daydreams that reminisce about the distant past. They were, however, least likely to daydream about the distant future. The most common daydreams reported were those of practical problem solving which were prominent for all ages. Giambra (1983) found that younger adults (17 to 30 years) were more absorbed by their daydreams, most likely because their daydreams comprised mainly of visual qualities (Parks et al. 1989). Younger adults were also more likely (than older adults) to report self-satisfying daydreams (such as sexual daydreams; Giambra, 1983) that reduce boredom and frustration (Parks et al. 1989).

SUMMARY OF SECTION ONE

Daydreaming is a widespread phenomenon that occurs frequently in the course of everyday life. It has been defined as a shift of attention from on-going tasks to thoughts apparently unrelated to the external environment. This shift occurs most often when there are minimal demands for attention such as when undertaking routine tasks in familiar surroundings. They are also more likely to occur when there are fewer social demands to interact with others. The capacity to daydream is said to peak in early adulthood before declining through middle adulthood and rapidly thereafter.

Most daydreams comprise continuous sequences of images that evolve like elaborate fantasy stories. These images depict everyday objects or events not present in the external environment at the time of the daydream. An internal monologue accompanies most daydreams and comments on events contained within the daydream. This monologue includes recall of conversations with or between others.

The function of some daydreams is to reduce boredom through the creation of novelty. Fanciful daydreams also allow an individual to escape harsh realities into flights of improbable fantasy. Many daydreams function as safety valves to regulate the experience of intense emotion. These daydreams tend to represent unresolved concerns that require immediate accommodation. Some represent realistic attempts at problem solving, such as planning for future events that may, or may not transpire.

The production of a daydream has been likened to that of a private cinema production that is shielded in secrecy, and seldom disclosed to others. The desire to withdraw from reality has also been portrayed as indicative of an inability to cope with actual events in the real world. Daydreaming has been branded a waste of time

by some social commentators who argue it draws attention from ‘rational thought’. However, other commentators argue that some daydreams drive success in external tasks. Regardless, most research participants provide honest responses to self-report measures of patterns of daydreaming. There has, nevertheless, been some concern that participants over-report daydreams that contain socially favourable themes. Yet few studies have investigated relationships between daydreaming and social desirability.

There are noteworthy sex differences in patterns of daydreaming. Males report more unpleasant daydreams that contain situations of hostility and aggression such as ‘getting even with someone disliked’. The daydreams of females are more oriented towards personal relationships, and often involve planning for potential future events. This includes daydreams that provide ‘clues to tricky situations’. It has been argued that these sex differences reflect traditional stereotypes of masculinity and femininity.

SECTION TWO:

THE HEALTH PROFILE OF GENERAL PRACTICE

I'm the least bored person in the world .....
Even when I daydream my reveries keep me entertained.

(Anne Louise d 'Orleans, 1627-1693)

THE PROFILE OF GENERAL PRACTICE IN AUSTRALIA

Provision of General Practice

The majority (80%) of the general population sees a general practitioner each year (Britt, Miller, Knox, Charles, Valenti, Henderson, Kelly, & Pan, 2001). These consultations account for 95 percent of the clinical workload of general practitioners (Australian Institute of Health & Welfare [AIHW], 1998). They also represent at least 65 percent of *all* medical cases managed in the primary health care sector (AIHW, 1995). The Australian Medical Workforce Advisory Committee (AMWAC, 2000) reported that 117 million consultations occur in general practice each year. This equates to six consultations per head of the population. The most recent figures indicate that this has increased to almost 9 visits per annum (Knox & Britt, 2004). Most (70%) of these consultations are for minor health concerns that affect large numbers of the general population (Britt, et al. 2001).

There are 20,000 general practitioners in Australia (Department of Health & Aged Care [DHAC], 2000). The average is one general practitioner per 900 persons. It has been estimated that there are 6000 general practices located throughout Australia (Department of Health and Family Services [DHFS], 1996). On average, each general practice employs three general practitioners. Almost half of all practices employ more than five general practitioners. A further third employ between two and four general practitioners. One in four general practices has a single general practitioner on duty. Nearly 4000 individual patients attend each general practice per annum (DHFS, 1996).

There is wide agreement that general practitioners are the 'gatekeepers' of the primary health care system in Australia (AMWAC, 2000; Department of Health, Housing, & Community Services [DHHCS], 1992). Almost 80 percent of *all* consultations conclude with the ordering of secondary medical services (Britt et al. 2001; DHFS, 1996). Nearly 70 percent include a prescription for medication. A further 20 percent comprise pathology testing or diagnostic imaging. Ten percent include a referral to a specialist surgeon or in hospital admission.

Funding of General Practice

Most consultations in general practice are funded through a national health insurance scheme named 'medicare'. The cost of the scheme, introduced in 1984, is met through general taxation and supplemented with a levy on taxable income. The scheme provides rebates to general practitioners on a fee-for-service basis. The rebate entitles them to claim 85 percent of consultation fees (DFHS, 1996). Eighty percent of general practitioners claim the rebate (Swerissen & Duckett, 1997). General practitioners can request a lump-sum payment by sending patient bills as a bulk transaction (referred to as 'bulk-billing') to the insurance commission. The medicare scheme does not require patients to be registered with a general practice to claim the rebate. Patients in Australia, therefore, have freedom of choice of general practitioner.

Almost all (95%) consultations with general practitioners are claimable from medicare with no out-of-pocket expenses for patients (Britt et al. 2001). More than 103 million medicare-funded consultations take place in general practice each year (AIHW, 2000). This equates to an average of more than five consultations per person. The national expenditure on services provided by general practitioners is three million dollars per year, with almost two-thirds funded through the medicate rebate (DHAC, 2000; Duckett, 2000). A further four billion dollars is spent on secondary medical services such as prescription medication, pathology testing, and diagnostic imaging (AIHW, 1998). The financial cost of health care has increased four percent per annum since 1984 and is projected to remain at this rate until at least 2018 (DHAC, 1999).

The insurance scheme was introduced with the slogan of 'a better health for all'. The aim was to provide affordable health care by eliminating the requirement of full payment on the day of the consultation. It had been reported that full payment was impeding persons living in adverse financial positions from seeking medical attention for legitimate health concerns (Leeder, 1999). The scheme targets 'health priority populations' such as aboriginal communities, migrant communities, and those living in poverty.

There has been a dramatic escalation in the numbers of patients seeing general practitioners since the introduction of medicare. The annual rate of consultations has increased by four percent per annum since 1974 (ABS, 1997), with an increase of 60 percent in the number of medicare claims since 1995 (AMWAC, 2000). The number of patients per head of the population who attend a general practice each year exceeds that of the United States and United Kingdom (NHSU, 1990; Britt et al. 2001).

DEFINITION OF HEALTH STATUS

The medical definition of health makes reference to negative departures from biological normality (George, 1998; Nettleton, 1995). It refers to bodily malfunction as 'impersonal' by arguing that physical disease results from the invasion of foreign bodies that are beyond the control of the patient (George, 1998). These foreign bodies are considered independent of the social environment within which they occur (George, 1998). Sanderson (2004) argued that the 'biomedical model of disease' endorses a 'negative view' of health as it assumes disease can be isolated to bodily organs by establishing the presence of symptoms. Taylor (1973) in his primer of clinical symptoms wrote, "each organ of the body produces characteristic symptoms in the presence of disease" (p.1). This isolation enables episodes of physical disease to be assigned a medical label. This label assumes that patients also adopt a 'negative view' of health. It argues that patients refer to the burden of their disease, including severity of physical symptoms, when evaluating their health status (George, 1998).

The most recent research has focussed on patient definitions of health status (Sanderson, 2004; Scambler, 2003). A consistent finding is the emphasis given by patients to favourable states of health (Popay & Groves, 2000). These states have been referred to as 'subjective feelings of wellness' (AIHW, 1995). The study of wellness is still in its infancy, however, it has been defined to include at least three dimensions: physical health, mental health, and social health (Ziebland, 1995). These dimensions of health continue to encompass freedom from burden of disease that underpins the biomedical definition of health (Earle, Earle & Earle, 1998). They also, however, acknowledge friendship patterns as important to maintaining a sense of wellness (Hales, 2001). These patterns provide social support for ill patients that encourage them to participate in valued activities within the family, workplace, and community. The notion of wellness also recognises that the capacity to undertake routine physical activities is diminished by the presence of a mental disorder (Little, Somerville, Williamson, Warner, Moore, Wiles, George, Smith, & Peveler, 2001).

The majority of patients seeking medical attention refer to functional wellbeing when evaluating their health (Cassem, 1995; Hales, 2001; Sanderson, 2004) such as the capacity to undertake routine physical activities of everyday living (Field, 1997). These activities include self-care tasks such as bathing and dressing (Ware, Snow, Kosinski, & Gandek, 1993), instrumental tasks such as walking and carrying objects, and work tasks such as the capacity to maintain a satisfactory performance in the

workplace or household (Ware et al. 1993). Jenkinson and McGee (1998) argued that being able to participate in these activities is necessary to maintaining a sense of life satisfaction. Most patients recognise a reduction in these activities by referring to deviations from norms enjoyed prior to their ill health (Alder, 1999; Ziebland, 1995).

The notion of wellness has received some criticism that should be noted. It has been denounced as unattainable by some researchers (George, 1998; Kermode, 2003). They argued that it conceptualises health as a utopian state of complete wellbeing, the pursuit of which is endless. This criticism is supported by the research finding that fewer than one in six persons in the general population referred to themselves as 'free' from physical symptoms in any given two-week period (ABS, 1996). This occurred despite most people referring to themselves as 'well' when interviewed. Dunnell and Cartwright (1972) found that more than 95 percent of individuals from the general population reported physical symptoms over a two-week period. Even those with 'excellent' health reported an average of three symptoms. Those with 'worse health' reported seven symptoms, on average.

Social Definitions of Health: Distinguishing Illness from Disease

The term 'illness' has been defined as the subjective experience of 'feeling sick' (Alder, 1999; Scamber, 2003). It includes the interpretation of the meaning of symptoms from the viewpoint of the patient (Field, 1997). Most patients complain of 'being ill' when symptoms are severe and persistent (Alder, 1999). Reading (1977) defined illness as the "suffering of the patient, what the patient complains of, and what prompts the patient to seek medical attention" (p. 158). Field (1997) defined illness as the disruptive consequences of symptoms on the functional capacity to participate in valued activities. He argued that most patients claim to be 'sick' when unable to assume regular role responsibilities.

On the other hand, disease (and disorder) refers to an objective diagnosis made by a health practitioner usually on the basis of the biomedical model (Scamber, 2003). Field (1997) argued that a diagnosis informs a patient that a recognisable departure from biological normality has been found. In distinguishing disease from illness Gordon and Golanty (1988) argued that a patient may 'feel ill' without disease being diagnosed; likewise a patient may have a diagnosis without feeling ill. Field (1997) showed, via case studies, that some patients report 'feeling well' even if diagnosed with a long-standing medical condition. He argued that this patient response is an

indication that the condition is being well managed in general practice. There are patients, nevertheless, with minor symptoms who report 'functional incapacitation' (Lyness, Caine, Conwell, King, & Cox, 1993). It has been recommended that health researchers use the term 'illness', unless referring to medical conditions that have been diagnosed by a medical practitioner (Alder, 1999; Field, 1997; Scamber, 2003).

THE MEASUREMENT OF HEALTH STATUS

The difficulties in defining health are mirrored in popular indicators of health status. Most population studies have included either biomedical measures or indirect indicators of health (ABS, 1995). Biomedical measures monitor changes in morbidity or mortality within a community. They are also used to calculate burden of disease or years of life lost due to disease. Indirect indicators are behaviours known to increase the risk of developing future disease (Bowling, 1999). These behaviours include physical inactivity, deficient nutritional intake, obesity, hypertension, and substance abuse. The use of these indictors (and biomedical measures) illustrates the preference of many researchers for measures that evaluate unfavourable dimensions of health status.

Biomedical Measures of Health Status

Medical Diagnosis of Disease: Some research has analysed medical records kept by general practitioners, which herald as objective assessments of ill health (Barker & Johnston, 2000; Sanderson, 2004). However, medical records sometimes misrepresent the health of patients (Morris, 1991). Barsky, Cleary, and Klerman (1992) argued that general practitioners do not address a significant proportion of illness during the consultation process, particularly when confronted with atypical symptoms or no recognisable pathology. These symptoms (or lack of symptoms) make the assessment process difficult for general practitioners (Sharpe, Mayou, & Bass, 1995).

There is a greater readiness among patients to adopt the 'sick role' when seeing general practitioners (Sanderson, 2004). This role releases patients from daily role responsibilities because they are 'sick' (Alder, 1999). It also encourages them to complain of isolated symptoms that are often undifferentiated in order to receive sympathy from others. Some patients exaggerate the legitimacy of these symptoms to have their status of 'sickness' validated by an 'expert in illness' (Myerscough & Ford,

1996). This acts to strengthen their conviction regarding the presence of 'legitimate illness'. Some patients adopt the sick role in the absence of demonstrable pathology (Sharpe et al. 1995). There are other patients who present with factitious symptoms, eager to confirm the presence of any symptom mentioned to them by the general practitioner (Myerscough & Ford, 1996). The adoption of the sick-role challenges the validity of medical records as an accurate and objective measure of health status.

Most medical records are restricted to bodily pathology and fail to communicate the 'meaning of illness' from the viewpoint of the patient (Barsky et al. 1992). Jones, Mabe, and Riley (1989) argued that patient assessments of health are often incompatible with those recorded by their doctor. They found that general practitioners perceived patients as 'healthier' than did patients themselves. Patients gauged their health in terms of functional meaning, particularly participation in recreational activities such as sport. On the other hand, general practitioners devoted much of the consultation to the clinical discovery of physical disease with little regard for functional fitness. They were also less likely to enquire about mental health, which was often omitted from the consultation process and not recorded on medical records. Goldberg and Huxley (1992) estimated that at least one-third of mental disorders are not recognised during the consultation process. Similar findings led Jones et al. (1989) to argue that many doctors have a narrow understanding of the health of their patients. They recommended that researchers measure health from the viewpoint of the patient, rather than relying on medical records that are often incomplete (restricted to physical symptoms) and incompatible with patient assessments of their own health.

Seriousness of Disease: A widely utilised indicator of health is the Seriousness of Physical Disease Scale (Wyler, Masuda, & Holmes, 1968). It comprises 126 physical diseases that are often managed in general practice. These diseases were ranked in terms of severity by general practitioners on the basis of clinical experience. The rank order refers to the likelihood that, if unmonitored, the disease will eventually lead to the death of the patient. It ranks dandruff at number one (low seriousness), asthma at 78 (moderate seriousness), and leukaemia at 126 (high seriousness). The interpretation of seriousness was later modified to include discomfort of symptoms (Wyler et al. 1970), however, the rank order of the 126 diseases did not change.

There are a number of criticisms attached to ranking physical diseases. The main concern is its implication that the experience and interpretation of physical symptoms

is uniform. Stretton, Salovey, and Mayer (1993) argued that rankings underestimate the influence of individual differences such as social environment on health outcomes. Field (1997) reported that most patients differ in their sensitivity to physical sensations. He observed that patients with the same medical condition sometimes had very different interpretations of its potential seriousness. In an earlier report Ingham and Miller (1982) argued that medical diagnosis alone does not predict patient opinions of the seriousness of their medical condition. They found that some patients referred to themselves as 'well' despite being diagnosed with a life-altering condition: many of these patients still reported physical symptoms even though they 'felt well'. Patients who referred to their condition as 'serious' reported the most severe physical symptoms (Ingham & Miller, 1982). Symptoms that impeded the capacity of patients to participate in valued activities were ranked as 'most serious' (Ingham & Miller, 1982). Hence, the preset ranking of disease fails to account for individual differences in functional limitations that determine the decision of most patients to seek medical attention.

A further criticism of ranking diseases is that it refers to patients as 'healthy' when they seek medical attention for diseases not included in the rankings. There is wide agreement that general practitioners manage many more diseases than the 126 included on the measure of seriousness (Britt et al. 2001). A further drawback of the measure is that it ranks single episodes of disease, contrary to evidence indicating that a high volume of patients see general practitioners for multiple health concerns (Britt et al. 2001; Sayer et al. 2000). The usefulness of a ranking system designed for use in medical settings that excludes most patients in general practice and which often bears little resemble to patient views of the seriousness of a disease is questionable.

Patient Evaluations of Health Status

There is much demand for health measures designed to evaluate wellness from the viewpoint of the patient (Kind & Gudex, 1994; Sanderson, 2004; Scambler, 2003). These measures recognise the importance of incorporating favourable states of health.

The Short Form Health Survey: The Short Form Health Survey (SF-36; Ware & Sherbourne 1992) was constructed to measure functional dimensions of health status identified in the Medical Outcomes Study (MOS). The MOS was conducted using information from patients themselves (Tarlov, Ware, Greenfield, Nelson, Perrin, & Zubkoff, 1989). It combined items from numerous measures of health to investigate

40 different dimensions of health status. The SF-36 comprises the 'best' 36 items identified in the MOS: these items have been in common use in health research for more than 20 years, but not in the one measure (Ware & Sherbourne, 1992). The SF-36 is the most widely used measure of health in Australia (McCallum, 1995). This popularity mirrors that in the United States and United Kingdom (Stevenson 1996).

The SF-36 measures eight dimensions of health: (1) physical functioning, (2) role limitation due to physical health, (3) bodily pain, (4) general health perceptions, (5) vitality, (6) social functioning, (7) role limitations due to emotional problems, and (8) mental health. A series of factor analytic studies of the eight dimensions identified two summary components of health: physical health and mental health (McHorney, Ware, & Raczek, 1993; Ware, Kosinski, Bayliss, McHorney, Rogers, & Raczek, 1995). These components accounted for 82 percent of the reliable variance in the eight dimensions of health (Ware et al. 1995). The meaning of these dimensions of health (and two summary measures) as measured by the SF-36 is presented in Table 4.

Table 4. Meaning of Low and High Scores for each SF-36 Dimension of Health. *

Dimensions of Health Status	Lower Scores (Negative Health)	Higher Scores (Positive Health)
Physical Functioning	Limited a lot in performing all physical activities including bathing or dressing due to health.	Performs all types of physical activities including the most vigorous without limitations due to health.
Role Limitations: Physical Health	Problems with work or other daily activities as a result of physical health.	No problems with work or other daily activities as a result of physical health.
Bodily Pain	Very severe and extremely limiting pain.	No pain or limitations due to pain.
General Health	Evaluates personal health as poor and believes it is likely to get worse.	Evaluates personal health as excellent.
Vitality	Feels tired and worn out all of the time.	Feels full of pep and energy all of the time.
Social Functioning	Extreme and frequent interference with normal social activities due to physical or emotional problems.	Performs normal social activities without interference due to physical or emotional problems.
Role Limitations: Emotional Distress	Problems with work or other activities as a result of emotional problems.	No problems with work or other daily activities as a result of emotional problems.
Mental Health	Feelings of nervousness and depression all of the time.	Feels peaceful, happy, and calm all of the time.
Physical Health Summary	Substantial limitations in self-care, physical, social, and role activities; severe bodily pain; frequent tiredness; health rated "poor".	No physical limitations, disabilities, or decrements in wellbeing; high energy level; health rated as "excellent".
Mental Health Summary	Frequent emotional distress, substantial social and role disability due to emotional problems; health in general rated "poor".	Frequent positive affect; absence of psychological distress and limitations in usual social / role activities due to emotional problems; health rated "excellent".

* Source: Ware et al. 1993; Ware, Kosinski, & Keller, 1994.

Much research has supported the internal consistency of the eight dimensions of health: alpha coefficients are at least .80 with test-retest reliabilities ranging from .60 to .80 (Ware, et al. 1993). The alpha reliability coefficients for each summary measure are also high, ranging from .90 to .94 for physical health and .84 to .91 for mental health (Ware et al. 1994). Test-retest reliability of the summary measures has been reported at .89 for physical health and .80 for mental health (Brazer, Harper, Jones, O' Cathain, Thomas, Usherwood, & Westlake, 1992).

A number of studies (Ware et al. 1993; Ware et al. 1994) found physical health summary scores consistent with well-known measures of physical health such as the Overall Pain Index, Satisfaction with Physical Ability Scale, and General Health Index. Scores on the mental health summary were consistent with accepted measures of mental health such as the Depression and Behavioural-Emotional Control Scale, Mental Health Index, and Positive Affect Scale (Ware et al. 1993; Ware et al. 1994).

The SF-36 is a suitable measure of the health status of patients complaining of medical conditions that are often managed in general practice (Johnston, Goldman, Orav, Garcia, Pearson, & Lee, 1995). The SF-36 has been recommended for use with medical patients in Australia (Cameron, 1996). The summary measures have differentiated patients with physical illness alone from those with mental illness, and from those with combinations of both (Katz, Larson, Phillips, Fossel, & Liang, 1992; McHorney et al. 1993). They have also detected differences in the severity of chronic diseases such as hypertension, diabetes, rheumatoid arthritis, chronic asthma, and co-morbid conditions (Ware et al. 1995). The Australian National Heart Foundation (McCallum, 1995) found the summary measures distinguished between patients with no medical conditions, minor medical conditions, psychiatric conditions, and serious medical conditions. The summary measures have also been found to be sensitive to differences in self-reported severity of physical symptoms (Ware et al. 1995).

Severity of Physical Symptoms: Most health researchers still measure severity of symptoms (Kroenke, Spitzer, & Williams, 2002) since patients refer to the most severe symptoms first when discussing with a general practitioner their reasons for the consultation (Andersson, Ejlertsson, Leden, & Schersten, 1999). The most recent research has favoured symptom checklists that provide overall assessments of severity (Kroenke et al. 2002). This is consistent with the finding that most patients present with multiple symptoms: few report isolated symptoms (Britt et al. 2001). Those who do report one symptom are more likely to report others upon questioning (Pennebaker,

1982). Popay and Groves (2000) also argued that in most cases it is unknown if individual symptoms (for example, tiredness and breathlessness) represent a physical condition, a mental condition, or both. They recommended that researchers resist the temptation to separate symptoms whose meaning remains to be fully explained.

The Pennebaker Inventory of Limbic Languidness (PILL; Pennebaker, 1982) is the benchmark measure of symptomatic complaints. It comprises 54 of the most common symptoms encountered in general practice. The PILL measures severity of *all* physical symptoms reported by the patient. It has been useful in monitoring patterns of symptom severity in various medical settings. The reliability of the checklist has been confirmed with internal estimates of at least .85 with test-retest reliabilities ranging from .73 to .83 (Pennebaker, 1982). Pennebaker (1982) reported that scores on the checklist were consistent with other measures of symptom severity like the Hopkins Symptom Checklist, Autonomic Perception Questionnaire, and Cornell Medical Index. The checklist also distinguished between patients with no medical conditions, minor medical conditions, and serious medical conditions (Pennebaker, 1982).

The use of checklists to measure physical symptoms has received some criticism that should be noted. The principal criticism is that symptoms on the checklists are often more sensitive to changes in mental health than physical health (Kooiker, 1995). In response to this criticism, Little et al. (2001) reported that physical symptoms are often manifestations of underlying emotions. They argued that sensitivity toward mental illness is a legitimate feature of some physical symptoms. Pennebaker (1989) had earlier identified clusters of physical symptoms that co-varied with the experience of emotion. A more recent study found that patients often saw general practitioners for symptoms that represented physiological responses to unpleasant emotion (Zalidis, 2001). Many measures of mental health continue to include physical symptoms such as heart palpitations, dizziness, nausea, fatigue, and trembling (Cassem, 1995).

It is now widely accepted that checklist measures of physical symptoms be administered to complement those of functional health (Al-Jaddou & Malkawi, 1997). According to Dowrick, Bellon, and Gomez (2000) symptoms that cause discomfort often interfere with the capacity to undertake routine activities of daily living. Carney, Guy, and Jeffrey (2001) argued that it is this interference that increases the likelihood of seeking medical attention. The reporting of reduced life satisfaction, resulting from worsening functional health, is also not uncommon (O'Connor, 1998). Even so, there are some patients who remain undeterred by severe symptoms, referring to themselves

as being ‘able to function well’ (Lyness et al. 1993). On the other hand, some patients with minor symptoms report significant functional impairment (Lyness et al. 1993).

THE HEALTH PROFILE OF PATIENTS

Much research has investigated the health profile of patients in general practice. This health profile can be divided into four components: (1) utilisation of general practice, (2) medical reasons for seeing a general practitioner, (3) the functional health of patients, and (4) demographic characteristics that influence the health of patients.

General Practice Utilisation

A quarter of the general population report the experience of physical symptoms in any given two-week period (ABS, 1999). Almost all of these individuals seek medical attention for their symptoms (95%) with most seeing a general practitioner (65%). More than half of these individuals attend general practice once in every three months. More than 20 percent see a general practitioner at least once a fortnight. In response to these findings Britt et al. (2001) reported “general practice is the first port of call for the vast majority of patients in the primary health care system” (p.1).

Sayer et al. (2000) reported that most consultations in general practice do not occur in isolation: more than 90 percent of patients have seen a general practitioner in the six-month period prior to their most recent consultation. More than one in five has been in general practice at least once in the previous two-week period (ABS, 1997). Even so, no more than one in six patients has three or more consultations in the previous six-month period (AIHW, 2000). Patients with four consultations represent no more than three percent of all patients in general practice (AIHW, 2000).

There has been a shift in research attention towards ‘frequent attenders’ at general practice. These patients account for about seven percent of all patients seeing general practitioners (Jyvaesjaervi, Keinaenen-Kiukaanniemi, Vaeisaenen, Larivaara, & Kivelae, 1998). Estimates have, nevertheless, ranged from five to 40 percent (Heywood, Blackie, Cameron, & Dowell, 1998; Scaife et al. 2000). The variation in estimates mirrors inconsistencies in defining ‘frequent attender’. The number of consultations required per year for a patient to be a frequent attender has ranged from six to 15 (Corney, 1990; Heywood et al. 1998). The most recent research has defined ‘frequent attender’ as a patient who sees a general practitioner once a month (or more) during a one-year period (Sanderson, 2004; Scaife, Gill, Heywood, & Neal, 2000).

There is wide agreement that a small proportion of patients monopolise consultations with general practitioners (Gill & Sharpe, 1999; Sanderson, 2004). Botica, Kovacic, Kujundzic, Katic, Botica, Rapic, Novakovic, and Lovasic (2004) found that while frequent attenders comprised 22 percent of patients, they were responsible for more than 65 percent of all consultations. They also accounted for almost half of all medical certificates issued to patients (Bergh & Marklund, 2003).

Kersnik et al. (2001) argued that frequent attenders over-utilise health care services because they are least likely to self-manage minor physical symptoms. Instead, they see general practitioners for minor concerns that most patients would not bring to medical attention. Frequent attenders do, nevertheless, refer to themselves as 'more sick' than do infrequent attenders (Little et al. 2001). Bergh and Marklund (2003) found that more than one-third of frequent attenders had chronic conditions that required regular medical supervision compared to six percent of patients who attended less often. Frequent attenders did, nevertheless, present more often for minor symptom complaints (than did infrequent attenders). Reid, Wessely, Crayford, and Hotopf (2001) had found earlier that almost one-third of frequent attenders presented with medically unexplained symptoms. A longitudinal study also identified frequent attenders as the most stable patient group (Vedsted & Olsen, 1999). There was no noticeable reduction in consultation rates even after patients conceded that their medical condition had been 'well managed' by seeing their doctor more often.

Medical Reasons for Seeing a General Practitioner

Up to half of all patients seeing general practitioners report multiple medical conditions (Britt et al. 2001; Sayer et al. 2000) Almost all patients (95%) provide physical conditions as the reason for their consultation. The most common reason (25%) is disease of the respiratory system, namely acute episodes of influenza and the common cold. Most of these conditions are described via symptomatic complaints such as persistent cough, inflamed throat, nasal congestion, and breathing difficulties.

The next most common reason is disease of the musculoskeletal system (18%) most notably arthritis including prolonged pain in movement joints such as the back, knee, ankle, foot, neck, and shoulder. The reporting of physical trauma injuries sustained through an accident is also common. The third most frequent reason for seeing a general practitioner is for skin conditions (16%). The most common complaints are undefined symptoms such as skin rash and localised swelling as well as recognised eczema and dermatitis. The cardiovascular disease of hypertension is

also a frequent reason provided by patients for seeing a general practitioner (12%). These four bodily systems account for three-quarters of all consultations when combined.

Meadows, Liaw, Burgess, Bobevski, and Fossey (2001) reported that 85 percent of mental disorders are managed in general practice. Those with affective disorders are the most likely (56%) to seek medical attention (Kersnik et al. 2001). However, no more than five percent of patients nominate mental disorder as the reason for seeing a general practitioner (Britt et al. 2001). The most common forms of mental disorder are anxiety and depression (Britt et al. 2001), which account for 60 percent of all mental disorders managed in general practice (Harmon, Carr, & Lewin, 2000). This equates to 20 percent of all consultations with a general practitioner (Barrett et al. 1998). It is general practitioners who refer most of the small numbers of patients seen by psychiatrists for affective disorders (43%), mild transient conditions (29%), and substance abuse disorders (12%; Boardman, 1987; Carr, Lewin, & Reid, 1997).

Up to half of all patients experience affective symptoms without satisfying the clinical threshold for a diagnosis of mental disorder (Dowrick et al. 2000). These symptoms include nervousness, tension, saddened mood, and irritability, which are often accompanied by one or more of reduced vitality, panic attacks, difficulty with decisions, lower concentration, social withdrawal, and sleep and appetite disturbances (Cavanaugh, Clarke, & Gibbons, 1983; Hemert, Hawton, Bolk, & Fagg, 1993). Fritzche, Sandholzer, Brucks, Cierpka, Deter, Haerter, Hoger, Richter, Schmidt, Larisch, and Wirsching (1999) reported that many patients referred to general practice as a legitimate avenue for the discussion of their relationship difficulties with family members or work colleagues. Similarly, Pini, Piccinelli, and Zimmermann-Tansella (1995) found that social difficulties such as the inability to maintain friendship patterns were important to the decision of many patients to see general practitioners.

There is wide agreement that mental disorders are common among patients in general practice with physical symptoms (Cassem, 1995; Hemert et al. 1993). A National Survey of Mental Health (1997) found that almost half of all patients with a mental disorder reported a co-existing physical health concern. Similarly, Kirmayer et al. (1993) reported that up to 80 percent of patients with affective disorders complain exclusively of physical symptoms. These patients also complain of a greater number of physical symptoms (Jyvaesjaervi et al. 1998) and more severe bodily pain (Stokes, 1993). Fava, Morphy, and Sonino (1994) reported that physical disease with an

organic origin can manifest through affective symptoms while Wolberg (1989) found that patients with physical disease often complain of affective reactions to the disease.

There are reports that patients with impaired mental health tend to also rate physical health as impaired (and vice versa; Harmon et al. 2000; Sayer et al. 2000). These reports suggest that it is misleading to argue that mental disorder is rarely seen in general practice. Fewer patients provide mental disorder as reason for attending general practice than is implied by their morbidity (Dowrick et al. 2000). Patients often do not recognise affective symptoms prior to their consultation with a general practitioner (Jyvaesjaervi et al. 1998). In addition, most symptoms persist despite not satisfying formal criteria for a classification of mental disorder, while most patients do not communicate affective symptoms to their doctor (Sayer et al. 2000). It is now widely recognised that many patients attending general practice have impaired mental health, in addition to poor physical health (Britt et al. 2001; Harmon et al. 2000).

The Functional Health Status of Patients

The present literature review has established that functional impairment is crucial to the decision of patients to seek medical attention. Carney et al. (2001) argued that the capacity to undertake routine physical activities is diminished by the presence of more severe physical symptoms. These activities include daily self-care tasks such as bathing and dressing, as well as walking and carrying objects (Ware et al. 1993). Kroenke et al. (2002) found that patients also reported more severe symptoms than did individuals in the general population. However, there are recent reports suggesting that few patients in general practice report ‘feeling sick’ (Britt et al. 2001; Sayer et al. 2000) in that no more than 10 percent of patients referred to their physical health as ‘fair or worse’. More patients (14%) considered themselves to be in ‘excellent’ physical condition. Even a third of frequent attenders evaluated their health as ‘very good or better’ (Dowrick et al. 2000). Hence, there is some conflicting evidence as to the extent of functional limitations associated with physical concerns.

The presence of a mental health concern increases the probability of seeking medical attention (Bellon et al. 1999; Little et al. 2001). Vedsted, Fink, Olesen, and Munk-Jorgensen (2001) found that patients with affective disorders saw general practitioners the most often. Jyvaesjaervi et al. (1998) reported that even ‘minor depressive symptoms’ dramatically escalated the likelihood of attending general practice. The functional impairment that accompanies mental disorder is said to be as severe, or even more so, than that of physical disease (Ridsdale, Mandalia, Evans,

Jerrett, & Osler, 1999). Hecht, von Zerssen, and Wittchen (1990) argued that depressive affect reduces the capacity of patients to undertake routine activities of daily living. These patients are often unable to assume regular role responsibilities in the home or workplace (Ware et al. 1993). They also have a diminished social capacity to participate fully in valued activities within the family, workplace, and community. The experience of mental disorder often prevents patients from accessing social networks for much needed support (Stokes, 1993). Thus, many patients seeing general practitioners report functional incapacitation due to mental health concerns.

Demographic Characteristics:
The Health of Males and Females

Much research (Corney, 1990; Jewell, 1998; Krasnik et al. 1997) has shown that females are the principal consumers of general practice. They are responsible for more than 70 percent of all consultations (Shah, McNiece, & Majeed, 2001). They are also more likely than males to be frequent attenders (Scaife et al. 2000) with an annual average of 15 consultations each (Vedsted & Olses, 1999). Sayer et al. (2000) found, however, that while more numbers of females (than males) saw general practitioners, males who did see them did so at a rate similar to females.

The higher numbers of females attending general practice is most prominent in the reproductive years (18 to 44 years) when they attend more often for preventative screening of the reproductive system (Britt et al. 2001). These consultations, which include prescriptions for contraceptive medicine, account for 60 percent of all female consultations (Gusbers van Wijk, Kolk, van den Bosck, & van den Hoogen, 1992).

The decision of both males and females to seek medical attention is determined by their physical health (Corney, 1990). It is females, nevertheless, who report more cases of physical disease over a one-year period (Corney, 1990). They also present at general practice with more physical symptoms and report them as more severe than do males (Gusbers van Wijk, Kolk, Van den Bosh, & Van den Hoogen, 1995). However, Sayer et al. (2000) found more recently that males and females were uniform in their assessment of symptom severity (regardless of their reasons for the consultation).

There are conflicting findings as to whether males and females differ in their reasons for seeing a general practitioner. Jewell (1998) reported higher numbers of females in all diagnostic categories with the exception of physical trauma injuries resulting from accidents, injuries, poisoning, and violence. However, Mant and Silagy

(1998) found that males were more likely to be managed for serious physical diseases. There was also evidence that most forms of chronic disease were more prevalent among males (Huggins, 1998; Laws, 1998). However, the AIHW (1994) found that it was females who were more prone to chronic conditions such as migraine, sinusitis, headache, arthritis, obesity, hayfever, and asthma. They also found that more females were treated for skin complaints such as eczema and dermatitis. Mant and Silagy (1998) argued that the high mortality rates among younger males means that only males with 'good' health survive into 'old age'. They speculated that this might explain why more older females (than males) report chronic degenerative conditions.

Taylor, Stewart and Parker (1998) argued that most males are unconcerned with their physical health. They reported that males are often reluctant to seek medical attention, even for the experience of legitimate ill health. Males also tend to ignore early signs of the onset of physical disease (Earle et al. 1998). Laws (1998) observed that most males rely upon others, namely females, to take partial responsibility for their health and for motivating them to see a general practitioner. He argued that some males pretend they are well, when in fact they have significant ill health. Hamilton-Smith (1998) suggested that this ignorance is responsible, in large part, for the lower life expectancy of males. The consensus among health researchers is that most males wait until the experience of severe ill health before seeing a general practitioner (Laws, 1998). These males account for a large proportion of patients referred from general practice to hospital (Huggins, 1998).

Sayer et al. (2000) found that the effect of physical symptoms on functional health was more severe for male patients (than for female patients). More than 10 percent of males reported their functional capacity to undertake routine physical tasks as 'no better than fair'. The corresponding figure for females was less than two percent. Corney (1990) argued that males are more likely to restrict their reasons for seeing a general practitioner to physical symptoms. This focus on physical symptoms is most prominent when an organic cause that may account for the health complaint can be established (Pilowsky et al. 1987). Even males with noticeable impairment in mental health continue the trend of reporting fewer 'mental health concerns' in favour of physical symptoms. Mant, Broom, and Duncan-Jones (1983) argued that this under-reporting might account for some of the under-diagnosis of mental disorder among males. Pilowsky et al. (1987) suggested that males seek reassurance for physical symptoms because of the difficulty they have in disclosing their emotions.

Females are more likely to be managed in general practice for mental disorders (Sayer & Britt, 1996). A National Survey of Mental Health ([NSMH] 1997) found that almost all females in the general population diagnosed with a mental disorder had seen a general practitioner for the disorder. The corresponding figure for males was 20 percent. In addition, most patients (63%) referred by general practitioners to psychiatry services were female (Harmon et al. 2000). Females also received more prescriptions from general practitioners for psychotropic medication (Sayer & Britt, 1997). Lockwood and Berbatis (1990) found that females were more likely to be prescribed medication to 'aid sleep' and for 'nervous conditions'. However, Mant et al. (1983) found that females were no more likely than males to have received prescriptions for psychotropic medication. They concluded that females received more prescriptions since more of them saw general practitioners. In fact, Mant et al. (1983) found that males who discussed affective symptoms with a general practitioner were more likely to have received a prescription than were females.

There is some research suggesting that males and females do not differ in mental health (Boardman, 1987; Standsfeld & Marmot, 1992). Corney (1990) argued that reported differences in mental health (and prescriptions for psychotropic medication) reflect attitudes toward seeking medical attention, rather than biological differences. Many people still believe it is socially acceptable for females (but not males) to admit a personal need for assistance (Johnston, 1988). Johnston (1988) found females more tolerant of the stigma attached to seeking psychological help: they were therefore more likely to use general practice for the expression of mental health concerns. These concerns tended to be of a psychosocial nature, namely relationship difficulties such as 'marital strain', that did not require medical care (Murray & Corney, 1988).

Sayer and Britt (1996) argued that females are more able to recognise symptoms of mental disorder: they are more sensitive than males to bodily sensations that sometimes represent emotional responses to personal distress. Females are also more likely than males to express mental disorder through the presentation of somatic symptoms (Corney, 1990). They are more inclined to present at general practice with psychosomatic symptoms like as headache, nervous stomach, weight difficulties, and hypertension (Schwab, Fennell, & Warheit, 1974). Murray and Corney (1988) found that almost half of all females characterised themselves as 'born worriers'. They argued that the excessive concern about bodily sensations was partly responsible for more females than males being managed for affective disorders in general practice.

The NSMH (1997) found that there were few sex differences in mental health. Males and females did differ, however, in the mental disorders they brought to general practice. Almost a third of males with mental disorder were diagnosed with substance abuse disorders, namely dependence on alcohol and/or narcotics. More than a third of females were diagnosed with affective disorders, mostly depression. Some researchers have recommended that studies adopt separate analyses of the correlates of male and female mental health (Corney, 1990; Ferguson 1990; Standsfeld & Marmot, 1992).

The Effects of Age on Health

There is a gradual increase in annual number of consultations from early adulthood through to middle adulthood, with a rapid increase thereafter (Neal, Heywood, Morely, Clayden, & Dowell, 1998). The result is that the elderly (particularly those over 70 years of age) see general practitioners the most often (DHAC, 1999). They attend general practice at twice the rate of the remainder of the population with an annual average of 13 consultations each (DHFS, 1996). Vedsted and Olesen (1999) reported that from the age of 50 years, age becomes a principal determinant of future status as a frequent attender.

The elderly see general practitioners the most often as they experience the most debilitating forms of physical disease (Kurtz, Kurtz, Stommel, Given, & Given, 2000). They report more physical symptoms (Walters, Munro, & Brazier, 2001) and to having them more severely (Waltz, 2000). Britt et al. (1999) also observed a progressive increase in the reasons for seeing a general practitioner with advancing age. Similarly, Sayer et al. (2000) reported that up to 90 percent of older patients have multiple health concerns. These concerns, which are often referred to as ‘conditions of old age’, tend to be long lasting in duration (Carney et al. 2001). Ward, Underward, Fatovich, and Wood (1994) found that most frequent attenders at general practice were older patients with chronic degenerative conditions. These conditions included difficulties with sight and hearing, arthritis, diabetes, heart disease, cancer, dementia, and osteoporosis (Leeder, 1999). The latter condition contributed to the higher rates of fractures among older patients (AIHW, 1995). The number of new conditions managed in general practice also declined with increasing age (DHFS, 1996). Hence, much of the clinical workload of general practitioners is devoted to chronic disease management of the aged (particularly those aged beyond 70 years).

The chronic health conditions of aging have severe implications for daily living (Townson, 1999). Older patients report many more ‘reduced activity days’ per year

due to ill health than do younger patients (DHHCS, 1992). They are also more likely to refer to their functional health as no better than 'fair' than are younger patients (Sayer et al. 2000). Britt et al. (2001) found that patient assessments of health as 'excellent' decreased steadily with age while those referring to it as 'poor' increased with age. More than 80 percent of patients over 74 years of age described their health as 'fair or worse' (ABS, 1997). Even so, there were patients, comprising half of those aged over 54 years, who despite long-term health concerns referred to their health as 'very good or better' (ABS, 1997). The vast majority of patients in general practice do, nevertheless, report a marked decline in health status as they age.

The National Mental Health Strategy Research Centre (1995) reported that up to 15 percent of young people experience mental disorder each year. They are more likely (than older adults) to be diagnosed with affective disorders such as anxiety and depression (Townson, 1999). Many more young people experience mental health symptoms without meeting the threshold for a clinical diagnosis (AIHW, 2000). It has been argued that even 'minor symptoms' diminish the capacity of young adults to participate in valued activities within the local community (Townson, 1999). Hence, it is not uncommon for young adults to report lower mental health (Walters et al. 2001).

The AIHW (2000) reported a gradual increase in mental health from early adulthood through to old age. This was due principally to a pronounced increase in the mental health of older females (ABS, 1997). It was not surprising therefore that mental health was not a principal determinant in the decision of older patients to seek medical attention (Gilleard, Francis, & Brown, 1998). Shah et al. (2001) found that mental health concerns were responsible for four percent of consultations with patients aged over 64 years. Most of these consultations were for affective disorders (Shah et al. 2001). Even so, older females (aged over 64 years) were twice as likely as males to be managed in general practice for depression (Sayer et al. 2000).

The Financial Background of Patients

Many of the inequalities in health that persist in the community can be explained by financial hardship (Ingham & Miller, 1982). Most research has employed four interwoven indicators of socio-economic disadvantage: (1) low income including single-parent households, (2) low rates of school retention as reflected in limited education beyond secondary schooling, (3) high unemployment including dependence on social security benefits, and (4) employment in unskilled occupations that require little training (Townson, 1999). These indicators interact with each other to influence

health status. Those with university qualifications are more likely to be in the workforce, especially occupations of high social prestige, and to have stable incomes. These three indicators (education, occupation, and income) have been combined by the ABS (1997) to produce a single index of socio-economic status. Hull, Cornwell, Harvey, Eldridge, and Bare (2001) argued more recently that many individuals born overseas experience social isolation due to language and literacy difficulties, both of which foster economic hardship. These patients tend to experience 'health isolation' due to a lack of knowledge of available health care services. They are also often unable to articulate their reasons for seeing a general practitioner (Hull et al. 2001).

Patients living in financial hardship are more likely to be frequent attenders at general practice (Baker, Mead, & Campbell, 2002). Knox and Britt (2004) found that patients receiving social security benefits had almost three times more annual consultations than did the general population as a whole. This high consultation rate was particularly evident among long-term unemployed patients who attended most often because they complained of more ill health (Blazer et al. 1994). The ABS (1997) confirmed that residents of disadvantaged regions report the worst states of health, which they claim is partly responsible for their lower life expectancy.

Patients living in financial hardship are also more likely to seek medical attention for multiple health concerns (Van den Akker, Buntinx, Metsemakers, Roos, & Knottnerus, 1998). They complain of more severe symptoms including greater burden of chronic conditions (Eachus et al. 1999), more physical symptoms without organic cause (Baker et al. 2002), and more physical trauma injuries (Gusbers Van Wijk et al. 1995). These patients are also more inclined to engage in behaviours known to increase the risk of future disease (Gusbers Van Wijk, et al. 1995). These behaviours include physical inactivity and poor nutritional intake leading to obesity, hypertension, and substance abuse namely alcohol harm and illicit drugs (ABS, 1997).

There are mental health consequences of living in adverse economic conditions. Patients seeing general practitioners in 'underprivileged' regions are at least three times more likely to be diagnosed with an affective disorder (Ostler, Thompson, Kinmonth, Peveler, Stevens, & Stevens, 2001). They are also more depressed in the six months following their consultations (Ostler et al. 2001). Naughton and Wilkund (1993) found differences in depression rates between patients from general practices in several locations could be attributed to differences in financial resources. Patients reporting financial constraints were more likely to be managed for a mental disorder.

Patients with less formal education are also more likely to be managed by general practitioners for a mental disorder (Al-Jaddou & Malkawi, 1997), particularly if they ceased schooling before the age of 15 years (Boardman, 1987). Mant et al. (1983) found that unemployed patients received more prescriptions for psychotropic medication, particularly if they were male. More recent research found that patients from migrant backgrounds with little knowledge of English were three times more likely to be diagnosed with depression (Britton, Lawrenson, & Fuller, 2000) due to poor housing, high unemployment, and social isolation (Hull et al. 2001).

Financial background has a different influence on the health status of males and females (Gusbers Van Wijk et al. 1995). This difference has been attributed to there being higher numbers of females in disadvantaged positions such as being a single parent or undertaking house-duties (Boardman, 1987). Blazer et al. (1994) found that female 'homemakers' reported physical health that was lower than almost all other categories of occupation. The proportion of females with low levels of formal education who referred to their health as 'fair or worse' was also much higher than that of males (Mathers, 1994). Even though being in the workforce was important for females, it had a more influential effect on the health of males (Gusbers Van Wijk et al. 1995). Unemployed males were three times more likely to be diagnosed with a mental disorder (Boardman, 1987). Males from lower social class backgrounds also had the highest rates of trauma injuries, since most were employed in manual occupations with a greater risk of job-related injuries (Gusbers Van Wijk et al. 1995).

Geographical Location and Health:
The Western Region of Melbourne

It is well known that geographical location is an important determinant of inequalities in health between communities (Ostler et al. 2001; Scaife et al. 2000). The health of residents in the region to the west of Melbourne has been the focus of limited research. This region comprises six municipalities: Brimbank, Hobsons Bay, Maribyrnong, Melton, Moonee Valley, and Wyndham. There are four main reasons for mortality of residents in the region: neoplasm (cancer), acute myocardial infarction (heart attack), chronic ischemic heart disease, and suicide (especially among 10 to 29 year olds; Grace & Shield, 1998). Most causes of death are preventable (ABS, 1997).

The majority of research on the health of residents in the region has been restricted to burden of disease. The Victorian Division of Public Health (VDPH, 2001) found health burden in the region was much higher than the state average.

Almost one in five residents referred to their health as 'fair or worse' (ABS, 1997). This is due in large part to the high rate of cardiovascular disease in the region, which impedes the capacity to undertake routine physical activities (VDPH, 2001). There is also a high concentration of affective disorders in the region, namely anxiety and depression (ABS, 1997). Its residents are also more likely to engage in behaviours that increase the risk of future disease. These include alcohol harm, illicit drug taking, and lifetime use of tobacco. The VDPH (2001) argued that residents to the west of Melbourne have a reduced life expectancy due to their considerable burden of disease.

The poor health of residents to the west of Melbourne has been attributed to financial hardship (Grace & Shield, 1998). The region has a large proportion of families on low incomes or one-parent households. Almost half of all residents earn no more than $15, 000 per annum. Most have limited formal schooling: no more than 20 percent have an education beyond secondary schooling. No more than five percent have a tertiary qualification. The region has a school retention rate below most other regions with a third of residents below 15 years of age not enrolled in school. Most young adults receive social security benefits due to long-term unemployment. Most residents in the paid workforce are in unskilled occupations that require little training.

The region comprises a high proportion of migrants: a third of all residents are overseas born (Grace & Shield, 1998). Most are new arrivals from countries such as Vietnam, Italy, Malta, and Greece, with the remainder having refugee status. Most overseas born residents have little knowledge of the English language. More than 85 percent are from countries where English is not the dominant language. A third of households speak a foreign language, which is twice the state average.

There are, nevertheless, more affluent suburbs in the western region such as Essendon, Moonee Ponds, Williamstown, and Yarraville. These suburbs have more high-income families comprising tertiary qualified professionals. Residents of these suburbs are more likely to be in occupations of high social prestige (Grace & Shield, 1998). It is possible that previous research with an over-representation of these suburbs has underestimated the extent of financial hardship in the region as a whole.

The health of patients in general practice to the west of Melbourne is unknown. A planning paper released by the Western Region Health Department (WRHD, 1987) more than 15 years ago stated that research on medical patients in the region was almost non-existent. This paper admitted that the scarcity of research had impeded the

ability of the region to address the many health inequalities found among its residents. Yet despite the release of the planning paper very little research has been conducted.

Scotton and Graves (1979) reported prior to the planning paper that general practice dominates the provision of primary health care in the region. They estimated that more than three-quarters of residents saw a general practitioner each year. Dunt, Oberklaid, and Temple-Smith (1988) found that females in the region attended general practice the most often (60%), as did older patients (namely older females). Most patients were vulnerable to economic hardship with almost half not in the paid workforce. A third were employed in manual occupations of low social prestige, namely as machine operators. About half (41%) of all patients were born overseas from countries where the dominant language is not English (Dunt et al. 1988).

Unfortunately, Dunt et al. (1988) did not measure the health status of patients seeing general practitioners in the region. An extensive search of the literature identified one study that contained a single item of functional health (Christie, 1979). The study investigated the physical limitations reported by patients to the northwest of Melbourne with 'joint disorders'. Christie (1979) found that three-quarters of patients reported no functional impairment resulting from the disability. Less than a quarter reported 'some' limitation in daily activities such as walking, bathing, and dressing.

The limited research on patients from underprivileged regions, such as that to the west of Melbourne, could be attributed to the finding that these patients are least willing (or least able to because of language barriers) to participate (Murray & Corney, 1988). Lewis, Pelosi, Araya, and Dunn (1992) found that as few as 10 percent of these patients returned completed questionnaires. The corresponding figure in nation-wide studies has been reported at 95 percent (Mant et al. 1983), with completion rates of up to 90 percent when patients are asked to return questionnaires via postal mail (Corney, 1990; Krasnik et al. 1997). Clarke, Minas, and Stuart (1991) found that half of all patients in a hospital to the northwest of Melbourne who did not return a completed questionnaire had limited knowledge of the English language. Findlay-Jones and Burvill (1978) argued that patients from migrant backgrounds are under-represented in health-related research despite them comprising significant proportions of communities such as that to the west Melbourne. McHorney et al. (1994) found more recently that even with the inclusion of these patients (from underprivileged regions) more than 90 percent of patients returned a completed questionnaire of health (SF-36).

SUMMARY OF SECTION TWO

Most physical health concerns in need of medical intervention are managed in general practice. Even so, the presence of physical symptoms alone is not sufficient to lead patients to seek medical attention. It is the effect of symptoms on the capacity to participate in valued activities that determines whether medical attention is sought. Those with more severe limitations see general practitioners the most often. Most patients do, nevertheless, refer to the most severe physical symptoms when providing reasons for seeing a general practitioner. These physical symptoms can sometimes represent underlying affective disorders. Many more patients report affective symptoms without satisfying clinical thresholds for a diagnosis of mental disorder. These symptoms prevent patients from undertaking activities of everyday living. They can also restrict patients from accessing social networks for much needed support. Hence, most patients in general practice have impaired physical and mental health.

There are differences in how often males and females see general practitioners: more females attend general practice and they see general practitioners more often. They also differ in self-reported health status. Females are, for instance, more likely to be managed in general practice for mental disorders. On the other hand, many males are hesitant to see general practitioners, even for genuine cases of ill health. These males wait until they have significant impairments in functional health before seeking medical attention. Older patients attend general practices the most often. They tend to have chronic degenerative conditions that limit the capacity to participate fully in meaningful activities. Younger adults are more likely to experience symptoms of mental ill health, and to be diagnosed with affective disorders, namely depression. There is a gradual increase in mental health from early adulthood through to old age.

Patients in financial hardship see general practitioners the most often. They also have the poorest health including greater burden of chronic conditions, which is partly responsible for their lower life expectancy. There are also mental health consequences of living in unfavourable environments. Patients seeing general practitioners in underprivileged regions are more likely to be diagnosed with affective disorders. The region to the west of Melbourne is characterised by lower social class backgrounds and high corresponding health needs. Yet remarkably little information exists on the health of patients seeing general practitioners in this region. The limited research in this region has been restricted to population studies and has relied upon biomedical measures of health, namely burden of disease and years of life lost due to disease.

SECTION THREE:

DAYDREAMING AND HEALTH STATUS

I strongly wish for what I faintly hope:
Like the day-dreams of melancholy men,
I think and think on things impossible,
yet love to wander in that golden maze.

(John Dryden, 1631-1700)

DAYDREAMS OF MEDICAL PATIENTS

Patients in General Practice

There have been few studies of the daydreams of patients in general practice. Kreitler et al. (1990) studied the cognitive orientation of female patients in general practice (n = 210) for routine breast screening. Patients favoured a concrete form of thinking focussed on realism, which corresponded with an imbalance in the experience of emotion. Patients were unable to experience positive emotions defined to include elation, love, gratitude, and contentment. They were, however, more prone to negative emotions like sadness, anxiety, hostility and fear. Kreitler, et al. (1990) reported that previous research had found that these negative emotions coincided with a greater likelihood of affective disturbance, particularly symptoms of depression.

Most female patients reported a dramatic reduction in daydreaming as indicated by 'better' attentional control (as measured by the SIPI). Kreitler et al. (1990) argued that the reduction was due to limited boredom, since the preference for events in the external environment meant patients had fewer opportunities for mindwandering. It was proposed that patients preferred to concentrate on achieving success in concrete tasks rather than maintaining a 'fantasy life'. Patients were also unable to maintain an inner-orientation without distraction from the external environment. When patients did daydream, they reported fewer affective daydreams measured by combining scores for positive constructive daydreaming and guilt and fear of failure daydreaming (of the SIPI). It was argued that the reduction in affective daydreams was indicative of the inability of patients to moderate intense emotion (Kreitler et al. 1990).

Kreitler et al. (1990) argued that the decision to see a general practitioner is incompatible with the need to withdraw from reality. On the other hand, their review of previous research indicated that limiting the spontaneous expression of emotion increases the likelihood of psychosomatic symptoms. Kreitler et al. (1990) also argued that frequent daydreaming limits the use of effective coping strategies needed for

long-term health. They proposed that patients denying the reality of the situation might disregard medical opinion. They suggested, nevertheless, that affective daydreams regulate intense dysphoric emotions, which is important for mental health. However, Kreitler et al. (1990) did not measure the health status of patients. Their study was unable to determine if limited daydreaming was related to patient health.

A more recent study by Kreitler, Kreitler, Chaitchik, Shaked, and Shaked (1997) investigated the psychological characteristics of females diagnosed with breast cancer. It was found that survival rates of patients five years post-surgery were predicted (more than 30 percent better than by chance) by psychological (and medical) factors. The most important psychological factor was psychological adjustment to the disease. Female patients reporting lower adjustment (measured one-year post-surgery) had the worse states of health (and lower survival rates) in the long-term (measured at three and five years post-surgery). An unexpected finding was that emotional distress was not related to reports of worse states of long-term health (or lower survival). On the contrary, distressed patients were in a better state of health and survived longer (than did patients reporting less distress). Kreitler et al. (1997, p. 396) suggested "distress reflects an active attempt to cope with psychological problems, being upset by them, perhaps trying to solve them.

These findings (Kreitler et al. 1997) confirmed an earlier report of Kreitler et al. (1993) that repressiveness (defined in the study as 'low anxiety') was related to shorter survival rates in female patients with breast cancer. The indirect inference of this study (Kreitler et al. 1993) was that the experience of anxiety indicated the potential for longer survival. It was found that patients tended to become low in emotional expression in response to the threat posed by the cancer diagnosis. That is, the capacity of patients to moderate emotion declined substantially from pre-to-post surgery, namely for patients diagnosed with malignant cancer. Prior to receiving the cancer diagnosis, patients did not differ from controls (non-cancer patients) in their reported experience of negative emotions such as anxiety. Kreitler et al. (1993) concluded that the decrease in anxiety (and presumably mental processes such as negative daydreams that reinforce, and arouse more, negative emotions) post-surgery reflected attempts to cope with the overwhelming stress of the diagnoses of cancer. These findings (Kreitler et al. 1993) provide indirect support for the finding of Kreitler et al. (1990) that the regulation of intense dysphoric emotions (via thought

processes such as affective daydreams) is important for the long-term health (in particular, the mental health) of medical patients with serious health concerns".

An extensive literature search found no published studies in the past 30 years on the daydreams of patients in general practice for the management of physical disease. An early study by Streissuth et al. (1969) investigated medical patients (n = 80) with physical disease deemed by a general practitioner to warrant medical intervention. Half of these patients had been admitted to hospital, mostly for non-life threatening conditions. All patients completed a 262-item version of the IPI.

Patients reported an impoverished capacity for imaginal activities as indicated by a significant reduction in frequency of daydreaming. They reported fewer affective daydreams, particularly those containing anxiety, aggression, hostility, achievement, and heroism. Patients also reported fewer 'fanciful' daydreams defined to include wishful actions that could not be satisfied by the external environment. This included a noticeable absence of sexual daydreams (when compared to college students). Patients did report more unpleasant daydreams, which Streissuth et al. (1969) argued heightened the experience of negative emotion. These daydreams were ruminative with patients unable to 'turn them off'. Patients reported being frightened by the contents of these unwanted daydreams, which were followed by negative reactions.

Patients also had more daydreams of realistic problem solving such as planning for future actions that may, or may not have occurred (Streissuth et al. 1969). It was feasible that these daydreams outlined the possible implications of physical disease for the daily living of the patient. Even though participants in the study were medical patients with health concerns the study did not include a measure of health status. The relationships between patterns of daydreaming and the health of patients remained unknown. It was recommended, nevertheless, that further research investigate this interaction. Despite this recommendation there has been little subsequent research.

Patients with Life-Threatening Health Conditions

A small volume of research has recognised the potential importance of daydreaming to the health outcomes of patients with life-altering medical conditions. Jensen (1987) investigated factors that determine the progression of malignant breast cancer. He argued that inattention to imaginal activities is an important characteristic of a 'repressive' personality, defined as a deficiency in the experience of emotion. He further argued that patients unable to experience emotion sometimes underestimate the seriousness of their medical condition. Jensen (1987) proposed that repressive

characteristics would hinder the recovery of patients from malignant breast cancer (n = 52). He followed patients over a two-year period. Patients were asked to complete subjective measures of health behaviours, as well as the SIPI. They also underwent blood chemistry analysis to determine the progression of cancer.

It was found that psychological factors were responsible for almost 50 percent of the health outcomes of female patients with malignant breast cancer. The most pronounced factor was the 'inability to express' negative emotions, which was characterised in part by fewer unpleasant daydreams. Patients unable to regulate negative emotions had the greatest likelihood of metastatic progression. There was also a noticeable reduction of involvement in health-related behaviours. These patients were more likely to have died from their cancer during the two-year study.

Jensen (1987) assumed that patients would focus on enhancing positive emotion. He argued that patients would use these daydreams to interpret life events in a positive manner and that this might foster an optimistic outlook on prognosis of cancer. He found, however, that patients reporting more positive daydreams also recorded the worse health outcomes. Despite medical intervention these patients had the most rapid neoplastic progression. They also spent less time in remission. The adverse implications of positive daydreams were observed even for patients considered not to have a 'repressive personality'. Jensen (1987) concluded that the health of cancer patients might be improved if they focus on the expression of negative emotion. He argued that negative daydreams are important to the spontaneous expression of upsetting emotions that accompany the fears of being diagnosed with serious disease. He also argued that reducing positive daydreams would contribute to favourable health states, since pleasant daydreams minimise negative affect. These daydreams 'allow' patients to escape from fearful thoughts of disease into comforting fantasy. Thus, patients indulging in positive fantasy often underestimated the seriousness of the situation. The findings of Jensen (1987) implied that this underestimation might have negative effects for the progression of cancer including more metastatic development.

The findings reported by Jensen (1987) have been supported by a more recent study of the personality characteristics of patients with paraplegia due to traumatic spinal cord injury (n =83; Mattlar, Tarkkanen, Carlsson, Aaltonen, & Helenius, 1993). Mattlar et al. (1993) found that most patients reported the 'regressive tendency' of not being able to moderate the experience of emotion, particularly negative emotion. They favoured 'improbable fantasy' (as measured by the Rorschach method) that allowed

them to temporarily ‘escape’ from the negative emotion about the unexpected disability. It was likely that fanciful fantasy provided a peaceful sanctuary from feelings that were intolerable. Mattlar et al. (1993) implied that these comforting daydreams hindered patient rehabilitation, since patients often relied upon them to mentally disengage from the reality of their unchangeable situation.

It was also found that most patients had ‘unrealistic ambitions about their own resources’ (Mattlar et al. 1993). It was likely that they underestimated the functional limitations imposed by their injury. Mattlar et al. (1993) inferred that unrealistic thoughts were used to imagine that the disability would somehow be over, or that it was not as serious as forecast. They argued that thought patterns (including daydreams) would be beneficial to health outcomes if channelled towards planning realistic goals for rehabilitation, rather than fanciful ones. The findings of Mattlar et al. (1993) supported the conclusion of Jensen (1987) that patients should be encouraged to confront negative emotions as this might benefit their adjustment to life-changing events. Mattlar et al. (1993) also suggested that wishful daydreams might function as a defensive manoeuvre in response to the stressful demands of living with a chronic condition (such as its adverse affect on functional health).

Spiegel, Bloom, Kraemer, and Gottheil (1989) had earlier found that female breast cancer patients assigned to a support group to express negative feelings about their disease survived twice as long (than did control patients). It was argued that patients in the support group ‘achieved happiness’ not by eliminating (or avoiding) negative emotions but by confronting and accepting them. Spiegel et al. (1989) concluded that it is important for the wellbeing of medical patients with severe health concerns that they are encouraged to experience (and express) negative emotions in addition to those that are positive.

A series of recent studies sought to confirm whether the experience of positive and negative emotions could be separated. Larsen, McGraw, and Cacioppo (2001) investigated if people could feel happy and sad at the same time. They found, in contrast to the view of others (for example, Russell & Carroll, 1999) that positive affect and negative affect are polar opposites, that the experience of positive and negative emotions can be separated: that is, mixed feelings of happiness and sadness can co-occur. The experience of mixed feelings (at the same time) was most noticeable in ‘complex situations’ that were not typical-everyday experiences for most of the population. Larsen et al. (2001) reported that coping with severe stressors (such

as serious health concerns) requires not only positive emotions, but also the experience of, and dealing with, negative emotions attached to the stressor. They noted that it was necessary for individuals to experience and confront negative emotions while being comforted by positive emotions.

Cacioppo and Gardner (1999) studied the activation functions for positivity and negativity, which they are argued are separate affective systems. They reported that negative affect is most likely to be experienced when information is perceived as threat-related while positive affect is experienced when information indicates safety. They argued that negative affective dimensions were more influential than positive dimensions on cognitive activity (and behaviour) with a propensity to act more strongly to negative stimuli. They termed this heightened sensitivity to negative information 'negativity bias'. Cacioppo and Gardner (1999) observed, nevertheless, that most people are at least moderately motivated to act when confronted with neutral or unfamiliar stimuli. They termed the tendency to respond in a positive manner to situations affectively neutral as 'positive offset'. It is possible that negative affective dimensions such as negativity bias are more relevant to the wellbeing of medical patients. Some patients might become so overwhelmed with negativity that it hinders recovery (and health outcomes).

Patients with Chronic Health Conditions

Most measures of coping strategies designed for medical patients include a subscale of wishful daydreams (Felton, 1984; Folkman & Lazarus, 1985). These daydreams include I 'daydreamed of a better time or place than the one I was in', 'had fantasies about how things might turn out', and 'thought about fantastic things like winning a million dollars that made me feel better'. The use of these daydreams as a coping strategy has been researched in patients diagnosed with chronic conditions such as hypertension, diabetes mellitus, cancer, and rheumatoid arthritis (Feifel, Strack, & Nagy, 1987; Felton, Revenson, & Hinrichsen, 1984). Felton and Revenson (1987) argued that these daydreams represent a passive adaptation to the stress of chronic disease, as they do not lead to direct action in the real world. Patients are more likely to adopt this form of emotion-focussed coping when the situation is considered unchangeable (Folkman & Lazarus, 1988), one that must be endured (Carver, Scheier, & Weintraub, 1989), or when relinquishing control to others (Brown & Nicassio, 1987). Felton and Revenson (1987) found patients who perceived their condition as serious coped by engaging in wishful daydreams at the expense of

seeking information about their condition. These patients were the least likely to adopt coping strategies that encourage them to search for realistic options in managing the stressful demands of their chronic condition (Folkman & Lazarus, 1988).

Revenson and Felton (1989) argued that wishful daydreams alleviate the emotional strain of disease by allowing patients to escape into comforting fantasy. These daydreams provide the opportunity for patients to modify the reality of the situation as desired (Felton & Revenson, 1987). These patients often indulge in daydreams that 'long for the disease to disappear'. Felton and Revenson (1984) found that these daydreams sometimes comprised 'what might have been' and 'memories of better times'. They reported that despite the cognitive effort to escape into pleasant fantasy, negative thoughts resurface through the thought patterns of medical patients.

Commerford, Gular, Orr, Reznikoff, and O' Dowd (1994) found that patients reliant upon wishful daydreams to disengage from the external environment were the most likely to be diagnosed with affective disorders like depression. These patients also reported more psychosomatic symptoms (Vingerhoets & Menges, 1989), in addition to 'feelings of helplessness' regarding the side effects of chronic disease like pain management (Brown & Nicassio, 1987). Felton and Revenson (1984) found that patients engaging in fanciful daydreams reported more intense negative emotion. This included a more pessimistic outlook on life and the self, both of which hinder patient self-esteem. Felton and Revenson (1984) suggested that fanciful daydreams often entail ruminations of 'self-pity for better times' that provide little relief from the emotional stress of disease. These patients, they argued, manifest unhappy feelings about being chronically ill and often refer to themselves as feeling sad or depressed.

The daydreaming of 'better times' reduces patient acceptance of chronic conditions as requiring consistent medical supervision (Felton & Revenson, 1984). Such patients are often unwilling to accept the limitations imposed by chronic disease on their participation in the physical activities of everyday living. Even so, they are more likely to report severe functional incapacitation in routine activities like walking, washing floors, and carrying groceries. These patients also report a marked decline in the capacity for social participation in valued activities with family and friends (Brown & Nicassio, 1987). Quinn, Fontana, and Reznikoff (1987) argued that the failure of patients to adjust to these functional limitations coincides with an increased likelihood of affective disturbance. This deterioration in affective state

occurs despite wishful daydreams being initiated by the patient in an attempt to improve mental health by denying the presence of negative affect (Quinn et al. 1987).

The use of coping strategies that encourage realistic goals for rehabilitation, rather than fanciful ones, has been found to be beneficial to health outcomes (Felton & Revenson, 1984; Felton & Revenson, 1987). Folkman and Lazarus (1988) found that planful problem solving such as 'I made a plan of action and followed it' and 'I came up with a couple of different solutions to the problem' helped to improve the emotional state of patients with chronic conditions. These patients, taking an active role to improve the situation, were less likely to report being depressed or to feeling helpless, since they felt in more control of the situation (Brown & Nicassio, 1987).

Oettingen and Mayer (2002) and Oettingen et al. (2001) studied the role of positive fantasies (about desired future events) in setting and committing to goals. They found that individuals reporting frequent positive fantasies had fewer future goals and were also less successful in accomplishing goals. These individuals displayed less purposeful action, which increased the likelihood of less successful performance (compared to those reporting fewer positive daydreams). It was argued that positive fantasies provide little motivation to act: they embellish future events (and the probability of these occurring) and thereby prevent the individual from preparing for potential obstacles and from planning how to overcome them. The absence of sufficient preparation further compromised success in obtaining desired goals. Oettingen and Mayer (2002) noted that the experience (and enjoyment) of positive daydreams in the 'here and now' provided limited motivation to implement desired goals in real life. The adverse effects of positive daydreams on goal commitment and goal attainment were found for a number of life domains (professional, interpersonal, academic, and health).

The study by Oettingen and Mayer (2002) comprised medical patients (n = 67) preparing to undergo hip-replacement surgery. It found participants with frequent positive fantasies recorded the poorest recovery measured in terms of joint mobility, the functional capacity to walk up a set of stairs, and a general questionnaire on pain, muscular strength, and patient wellbeing. It was proposed that patients who mentally face the possibility of painful future events have a 'better' recovery than do avoidant patients Even so, Oettingen et al (2001) argued that sometimes fantasising about a desired future is experienced as welcome relief (even if temporary) from a harsh reality that manifests unwanted negative emotions.

The research on medical patients with chronic conditions appears to support the argument that patients should be encouraged to communicate negative emotions, rather than retreating into comforting fantasy. It is possible that a mutual reinforcing relationship exists for some patients: that ill health brings about negative emotion that leads to wishful ruminations, which in turn reinforces negative emotion and non-acceptance of the health concern. The research also implies that practical problem solving is central to patient adjustment to the stressful demands of chronic ill health.

Patients with Characteristics of Alexithymia

There are reports that some patients are unable to experience fanciful daydreams (Bagby et al. 1994; Vingerhoets, Van Heck, Grim, & Bermond, 1995). Instead, these patients adopt a concrete form of thinking, focussed on achieving success in external tasks (Berthoz, Consoli, Perez-Diaz, & Jouvent, 1999). They report being unable to maintain an inner-orientation without distraction from the immediate environment (Taylor, 2000). Sifneos (1991) argued that the preference for realistic thoughts suppresses the spontaneous expression of intense emotion. This suppression is more common for positive emotions than for dysphoric emotions that manifest through unwanted thoughts (Luminet, Bagby, Wagner, Taylor, & Parker, 1999). Patients reporting more unwanted thoughts are the most likely to be managed in general practice for affective disorders, namely depression (Berthoz, et al. 1999).

A principle characteristic of alexithymia is a diminished capacity for imaginal activities (Berthoz, et al. 1999; Taylor, 2000), marked by a dramatic reduction in daydreaming (Bagby et al. 1994). Vingerhoets et al. (1995) argued that the preference for concrete tasks provides fewer opportunities for mindwandering. Bagby et al. (1994) found using the SIPI with a sample of college students (n = 117) that the minimal daydreams of students reporting characteristics of alexithymic reflected a depressive character as indicated by more guilt and fear of failure daydreaming. They also reported fewer positive constructive daydreams comprising ‘fanciful, wishful, and planful qualities’. Bagby et al. (1994) argued that these students were unable to become ‘absorbed in extended fantasy’ as indicated by ‘better’ attentional control.

It has been estimated that at least 20 percent of patients in general practice have characteristics of alexithymia (Posse & Hallstrom, 1998). These estimates have been as high as 80 percent (Porcelli, Zaka, Leoci, Centonze, & Taylor, 1995; Wise, Mann, Mitchell, Hryvniak, & Hill, 1990), with alexithymic characteristics more common

among patients with serious medical conditions (Honkalampi, Hintikka, Tanskanen, Lehtonen, & Viinamaki, 2000). The most recent figures indicate that most patients with characteristics of alexithymia are 'high attenders' at general practice (Jyvasjarvi, Joukamaa, Vaisanen, Larivara, Kivela, & Keinanen-Kiukaanniemi, 1999).

The limited imaginal capacities of patients with alexithymic characteristics limit the extent to which intense emotion can be moderated (Luminet et al. 1999; Sifneos 1991). Berthoz et al. (1999) argued that these patients seem to be more sensitive to physiological sensations, which often do not have an organic origin. These sensations are believed to be manifestations of underlying emotion (Taylor, 2000). Posse and Hallstrom (1998) argued that a central characteristic of alexithymia is the inability of patients to separate the experience of emotion from bodily sensations that accompany affect. The sensations reported most often include feeling weak, irregular heart rate, mild headache, upset stomach, minor chest pain, and muscle tension (Berthoz, et al. 1999). Patients with alexithymic characteristics interpret these sensations as signs of physical disease (Taylor, Bagby, & Parker, 1991). They also tend to amplify their awareness of physical symptoms, so it is not surprising that they present at general practice with more symptom complaints and report them as more severe (Taylor et al. 1990). Posse and Hallstrom (1998) argued that patients with characteristics of alexithymia 'wear their bodies out' due to excessive concern with bodily sensations.

Posse and Hallstrom (1998) reported, from a review of previous research, that patients with alexithymic characteristics are more susceptible to psychosomatic illness. They are also more likely to experience depressive affect (Luminet et al. 1999). Wise et al. (1990) found that patients with alexithymic characteristics reported a significant deterioration in 'quality of life' resulting from severe functional incapacitation in everyday activities. They suggested that alexithymia might be a state reaction to the stress of disease that serves to minimise negative affect. They also speculated that alexithymia functions as a short-term defensive coping mechanism that is relinquished as patients learn to 'better cope' with their disease. More recent findings of Helmers and Mente (1999) indicated that the reduction in life satisfaction might be due to the participation of patients with alexithymic characteristics in maladaptive behaviours known to increase risk of chronic disease. These behaviours include a sedentary lifestyle, deficit nutritional intake, and substance abuse such as alcohol harm. These maladaptive behaviours have been linked to premature mortality (VDPH, 2001).

The Toronto Alexithymia Scale (TAS; Bagby et al. 1994), the most widely used measure of alexithymia, recently omitted its subscale of reduced daydreaming. The authors cited the shortness of the five-item scale and its possible contamination by social desirability as reasons for its omission (Bagby et al. 1994). The authors do, nevertheless, continue to recognise the importance of daydreaming and its potential relationship to patient health (Bagby et al. 1994). Some researchers have continued to use measures of alexithymia with items of reduced daydreaming (Berthoz, et al. 1999; Loas, Perot, Chaperot, Fremaux, & Boyer, 1998; Vingerhoets, et al. 1995).

THE HOLISITC APPROACH TO WELLNESS: INTEGRATION OF BODY AND MIND

The term 'holistic medicine' refers to healing that addresses the whole person - body and mind - in the pursuit of optimal wellbeing (Bright, 2002; Trivieri, 2001). This medicine is said to empower patients by drawing upon their own 'natural healing qualities', since the body has an inherent ability to maintain health, and to restore it when necessary (Trivieri, 2001). The presence of symptoms is viewed as signifying an imbalance between the body and mind, rather than the invasion of foreign bodies that are beyond the control of the patient (Bright, Andrus, & Yetter Lunt, 2002).

The use of holistic medicine is widespread within the health care system. At least one in five persons in Australia sees a 'holistic practitioner' each year at a cost of more than two billon dollars (Cohen, 2003). Most of this expenditure is paid out-of-pocket by patients (Cohen, 2003). The estimates of others (Aldridge, 1994; Bower, 1994; Trivieri, 2001) suggested that up to two-thirds of the population utilise holistic medicine each year. It is believed that patients now see practitioners of holistic medicine more often than they do those of traditional medicine (Bright, 2002). In four years (from 1993 to1997) the use of holistic medicine increased by 25 percent in the United States alone, while total visits to holistic practitioners rose by 47 precent (Bright, 2002). In the year 1997, 27 billion dollars was spent on holistic medicine in the United States, with about 60 percent of expenses paid by patients (Bright, 2002).

Most patients in general practice consider holistic medicine a legitimate avenue of treatment (Milne, Waldie, & Poulton, 2000). Micozzi (1997) found that half of all patients in general practice had seen a holistic practitioner for their health concerns. The American Medical Association has, in response to the widespread demand for holistic medicine, advised its members to consider offering this form of medicine to

patients (Goldenberg, 1997). In Australia, up to 40 percent of general practitioners offer at least one form of holistic medicine, while 75 percent refer patients to holistic practitioners for complementary treatment (Pirotta, Kotsirilos, & Farish, 2000).

Eisenberg, Kessler, Foster, Norlock, Calkins, and Delbanco (1993) reported that, contrary to popular perception, patients with chronic conditions do not monopolise services provided by holistic practitioners. Forty-five percent of patients have serious medical conditions such as progressive cancers and muscular dystrophy (Bower, 1994). The same percentage of patients have 'routine' conditions such as back pain, obesity, headache, asthma, allergies, sinus infections, digestive disorders, and menstrual pain (Bower, 1994; Sorgen, 1998). The remainder attend for preventative education (10%). The use of holistic medicine is also prominent for patients with affective disturbance: patients seeing general practitioners are more likely to access holistic medicine if diagnosed with anxiety or depression (Eisenberg et al. 1993).

An important component of holistic medicine is the manipulation of imagery. This component, when combined with relaxation techniques (such as meditation and to a lesser extent hypnotherapy; Trivieri, 2001), accounts for 20 percent of all encounters with holistic practitioners (Bower, 1994). It is the third most common holistic technique adopted by medical patients (Downer, Cody, McCluskey, Wilson, Arnott, Lister, & Slevin, 1994). The purpose of guided imagery is to form an emotional union between the mind and body (Louie, 2004). The patient is encouraged to imagine specific scenarios that are offered to them by the practitioner. The patient is instructed to visualise the scene as vividly as possible and to imagine 'as if' the happenings are occurring to them in present time (Sinha et al. 1992). Most imagery contains the suggestion of pleasant scenes of tranquillity that promote a state of 'deep relaxation' through the release of muscle tension (Louie, 2004).

Guided Affective Imagery: Relationship to Physiological Responses

The widespread use of guided imagery as a remedial process has inspired much research on the physiological responses that occur during affective imagery (Dennis, 2004; Vrana & Rollock, 2002; Walker, 2004). All studies presented in this section investigated effects of affective imagery by comparing physiological responses during (and sometimes after) imagery sessions with baseline measures taken prior to these sessions. Witvliet, Ludwig, and Bauer (2002) argued that affective imagery arouses

specific emotions that manifest as physiological responses. These responses are similar to those experienced by events in the real world (Diespecker, 1990; Lang, Levin, Miller, & Kozak, 1983). Ohkuma (1985) reported, for instance, that imagining warmth or coldness can produce respective increases and decreases in electrodermal activity like skin temperature. In addition, imagining previous traumatic experiences can evoke physiological responses as if the experience is re-occurring (Beck, 1970).

Most researchers agree that affective imagery evokes emotion that activates the cardiovascular system (Cook, Hawk, Davis, & Stevenson, 1991; Cook, Melamed, Cuthbert, McNeil, & Lang, 1988; Vrana & Rollock, 2002). This activation includes increased heart rate and breathing output, resulting in elevated blood pressure (Lang, 1984; Yogo, Hama, Yogo, & Matsuyama, 1995). Vrana and Rollock (2002) found that imagery scenes that evoked negative emotions aroused the most pronounced physiological responses. Schwartz, Weinberger, and Singer (1981) and Lang et al. (1983) had reported earlier that 'anger imagery' had the most profound effect on the cardiovascular system. Even so, Yogo et al. (1995) found heart rate was slightly more elevated during imagery of joy than imagery of anger. They also found participants rated imagery of both joy and anger as producing the 'greatest arousal'.

Sinha et al. (1992) investigated patterns of cardiovascular activity during fear, anger, joy, and sadness imagery (n = 27). The study employed personalised affective imagery scripts based on personal experiences to evoke strong emotion. A complex pattern of cardiovascular responses was evident for each form of affective imagery. Anger imagery, and to a lesser extent fear imagery, had the most profound effect on the cardiovascular system with increases in heart rate, blood pressure, and cardiac output. Moderate increases in heart rate and pressure were also observed for the imagery conditions of sadness and joy. Cardiac output increased significantly during anger and fear imagery in comparison to joy and sadness imagery. Thus, specific emotions elicited by guided imagery produced distinct cardiovascular responses with more intense emotions creating the highest states of physiological arousal.

The findings of Sinha et al. (1992) confirmed a much earlier study Schwartz et al. (1981) on changes in cardiovascular activity following affective imagery. Schwartz et al. (1981) employed personalised imagery scripts based on personal experiences (past or future) that would evoke the desired emotional states (n = 22). One unexpected finding, not confirmed by Sinha et al. (1992), was that sadness imagery produced cardiovascular effects that resembled fear and anger imagery. Hence,

personalised imagery produced the same physiological responses regardless of the negative emotion contained in them (sadness, fear, or anger). Interestingly, Vrana and Lang (1990) had reported earlier that the physiological responses evoked by negative emotions (using fear imagery) were similar regardless of whether imagery scripts were standard (designed by the researcher) or personalised (based on personal experiences).

Sinha et al. (1992) and McNeil, Vrana, Lang, Melamed, Cuthbert, and Lang (1993) also reported that affective imagery of the themes of fear and pain had a profound effect on bodily functioning. McNeil and Brunetti (1992) found (n = 48) that a fearful scene of 'the dentist is in front of you holding a syringe' evoked intense physiological sensations. This most notably included a rapid acceleration in heart rate. These participants also recorded lower mental health following the imagery session as indicated by self-rated affective responses. They also reported being unable to control the direction of the content of the imagery. In response to similar findings, Witvliet, Lugwig and Laan (2001) argued unpleasant imagery arouses physiological sensations (and affective symptoms) associated with poorer mental health. McNeil et al. (1993) had reported that participants felt less happy (both during and after fear imagery).

The production of negative imagery can also increase tension, such as that of the facial region (Witvliet et al. 2001; Witvliet et al. 2002). The tension of facial muscles, such as those used to frown or smile, is said to provide a physiological measure of affect (McNeil et al. 1993; Vrana & Rollock, 2002). Witvliet and Vrana (1995) investigated the effect of affective imagery on facial reflex actions such as blinking of the eyelids, in addition to its effect on heart rate. Participants (n = 48) were given three situations incorporating one of four emotions: fear, sadness, pleasant relaxation, and joy. They were asked to imagine they were participating in the actions described.

An example scenario for each emotion is as follows:

- *Fear:* I watch in horror as an oncoming car swerves into my lane and realise I cannot avoid a head-on collision.

- *Sadness:* The streets of the city are alive with people having a wonderful time, when I notice an older, shabby-looking gentleman rummaging through a nearby dumpster for something to eat.

- *Pleasant:* I am lying on the sand on a warm day, listening to children playing down the beach, their soft voices mingling with the sound of the waves.

- *Joy:* My professor stands in front of the lecture hall and rehashes how disappointed he is reading our papers, but before I know it he is reading my paper, the only 'A' paper in the class!

The blinking of eyelids occurred more often during the negative imagery scenes of fear and sadness. The muscle tension of the facial region was also more marked for this negative imagery than it was for positive imagery of joy and pleasant relaxation. Unfortunately, baseline measurements of the heart rate of participants were not collected. The study was therefore unable to determine if pleasant relaxation produced a change in heart rate below baseline. It was found that imagery scenes containing the emotions of fear and joy evoked the highest arousal, whereas sadness and pleasant relaxation were low arousal. Participants reported 'feeling in more control' of positive imagery that was described as more vivid than negative imagery. Hence, participants felt they had more control over positive imagery even though it was scripted for them. These findings confirmed earlier reports (for example, Lang, Bradley, & Cuthbert, 1990; Vrana & Lang, 1990) that blink reflexes were greater during fear-evoking imagery (than during neutral imagery) and that participants felt less happy, more aroused, and less dominant (both during and after fear imagery)

The research indicates that imaginal activities arouse physiological sensations of at least three bodily systems: cardiovascular, muscular, and vasomotor. The physiological responses that accompany negative imagery, namely that containing the emotions of anger or fear, have adverse implications for self-reported health status (Witvliet & Vrana, 1995). Some studies showed that imagery scenes of joy can also arouse physiological responses. Moreover, it appears that personalised imagery (based on actual experiences) produces similar physiological responses regardless of the emotion contained in them. The physiological responses associated with this imagery (for example, increased heart rate, blood pressure, & cardiac output) have been associated with heightened risk for serious disease such as heart disease, hypertension, and greater vulnerability to heart attack (Dembroski, MacDougall, Costa, & Granditis, 1989). This risk is more pronounced when these responses are a frequent occurrence. These responses may also exacerbate existing health conditions, especially those of

chronic ill health (Esler, Julius, Zweifler, et al. 1977). Those who participate in negative imagery also report worse mental health (McNeil & Brunetti, 1992).

The Application of Guided Imagery in Medical Settings

Most studies presented in this section investigated the potential effectiveness of affective imagery by comparing physiological and/or psychological responses during (and sometimes after) imagery sessions with baseline measures. A minority of studies (and these are identified in the text) compared experimental groups (that received imagery training) with control groups that did not undergo imagery training.

The effectiveness of imagery in the management of patients with chronic disease has been the focus of recent research (Burns, 2001; Walker, 2004; Zahourek, 2002). This research has centred on guided imagery where patients are instructed to 'have a daydream', the contents of which are given to them (Novey, 2000; Zahourek, 2002). The content is directed toward the health needs of the patient, based on the assumption that positive relaxation imagery activates patterns of physiological change (Lang, 1995). The ability to imagine scenarios of peace and emotional tranquillity stimulates the parasympathetic nervous system, which serves to reduce both heart rate and blood pressure, and aids in relaxing muscles (McCance & Heuther, 1998). Even so, Witvliet and Vrana (1995) reported that patterns of physiological responses elicited by positive relaxation imagery are not as pronounced as for negative imagery which has more potential for stronger arousal by activating sympathetic responses.

The objective of guided imagery as a psychological intervention is to divert the attention of the patient from pain or anxiety to more pleasant thoughts of relaxation (Ackerman & Turkoski, 2000; Dennis, 2004). Novey (2000) argued that this imagery can provide an inner sanctuary for patients by allowing them to enjoy flights of improbable fantasy 'free from pain'. They also provide patients with a sense of personal control over pain management (Novey, 2000) by encouraging them to draw upon their own 'natural healing' (Miller, 2003). According to Walker, Walker, Ogston, Heys, Ah-See, Miller, Hutcheon, Sarker, and Eremin (1999) the pleasant scenarios of guided imagery improves the quality of life of patients by helping them to cope with the emotional turmoil that is often associated with a diagnosis of serious disease. These scenarios, not unlike daydreams, include features encountered in everyday life like sights, sound, smells, actions, events, and emotions (Louie, 2004).

The use of guided imagery is effective in managing the side effects of medical treatment (Louie, 2004). More than 70 percent of patients believe that 'guided imagery relaxation' has improved their medical condition (Sorgen, 1998). A further one in three refers to it as 'partially beneficial' to health (Kitai, Vinker, Sandiuk, Hornik, Zeltcer, & Gaver, 1998). It has also been associated with a decrease in the use of pain medication by surgery patients as well as reduced length of hospital stay (Antall & Kresevic, 2004). Tusek, Church, and Fazio (1997) reported a 50 percent reduction in medication use by patients (n = 130) following colorectal surgery. These patients also reported less pain, fear, and anxiety both before and following surgery.

There are favourable effects of positive relaxation imagery on the cardiovascular system of patients with chronic ill health. Crowther (1983) reported that hypertensive patients recorded a reduction in breathing rate and blood pressure both during and following this imagery. It also alleviated the muscle tension of prolonged migraine (Mannix, Chandurkar, Rybicki, Tusek, & Soloman, 1999). Mannix et al. (1999) found that positive relaxation imagery lessened the functional disability (as measured by the SF-36) associated with more frequent headaches. This included a reduction in self-reported depressive affect (Mannix et al. 1999). Harding (1996) found that positive relaxation imagery depicting physical movement also relaxed body parts rigid from degenerative conditions. More recently, Page, Levine, Sisto, and Johnson (2001) found that positive imagery as an intervention for acute stroke patients (n = 13) reduced physical disability and was associated with less restriction in limb movement.

Schneider, Smith, Minning, Whitcher, and Hermanson (1988) argued imagining 'white blood cells attacking germs' stimulates responses of the immune system. Andrews and Hall (1990) investigated positive imagery training on the immune functioning of patients with recurrent mouth ulcers (n = 7). Patients were asked to imagine positive scenes that encouraged relaxation. They were then asked to 'imagine their white blood cells helping to fight against and heal their mouth ulcers'. It was suggested to patients that these blood cells would continue to combat their ulcers after the completion of the imagery session. There was a marked reduction in frequency of ulcer recurrence. Patients reported lower emotional distress as indicated by fewer 'psychological symptoms' both before and during their treatment for mouth ulcers. Andrews and Hall (1990) argued that guided imagery as 'psychological preparation' helped patients undergoing medical treatment maintain 'better' mental health. They

further argued that guided imagery combined with the active involvement of patients in their treatment encouraged positive alterations in immunological functioning.

More recently, Walker (2004) found that patients with cancer asked to imagine 'tumours being absorbed by white blood cells' also recorded 'better' health outcomes. These outcomes included reduced neoplastic growth and longer time in remission (Pickett, 1988). Starker (1982), in a review of research, reported that almost three-quarters of cancer patients who participated in guided imagery were able to undertake most physical activates of daily living comparable to those activities undertaken prior to cancer onset. Patients who received imagery also lived twice as long as patients reliant upon medical treatment only (Diespecker, 1990). More than one in five of these patients (receiving imagery) were later classified as 'cancer free'.

It was reported that positive imagery was also successful in alleviating fears that accompanied chemotherapy treatment (Burns, 2001; Sloman, 2002). This imagery assisted patients with progressive cancers classified as 'terminal' to confront the possibility of premature death (Domino & Regmi, 1993). These patients reported a reduction in 'death anxiety' after positive imagery sessions, which helped increase their self-esteem. Hosaka, Sugiyama, Tokuda, and Okuyama (2000) found that the benefits of this imagery on patient mental health persisted for at least six months. Similarly, Walker et al. (1999) found that female patients (n = 48) with advanced breast cancer coped 'better' (than did a control group n = 48) with chemotherapy following imagery. These patients reported fewer depressive symptoms (such as anxiety, hostility, guilt, and saddened mood) and a 'much better outlook on their quality of life'. Walker et al. (1999) observed that these patients were also more relaxed and 'easy going' during the study. Walker (2004) in a more recent study confirmed the finding of others (Burish, Snyder, & Jenkins, 1991) that positive imagery lessened the known side effects of chemotherapy - nausea and vomiting - both before and during the day of each chemotherapy session.

The use of positive imagery is effective in the management of postoperative pain (Antall & Kresevic, 2004; Lewandowski, 2004). Raft, Smith, and Warren (1986) found that patients (n = 52) with clinical pain who participated in pleasant imagery reported more overall pain relief. The reduction in pain was maintained for all three days of the imagery procedure. This relief occurred regardless of whether the pain was chronic or acute in duration. A second study by Raft et al. (1986) asked patients to develop a personalised script of pleasant imagery that would relieve their pain.

However, many patients were unable to select the most positive imagery to use. The imagery selected by participants tended to negate the pain benefits reported earlier following the standard positive imagery session. The positive images selected for patients by the researchers were more effective for pain management, than were those selected by patients themselves (Raft et al. 1986).

A more recent study by Yogo et al. (1995) used two methods of imagery: those designed by researchers and those by participants (n = 24). The personal imagery was associated with a greater increase in blood pressure than was standard imagery. Personal imagery was also rated as more vivid and arousing, in comparison to standard scripts. An example of a standard script of 'joy imagery' is as follows (unfortunately examples of personal imagery were not published):

> You are walking in town. You notice someone you know coming toward you. You gaze at that person with wide eyes. That person is a friend of yours who has not contacted you for years. You shout your friend's name in a loud voice and wave both hands vigorously to your friend. Your friend notices you; you run toward your friend with a throbbing heart. Your face gets flushed, your cheek muscles loosen with a smile; you and your friend face each other, patting each other's shoulder, showing joy and talking to each other breathlessly.

In support of these findings (Yogo et al. 1995), Velasco and Bond (1998) found that personal imagery aroused more bodily sensations (than did standard imagery) in all five clusters of symptoms studied. These clusters included the heart (heart pounds), sweating (feeling sweaty), stomach (butterflies in the stomach), tension (grit my teeth), shaking (hand trembling), and ready for action (want to scream or smash something). Personal imagery aroused more sweat gland activity and increased skin conductance. This imagery was also rated as more controllable than standard scripts.

A study by Manyande, Berg, Gettins, Stanford, Mazhero, Marks, and Salmon (1995) reported that standard scripts of positive imagery remained an effective pre-operative psychological procedure that hastened recovery from invasive abdominal surgery. The following imagery instructions were given to participants:

> Imagine specific pre-operative and post-operative discomforts, hunger and thirst, dry mouth, pain and nausea, weakness". In each case, the suggestion of the researcher was that the patient could overcome discomfort: for example, "pain for feeling sick, you are occupying your mind by the thought that you are in control of the discomfort. You can easily manage for the rest of the day, you feel positive". The procedure concluded with general suggestions of coping: for example by "imagining these things and by seeing yourself coping well you will be much better prepared, more able to cope and recover more rapidly. Your mind is a powerful thing, and its ability to prepare your body is greater than commonly realised (p. 179).

Patients (n = 26) who underwent this positive imagery were less likely (than were patients in the control group, n = 25) to report mental distress that is often associated with invasive surgery. These patients were more effective in coping with post-operative pain, and reported both less distress due to pain and lower intensity of pain. They also reported 'feeling more able to control post-operative pain' following the positive imagery session. There was also evidence of reduced endocrine responses before anaesthesia and following surgery. This led to a significant reduction in the administration of oral analgesic most likely due to relaxation, as evidenced by lower heart rates both before and following surgery.

The positive effects of relaxation imagery have also been found in studies of complementary therapies such as meditation (and to a lesser extent hypnotherapy). Trivieri (2001) reported that meditation is a useful tool for enhancing health and has been associated with greater relaxation, an improved ability to be aware of, and to manage emotions, and reductions in heart rate, blood pressure, and muscle tension. Blacker (2002) and Hassed (2003) wrote that meditation promotes feelings of calm and peace, and encourages the experience of more positive emotions such as pleasure, joy, and happiness. It (meditation) and hypnotherapy have also been shown to be beneficial for managing pain related to cancer including side effects of chemotherapy (Trivieri, 2001) and for managing pain related to dental procedures (Trivieri, 2001). Much research has shown that meditation is an effective aid for improving the quality of life of patients 'suffering' from a diverse range of physical conditions including cardiovascular disease, headache, migraine, chronic pain, anxiety, substance abuse,

arthritis, dermatologic conditions, depressive symptoms, and gastrointestinal disorders (Astin, Shapiro, & Schwartz, 2000; Trivieri, 2001).

The research evidence is overwhelming: positive relaxation imagery is an effective psychological intervention for patients with high medical needs, such as those undergoing surgery or chemotherapy treatment. This imagery is particularly beneficial to the health outcomes of patients when it is personalised according to their individual health needs. However, it remains unknown if autonomous daydreams, which are not manipulated by a researcher, are associated with self-reported symptoms and health status of patients in general practice with less serious medical needs.

HOW DAYDREAMING RELATES TO HEALTH:

College Students and Psychiatric Patients

Most research has studied the daydreams of college students and psychiatric patients. This research focussed primarily on determining if daydreams were associated with changes in mental health. There have, however, been few studies of the interaction between daydreams and physical health. Some research sought to determine if daydreams reflect characteristics of personality believed to influence the experience and reporting of physical symptoms. All studies presented in this section administered the SIPI or IPI as measures of daydreaming, unless otherwise specified.

Daydreaming and Physical Health

There are conflicting reports as to whether daydreaming is related to changes in physical health. Giambra (1983) found in a study of physical changes that accompany menopause that daydreaming was most prevalent for females (n = 477) with the worst physical health. Females who daydreamed most often also reported more physical symptoms, and to having them more severely. These symptoms included tiredness, rapid heart rate, bodily parts feeling numb, tense muscles, headaches, and aches in neck and skull. Giambra (1983) argued these symptoms were psychosomatic in origin.

Females with the ‘most’ noticeable changes in physical health reported more negative daydreams (Giambra, 1983). Giambra (1983) speculated that the escalation in unpleasant daydreams was due to an increase in concern regarding bodily changes. He argued that ‘depressive daydreams’ contain emotions that are related to lower self-reported physical health. Giambra (1983) found, however, that positive daydreams were not beneficial to the physical health of menopausal women.

Similar to Giambra (1983), Gold and Minor (1984) found that daydreams rated by college students (n = 46) as 'fearful' evoked the most bodily sensations. These daydreams were recorded in a 'daydream diary', and were later rated according to the emotional character of the daydream (guilt, fear, sadness, or happiness). Gold and Minor (1984) argued that the bodily sensations represented physiological reactions to the experience of anxiety about the completion (and fear of failure) of an exam paper.

The findings of Giambra (1983) were inconsistent with an earlier study by Giambra and Traynor (1978) which found more frequent daydreaming was not related to the reporting of more psychosomatic symptoms. These symptoms included fatigue, loss of appetite, sleep disturbance, weight loss, constipation, and tachycardia. This study, conducted on a sample comprised largely of college students (n = 91), did find that isolated symptoms like fatigue coincided with more mindwandering. Students who daydreamed more often reported the lowest physical health (Giambra & Traynor, 1978). Giambra and Traynor (1978) also found that more negative daydreams were related to more psychosomatic symptoms, a finding confirmed by Giambra (1983).

A more recent study by Kreitler and Kreitler (1991) investigated psychological characteristics of the health-oriented individual (n = 176). These individuals reported fewer psychosomatic complaints, and were less likely to manifest characteristics of alexithymia. They reported 'better' mental control and less depressive affect, including fewer negative daydreams. They reported a tendency towards more positive thoughts, which was characterised by more positive daydreams. Kreitler and Kreitler (1991) argued that sufficient mental control enabled the health-oriented individual to maintain a positive cognitive orientation, which included more positive daydreams. These 'happy daydreamers' continued to emphasise positive outcomes even when confronted with challenging obstacles (Kreitler & Kreitler, 1991). It was argued that a 'positive internal atmosphere' lessened the adverse effects of negative emotion (and negative daydreams) on the health status of individuals (Kreitler & Kreitler, 1991).

Daydreaming and Mental Health

Freud (1908) in his paper "Creative Writers and Day-Dreamers" argued that daydreaming is an important facet, if not "symptom" (p. 130), of mental disorder. He wrote, "daydreams are the immediate mental precursors of the distressing symptoms complained of by patients" (p. 130). He further speculated that, "if daydreams become over luxuriant the conditions are laid for an onset of neurosis or psychosis" (p.130).

Much research has confirmed that frequent daydreaming is characteristic of affective disturbance (Greenwald & Harder, 1995; 1997). Giambra and Traynor (1978) found that college students (n = 91) who daydreamed the most often reported more psychological difficulties, in particular depressive affect. These students tended to amplify the severity of depressive symptoms such as saddened mood, sense of failure, guilty feelings, self-hate, and sense of punishment. Greenwald and Harder (1997) found more recently that some individuals daydreamed more often when confronted with stressful situations. However, daydreaming was an ineffective coping strategy that served to further heighten negative emotions (Commerford et al. 1994). Baskin and Goldstein (1986) also observed that individuals with insufficient mental control had more unwanted daydreams that reinforced their negative experiences.

In confirming a much earlier study (Cazavelan & Epstein, 1966), Cullari (1995) found that psychiatric patients did not daydream more often than college students. These studies included patients with a wide array of mental health concerns including schizophrenia, personality disorders, substance abuse, and affective disorders. Baskin and Goldstein (1986) found that despite being more depressed than college students, psychiatric patients did not daydream more often. An earlier study had found that more frequent daydreaming was also not related to the occurrence of specific symptoms (or their severity) among psychiatric patients (Starker & Singer, 1975a).

In a series of studies Lynn and Rhue (1986; 1988) and Rhue and Lynn (1987) found a group of individuals whom they termed ‘fantasisers’. These individuals were more inclined (than the general population) to participate in imaginal activities such as daydreaming. A subset of fantasisers was found to have a significant degree of psychopathology, which included greater difficulty in separating fantasy from reality (than those less fantasy-prone), but this subset accounted for no more than 20 percent of fantasisers (Lynn & Rhue, 1988; Rhue & Lynn, 1987). In general, however, fantasy proneness did not appear to be antecedent to severe manifestations of psychopathology. Most fantasisers rated their psychological functioning as ‘extremely-to-moderately well adjusted’ and reported a positive self-concept. This rating was similar to that provided by a sample of less fantasy-prone individuals (Lynn & Rhue, 1988). Rhue and Lynn (1987) reported that fantasisers were more likely to use fantasy for adaptive purposes such as regulating dysphoric affects like hostility and anxiety. They also sometimes used fantasy to escape from stressful life dilemmas (Lynn & Rhue, 1988).

Greenwald and Harder (1995; 1997) argued that uncontrolled thought is an important feature of affective disturbance. A study of female college students (n = 100) found that those who were 'depressed' were more inclined towards boredom and subsequent mindwandering (Cundiff & Gold, 1979). Cundiff and Gold (1979) argued that depressed individuals had difficulty maintaining concentration, which made them more susceptible to uncontrolled thought. Similarly, Baskin and Goldstein (1986) found that, unlike college students, psychiatric patients were unable to control where and when they daydreamed. Patients were unable to suppress, or control, the occurrence of negative daydreams in particular (Baskin & Goldstein, 1986).

The inability to maintain attention on external tasks has been associated with the experience of more intrusive daydreams that manifest unwanted negative thoughts (Beck, 1971; Derry, et al. 1993; Pruzinsky & Borkovec, 1990). Wenzlaff and Bates (1998) found that individuals reporting more negative daydreams were also the most ineffective in controlling the occurrence of them. These negative daydreams, which were often bizarre, hostile, or fearful in content, corresponded with more depressive affect (Greenwald & Harder, 1995; 1997; Starker & Singer, 1975a; 1975b). Cundiff and Gold (1979) found that depressed college students reported more guilt and fear of failure daydreams (than did non-depressed). Golding and Singer (1983) argued that negative daydreams 'mentally revive' harsh experiences like underachievement thereby amplifying feelings of worry, guilt, and fear. Gold et al. (1987) found that college students (n = 48) reporting more negative daydreams also reported being more frightened and disturbed by their daydreaming. It is possible that the finding of some researchers that more frequent daydreaming is a characteristic of affective disorder might be due to more negative daydreams rather than more daydreaming per se.

Baskin and Goldstein (1986) compared the daydreams of psychiatric patients (n = 31) with those of the general population (n = 115). In addition to subscales of the IPI, participants were given 20 written daydreams and asked to indicate the frequency with which each had occurred to them. Patients reported more unpleasant daydreams of a negative situation in which 'something bad has been happening to them'. They were also less able to suppress or control the direction of these negative daydreams. Beck (1971) argued earlier that these negative daydreams have a principal role in 'deciding' the affective state of psychiatric patients with daydreams of danger, loss, or abuse intensifying upsetting emotions such as shame, sadness, anxiety, and disgust.

Gold et al. (1987) found that depressed college students (n = 48) reported more unpleasant daydreams that interpreted daily happenings in a negative fashion. They argued that it was this reframing that contributed to the deterioration in mental health. Jarvinen and Gold (1981) argued earlier that unpleasant daydreams also reframe the experience of positive life events into negative ones. It has been reported that daydreams are an important component of a cognitive-affective feedback loop that influences affective states (Gold, Andrews, & Minor, 1986; Wenzlaff & Bates, 1998). The experience of unpleasant daydreams worsens perceptions of self-worth via depressive symptoms such as worthlessness, sadness, and inadequacy. These negative perceptions lead, in turn, to more unpleasant daydreams. In contrast, individuals who maintain 'better' mental health do so by generating daydreams that serve to enhance self-worth by fostering positive emotions (Gold et al. 1986; Gold et al. 1987).

A series of studies on the daydreams of psychiatric patients found that those with depressive symptoms reported more negative daydreams (Starker & Singer, 1975a: b). Starker and Singer (1975a:b) speculated that the focus on unpleasant daydreams might have reflected a 'learned adaptation' that provided further negative consequences. These daydreams reinforced negative feelings about the self such as worthlessness, inadequacy, and self-doubt. Zhiyan and Singer (1997) found that college students (n = 106) who reported more negative emotion also reported more unpleasant daydreams. They suggested that daydreaming might both arouse and be the result of affective responses. Three suggestions were canvassed (Zhiyan & Singer, 1997). The first was that unpleasant daydreams are a component of a negative cycle of emotional experience. The second was that worrisome current concerns enhance unpleasant emotions through negative daydreams. The third was that affective daydreams reflect personality dimensions that have been shown to alter affective states.

Zhiyan and Singer (1997) also reported that positive daydreams did not reduce the likelihood of mental disturbance among college students. They found that those who reported more negative emotions had more unpleasant daydreams, but not fewer positive daydreams. An earlier study of student 'worriers' also reported that it was more negative daydreams, and not fewer positive daydreams, that distinguished worriers from non-worriers (Pruzinsky & Borkovec, 1990). In a series of studies Greenwald and Harder (1995; 1997) found that students having more positive daydreams did not report less psychopathology. It remained unclear, however, as to why positive daydreams were not related to psychopathology. It was concluded that

an important feature of psychopathology is more negative daydreams that manifest unpleasant emotions, but not fewer positive daydreams (Greenwald & Harder, 1997).

More positive daydreams have been found to increase positive perceptions of self-worth by giving 'voice' to pleasant emotions attached to selected life experiences (Gold et al. 1986). Gold et al. (1987) found that college students with 'better' mental health described their daydreams as more pleasant using adjectives such as good, kind, happy, and nice. Their daydreams were also more active, described as fast and excitable. Gold et al. (1987) argued that more active daydreams improve self-concept by fostering positive feelings. Kreitler and Kreitler (1991) speculated that more positive daydreams might be effective in limiting a negative cognitive orientation

The clinical experience of Schultz (1978) with 'depressive patients' led him to argue that patients should be encouraged to have more positive daydreams. He reported that these daydreams reduce negative affect in favour of positive changes in emotion. He found that the capacity of positive daydreams to improve mental health is reduced by the unwanted intrusion of negative thoughts. Golding and Singer (1983) found students with 'depressive affect' reported fewer positive daydreams of realistic problem solving and the planning of future actions. There is also evidence to suggest that psychiatric patients have fewer positive daydreams (Starker & Singer, 1975a: b).

Baskin and Goldstein (1986) found in their study that compared the daydreams of psychiatric patients with those of the general population that patients reported more grandiose daydreams that fostered self-admiration. They also recorded more fanciful daydreams of improbable actions that would never occur in the real world. The daydreams of the general population were more attuned to reality and incorporated planning for future events that may, or may not, have occurred. These findings confirmed an earlier report by Schultz (1978) that psychiatric patients had a reduced capacity for constructive daydreaming. Instead, patients complained of more negative daydreams, which had further unfortunate consequences for their mental health.

The fanciful daydreams reported by psychiatric patients differ markedly from those of the general population (Cullari, 1995; Starker & Singer, 1975b). Cazavelan and Epstein (1966) asked female patients with paranoid schizophrenia (n = 20) and a matched control group (n = 20) to complete a 202-item inventory of fantasy (Page, 1960) with subscales similar to the IPI. The patients reported more pathological daydreams that included mysticism such as daydreaming about spiritual life as well as 'strange controlling forces'. Patients reported having daydreams that relieved feelings

of anxiety such as daydreaming about a 'perfect world with no room for disharmony'. They were also more likely to daydream of 'super-human abilities that allowed them to do things that no-one on Earth can do' and to 'have special powers given by God'.

The daydreams of matched controls were more focussed on realistic problem solving (Cazavelan & Epstein, 1966). This included making plans for possible events before mentally reviewing potential outcomes of these plans. They were more likely to have reported 'daydreams in which I plan a future event in considerable detail' and 'I imagine what could go wrong with my plans'. It was argued that unlike the control group, psychiatric patients had daydreams that were 'improbable-bizarre' with little relevance to present reality (Cazavelan & Epstein, 1966). There was, however, no difference in frequency of daydreaming between patients and matched controls. It was patterns of daydreaming that differentiated female schizophrenic patients from a sample of 'well' females from the general population (Cazavelan & Epstein, 1966).

Starker (1979; 1982; 1984) also conducted a series of studies (using thought sampling in addition to the IPI) on the daydreams of schizophrenic patients. He (1984) found (not unlike Cazavelan & Epstein, 1966) that patients did not report more frequent or vivid daydreams (compared to normative data). Patients (n = 70) did, nevertheless, report fewer affective daydreams (as measured by the IPI subscales of Positive Reactions to Daydreams and Guilt and Fear of Failure Daydreams). Starker (1984) concluded that schizophrenia did not have a profound effect on daydream experiences. In an earlier study Starker (1982) found 'few' significant differences in patterns of daydreaming between schizophrenic (n = 67), possible schizophrenic (n = 19) and non-schizophrenic psychiatric inpatients (n = 13). Even schizophrenics prone to hallucinations did not report more vivid imagery (than did non-hallucinating schizophrenics; Starker, 1982). Brett and Starker (1977) also reported that frequency of daydreaming (and vividness in daydreams) reported by schizophrenic patients (n = 40) did not differ from that reported by medical patients (n = 20) with no diagnosed mental health issues. It was found that hallucinating schizophrenics (n = 20) were less able to suppress or control when and where they daydreamed (in addition to the content of daydreams) in comparison to non-hallucinating schizophrenics (n =20) and medical patients (n = 20). Brett and Starker (1977) concluded that reported patterns of daydreaming were similar regardless of diagnosis (hallucinating schizophrenic, non-hallucinating schizophrenic, or medical patient).

DIMENSIONS OF PERSONALITY

Life Orientation and Health Status

Most research on the mental life of medical patients has focussed on personality characteristics believed to affect the experience and reporting of physical symptoms. The most recent research has refocussed attention on life orientation in an attempt to understand the ways in which optimism and pessimism interact with health.

The Life Orientation Test

The most popular measure of life orientation is the Life Orientation Test (LOT; Scheier & Carver, 1985). It was developed on the assumption that life orientation occurs on a single continuum with pessimism the immediate opposite of optimism. A series of factor analytic studies indicated, however, that optimism and pessimism are separate dimensions of life orientation (Bryant & Cvengros, 2004; Schou, Kkeberg, Ruland, Sandvik, & Karesen, 2004). These studies suggested that individuals maybe *both* optimistic and pessimistic in their outlook on life events (Mahler & Kulik, 2000).

Despite initial reluctance, the authors of the LOT (Scheier, Carver, & Bridges, 1994) have acknowledged the research value in studying pessimism as distinct from optimism. They developed a revised version of the LOT (LOT-R), which has separate scoring procedures for optimism and pessimism (Scheier et al. 1994). The LOT-R has become the preferred measure of life orientation in health-related research (Roysamb & Strype, 2002). It has been invaluable in highlighting the 'functional benefits' of separating optimism and pessimism. Marshall, Wortman, Kusulas, Hervig, and Vickers (1992) argued that more 'informative conclusions' can be drawn from the use of the LOT-R. They illustrated that the effect of pessimism is sometimes 'masked' when it is combined with optimism. In support of this argument, Robinson-Whelen, Kim, MacCallum, and Kiecolt-Glaser (1997, p. 1345) wrote more recently, "researchers can better determine if the beneficial effects of optimism result from the presence of optimism, the avoidance of pessimism, or the combination of the two".

There is wide agreement, nevertheless, that optimism and pessimism are related (Chang, 1996; Marshall et al. 1992; Robinson-Whelen et al. 1997). Scheier and Carver (1985) reported during the development of the original LOT that more optimism was associated with lower pessimism. Even so, the magnitude of this relationship is moderate: correlation coefficients have ranged from -.28 to -.68 (Mahler & Kulik, 2000; Marshall et al. 1992; Mroczek, Spiro, Aldwin, Ozer, & Bosse, 1993). The magnitude of this relationship does, nevertheless, differ for different populations.

Robinson-Whelen et al. (1997) found no significant relationship between the two dimensions of life orientation for a sample of the general population reporting no recent life-altering events. There was, however, a 'strong' significant relationship for a sample reporting profound life stress.

Much research has supported the internal consistency of the two dimensions of life orientation: alpha coefficients have ranged from .63 to .80 for optimism and .74 to .82 for pessimism (Chang & Bridewell, 1998; Treharne, Lyons, & Tupling, 2000). Test-retest reliabilities have ranged from .64 to .73 for optimism and .62 to .84 for pessimism (Chang, 1996; Roysamb & Strype, 2002). Marshall et al. (1992) in a study of the psychometric properties of the LOT-R found that scores for pessimism were more highly correlated with other measures of pessimism than with measures of optimism, and vice versa (Marshall et al. 1992). They further reported that scores for optimism and pessimism were consistent with those of the Hopelessness Scale (optimism, r = -.57; pessimism, r = .60, respectively). In addition, optimism and pessimism correlated differently with a diverse set of personality characteristics (Marshall et al. 1992).

The Study of Dispositional Optimism: The Unidimensional Model

Much of the initial research on life orientation focussed on unrealistic optimism, defined as the expectation that all life outcomes will be favourable (Scheier & Carver, 1987). This expectation incorporates unrealistic perceptions of personal abilities including an exaggerated belief of personal control over external events. This belief serves to heighten optimism concerning the outcomes of anticipated future events (Scheier & Carver, 1987; 1992; Scheier et al. 1994; Weinstein, 1980). The findings of early research suggested that unrealistic perceptions of self-worth enhance personal feelings of wellness (Bewberry & Richardson, 1990; Dewberry, Ing, James, Nixon, & Richardson, 1990). Hjelle (1992) argued that an optimistic outlook hastens recovery from physical symptoms as it functions as a buffer against their devastating effects on functional health, particularly if these symptoms are 'chronic in duration'.

Not unlike the research on fanciful daydreams, most studies of optimism were restricted to patients with serious medical conditions, namely patients receiving chemotherapy treatment for cancer or those undergoing coronary bypass surgery. Scheier, Matthews, Owens, Magovern, Lefebvre, Abbott, and Carver (1989) reported that unrealistic optimism had a 'pervasive impact ' on the health outcomes of patients

recovering from coronary artery bypass surgery (n = 51). A more rapid recovery from bypass surgery was found for patients with more optimism. This included reduced likelihood of post-operative complications, which led to an accelerated return to performing physical activities of everyday living. These patients also reported fewer physical symptoms and to having them less severely, both prior to and following surgery. Patients optimistic about their health prospects were also able to maintain 'better' mental health despite the continuous threat of health complications. Scheier et al. (1989) argued that optimism enhanced the quality of life of patients undergoing invasive surgery by encouraging them to adopt a positive outlook on their health.

The findings of this study (Scheier et al. 1989) were considered important at the time as they confirmed earlier findings from studies of college students. Scheier and Carver (1985) found that optimistic students (n = 141) reported fewer concerns about the presence of physical symptoms during a stressful period such as prior to completing an end-of-year examination. These students also reported fewer symptoms of the emotional distress that often accompanies the prospect of possible failure.

Taylor and Brown (1989) investigated the impact of positive illusions (namely, unrealistic optimism) on mental health. They reported that research with students had found that those with affective disorders were more accurate in their assessments of life events. They argued that it is the absence of positive illusions that is critical to the maintenance of affective disorders: "depressed people do not hold or are unable to use the positive illusions that are so advantageous to normal persons" (p. 197). In other words, 'better' mental health is related to the presence of optimism, rather than realistic appraisal. Taylor and Gollwitzer (1995) argued that unrealistic optimism is a principle characteristic of normal human thought. They proposed that illusions (unrealistic optimism, overly positive self-evaluations, and exaggerated perceptions of control) promote better mental health, including the ability to care about others, to be happy or contented, and to engage in productive and creative work. Taylor and Brown (1989) had argued earlier that these illusions impose filters on incoming information and reframe the experience of negative events into positive ones. These positive illusions are most useful when one receives negative feedback and are particularly adaptive under stressful circumstances such as coping with serious illness (Taylor & Armor, 1996; Taylor & Brown, 1989).

Colvin and Block (1994) argued, nevertheless, that it remains to be shown whether positive illusions (namely unrealistic optimism) improve mental health,

suggesting that previous findings (such as Taylor & Brown, 1989) have a 'meagre empirical foundation'. Even so, recent research indicates that optimists are least likely to report affective symptoms such as feeling sad, nervous, and depressed (Epping-Jordon, Compas, Osowiecki, Oppedisano, Gerhardt, Primo, & Krag, 1999). Puskar, Sereika, Lamb, Tusaie-Mumford, and McGuinness (1999) argued that optimists do not focus on life happenings that arouse negative emotions, which protects them from unpleasant feelings like sadness, tension, hostility, and aggression.

According to Robbins, Spence, and Clark (1991) optimists are more competent in adopting effective coping strategies when confronted with stressful situations that encourage them to confront obstacles, to accept them, and to search for potential solutions. These coping strategies were associated with better psychological adjustment to the threats posed by serious health concerns (Felton & Revenson, 1984). Folkman and Lazarus (1988) argued that optimists adopt strategies that encourage the experience of positive emotions rather than negative emotions that tend to be upsetting. However, Vitaliano, Russo, Carr, Maiuro, and Becker (1985) found that the preference for problem solving coping was not associated with less depressive affect.

The Study of Pessimism: The Two-Dimensional Model

The most recent research has studied optimism and pessimism as separate dimensions (Bryant & Cvengros, 2004; Schou et al. 2004). It has defined pessimism as the expectation that all life outcomes will be unfavourable (Furnham, 2001). This expectation incorporates unrealistic negative perceptions of personal self-worth. These perceptions promote an excessive focus on unpleasant aspects of daily living, as well as a gloomy outlook on future events (Brenes, Rapp, Rejeski, & Miller, 2002).

The most recent research has shifted attention from college students to patients seeking medical attention. Benazzi (2001) found that pessimism was more important than optimism in the prediction of patient health. Similarly, Brenes et al. (2002) found that for patients (n = 480) with knee pain more pessimism, but not less optimism, predicted functional impairment in routine physical activities such as walking, climbing stairs, lifting and carrying objects, and getting in and out of a vehicle. These findings support the report of Lin and Peterson (1990) that medical patients (n = 96) higher in pessimism reported functional capacity as no better than 'fair'. They also

reported more physical symptoms. Yet these patients were the least likely to undertake active steps to relieve their symptoms (Lin & Peterson, 1990).

Robinson-Whelen et al. (1997) argued that previous findings suggesting that optimism is beneficial for health maybe the result of less pessimism, and not more optimism. Much recent research has illustrated that while both optimism and pessimism are related to health it is pessimism that is the main determinant (Ben-Zur, Rappaport, Ammar, & Uretzky, 2000; Bryant & Cvengros, 2004; Schou et al. 2004). For instance, a pessimistic outlook hindered the rehabilitation of patients with cancer (Allison, Guichard, & Gilain, 2000) and heightened the risk of neoplastic progression (Schulz, Bookwala, Knapp, Scheier, & Williamstown, 1996). A pessimistic outlook was also common for patients with hypertension (Grenwen, Girdler, Sheila, Bragdon, Costello, & Light, 2000), for patients with substance dependence like alcoholism (Litt, Tennen, Kadden, & Affleck, 2001), and for those diagnosed with eating disorders such as obesity (Fontaine & Cheskin, 1999). There was further evidence that pessimism hindered recovery from surgical procedures such as coronary artery bypass (Mahler & Kulik, 2000), organ transplantations of the liver and lungs (Stilley, Miller, Manzatti, Marino, & Keenan, 1999) and bone marrow replacement for blood disorders (Bressi, Capri, Brambilla, & Deliliers, 1995). Unfortunately, research to date has not studied pessimism and its relationship to the health status of patients in general practice.

Furnham (2001) found that pessimism, and not optimism, also determined mental health in negative situations. Similarly, Schou et al. (2004) found pessimism the strongest predictor of 'emotional morbidity' one year following breast cancer surgery (n = 165). Patients with a pessimistic outlook about their future health were four times more likely to be diagnosed with an affective disorder (Schou et al. 2004). More pessimism is common among patients with the affective disorders of anxiety and depression (Chang & Bridewell, 1998; Robinson-Whelen et al. 1997). Hartlage, Arduino, and Alloy (1998) found that more pessimism distinguished patients with clinical depression from those without depression. In contrast, more optimism did not abate the experience of depressive symptoms (Chang & Bridewell, 1998), with symptoms more prevalent among those pessimistic in their approach to stressful situations (Bromberger & Matthews, 1996). In light of these findings, Furnham (2001) argued that depression is encouraged and maintained by more pessimism.

Most recent studies of patients undergoing invasive surgery found that it was pessimism, and not optimism, that was sensitive to changes in mental health (Ben-Zur et al. 2000; Mahler & Kulik, 2000). This included functional impairment due to emotional distress in daily activities including the capacity to interact with family and friends. Mahler and Kulik (2000) found that lower pessimism at discharge from hospital also predicted less pain during the full recovery period. Ben-Zur et al. (2000) argued that psychological interventions that reduce pessimism might lead to improved health outcomes for surgical patients. Similarly, Treharne et al. (2000) argued that reducing pessimism is more critical to encouraging positive changes in mood states (than is increasing optimism). Hence, it is important for mental health that patients are not pessimistic, since more optimism does not necessarily improve mental health. There continues to be much debate, however, as to whether it is more important to be optimistic or not pessimistic in maintaining 'good' mental health (Bryant & Cvengros, 2004; Robinson-Whelen et al. 1997 Roysamb & Strype, 2002; Scheier et al. 1994).

Life Orientation and Daydreaming

A small volume of 'daydream research' has focussed on life orientation in an attempt to determine if optimism and pessimism interact with affective daydreams. Schoenfeld (1970) wrote of the development of a 'daydream inventory' that was to include daydreams that measure an optimistic or pessimistic outlook on life events. Unfortunately, very little was reported in the published literature about this inventory. Starker (1982) in a review of previous research argued that optimism and pessimism are affective dispositions that should 'taint' the affective orientation of daydreams. He implied a reciprocal relationship in which positive daydreams foster an optimistic outlook by interpreting life experiences in a positive manner, which in turn might lead to more positive daydreams. Cundiff and Gold (1979) argued earlier that negative daydreams are central to maintaining a pessimistic cognitive orientation that serves to heighten the experience of negative emotion at the expense of positive emotion.

Giambra and Traynor (1978) found that college students (n = 91) reporting more pessimism daydreamed the most often. These students also reported a reduced capacity to maintain concentration on concrete tasks, as indicated by more boredom, distractibility, and mindwandering. Students who were more pessimistic reported more guilt and fear of failure daydreams, as well as more bizarre-improbable daydreams. These students were more frightened and bothered by the negative content of their daydreams. They reported fewer positive daydreams, including less realistic

problem solving. It was not surprising, therefore that these students were the least likely to report positive reactions to their daydreams. These findings are presented here with caution however, as pessimism was measured via one item of the Beck Depression Inventory.

Personality and Daydreaming

Many researchers have acknowledged that patterns of daydreaming might reflect underlying dimensions of personality (Pruzinsky & Borkovec, 1990; Starker, 1982). Singer (1984; 1992) referred to patterns of daydreams (as measured by the IPI and SIPI) as 'the private personality'. Indeed, many items of the IPI were drawn from factor-analytic studies of popular measures of personality (Singer & Antrobus, 1972).

Zhiyan and Singer (1997) conducted a study with college students (n = 103) to investigate relationships between patterns of daydreaming and each of the 'big five' personality dimensions: neuroticism, extraversion, agreeableness, conscientiousness, and openness. Students with neurotic tendencies reported more negative daydreams of guilt and fear of failure daydreaming. Zhiyan and Singer (1997) argued that a feature of this personality dimension is the tendency towards a negative cognitive orientation characterised by depressive qualities. Students more open to experience reported more positive constructive daydreams. These students had an acceptance of daydreaming that encouraged the perception of it as an enjoyable activity. Conscientious students were 'better' able to maintain sufficient mental control, which included a greater capacity to sustain attention on external tasks. Zhiyan and Singer (1997) argued that a feature of this dimension of personality is the need for personal control over everyday behaviour including imaginal activities. They also speculated that the dimensions of extraversion and agreeableness represent interpersonal behaviours, which might explain why they were not associated with patterns of daydreaming.

Raskin and Novacek (1991) investigated the daydreams of college students (n = 322) with characteristics of a narcissistic personality in two separate studies. Students completed the IPI in addition to the Sustaining Fantasy Questionnaire (Zelin, Bernstein, Heijn, Jampel, Myerson, Adler, Buie, & Rizzuto, 1983) that measures daydreams that individuals report experiencing at times of stress. Students reported more 'depressive daydreams'. However, they also reported more daydreams that serve to heighten grandiose images of the self. These daydreams tended to contain the themes of exaggerated achievement, power, glory, and sexual prowess. Raskin and Novacek (1991) argued that these daydreams enhanced positive feelings about the self

(and their role in the external world) because they portray ideal outcomes to stressful situations. The focus of the narcissist on exhibitionism meant that they were more willing to disclose their daydreams to others. This disclosure was most pronounced when it provided the narcissist with the opportunity to communicate self-admiration.

SUMMARY OF SECTION THREE

Most medical patients with severe health needs report less frequent daydreaming and instead adopt concrete forms of thinking focussed on realism. They are also more inclined to concentrate on events in the external environment, which provides fewer opportunities for mindwandering. The decision to see a general practitioner is also incompatible with withdrawal from reality. However, patients with chronic disorders often engage in wishful daydreams as a defensive manoeuvre to the stressful demands of their situations. These daydreams sometimes allow them to escape emotional strain into comforting fantasy. Unfortunately, these patients are more likely to experience negative affect, including feelings of helplessness, and to be diagnosed with affective disorders. However, few studies have systematically examined relationships between the health of patients in general practice and frequency and patterns of daydreaming.

The focus of patients on realistic thinking suppresses the spontaneous expression of emotion. This suppression limits the extent to which emotions can be moderated. Some patients in general practice appear more sensitive to physiological sensations that represent underlying emotion, which they interpret as further signs of ill health. These patients are often unable to distinguish the experience of emotion from bodily sensations that accompany affect. The sensations aroused by negative imagery such as elevated blood pressure, increased heart rate, and more rapid breathing rate have an adverse impact on self-reported health status (found in studies of college students). It was argued by many researchers that these bodily sensations are associated with a heightened risk of cardiovascular disease, particularly when experienced too often.

As a psychological intervention, positive relaxation imagery is said to stimulate the parasympathetic nervous system leading to reduced cardiovascular activity and the relaxation of skeletal muscles. The health benefits of this imagery are most pronounced when the imagery is personalised according to the health needs of individual patients. The imagery diverts attention from emotional distress to more pleasant thoughts that encourage relaxation. The research on positive imagery has been limited to patients with severe medical needs, namely surgical patients and those undergoing chemotherapy for progressive cancers. This imagery has been restricted to

positive scenarios given to patients by a researcher, with health status measured as changes in physiological responses. It remains unknown if autonomous daydreams, which are not manipulated by a researcher, are associated with self-reported physical symptoms and health status of patients in general practice with minor medical needs.

Most medical patients report fewer affective daydreams, due to their difficulty in identifying and expressing emotion. Patients with cancer reporting fewer negative daydreams have the greatest likelihood of metastatic progression as these daydreams moderate unpleasant emotion by confronting the fears and anxieties of serious disease. However, patients reporting more negative daydreams are often unable to 'turn them off'. They are also more frightened by the contents of these unwanted daydreams that are followed by intense negative reactions. Patients having more negative daydreams are more likely to be diagnosed with affective disorders, namely depression.

It remains unknown, from research on non-medical populations, whether having more positive daydreams improves mental health. These daydreams are often used to interpret life experiences in a positive fashion. This might help medical patients maintain an optimistic outlook on the prognosis of a serious health condition. College students reporting more positive daydreams continue to emphasise positive outcomes even when confronted with challenging obstacles. However, patients with life-altering conditions record the worst health outcomes, as they tend to underestimate the seriousness of the situation. These patients often do not comply with medical advice. Some researchers argued that an important characteristic of affective disturbance is more unpleasant daydreams that reinforce negative emotions, but not fewer positive daydreams. More uncontrolled thought, in addition to more frequent daydreaming, is also a characteristic of affective disturbance. The inability to maintain mental control corresponds with more intrusive daydreams that arouse intense negative emotions.

The most recent research suggested that pessimism is more important than optimism in predicting the mental health of patients with serious medical conditions. This finding implies that psychological interventions that reduce the level of pessimism are critical to improving mental health. Even so, there continues to be much debate as to whether 'better' health stems from more optimism or less pessimism (or both). Much of the research has been restricted to surgical patients and not patients in general practice. In addition, few studies have sought to determine if life orientation interacts with affective patterns of daydreaming. It is possible that positive daydreams help maintain an optimistic outlook on life events by interpreting

them (and reframing negative events) in a positive fashion, which in turn might encourage more positive daydreams. On the other hand, negative daydreams could be central to maintaining a pessimistic cognitive orientation by heightening the experience of negative emotions (at the expense of positive emotions). People who are pessimistic might also report a reduced capacity to maintain sufficient mental control.

CHAPTER TWO:
THE PRESENT RESEARCH

My daydreams were all my own,
I accounted for them to nobody,
They were my refuge when annoyed - my dearest pleasure when free.

(Mary Shelley, 1797-1851)

Introduction

The previous chapter provided a review of the literature that was divided into three sections: Psychology of Daydreaming, Health Profile of General Practice, and How Daydreaming is related to Health Status. The present chapter restates the aims of the present research. It also presents a model of relationships that the present research sought to confirm. This model was developed from the literature review. The present chapter concludes with the research hypotheses, which reflect this model.

Aims of the Present Research

There were two main aims of the present research. The first aim was to establish a health profile of patients in general practice to the west of Melbourne. There were three measures of health status: symptom severity, physical health, and mental health. The second aim was to investigate the mental life of patients, and its relationship to health status. To achieve these aims two studies were conducted. The first study investigated if differences in health status were related to variations in daydreaming. There were two measures of daydreaming: frequency and patterns of daydreaming. The second study extended the findings of the first study by investigating whether measures of daydreaming and life orientation were associated with each other, and with mental health. Each of the two studies separated males and females to identify sex differences in relationships between the measures of mental life and health status. Figure 1 presents a model of expected relationships drawn from the review of the literature. This model served as the basis for the hypotheses of the two present studies. This model served as the basis for the hypotheses of the two present studies. Each of these hypotheses (which are presented on pages 98 and 99) was tested individually.

Figure 1. Model inserted here (in landscape form).

As can be seen in Figure 1 shows it was expected that:

- Daydreaming would be related to health status (mental health, in particular).
- Daydreaming would differ according to selected demographic characteristics.
- Daydream patterns would be related to each other: specifically, poorer attentional control would be related to more guilt and fear of failure daydreaming.
- Daydream patterns would be related to life orientation (optimism and pessimism).
- Life orientation would be related to health status (namely, mental health).
- The two dimensions of life orientation would be related to each other: specifically, more optimism would be related to less pessimism.
- Severity of physical symptoms would be related to SF-36 summary measures: more severe symptoms would be related to lower physical and mental health.
- Health status of patients would differ according to demographic characteristics.
- Rates at which patients see general practitioners would be related to health status.
- Consultation rates would also be related to selected demographic characteristics.

Hypotheses of the Present Research:

The First Study

There were no specific hypotheses concerning the health profile of patients. It was hypothesised that measures of health status would be significantly associated with those of daydreaming. Specifically, it was hypothesised that poorer health would be predicted by more frequent daydreaming, lower attentional control, and more guilt and fear of failure daydreaming. It was also hypothesised that 'better' health would be predicted by more positive constructive daydreaming.

The Second Study

There were two sets of hypotheses. The first set hypothesised that patterns of daydreaming (SIPI) would be significantly associated with life orientation (LOT-R). It was hypothesised that more pessimism would be associated with lower attentional control and more guilt and fear of failure daydreaming. It was also hypothesised that more optimism would be associated with more positive constructive daydreaming.

The second set hypothesised that mental life (daydreaming and life orientation) would be significantly associated with mental health. It was hypothesised that poorer mental health would be predicted by lower attentional control, more guilt and fear of failure daydreams, and more pessimism. It was also hypothesised that 'better' mental health would not be predicted by more optimism (or more positive constructive daydreaming).

CHAPTER THREE:

METHODOLOGY OF THE FIRST STUDY

For life is but a dream who shapes return,
Some frequently, some seldom, some by night,
And some by day.

(James Thomson, 1834-1882)

Introduction

The previous chapter outlined the research questions to be answered by the first study. The research hypotheses generated from a review of the literature were also presented. The present chapter details how the research data was collected to test these hypotheses. It presents demographic characteristics (including medical background) of the samples of males and females. This chapter also describes general practices that provided permission for patients to be approached for the study. It outlines the criteria employed to select eligible patients. It describes how these patients were invited to participate, as well as the self-report measures completed by participants. The chapter concludes by outlining how the research data was prepared for statistical analyses.

PROFILE OF GENERAL PRACTICES

Thirty-four general practices from the west of Melbourne were invited in writing to participate in the study. The managers of 22 practices (65%) failed to respond to the invitation. A further seven (21%) were unwilling to participate with lack of time given as the main reason for refusal. Five managers (15%) provided written permission for patients to be recruited from waiting rooms prior to their consultation with a general practitioner. A copy of letter of permission is in Appendix A.

The five participating practices were in Hoppers Crossing, Maidstone, Maribyrnong, Melton, and Moonee Ponds. Three of these (60%) were 'small group' practices with no more than four general practitioners on duty at the same time. These practices were providers of family medicine with an interest in holistic medicine. Each practice offered at least one of the following specialised medical services: injury rehabilitation, weight management programs, therapeutic massage, and counselling services. The two remaining practices (40%) were operated by 'solo' general practitioners who 'advertised' as providers of family medicine.

PARTICIPANTS

Criteria for Participation

Patients invited to participate in the study were awaiting consultation with a general practitioner. To be eligible for participation they had to be at least 18 years of age. They also had to be capable of completing a questionnaire written in English. This included being willing to complete a written statement of informed consent while at the general practice. It was stipulated that only patients with a medical condition were eligible for the study. There was, however, no restriction on the reason provided by patients for seeing a general practitioner. There was also no restriction on the severity of symptoms, or their duration. Patients attending for indirect consultations (that is, patients with no self-reported medical condition) were not included in the study. Most of these patients attended for preventative assessments of physiological functioning, namely screening for abnormal pathology. A minority of indirect consultations were for the monitoring of prescription medication.

DEMOGRAPHIC CHARACTERISTICS

The sample comprised 158 general practice patients. There were 123 females (78%) and 35 males (22%). Almost all participants (93%) were residents to the west of Melbourne. They ranged in age from 18 to 78 years with a mean age of 40.5 years (SD = 16.2). The demographic characteristics of participants are presented in Table 5.

Table 5. Selected Demographic Characteristics of Participants.

Demographic Characteristics *	**Total**	**Male**	**Female**	x^2	**p**
	% (n)	% (n)	% (n)		
Participants (Sex) [1]	100 (158)	22 (35)	78 (123)	49.01	.00
Age Groups				9.86	.01
• 18 to 34 years	38.6 (61)	22.9 (8)	43.1 (53)		
• 35 to 54 years	43.7 (69)	42.9 (15)	43.9 (54)		
• 55 and more	17.7 (28)	34.3 (12)	13.0 (16)		
Marital Status				2.56	.28
• Single	29.7 (46)	22.9 (8)	31.7 (38)		
• Married/De-facto	51.0 (79)	62.9 (22)	47.5 (57)		
• Separated/Divorced/Widowed	19.4 (30)	14.3 (5)	20.8 (25)		
Children				2.38	.12
• No children	36.8 (57)	25.7 (9)	40.0 (48)		
• One or more children	63.2 (98)	74.3 (26)	60.0 (72)		
Education				2.63	.62
• Primary	35.7 (56)	42.9 (15)	33.6 (41)		
• Secondary	31.2 (49)	34.3 (12)	30.3 (37)		
• TAFE qualification	9.6 (15)	5.7 (2)	10.7 (13)		
• Some tertiary	12.7 (20)	11.4 (4)	13.1 (16)		
• Tertiary/Post-graduate	10.8 (17)	5.7 (2)	12.3 (15)		
Income				6.91	.06
• Low: Up to $14 999	43.4 (59)	50.0 (15)	41.5 (44)		
• Moderate: $15 000 to $34 999	40.4 (55)	20.0 (6)	46.2 (49)		
• High: $35 000 and above	16.2 (22)	30.0 (9)	12.3 (13)		
Employment				2.60	.27
• In paid employment	60.1 (57)	58.1 (13)	60.7 (44)		
• Not in paid employment	26.6 (41)	35.5 (14)	24.1 (27)		
• Student	13.3 (21)	6.5 (4)	15.2 (17)		
Country of Birth				.00	.98
• Australia	64.5 (100)	64.7 (22)	64.5 (78)		
• Other	35.5 (55)	35.3 (12)	35.5 (43)		

[1] Chi-Square Test of Goodness of Fit

* The results of the chi-square tests are presented with some caution due to the possibility of family-wise error. This error refers to the increased probability, often due to performing multiple comparisons, of making one or more type I errors (that is, reporting that significant differences between two or more groups exist when, in fact, they do not; Hair et. al., 1995).

As shown in Table 5, the majority of participants were 54 years of age or younger (82%) with almost half of all participants (44%) aged between 35 and 54 years. Most were married or in de-facto relationships (51%) and had children (63%). Most participants had completed primary level education and had completed, or at least attempted, secondary schooling (67%). Most participants were in paid employment (60%), with the vast majority (83%) receiving an annual income of $34, 999 or less. Males were most commonly employed in unskilled manual labour (39%) such as cleaners, manufacturing workers, construction labourers, or as tradesman (28%). Females were most commonly employed in the clerical field (34%) such as secretaries, personal assistants, general clerks, or in professional occupations (25%), namely office mangers and marketing representatives. Most participants not in the paid workforce were receiving pension payments including disability welfare or social security benefits due to long-term unemployment, or were undertaking home duties.

More than a third of participants were born outside of Australia, with most of these from countries where the dominant language is not English. The majority of overseas born (87%) were from Europe (45%) and South East Asia (42%). Participants born overseas had been living in Australia for between one and 54 years with a mean of 25 years (SD = 12.6, n = 53).

Sex Differences in Demographic Characteristics

A series of chi-square tests for categorical variables was performed to determine the significance of sex differences in frequencies across the response categories of each demographic characteristic. The lowest expected frequency in each cell for each chi-square test was greater than five cases. An unequal distribution of frequencies was assumed if the computed significance level was less than .05. A summary of results for each chi-square test with separate observed category percentages for males and females is presented in Table 5.

There were significantly more females than males in the study (Table 5). These females were more likely to be younger in age (18 to 34 years) than were males, who were more likely to be older in age (55 years or more). There was no significant difference in the relative numbers of males and females aged between 35 and 54 years.

There were no further significant differences between males and females in demographic characteristics. There were, nevertheless, noteworthy discrepancies on single response categories for education and income. Females were more likely to be

students than were males. They were also more likely than males to have commenced education beyond secondary schooling. Males were, however, more likely than females to have earned a higher income of at least $35,000 in the previous one year.

A chi-square test with the inclusion of age as a covariate was performed to determine if the sex difference in annual income could be restricted to an age range. It was found that males in the middle age range of 35 to 54 years were significantly, x^2 (58) = 7.70, $\underline{p} < .05$, more likely than females to have earned a high annual income. Most females in this age range received moderate incomes.

MEDICAL CHARACTERISTICS

Most participants (64%) provided medical reasons for their consultation with a general practitioner. Almost half (47%) of these participants reported more than one medical condition. About 15 percent of participants reported at least three medical conditions as the reasons for seeing a general practitioner.

All participants reported how often they had seen a general practitioner in the previous one-year period. Consistent with recent research (Kersnik et al. 2001; Little et al. 2001; Scaife et al. 2000) consultation rates were condensed into two categories: low attenders and high attenders. Low attenders were participants who had seen a general practitioner no more than twice in the previous one-year period. High attenders were those who had attended general practice at least once each month during this time frame. The medical characteristics of participants are presented in Table 6.

Table 6. Selected Medical Characteristics of Participants.

Medical Characteristics	Total	Male	Female	x^2	p
	% (n)	% (n)	% (n)		
Number of Physical Conditions				1.78	.41
• One	53.5 (54)	59.1 (13)	51.9 (41)		
• Two or more	46.6 (47)	40.8 (9)	48.1 (38)		
Presenting Medical Conditions †				7.21	.78
• Respiratory System	35.2 (57)	36.1 (13)	34.9 (44)		
• Musculoskeletal System	17.9 (29)	22.2 (8)	16.7 (21)		
• Nervous System & Sense Organs	11.1 (18)	2.8 (1)	13.5 (17)		
• Circulatory System	7.4 (12)	11.1 (4)	6.3 (8)		
• Skin	4.9 (8)	2.8 (1)	5.6 (7)		
• Digestive System	4.9 (8)	5.6 (2)	4.8 (6)		
• Endocrine, Metabolic & Nutritional	4.3 (7)	5.6 (2)	4.0 (5)		
• Genitourinary System	3.7 (6)	2.8 (1)	4.0 (5)		
• Psychological	2.5 (4)	2.8 (1)	2.4 (3)		
• Blood & Blood Forming Agents	1.2 (2)	2.8 (1)	0.8 (1)		
• Neoplasms (Malignant)	1.2 (2)	2.8 (1)	0.8 (1)		
• Symptoms / Signs / Ill-Defined *	5.5 (9)	2.8 (1)	6.4 (8)		
Male n = 22; Female n = 79; Total n = 101.					
General Practice Utilisation †				5.84	.02
• High Attenders (once a month or more)	51.5 (51)	62.9 (22)	39.9 (49)		
• Low Attenders (six months or less)	48.5 (87)	37.1 (13)	60.1 (74)		

* For example, allergies, insomnia, sweating, dizziness, chest pain, heartburn, and abdominal pain.

† No significant sex differences in medical conditions or general practice utilisation were found between the three age groups, 18 to 34 years, 35 to 55 years, and over 55 years (chi ², $p > .05$).

Reasons for the Consultation with a General Practitioner

As shown in Table 6, almost all participants (98%) reported at least one physical condition as the reason for the consultation with a general practitioner. Almost half (45%) reported two or more physical conditions. The most (36%) frequent reason for a consultation was disease of the respiratory system, namely acute episodes of influenza and the common cold. The long-standing conditions of asthma and hayfever were also common. Most of these conditions were described via symptomatic complaints such as persistent cough, sore throat, nasal congestion, and breathing difficulties.

The next three most common reasons were diseases of the musculoskeletal system (18%), nervous system (11%), and circulatory system (7%). The most notable complaints from these bodily systems were arthritis, migraine, and hypertension,

respectively. Arthritis, which was particularly prevalent, included prolonged pain in movement joints such as the shoulder, knuckle, elbow, and knee. The most reported reasons for seeing a general practitioner (irrespective of bodily system) were high blood pressure, persistent cough, sore throat, runny nose, joint soreness, and skin rash. Undifferentiated symptoms such as fever, headache, abdominal pain, ear pain, tiredness, diarrhoea, and chest pain were also common among participants.

A minority of participants (2.5%) reported seeing a general practitioner for the management of psychological difficulties. The most common forms of mental disorder were those of the affective domain, namely episodes of anxiety and depression. These episodes were most often described via symptomatic complaints such as irritability, dissatisfaction, discouragement with the future, difficulty with decisions, depressed mood, panic attacks, worry, lack of concentration, social withdrawal, and sleep disturbance. There were also participants who reported 'relationship difficulties' with family members or work colleagues as the reason for seeing a general practitioner.

Utilisation of General Practice

The majority of participants (87%) saw a general practitioner at least once in every six months. More than half of all participants (52%) were 'high attenders': they attended general practice at least once each month over a one-year period. Almost 15 percent saw general practitioners once a week or more during this time frame.

Sex Differences in Medical Characteristics

A series of chi-square tests for categorical variables was performed to determine the significance of sex differences in frequencies across the response categories of each medical characteristic. The lowest expected frequency in each cell for each chi-square test was greater than five cases with the exception of 'reasons for the consultation'. An unequal distribution of frequencies was assumed if the computed significance level was less than .05. A summary of results for each chi-square test with separate observed category percentages for males and females is presented in Table 6.

No significant sex differences in reasons for seeing a general practitioner were found (Table 6). There were, nevertheless, significant rate differences at which males and females saw general practitioners. Most males (63%) were high attenders: they saw a general practitioner at least once a month over a one-year period. Most females (60%) were low attenders: they attended no more than twice during this time frame.

There were no further significant differences in medical characteristics between males and females. There were, nevertheless, noteworthy discrepancies on single response categories for reasons for the consultation. Females (14%) were at least four times more likely than males (3%) to provide disease of the nervous system, namely headache and migraine, as reason for seeing a general practitioner. Males (11%) were almost twice as likely than females (6%) to provide disease of the circulatory system, mostly hypertension (described as high blood pressure) as reason for the consultation.

Number of Physical Conditions and Utilisation of General Practice

A chi-square test for categorical variables was performed to determine if differences between low and high attenders in number of physical conditions were significant. The chi-square test was performed separately for males and females. There were cells for males with expected frequencies of fewer than five cases. An unequal distribution was assumed if significance was less than .05. A summary of results with separate observed category percentages for males and females is presented in Table 7.

Table 7. Testing for Significant Differences Between Low and High Attenders in Number of Physical Conditions for Males and Females.

		Attendance Rates			
Sex	**Number of Physical Conditions**	**Low**	**High**	x^2	**p**
		% (n)	% (n)		
Males:	One Condition (n = 13)	61.5 (8)	39.5 (5)	8.70	.00
	Two or More Conditions (n = 9)	00.0 (0)	100.0 (9)		
Females:	One Condition (n = 41)	46.3 (19)	53.7 (22)	.14	.71
	Two or More Conditions (n = 38)	42.1 (16)	57.9 (22)		

Males: Two cells had five or fewer cases.

The chi-square test was significant for males, but not females (Table 7). Most males (62%) who reported one physical condition as the reason for seeing a general practitioner were low attenders. All males with multiple conditions were high attenders.

Demographic Characteristics and Utilisation of General Practice

A series of chi-square tests for categorical variables was performed to determine if differences between low and high attenders in demographic characteristics were significant. The chi-square tests were performed separately for males and females. There were multiple cells with expected frequencies of five or fewer cases for males

and females. An unequal distribution of frequencies was assumed if significance was less than .05. A summary of results for each significant chi-square test with observed category percentages is presented in Table 8.

Table 8. Significant Demographic Differences Between Low and High Attenders for Males and Females.

Sex	Demographic Characteristics	Attendance Rates Low	High	x^2	p
		% (n)	% (n)		
Males:	**Education** (n = 35)			6.37	.01
	• Low: Primary or Secondary	43.8 (7)	90.9 (20)		
	• High: Post Secondary	56.2 (6)	9.1 (2)		
	Income (n = 30)			12.20	.00
	• Low: Up to $14 999	30.0 (3)	60.0 (12)		
	• Medium: $15 000 to $34 999	00.0 (0)	30.0 (6)		
	• High: $35 000 & above	70.0 (7)	10.0 (2)		
Females:	**Age Group** (n = 123)			13.68	.00
	• 18 to 34 years	69.8 (37)	30.2 (16)		
	• 35 to 54 years	63.0 (34)	37.0 (20)		
	• 55 and more	18.8 (3)	81.3 (13)		
	Income (n = 106)			10.68	.01
	• Low: Up to $14 999	30.8 (20)	58.5 (24)		
	• Medium: $15 000 to $34 999	50.8 (33)	39.0 (16)		
	• High: $35 000 & above	18.5 (12)	2.4 (1)		

Males: Four cells had five or fewer cases.
Females: Two cells had five or fewer cases.

As can be seen in Table 8 high attending males and females were more likely to be low-income earners. Those earning high incomes were more likely to be low attenders. High attending males were also more likely to have not progressed beyond secondary schooling. Those with higher education were more likely to be low attenders. The vast majority (81%) of older females (55 years or more) were high attenders, whereas most (70%) younger females (18 to 34 years) were low attenders.

MEASURES

A questionnaire comprising five standardised measures was used to collect the research data. These measures included the Short Form Health Survey, Severity of Physical Symptoms Checklist, Short Imaginal Processes Inventory, Daydream Frequency Scale, and Short Social Desirability Scale. The questionnaire also included 'Demographic Information'. A copy of the questionnaire is available in Appendix A.

Short Form Health Survey (SF-36): The SF-36 is a self-report measure of health status (Ware & Sherbourne 1992). It comprises 11 questions with 36 items measuring eight dimensions of health: (1) physical functioning, (2) role limitation due to physical health, (3) bodily pain, (4) general health perceptions, (5) vitality, (6) social functioning, (7) role limitations due to emotional difficulties, and (8) mental health. These eight dimensions represent two summary components of health: physical health and mental health (McHorney et al. 1993; Ware et al. 1995).

The physical health summary represents the four dimensions of physical health: physical functioning, role limitations (physical health), bodily pain, and overall health. The dimension of physical functioning measures limitations in physical activities of everyday living ranging from basic activities (for example, bathing or dressing oneself) to vigorous activities (for example, lifting heavy objects). Role limitation (physical health) evaluates the extent to which physical conditions interfere with the capacity to assume regular role responsibilities (for example, difficulty in performing work roles). Bodily pain measures intensity of pain and degree of discomfort, and the extent to which pain interferes with routine daily activities. General health perceptions evaluate current health state, as well as future health outlook and resistance to disease.

The mental health summary represents the four dimensions of mental health: vitality, social functioning, role limitations (emotional problems), and mental health. The dimension of vitality measures level of tiredness (for example, feeling worn out or lacking energy). Social functioning evaluates if health concerns interfere with valued social activities with family and friends. Role limitation (emotional problems) measures the extent to which mental health concerns interfere with routine daily activities (for example, reduction of time devoted to activities). Mental health evaluates psychological fitness, namely psychological distress such as depression (for example, feelings of sadness and the absence of feeling happy or peaceful).

The present study scored both summary measures. They were each scored via three steps according to recommended guidelines (Ware et al. 1994). The first step was

to sum the responses to the items within each of the eight dimensions of health. These summed scores were then converted via a scoring algorithm to a scale ranging from zero to 100. A score of 100 represents most favourable health states. The second step of scoring involved the use of norm-based methods. Scores for each dimension of health were standardised (that is, transformed into z-scores) using descriptive statistics from the general population (ABS, 1997). These scores were than aggregated using factor score coefficients also calculated from the general population. For example, computation of the aggregate physical health summary consisted of multiplying the z-score of each health dimension by its respective physical factor score coefficient. The resulting eight products were than summed. The final step of scoring was to standardise each aggregate summary measure using a linear T-score transformation. This ensured that each summary measure had a mean score of 50 and a standard deviation of 10 in the general population. This norm-based method of scoring enabled the comparison of the health of the present sample with that of the general population.

Scores on the physical health summary ranged from 17 to 66 while scores on the mental health summary ranged from 13 to 71. Table 9 provides the 'meaning' of low and high scores for each summary measure of health (as measured by the SF-36).

Table 9. Meaning of Low and High Scores for each Summary Measure (SF-36). *

SF-36 Summary	Low Scores †	High Scores ‡
Physical Health (PH)	Substantial limitations in self-care, physical, social, and role activities; severe bodily pain; frequent tiredness; physical health self-rated as "poor".	No physical limitations, disabilities, or decrements in wellbeing; high energy level; physical health self-rated as "excellent".
Mental Health (MH)	Frequent emotional distress, substantial social and role disability due to emotional problems; mental health self-rated as "poor".	Frequent positive affect; absence of psychological distress and limitations in usual social / role activities due to emotional problems; mental health rated "excellent".

* Source: Ware et al. 1994; Ware et al. 1993.
† Low scores < 43 for PH, < 45 for MH. These represent 25th percentile in general population.
‡ High scores > 56 for PH, > 57 for MH. These represent 75th percentile in general population.

As shown in Table 9, higher scores on a summary measure indicate more favourable states of health. This includes greater freedom from disease, as well as

reduced functional impairment. The latter incorporates the relative absence of limitations in routine physical activities, including the capacity to socialise with family and friends. A higher score also represents more favourable evaluations of present health status, including the reporting of lower distress. It includes the perception of greater resistance to future illness as evident by a more positive future health outlook.

Severity of Physical Symptoms Checklist (SPSC): The SPSC is a self-rated checklist that measures severity of 34 physical symptoms (Salmon, Sharma, Valori, & Bellenger, 1994). It is a modified form of the 54-item Pennebaker (1982) Inventory of Limbic Languidness (PILL). The 34 symptoms were chosen on the advice of general practitioners as to those encountered *most* often in general practice. This advice was supplemented from interviews with patients in general practice (Salmon et al. 1994).

A factor-analytic study of the 34 physical symptoms identified six diagnostic clusters of symptoms (Salmon et al. 1994): (1) abdominal symptoms (for example, stomach pain and upset stomach), (2) symptoms of the common cold and influenza (for example, sore throat, cough, and runny nose), (3) symptoms of the musculoskeletal system (for example, back pain and pains in arms or legs), (4) the somatic presentation of anxiety (for example, feeling weak and heart irregular), (5) symptoms of physical trauma injuries (for example, sprains and physical injury), and (6) undifferentiated symptoms (for example, chest pain and blurred vision).

Participants were asked to describe how severe each symptom had been experienced in the previous week. The four-point response scale ranged from '*not at all severe'* to a '*great deal of severity'*. If an individual symptom on the checklist had not been experienced, the participant was instructed to provide a '*not at all'* response. The SPSC was scored to provide a global rating of the severity of *all* 34 physical symptoms (Salmon et al. 1994). This rating was obtained by computing the mean score of the sum of scores for all 34 symptoms. A score of one suggests none of the physical symptoms on the checklist were experienced with severity in the previous week. A higher score indicates the experience of more severe symptoms.

Short Imaginal Processes Inventory (SIPI): The SIPI is a self-report measure of affective patterns of daydreaming as well as attention to inner experience (Huba et al. 1982). It consists of 45 items that represent three patterns of daydreaming: (1) positive constructive daydreaming (positive: enjoyable and vivid daydreams that stimulate ideas and promote problem solving), (2) guilt and fear of failure

daydreaming (negative: daydreams with depressing, frightening, hostile-aggressive or panicky qualities), and (3) poor attentional control (mental control: tendencies toward boredom, mindwandering, and distractibility).

The SIPI asks participants to use their own definition of daydreaming when responding to items. It does, nevertheless, provide the following explanation of how daydreams differ from thoughts related to the external environment:

> When we use the word 'daydream' we are using popular terminology that has no 'official' definition. You may have a particular idea of what you mean by a daydream. Make a distinction between *thinking* about an immediate task you're performing, for example working, doing school work, and thinking directly about it while you are doing it, and *daydreaming* which involves thoughts unrelated to a task you are working on, or else thoughts that go on while you are getting ready for a long bus or train ride (Huba et al. 1982).

Each of the three patterns of daydreaming comprises 15 items. Fourteen items are reverse scored to control for acquiescence and response sets. Participants were instructed to indicate their degree of agreement with statements such as "I find my daydreams worthwhile and interesting to me" (positive constructive daydreaming), "my daydreams often contain depressing events which upset me" (guilt and fear of failure daydreaming), and "my mind seldom wanders from my work" (poor attentional control). Each statement was rated using a five-point response scale that ranged from '*definitely untrue or strongly uncharacteristic of me*' to '*very true or strongly characteristic of me*'. Separate scores for the three patterns of daydreaming were calculated in accordance with recommended guidelines (Huba et al. 1982) by summing the responses to the 15 items within each scale (following re-scoring of reversed items). The scores for each pattern ranged from 15 (d*efinitely untrue or strongly uncharacteristic of me*) to 75 (v*ery true or strongly characteristic of me*). A score of 15 indicates infrequent daydreaming in a particular pattern. A higher score represents more frequent daydreaming or greater attention to inner experience.

A summary measure of 'quality of daydreaming' was also developed for the present study. It was scored via two steps. The first step was to calculate the mean score of the sum of scores for poor attentional control and guilt and fear of failure daydreaming. The resulting score was considered indicative of 'negative daydreaming'. The second step of scoring was to divide the mean score of positive

constructive daydreaming by the negative daydreaming score. The final score for quality of daydreaming was the ratio of positive daydreaming to negative daydreaming. The scores for this ratio range from zero to five. A score lower than one indicates a greater ratio of negative daydreams (to positive daydreams). A score of one indicates an equal ratio of positive daydreams and negative daydreams. A score greater than one indicates a greater ratio of positive daydreams (to negative daydreams).

Daydream Frequency Scale (DFREQS): The DFREQS is a measure of self-rated frequency of daydreaming (Singer & Antrobus, 1970). It is a single-item modified from the 12-item Daydream Frequency Scale. The Daydream Frequency Scale is one of the 28 scales that comprise the full 400-item IPI (Singer & Antrobus, 1970). Its original format asks participants to rate how often they daydream in various situations (for example, at work or at school) and times of the day (for example, before falling asleep at night). The modified form of the DFREQS, as used in the present study, asks participants to indicate how frequently they have daydreamed over a one-week period. Responses were recorded on a six-point response scale that ranged from I daydreamed '*rarely if ever*' to '*many times each day*'. The resulting score ranged from one to six. A score of one indicates few, if any, recalled incidences of daydreaming. A higher score indicates more frequent daydreaming over the one-week period.

The Short Social Desirability Scale (SSDS): The SSDS is a self-report measure of willingness to provide socially desirable responses (Greenwald & Satow, 1970). It measures the tendency to promote a good impression by providing responses that portray socially favourable qualities. The SSDS has six items that describe desirable but uncommon behaviours (for example, 'I am quick to admit making a mistake') or undesirable but common behaviours (for example, 'I have sometimes taken unfair advantage of another person'; Paulhus 1991). The items of the SSDS were drawn from the 38-item Marlowe-Crowne Social Desirability Scale (MCSDS; Crowne & Marlowe, 1960). The MSCDS has been interpreted as measuring an avoidance of disapproval (Crowne, 1979). The SSDS measures this avoidance via two interwoven dimensions of social desirability. The first is self-deceptive positive responses, which refers to an honest but overly positive self-presentation. The second is impression management, which refers to self-presentation tailored to an audience to create the most positive social image (Paulhus, 1984; 1986).

The SSDS has more recently been interpreted as a measure of defensiveness (Peebles & Moore, 1998; Weinberger, 1990) in that some individuals are motivated to maintain a positive self-image in order to minimise (or deny) the experience of negative affect (Weinberger & Davidson, 1994). These individuals provide defensive responses to protect their self-esteem (Furnham & Traynar, 1999). The SSDS has been used most recently as a measure of defensiveness in medical populations (for example, Feldman, Lehrer, Hochron, & Schwartz, 2002; Zachariae, Jensen, Pedersen, Jorgensen, Christensen, Lassesen, & Lehbrink, 2004).

Participants were asked to indicate whether they agreed with statements such as "I have sometimes taken unfair advantage of another person" and "I sometimes try to get even, rather than forgive and forget". The response scale was a dichotomous '*True*' or '*False*'. Three of the six items were keyed in the true direction (for example, "I am quick to admit making a mistake") and three in the false direction (for example, "I have sometimes taken unfair advantage of another person"). One point was scored for each response considered indicative of social desirability. The sum of scores ranged from zero (false) to six (true). A score of zero indicates that no socially desirable responses were provided. A higher score indicates the expression of more socially favourable qualities in order to promote a good impression to avoid disapproval.

Alpha reliability coefficients for the MCSDS have ranged from .73 to .88 (Crowne & Marlowe, 1964, Paulhus, 1984, Tanaka-Matsumi, & Kameoka, 1986) with test-retest reliability from .84 to .88 (Fisher, 1967, Crowne & Marlowe, 1964). Greenwald and Satow (1970) reported 'acceptable' internal consistency of .54 during the development of the SSDS. There are also reports that short forms of the MCSDS have satisfactory internal reliability with coefficients ranging from .60 to .78 (Ray, 1984; Strahan & Gerbasi, 1972). Correlation coefficients between the MCSDS and its short form derivatives have ranged from .80 to .90 (Strahan & Gerbasi, 1972).

Demographic Information: Participants were asked to provide information such as sex, age, education, occupation, income, martial status, children, and place of birth. They were also asked to indicate how often they had seen a general practitioner in the previous 12-month period and their reasons for the current consultation. These reasons were classified into bodily systems with the assistance of a registered nurse.

PROCEDURE

Recruitment of Participants

Ethics approval for the study was obtained from Victoria University Human Research Ethics Committee. The researcher approached patients in waiting rooms of general practices prior to their consultation with a general practitioner. Patients who expressed interest in the study were given a plain language statement to read. They were also required to provide a written statement of informed consent while at the general practice. Those who provided consent were asked to complete the questionnaire at home. Questionnaires were returned by postal mail in a supplied self-addressed envelope addressed to the researcher. A copy of the plain language statement is attached to the questionnaire in Appendix A.

Response Rate

Two hundred and forty-seven patients satisfied the eligibility criteria for participation. Ten (4%) patients refused to participate due to time constraints or not feeling well enough to complete the questionnaire. A further eight participants (3%) were excluded after they returned incomplete questionnaires. Sixty-four percent (n=158) of patients who consented to participate returned a completed questionnaire. Twenty-nine percent (n = 71) of patients who consented did not return a questionnaire.

Preparation for Statistical Analysis:

Substitution of Missing Responses

A missing response was replaced for each measure as recommended by its authors. A system missing score was allocated if too many responses were missing.

SF-36: A missing response was substituted with a participant specific mean score of all non-missing items (Ware, et al 1994). Scores could not be calculated for the summary measures if half or more items were missing from a dimension of health.

SPSC: A missing response was replaced with a participant specific mean score of all rated symptoms (Salmon et al. 1994). A score for severity of symptoms was not calculated if three or more symptoms were not rated.

SIPI: A missing response was substituted with the mean score of all participants who completed the item (Huba et al. 1982). A score for a pattern of daydreaming was not calculated if more than three items were missing.

SSDS: A missing response was replaced with a participant specific mean score of all completed items (Greenwald & Satow, 1970). A score for social desirability was not calculated if more than one item was missing.

Missing Scores on the Measures

There were small numbers of missing scores on the measures: no more than three percent of scores were missing for males and six percent for females on any one measure. No participant recorded more than two missing scores on the combination of measures. The pattern of missing scores appeared random for males and females. There were measures with no missing scores (17%). Most measures (56%) had no more than one missing score. Missing scores were excluded from statistical analysis using pair-wise method. There are at present no standard guidelines indicating the number of missing scores tolerable per measure for a sample of the present size. Even so, the percentage of missing scores found per measure in the present study is much lower than the 10 percent critical value suggested by Tabachnick and Fidell (2001).

Development of an Indicator of Socio-economic Status

To reduce the number of demographic characteristics included in statistical analyses the three demographic characteristics of education, occupation, and income were combined to provide an overall index of socio-economic status. These characteristics were each ranked from lowest to highest according to socio-economic advantage. For instance, annual income of up to $5,000 was given a ranking of one, whereas income above $55,000 was ranked at seven. The three scores were than summed and averaged to produce a single score of socio-economic status. These scores ranged from one to seven. A score of one indicates significant financial and social hardship. A higher score indicates greater socio-economic advantage.

Data Analysis Procedures

The research data were analysed using SPSS for Windows Software Package 11.5 (2002). Prior to statistical analyses each measure was inspected for statistical assumptions underlying multivariate analysis. The data set was then summarised using descriptive statistics to compare groups of participants on the measures. These statistics also described relationships between measures. The research data were explored further using inferential statistics to identify the ‘best’ predictors of health.

SUMMARY OF THE SAMPLE

Almost half of all participants (47%) provided more than one physical condition as the reason for seeing a general practitioner. The most (36%) common reason was disease of the respiratory system, namely acute episodes of the common cold and influenza. The most frequent symptoms were persistent cough, inflamed throat, nasal congestion, and breathing difficulties. The next most common reason was musculoskeletal disease (18%), most notably rheumatoid arthritis. This included prolonged pain in movement joints such as the knuckle, elbow, shoulder, and knee. A minority of participants saw general practitioners for mental disorders (3%), namely anxiety and depression.

The vast majority of participants (88%) had seen a general practitioner in the six-months prior to their consultation. Most were high attenders (52%) in that they had attended general practice at least once each month over a 12-month period. Even so, males saw general practitioners more often than did females. There were, nevertheless, more females in the study with almost four in every five participants being female.

Almost half of all participants (44%) were in the middle age range (35 to 54 years) with a minority aged over 54 years (18%). Males were more likely than females to be over the age of 54 years whereas females were more likely to be younger in age (18 to 34 years). Females over the age of 54 years comprised a minority of the sample (13%). Yet the vast majority (81%) of these older females were high attenders. Most (70%) younger females (18 to 34 years) were low attenders.

Almost all participants (93%) were residents to the west of Melbourne. The socio-economic background of participants was indicative of financial hardship. Most did not have an education beyond secondary schooling (67%). More than one-third were unemployed with the remainder in occupations that require limited training (63%). More than three-quarters of participants received an annual income of less than $34,999 with about half (43%) earning no more than $15,000. A third of participants were born overseas with most of these speaking English as a second language.

The amount of income received by participants was related to how often they saw general practitioners. Most males (78%) and females (92%) earning high incomes were low attenders. Most high attending males (60%) and females (59%) were low-income earners. Males with no more than primary education also saw general practitioners the most often (74% were high attenders) whereas most males (75%) with education beyond secondary schooling were low attenders.

CHAPTER FOUR:
RESULTS OF THE FIRST STUDY

It isn't a calamity to die with dreams unfilled, but it is a calamity not to dream.

(Benjamin Mays, 1972)

Introduction

The previous chapter described how the first study was conducted. It presented the demographic characteristics (including medical background) of the samples of males and females. The present chapter describes the results of statistical analyses employed to test the research hypotheses of the first study. There are two sets of results. The first set presents the findings of preliminary analyses. Each measure was inspected for statistical assumptions underlying multivariate analysis. The research data were then summarised using descriptive statistics to compare groups of participants on the measures. These statistics also described relationships between measures. The second set of results presents the findings of inferential statistics used to identify the 'best' predictors of health status.

PRELIMINARY ANALYSIS OF THE RESEARCH DATA

Reliability Estimates of Internal Consistency

The internal consistency of each multi-item measure was assessed using Cronbach's Alpha Reliability Coefficient. These alpha reliability coefficients are computed from the mean score of correlations between the multiple items within a measure (Coakes & Steed, 1997). They provide an indication of the extent to which scores are consistent and reproducible. They also indicate how much variation in a score is 'real or truth' as opposed to chance or random error (Ware, et al. 1994). The recommended alpha reliability estimate for the inclusion of a measure in group-level analyses is .70 (Nunnally & Bernstein, 1994). The reliability coefficients, which were calculated separately for males and females, are presented in Table 10. Reliability coefficients from normative samples are also included for comparative purposes.

Table 10. Reliability Coefficients of Participants and Normative Samples.

	Cronbach's Alpha Coefficients		
	Participants		Normative
Multi-Item Measures	**Males α (n)**	**Females α (n)**	**Total Sample**
SF-36 Summary Measures			
• Physical Health	.92 (34)	.89 (116)	.93
• Mental Health	.82 (34)	.83 (116)	.88
Severity of Physical Symptoms	.91 (34)	.98 (120)	†
SIPI Daydreaming Measures			
• Positive Constructive	.86 (34)	.80 (117)	.80
• Guilt & Fear of Failure	.76 (34)	.80 (119)	.80
• Poor Attentional Control	.72 (34)	.76 (119)	.81
Social Desirability Scale	.66 (26)	.76 (57)	.54

Normative: Available only for total sample: SF-36 n = 18468; SIPI n = 1196; SSDS n = 49.
† Alpha coefficient not available for severity of physical symptoms.

As shown in Table 10, reliability coefficients recorded by samples of males and females on the measures ranged from .72 to .98. The exception was social desirability. The male sample recorded a reliability coefficient (α = .66) that was marginally lower than the recommended figure of .70. This reliability coefficient is, nevertheless, higher than that recorded by college students (α = .54) during the development of the measure (Greenwald & Satow, 1970). The remaining reliability coefficients recorded by the samples of males and females were similar to those of normative samples.

Statistical Assumptions of Multivariate Analysis

Each measure was assessed for statistical assumptions underlying multivariate analysis prior to statistical analyses. This assessment was performed separately for males and females. It included the detection of univariate outliers and the evaluation of score normality. A summarised description of the results of data screening is presented here. A complete output table of these results is available in Appendix B.

Identification of Univariate Outliers: Univariate outliers were identified for each measure using case-wise plots of cases outside $\pm$ 3.0 standard deviations. There were small numbers of univariate outliers on most measures: no more than four percent of scores were outliers for males and four percent for females on any one

measure. No participant recorded more than two univariate outliers on the combination of measures. The pattern of univariate outliers appeared random for males and females. There were measures with no univariate outliers (65%). The majority of measures (86%) contained no more than one univariate outlier.

Modification of Univariate Outliers: There are no standard guidelines as to the number of univariate outliers acceptable per measure for a sample of the present size. This is despite the growing acceptance that small numbers of extreme scores occur in most research populations under investigation (Tabachnick & Fidell, 2001). The small percentages of outliers identified per measure in the present study are much lower than the 10 percent critical value suggested recently by Tabachnick and Fidell (2001).

The inclusion of identified univariate outliers was considered important to the present study. These outliers, although different from most sample participants, were drawn directly from the intended research population. They represent legitimate observations, as it is not uncommon for patients in general practice to report a wide spectrum of health states (for example, very poor health through to excellent health; Britt et al. 2001; Sayer et al. 2000). The identified outliers were, therefore, retained in the data set. They were re-scored, however, to reduce their distributional influence by being assigned a score that was one unit larger (or smaller) than the next most extreme score in the distribution (Hair, Anderson, Tatham, & Black, 1995). There were no 'second order' outliers following re-scoring of initial outliers.

Normality of Score Distribution: The assumption of normality for each measure was assessed using Kolmogorov-Smirnov Statistic for females (sample size > 50) and Shapiro-Wilks Statistic for males (sample size < 50). These statistics identified three measures that were significantly skewed for males and females: severity of symptoms, frequency of daydreaming, and social desirability. The physical health of males, but not females, was also significantly skewed. A description of the direction of skewness is presented below for each non-normal distribution.

Severity of Physical Symptoms: Direction of skewness indicated that most males and females reported physical symptoms of 'minor severity'. Almost all males (91%) and females (94%) reported physical symptoms that were 'not at all' or 'only a little' severe. No participant reported physical symptoms with 'a great deal' of severity.

Frequency of Daydreaming: The distribution of scores were skewed towards less frequent daydreaming. Most males (70%) and females (55%) reported daydreaming 'no more than once' in the previous one-week. A minority of males (11%) and females (6%) reported daydreaming 'many times each day'.

Social Desirability: Direction of skewness indicated that most males and females provided socially acceptable responses. Most males (54%) and females (72%) recorded the three highest possible scores (that is, scores ≥ 4). Only a minority of males (4%) and females (5%) did not provide a socially desirable response.

Physical Health: The distribution of scores for male physical health was skewed towards more favourable states of health. A cluster of scores was located at the positive tail of the distribution representing greater freedom from physical limitations. This cluster accounted for near 45 percent of all scores.

Management of 'Non-Normal' Score Distributions: Measures that were significantly skewed were not transformed. This decision was formed for three reasons. The first reason was that multivariate statistics to be performed on the research data report findings on the basis of the *F*-statistic. The *F*-statistic is said to be robust to violations of normality provided that measures are unaffected by the presence of outliers (Thorne & Slane, 1997). It has been argued more recently that even large deviations from normality do not significantly alter the conclusions derived from the '*F*-statistic' (Tabachnick & Fidell, 2001). The present study assumed in light of these reports that the validity of statistical findings would not be compromised by the inclusion of non-normal distributions.

The second reason for non-transformation was that researchers have expressed reluctance in transforming scores of standardised measures (Tabachnick & Fidell, 2001). The meaning attached to the scores of measures in the study would have been distorted had they been transformed. This distortion would have hindered the interpretation of comparisons between groups of participants on the measures, particularly if different transformations were performed for males and females. The transformation of scores would have also compromised the interpretation of comparisons between the present sample and normative samples on the measures.

The third reason for non-transformation was that most measures in the present study are non-normal distributions in the general population (Stevenson, 1996; Ware

et al. 1994). These measures have not been transformed prior to statistical analysis in previous studies (McHorney et al. 1994; McHorney & Ware, 1995; Shadbolt 1996; Walker et al. 1996). It has further been observed that most measures, of health in particular, remain significantly skewed even after transformation (Stevenson, 1996).

COMPARISON OF PARTICIPANT GROUPS

There were six separate group comparisons of mean scores on the measures. The first comparison was between the present sample and normative samples. The remaining comparisons were between groups of participants, which are presented here as two sets of results: (1) demographic characteristics and (2) medical characteristics.

Comparison of Sample with Norms

A series of z-score tests were performed to determine the significance of mean score differences on the measures between the present sample and normative samples. A z-score test provides an indication as to whether the 'distance' a mean score deviates from a population is most likely to have occurred by chance (Heiman, 1992). The critical value (or 'cut-off score') used to locate significant differences in mean scores was equivalent to the significance level of .05 (critical value [z] = ± 1.64). Each z-score test was calculated separately for males and females. The results of the z-score tests including mean scores for the male and female samples (and normative samples where available) are presented in Table 11.

Table 11. Mean Score Differences Between the Present Sample and Normative Samples on the Measures for Males and Females.

	MALES				FEMALES			
	Sample	Normative			Sample	Normative		
Measures	**M**	**M**	**SD**	**Z**	**M**	**M**	**SD**	**Z**
SF-36 Summary								
• Physical Health	42.7	50.1	9.9	-4.4*	47.7	49.5	10.4	-1.0
• Mental Health	46.2	50.8	9.6	-5.2*	45.7	49.4	10.3	-3.9*
SIPI Patterns								
• Positive Construct.	46.5	48.5	9.1	-1.9*	46.4	50.2	9.6	-4.3*
• Guilt & Fear Failure	38.5	34.3	9.9	2.5*	35.6	33.1	10.1	2.7*
• Poor Attentional Con. †	44.4	46.9	9.8	-1.5	43.4	48.7	10.7	-5.4*

Sample: SF-36: male n = 34, female n = 116; SIPI: male n = 34; female n = 119.
Normative: SF-36: male n = 8856, Female n = 9612; SIPI: male n = 449; female n = 547.
† This measure is negative scored: higher scores represent lower attentional control.
* $p < .05$.

As can be seen in Table 11 mean scores recorded by the samples of males and females on the measures were significantly different from the norm. Specifically, the mental health of the male and female samples was below the norm in the general population. The physical health of males, but not females, was also below the norm. The samples of males and females reported fewer positive constructive daydreams, but more guilt and fear of failure daydreams than the norm for college students. The attentional control of females, but not males, was also 'better' then the norm.

Comparison of Male and Female Samples

A multivariate analysis of variance (MANOVA) was performed to determine if differences in mean scores on the measures between males and females were significant. There were eight dependent variables: severity of physical symptoms, physical health, mental health, frequency of daydreaming, positive constructive daydreaming, guilt and fear of failure daydreaming, poor attentional control, and quality of daydreaming. Sex (male or female) was entered as the independent variable. Age was included as a covariate as males were older in age than females. The identification of significant interactions was set at the significance level of .05.

Multivariate interaction effects were interpreted using Pillai's Trace criterion. There were no univariate outliers (using a case-wise plot of outliers outside $\pm$ 3.0 standard deviations) or multivariate outliers (using Mahalanobis Distance). Two-univariate homogeneity of variance tests (Cochrans C & Bartlett-Box F tests) were significant ($p < .05$) for severity of physical symptoms and physical health. A multivariate test of homogeneity (Box's M Test) was, however, not significant ($p > .05$). The number of cases in each cell was greater than the number of dependent variables. Within-cell scatter-plots indicated that the relationships between dependent variables were linear, and there were no serious indications of singularity or multicollinearity (using within-cell correlations & Log [Determinant]).

Age had a significant multivariate effect on the combined dependent variables, F (8, 131) = 4.4, $p < .001$. There were significant univariate effects for age on physical health, F (1, 138) = 12.8, $p < .001$, mental health, F (1, 138) = 4.0, $p < .05$, attentional control F (1, 138) = 11.3, $p = .05$, frequency of daydreaming, F (1, 138) = 15.6, $p < .001$, and guilt and fear of failure daydreaming, F (1, 138) = 4.7, $p < .05$.

There was no significant multivariate effect for sex on the combined measures of health and daydreaming, F (8, 131) = 1.1, $p > .05$, controlling for age. The results of univariate tests for each dependent variable are available in Appendix B.

The measure of social desirability was not entered in the MANOVA due to a low number of respondents (n = 83). Its inclusion would have led to a marked decline in the number of valid cases accepted in the analysis. Instead a one-way analysis of variance (ANOVA) was performed to determine if there was a significant sex difference in mean scores for social desirability. Sex (male or female) was entered as the independent variable, while social desirability was the dependent variable. Age was included as a covariate. The identification of significant interactions was set at the significance level of .05.

Age did not have a significant univariate effect on scores for social desirability, F (1, 82) = 4.1, $p > .05$. There was also no significant difference, F (1, 82) = 2.9, $p > .05$ in mean scores for social desirability between males (M = 3.8, SD = 1.7, n = 26) and females (M = 4.4, SD = 1.7, n = 57) controlling for age.

Comparison of Age Groups

A MANOVA was performed to determine if there were significant differences in mean scores on the measures between three age groups: (1) 18 to 34 years, (2) 35 to

54 years, and (3) 55 years or more. There were eight dependent variables: severity of physical symptoms, physical health, mental health, frequency of daydreaming, positive constructive daydreaming, guilt and fear of failure daydreaming, poor attentional control, and quality of daydreaming. Age was entered as the independent variable. The MANOVA was performed separately for males and females. The identification of significant interactions was set at the significance level of .05.

Multivariate interaction effects were interpreted using Pillai's Trace criterion. There were no univariate outliers (using a case-wise plot of outliers outside $\pm$ 3.0 standard deviations) or multivariate outliers (using Mahalanobis Distance). Two-univariate homogeneity of variance tests (Cochrans C & Bartlett-Box F tests) were significant ($p < .05$) for male scores on severity of physical symptoms. A multivariate test of homogeneity (Box's M Test) was, however, not significant ($p > .05$). The number of cases in each cell was greater than the number of dependent variables. Within-cell scatter-plots indicated that the relationships between dependent variables were linear and there were no serious indications of singularity or multicollinearity (using within-cell correlations & Log [Determinant]).

The multivariate effect of age on the combined dependent variables was significant for females, F (8, 99) = 2.32, $p < .01$, but not males, F (8, 24) = 1.17, $p > .05$. Age of females had a significant univariate effect on scores for physical health, F (2, 105) = 9.12, $p < .001$. The results for females of Scheffe Post-Hoc Tests used to locate significant differences are presented in Table 12.

Table 12. Post-Hoc Testing for Significant Age Differences on Measures of Physical Health and Mental Health for Females (n = 108).

Dependent Variables †	**Age (Years)**	**M**	**SD**	***F***	**P**
Physical Health	• 18 to 34	51.7	8.3	9.12	.00
	• 35 to 54	45.6*	9.5		
	• 55 & more	41.2*	8.7		
Mental Health	• 18 to 34	42.6	11.6	2.62	.07
	• 35 to 54	47.9	11.4		
	• 55 & more	47.1	13.4		

* Mean scores for these two age groups were significantly below 18 to 34 years.
† Higher scores indicate more favourable states of health.

There was a linear decline in female physical health with increasing age (Table 12). The physical health of females aged over 35 years was significantly below that of younger females aged 18 to 34 years. There was also a trend for younger females (18 to 34 years) to report lower mental health. They recorded a mean score for mental health that was much lower than that of females aged over 35 years. The results of all univariate tests with descriptive statistics for males and females are in Appendix B.

A subsequent independent t-test was performed for females with two age groups as the independent variable: 18 to 34 years and 35 years and older. Mental health was the dependent variable. The mental health of younger females aged 18 to 34 years ($\underline{M}$ = 42.12, $\underline{SD}$ = 11.55) was significantly, $\underline{t}$ (114) = -2.9, $p < .05$, below that of females aged above 34 years ($\underline{M}$ = 48.46, $\underline{SD}$ = 11.56).

An ANOVA was performed to determine if there were significant differences in mean scores between the three age groups on the measure of social desirability. Age was entered as the independent variable. Social desirability was the dependent variable. The ANOVA was performed separately for males and females. The identification of a significant interaction was set at the significance level of .05.

Age did not have a significant univariate effect on social desirability for males, F (2, 23) = .8, $\underline{p} > .05$, or females, F (2, 54) = .8, $\underline{p} > .05$. The results of the ANOVA with descriptive statistics for males and females are available in Appendix B.

Comparison of Socio-Economic Groups

A MANOVA was performed to determine if there were significant differences in mean scores on the measures between participants low and high in socio-economic status. Scores for socio-economic status were condensed into these two groups via median split (median = 3, score range = 1 to 7). There were eight dependent variables: severity of physical symptoms, physical health, mental health, frequency of daydreaming, positive constructive daydreaming, guilt and fear of failure daydreaming, poor attentional control, and quality of daydreaming. Socio-economic status (low or high) was entered as the independent variable. The MANOVA was performed separately for males and females. Age was included as a covariate. The identification of significant interactions was set at the significance level of .05.

Multivariate interaction effects were interpreted using Pillai's Trace criterion. There were no univariate outliers (using a case-wise plot of outliers outside $\pm$ 3.0 standard deviations) or multivariate outliers (using Mahalanobis Distance). Two-univariate homogeneity of variance tests (Cochrans C & Bartlett-Box F tests) were

significant ($p < .05$) for severity of physical symptoms and physical health. A multivariate test of homogeneity (Box's M Test) was, however, not significant ($p > .05$). The number of cases in each cell was greater than the number of dependent variables. Within-cell scatter-plots indicated that the relationships between dependent variables were linear, and there were no serious indications of singularity or multicollinearity (using within-cell correlations & Log [Determinant]).

Age had a significant multivariate effect on the combined dependent variables for males, F (8, 16) = .63, $p < .05$, and females, F (8, 82) = .24, $p < .01$. There were significant univariate effects for male age on attentional control, F (1, 23) = 19.2, $p < .001$, frequency of daydreaming, F (1, 23) = 12.1, $p < .01$, and quality of daydreaming, F (1, 23) = 4.9, $p < .05$. There were significant univariate effects for female age on physical health, F (1, 89) = 13.1, $p < .001$, attentional control, F (1, 89) = 4.5, $p < .05$, and frequency of daydreaming, F (1, 89) = 5.3, $p < .05$.

The multivariate effect of socio-economic status on the combined dependent variables was not significant for males, F (8, 16) = .37, $p > .05$, or females, F (8, 82) = .06, $p > .05$, controlling for age. The results of univariate tests for each dependent variable for males and females are available in Appendix B.

Comparison of Low and High Attenders

A MANOVA was performed to determine if differences in mean scores between low and high attenders on the measures of health were significant. The three measures of health were entered as dependent variables: severity of physical symptoms, physical health, and mental health. The independent variable was general practice utilisation (low or high). The MANOVA was performed separately for males and females. Age was included as a covariate. The identification of significant interactions was set at the significance level of .05.

Multivariate interaction effects were interpreted using Pillai's Trace criterion. There were no univariate outliers (using a case-wise plot of outliers outside $\pm$ 3.0 standard deviations) or multivariate outliers (using Mahalanobis Distance). Two-univariate homogeneity of variance tests (Cochrans C & Bartlett-Box F tests) were significant ($p < .05$) for male scores on severity of physical symptoms. However, a multivariate test of homogeneity (Box's M Test) was not significant ($p > .05$). The number of cases in each cell was greater than the number of dependent variables. Within-cell scatter-plots included that interactions between dependent variables were

linear and there were no serious indications of singularity or multicollinearity (using within-cell correlations & Log [Determinant]).

Age had a significant multivariate effect on the combined dependent variables for females, F (3, 108) = 4.4, $p < .001$, but not males, F (3, 28) = .7, $p > .05$. There were significant univariate effects for female age on physical health, F (1, 112) = 13.6, $p < .001$, and mental health, F (1, 112) = 7.3, $p < .01$, but not severity of physical symptoms, F (1, 112) = .2, $p > .05$.

The multivariate effect of general practice utilisation on measures of health was significant for males, F (3, 28) = 2.8, $p = .05$, and females, F (3, 108) = 5.9, $p = .001$, controlling for age. The results of univariate tests including descriptive statistics for males and females for each measure of health are presented in Table 13.

Table 13. Testing for Differences Between Low and High Attenders on Measures of Health for Males (n = 20) and Females (n = 113).

	General Practice Utilisation †					
	Low		**High**			
Health Status	**M**	**SD**	**M**	**SD**	***F***	**p**
Physical Health ‡						
• Male	49.3	8.6	39.4	13.2	5.44	.03
• Female	50.4	8.2	43.4	9.8	11.26	.00
Mental Health						
• Male	50.0	9.6	44.3	12.8	1.95	.17
• Female	46.2	11.6	44.8	12.5	1.52	.22
Severity of Symptoms						
• Male	1.5	.5	1.7	.4	1.96	.17
• Female	1.5	.3	1.5	.3	.26	.61

† Male n: high n = 20, low n = 13. Female n: high n = 43, low n = 70.
‡ Higher scores indicate more favourable states of physical health.

As can be seen in Table 13 high attending males and females were significantly lower in physical health than were low attenders. There were no further significant differences between the two attendance groups in health status.

Comparison of Social Desirability Groups

A MANOVA was performed to determine if there were significant differences in mean scores on the measures between participants low and high in social desirability. Scores for social desirability were condensed into these two groups via median split (median = 4, score range = 0 to 6). There were eight dependent variables: severity of physical symptoms, physical health, mental health, frequency of daydreaming, positive-constructive daydreaming, guilt and fear-of-failure daydreaming, poor attentional control, and quality of daydreaming. Social desirability (low or high) was entered as the independent variable. The MANOVA was performed separately for males and females. Age was included as a covariate. The identification of significant interactions was set at the significance level of .05.

Multivariate interaction effects were interpreted using Pillai's Trace criterion. There were no univariate outliers (using a case-wise plot of outliers outside $\pm$ 3.0 standard deviations) or multivariate outliers (using Mahalanobis Distance). Two-univariate homogeneity of variance tests (Cochrans C & Bartlett-Box F tests) were significant ($\underline{p} < .05$) for male scores on severity of physical symptoms. However, a multivariate test of homogeneity (Box's M Test) was not significant ($\underline{p} > .05$). The number of cases in each cell was greater than the number of dependent variables. Within-cell scatter-plots included that interactions between dependent variables were linear and there were no serious indications of singularity or multicollinearity (using within-cell correlations & Log [Determinant]).

Age did not have a significant multivariate effect on the combined dependent variables for males, F (8, 21) = .8, $\underline{p} > .05$, or females, F (8, 44) = 1.6, $\underline{p} > .05$. There was a significant multivariate effect for social desirability on the measures for females, F (8, 44) = 2.5, $\underline{p} < .05$, but not males F (8, 21) = .6, $\underline{p} > .05$. The results of female univariate tests for each dependent variable are presented in Table 14. The equivalent univariate tests for males are available in Appendix B.

Table 14. Testing for Significant Differences on the Measures Between Females Low and High in Social Desirability (n = 48).

	Groups of Social Desirability					
	Low		High			
Dependent Variables	**M**	**SD**	**M**	**SD**	***F***	**p**
• Physical Health †	48.3	9.6	41.6	10.1	5.25	.03
• Mental Health	45.7	12.4	49.5	11.4	1.17	.29
• Severity of Physical Symptoms	1.5	.3	1.5	.3	.52	.48
• Positive Constructive	46.9	9.7	45.0	9.4	.45	.51
• Guilt & Fear of Failure	36.9	7.8	31.8	10.0	3.47	.07
• Poor Attentional Control ‡	43.8	8.2	38.0	8.6	5.53	.02
• Quality of Daydreaming	1.2	.3	1.3	.3	1.98	.17
• Frequency of Daydreaming	3.4	1.6	2.4	1.4	4.85	.03

† Higher scores indicate more favourable states of physical health.
‡ This measure is negative scored: higher scores represent lower attentional control.

The results in Table 14 show that females high in social desirability reported significantly lower physical health than did females low in social desirability. They also reported significantly 'better' attentional control and less frequent daydreaming than did females low in social desirability. There was also a trend for females high in social desirability to report less guilt and fear of failure daydreaming.

Summary of Comparisons

The vast majority of participants (98%) provided at least one physical condition as the reason for seeing a general practitioner. Almost half of these participants (45%) reported two or more physical conditions. More than half of all participants (52%) were 'high attenders': they had seen a general practitioner at least once each month over a 12-month period. However, their self-reported severity of physical symptoms was not dissimilar to that of low attenders. Most participants (93%) reported symptoms of minor severity. No participant reported symptoms with 'a great deal of severity'. There was no difference between males and females in symptom severity.

There was also no sex difference in physical health. Even so, only the physical health of males was below the norm in the general population. Male and female high attenders recorded the lowest physical health (in comparison to low attenders). The physical health of females aged over 35 years was below that of younger females aged 18 to 34 years. Most (70%) younger females (18 to 34 years) were low attenders,

while most (81%) older females (55 years or more) were high attenders. Females high in social desirability also reported lower physical health (but not lower mental health).

There was no difference between males and females in mental health. The mental health of both samples was below the norm in the general population. Even so, only a minority of participants (3%) nominated mental disorders as the reason for seeing a general practitioner. The mental health of male and female high attenders was also not dissimilar to that of low attenders. However, the mental health of females aged over 35 years was higher than that of younger females 18 to 34 years of age.

The health of participants was not related to financial (and social) background. However, individual indicators of socio-economic status were associated with how often participants saw general practitioners. Most participants (85%) earning high incomes were low attenders. Most high attenders (60%) were low-income earners. Males with no more than primary education also saw general practitioners the most often (74%), whereas most males with secondary schooling were low attenders (75%).

There were no differences between males and females in frequency or patterns of daydreaming. Most males (70%) and females (55%) reported a low frequency of daydreaming. They also reported fewer positive constructive daydreams than the norm (comprising college students), but more guilt and fear of failure daydreams. The attentional control of females was also 'better' than the norm. Females high in social desirability also reported better attentional control and less frequent daydreaming.

RELATIONSHIPS BETWEEN MEASURES: HEALTH AND DAYDREAMING

The relationships between health and daydreaming were assessed for statistical significance using a correlation matrix. This matrix comprised three sets of correlations: (1) relationships between the three measures of health status: severity of physical symptoms, physical health, and mental health, (2) relationships between the five measures of daydreaming: frequency of daydreaming, positive constructive daydreaming, guilt and fear of failure daydreaming, poor attentional control, and quality of daydreaming, and (3) relationships between the eight measures of health and daydreaming. This correlation matrix comprised two forms of correlation coefficient: Pearson Coefficient and Spearman Rho Coefficient. A Pearson Coefficient is the correlation equivalent of a parametric test. It was calculated where the two measures entered in the correlation each had a normal distribution. A Spearman Coefficient is the non-parametric alternative to Pearson Coefficient. It was calculated where either of the measures entered in the correlation had a significant non-normal distribution. A separate matrix of these correlations was also performed controlling for the effect of age. The correlation matrices were computed separately for males and females. The identification of significant correlations was set at the significance level of .05.

Health Status

More severe symptoms were significantly associated with lower physical health for males, r (33) = -.41, $p < .01$, and females, r (113) = -.34, $p < .001$. More severe symptoms were also significantly associated with lower male, r (33) = -.45, $p < .001$, and female, r (113) = -.44, $p < .001$, mental health. There was no significant association between the physical and mental health measures of the SF-36 for males, r (34) = .04, $p > .05$, or females, r (116) = -.16, $p > .05$. The pattern of significant relationships between measures of health did not alter after controlling for the effect of age. The matrix of correlations between measures of health controlling for age is available in Appendix B.

Daydreaming

The significance of relationships between the five measures of daydreaming is presented in Table 15.

Table 15. Relationships Between Measures of Daydreaming for Males and Females.

	Guilt & Fear of Failure		Poor Attention		Quality of Daydreaming		Frequency of Daydreaming	
	r	(n)	*r*	(n)	*r*	(n)	*r*	(n)
Positive Constructive								
• Male	.16	(34)	-.24	(34)	.77**	(34)	.17	(34)
• Female	.01	(117)	.16	(117)	.67**	(117)	.38**	(116)
Guilt & Fear of Failure								
• Male			.45**	(34)	-.44**	(34)	.22	(34)
• Female			.34**	(119)	-.58**	(117)	.20**	(118)
Poor Attentional Control								
• Male					-.70**	(34)	.43*	(34)
• Female					-.46**	(117)	.34**	(118)
Quality of Daydreaming								
• Male							-.10	(34)
• Female							.06	(116)

* $p < .05$ (2-tailed)
** $p < .01$ (2-tailed)

As can be seen in Table 15 more frequent male and female daydreaming was significantly associated with lower attentional control. More frequent female daydreaming was also significantly associated with more positive constructive daydreaming and more guilt and fear of failure daydreaming. Lower male and female attentional control was significantly associated with more guilt and fear of failure daydreaming. Neither of these two patterns of daydreaming was significantly associated with positive constructive daydreaming. The pattern of significant relationships between measures of daydreaming did not alter after controlling for age. The matrix of correlations between daydream measures controlling for age is available in Appendix B.

Health and Daydreaming

The significance of relationships between the measures of health and daydreaming are presented in Table 16.

Table 16. Relationships Between Health and Daydreaming for Males and Females.

Measures of Daydreaming	Physical Health		Mental Health		Severity of Symptoms	
	r	(n)	*r*	(n)	*r*	(n)
Positive Constructive						
• Male	.07	(33)	-.08	(33)	.07	(34)
• Female	.06	(111)	-.08	(111)	.05	(115)
Guilt & Fear of Failure						
• Male	-.05	(33)	-.51**	(33)	.30*	(34)
• Female	-.00	(113)	-.26**	(113)	.13	(116)
Poor Attentional Control						
• Male	.08	(33)	-.47**	(33)	.31*	(34)
• Female	.01	(113)	-.23**	(113)	.06	(116)
Quality of Daydreaming						
• Male	.01	(33)	.32*	(33)	-.27	(34)
• Female	.04	(111)	.17*	(111)	-.05	(115)
Frequency of Daydream						
• Male	.15	(34)	-.15	(34)	.23	(34)
• Female	.17	(114)	-.18*	(114)	.05	(118)

* $p < .05$ (2-tailed)
** $p < .01$ (2-tailed)

As shown in Table 16, physical health was not significantly associated with frequency or patterns of daydreaming for males or females. More frequent female daydreaming was significantly associated with lower mental health. Lower male and female mental health was significantly associated with lower attentional control, more guilt and fear of failure daydreaming, and poorer quality daydreaming. For males, lower attentional control and more guilt and fear of failure daydreaming were also significantly associated with more severe symptoms. No measure of health status was significantly associated with positive constructive daydreaming for males or females. A series of scatter-plots indicated that positive constructive daydreaming was relatively constant across scores for each health measure, particularly mental health.

When age was controlled male, r (30) = .30, $p > .05$, and female, r (117) = .15, $p > .05$, mental health was no longer significantly associated with quality of daydreaming. Female mental health was also no longer significantly associated with frequency of daydreaming, r (117) = .15, $p > .05$. For males, poor attentional control was not significantly associated with severity of symptoms, r (31) = .19, $p > .05$. The matrix of correlations between measures of health and daydreaming controlling for age is available in Appendix B.

Summary of Relationships

The physical health of males and females was not associated with frequency or patterns of daydreaming. Lower male and female mental health was associated with two interrelated patterns of daydreaming: lower attentional control and more guilt and fear of failure daydreaming For males, more severe symptoms, which were associated with lower mental health, were also associated with each of these two patterns of daydreaming. The mental health of males and females was not associated with frequency of daydreaming (controlling for age) or positive constructive daydreaming.

Implications of Preliminary Analyses

There were no sex differences in mean scores on the measures of health and daydreaming. There were, however, important sex differences in relationships between measures. These differences suggest that separate multivariate models might apply to males and females in the prediction of health status. There was also evidence to suggest that age might be important to the prediction of female health status: older age was associated with lower physical health and higher mental health. Females high in social desirability also reported lower physical health, indicating that a separate prediction of female physical health also be performed with the inclusion of social desirability as a potential predictor. The findings of preliminary analyses suggest that two patterns of daydreaming might be important to predicting lower male and female mental health: lower attentional control and more guilt and fear of failure daydreams. However, positive constructive daydreams might not be important to this prediction.

MULTIVARIATE ANALYSIS OF RELATIONSHIPS: HEALTH AND DAYDREAMING

A series of multiple regressions were performed to determine if the health of participants could be predicted by daydreaming. The direction of these regressions is consistent with recent research focussing on the impact of mental life on the health of patients in general practice (Ben-Zur et al. 2000; Furnham, 2001; Schou et al. 2004). The regressions were performed using forward stepwise. This procedure enters one predictor in the regression at a time, thereby ensuring that the regression comprises the smallest number of predictors (Tabachnick & Fidell, 2001). This meant that the regressions identified the most important predictors of health by excluding measures of daydreaming not providing additional prediction to those already in the regression.

A regression was performed for each measure of health as the dependent variable: severity of symptoms, physical health, and mental health. The five measures of daydreaming were entered as independent variables: frequency of daydreaming, positive constructive daydreaming, guilt and fear of failure daydreaming, poor attentional control, and quality of daydreaming. Four demographic characteristics were included as covariates: age, socio-economic status, marital status, and children. Demographic characteristics comprising multiple responses were recoded as dummy variables. Preliminary analysis of the research data had suggested that different regression models might apply to males and females. The regressions were, therefore, performed separately for each sex. The inclusion of independent variables in each regression was set at the significance level of .05.

The results of each regression are presented in two sets. The first set describes significant relationships between measures in the regression. These relationships can have a substantial impact on the final model, particularly if more than one independent variable has correlation coefficients with the dependent variable that are of a similar magnitude. Because little variance separates these independent variables if one enters the regression it is highly unlikely that other variable will also enter. Hence, despite not being in the final model, the effect of this latter variable in the prediction is not inconsequential. The second set of results presents the final regression model. It describes the direction of significant predictions including the contribution each predictor has to the variance in health scores.

There were no univariate outliers (using a case-wise plot of outliers outside ± 3.0 standard deviations) or multivariate outliers (using Mahalanobis Distance) among the measures entered in each regression. The number of cases to number of independent variables was above the recommended ratio of 5:1 (Hair et. al., 1995; Tabachnick & Fidell, 1996) for females (ratio = 10:1), but was marginally lower for males (ratio = 3:1). Within-cell scatter-plots (residual values against predicted values) included that interactions between dependent variables were linear and there were no serious indications of collinearity (using collinearity diagnostics). The results of each regression (correlations between variables) are available in Appendix B.

Regression Findings for Males

Severity of Physical Symptoms: More severe symptoms were significantly associated with more guilt and fear of failure daydreaming, r (33) = .41, p = .01, and lower attentional control, r (33) = .40, p = .01. Demographic characteristics were not significantly associated with severity of physical symptoms ($p > .05$). Guilt and fear of failure daydreaming entered the regression first as it had the highest correlation coefficient (r) with physical symptoms. More guilt and fear of failure daydreaming significantly predicted more severe physical symptoms, F (1, 31) = 5.95, $p < .05$, accounting for 16 percent of the variance in symptom scores. Once guilt and fear of failure daydreaming had entered the regression, the independent contribution of poor attentional control was no longer significant. The regression confirmed the significant association between lower attentional control and more guilt and fear of failure daydreaming, r (33) = .47, $p < .01$.

Physical Health: The physical health of males was not significantly associated with daydreaming ($p > .05$). Lower physical health was, nevertheless, significantly associated with lower socio-economic status, r (32) = .41, $p < .01$. When entered into the regression, lower socio-economic status was a significant predictor of lower physical health, F (1, 31) = 6.17, $p < .05$, accounting for 17 percent of the total variance. There were no further significant predictors of physical health.

Mental Health: Lower mental health of males was significantly associated with more guilt and fear of failure daydreams, r (32) = -.54, $p \leq .001$, and lower attentional control, r (32) = -.45, $p < .01$. Demographic characteristics were not significantly associated with male mental health ($p > .05$). Guilt and fear of failure daydreaming

entered the regression first as it had the highest correlation coefficient (*r*) with mental health. More guilt and fear of failure daydreaming significantly predicted lower male mental health, F (1, 31) = 12.09, $p < .001$, accounting for 29 percent of the variance in mental health scores. Once guilt and fear of failure daydreaming had entered the regression the independent contribution of poor attentional control was no longer significant. More guilt and fear of failure daydreaming was again significantly associated with lower attentional control, r (32) = .47, $p < .01$.

Summary for Males

Lower physical health (as measured by the SF-36) was not associated with frequency or patterns of daydreaming, but was predicted by lower socio-economic status. More severe physical symptoms (as measured by the SPSC) and lower mental health were each predicted by more guilt and fear of failure daydreaming, but not by demographic characteristics. Lower attentional control was also associated with more severe symptoms and lower mental health, however it was not a predictor of either. It is likely that attentional control did not predict symptom severity or mental health as much of the variance in these relationships was explained by guilt and fear of failure daydreaming. Hence, despite not being a direct predictor, attentional control remains important to the prediction of these two interrelated measures of health status. These measures of health status were not associated with positive constructive daydreaming.

Regression Findings for Females

Severity of Physical Symptoms: Severity of physical symptoms was not significantly associated with measures of daydreaming or demographic characteristics ($p > .05$). There were, therefore, no significant predictors of symptom severity.

Physical Health: Female physical health was not significantly associated with daydreaming ($p > .05$). Lower physical health was, nevertheless, significantly associated with older age, r (106) = -.42, $p < .001$, having children, r (106) = .26, $p < .001$, and lower socio-economic status r (106)= .22, $p \leq .01$. Age entered the regression first as it had the highest correlation coefficient (*r*) with physical health. Older age significantly predicted lower female physical health, F (1, 31) = 12.09, $p < .001$, accounting for 15 percent of the variance in physical health scores. Once age had entered the regression the independent contributions of the remaining demographic characteristics were no longer significant. The regression identified that

older age was significantly associated with having children, r (106) = .56, $p < .001$, and lower socio-economic status, r (106) = -.42, $p = .001$.

A second regression was performed with the inclusion of social desirability as an independent variable. Preliminary analysis of the data had suggested that females high in social desirability reported significantly lower physical health. The regression further confirmed this relationship: high social desirability was significantly associated with lower physical health, r (52) = -.29, $p < .05$. High social desirability was, in addition to older age, a significant predictor of lower physical health, F (2, 49) = 7.20, $p < .01$, accounting for eight percent of the variance in physical health scores.

Mental Health: Lower mental health of females was significantly associated with more guilt and fear of failure daydreaming, r (106) = -.32, $p < .001$, poorer attentional control, r (106) = -.28, $p \leq .01$, and poorer quality of daydreaming, r (106) = .19, $p < .05$. Older age was also significantly associated with higher mental health, r (106) = .18, $p < .05$. Guilt and fear of failure daydreaming entered the regression first as it had the highest correlation coefficient (r) with mental health. More guilt and fear of failure daydreaming significantly predicted lower female mental health, F (1, 104) = 11.43, $p = .001$, accounting for nine percent of the variance in mental health scores. Poorer attentional control, which was significantly associated with more guilt and fear of failure daydreaming, r (106) = .40, $p < .001$, also entered as a significant predictor of lower mental health, F (2, 103) = 7.58, $p = .001$, accounting for four percent of the variance. The two patterns of daydreaming accounted for 13 percent of the variance in mental health scores when combined.

Quality of daydreaming, scored in part by combining scores for guilt and fear of failure daydreaming and poor attentional control, was not a significant predictor of the mental health of females. Older age, which was significantly associated with better attentional control, r (106) = -.23, $p < .01$, and less guilt and fear of failure daydreams, r (106) = -.17, $p < .05$, was also not a significant predictor of female mental health.

Summary for Females

Lower physical health (as measured by the SF-36) was not associated with frequency or patterns of daydreaming, but was predicted by older age. Older age was also associated with higher mental health, although the prediction was not significant. Lower mental health was predicted by lower attentional control and more guilt and fear of failure daydreaming, but not by demographic characteristics. It is most likely

that age did not predict the mental health of females as much of the variance in this relationship was explained by the inclusion of the two patterns of daydreaming in the regression. Hence, despite not being a direct predictor, age remains important to the prediction of female mental health. The mental health of females was not associated with positive constructive daydreaming. Severity of physical symptoms (as measured by the SPSC) was not associated with daydreaming or demographic characteristics.

Summary of Multivariate Findings

The physical health of males and females (as measured by the SF-36) was not associated with daydreaming, but was predicted by demographic characteristics. Lower male and female physical health was predicted by lower socioeconomic status and older age, respectively. Lower physical health of females was also predicted by high social desirability. However, severity of physical symptoms (as measured by the SPSC) was not associated with demographic characteristics (or social desirability) for males or females. More severe symptoms were predicted by more guilt and fear of failure daydreaming and associated with lower attentional control for males.

Daydreaming, but not demographic characteristics, predicted the mental health of males and females. Lower male and female mental health was predicted by more guilt and fear of failure daydreaming. Lower attentional control, which was associated with more guilt and fear of failure daydreams, was also associated with lower mental health with the prediction significant for females. Older age was also associated with lower mental health of females, but it was not a significant predictor. The mental health of males and females was not associated with positive constructive daydreams.

Implications of Multivariate Findings

The present study found that most patients reported less frequent daydreaming in that they daydreamed ‘no more than once’ in the previous week, which is consistent with reports (Kreitler et al. 1990; Taylor, 2000) that medical patients have a reduced capacity for imaginal activities, marked by a reduction in frequency of daydreaming. Most patients also reported an imbalance in the experience of affective daydreams. They had a reduced capacity to experience positive daydreams, but at the same time had more negative daydreams (than the norm). Affective patterns of daydreaming, and not frequency of daydreaming, were associated with the mental health of males and females. Specifically, more negative daydreams were associated with poorer mental

health, as was lower attentional control. However, more positive daydreams did not improve, nor diminish, the mental health of males and females. There was also no evidence that daydreaming was associated with male or female physical health.

The present findings are consistent with much previous research (for example, Greenwald & Harder, 1995; 1997; Starker & Singer, 1975a; b) that has highlighted the importance of both uncontrolled thought and negative daydreams to the onset and maintenance of affective disorders. For example, Baskin and Goldstein (1986) reported that a lower capacity to maintain mental control corresponded with more negative daydreams (and vice versa), both of which had adverse effects on the mental health of depressed psychiatric patients. It is plausible, based on Klinger's (1990; 1993) theory of current concerns, that patients with ill health have concerns that are likely to reinforce and arouse negative emotions. These concerns tend to be reflected in their negative daydreams. That is, patients who are sick have more negative daydreams about being sick. It is likely that a reciprocal relationship exists for those with ill health: concerns about being ill reinforce (and arouse) negative emotions that are expressed through negative daydreams. These negative daydreams further reinforce negative emotions and also contribute to greater reductions in mental health. The preoccupation with health-related concerns also means that patients are unable to concentrate on external tasks for prolonged periods of time without the need to refocus attention towards these concerns (hence, their low attentional control). It remains unknown if much more mental control is required to suppress the negative daydreams of individuals with poor mental health.

The present finding that more positive daydreams were not related to the mental health of patients is inconsistent with some earlier studies (Baskin & Goldstein, 1986; Starker & Singer, 1975a; b), but not more recent studies (Greenwald & Harder, 1995; 1997; Zhiyan & Singer, 1997). This recent research was, however, unable to explain why more positive daydreams did not improve mental health. It is possible that patients were unable to generate a sufficient number of positive daydreams: the samples of males and females in the present study reported fewer positive daydreams than college students. Alternatively, there are reports that greater numbers of positive fantasies might actually contribute to poorer health (for example, Felton & Revenson, 1984; Oettingen et al. 2002), especially for patients with chronic physical disease.

The present findings also appear, on 'face-value', to resemble those of the most recent research on life orientation (for example, Bryant & Cvengros, 2004; Schou et

al. 2004). Furnham (2001) found that greater pessimism, and not lower optimism, predicted poorer mental health in medical patients. Schou et al. (2004) found that female patients 'high' in pessimism were four times more likely to have reported affective symptoms following breast cancer surgery. Similarly, Bromberger and Matthews (1996) found symptoms of depression more prevalent among 'overly' pessimistic individuals whereas more optimism did not abate the experience of symptoms. Taylor and Brown (1989) found (not unlike the present findings) that it was not the frequency of thoughts that determined mental health, but rather the affective orientation of these thoughts (optimism versus pessimism). The present findings also indicate that lower attentional control might be an unappreciated (and related) feature of pessimism, but this yet to be confirmed. The second study was designed to expand upon the findings of the first study. It investigated whether life orientation and daydreaming was associated with each other, and with mental health.

CHAPTER FIVE:

METHODOLOGY OF THE SECOND STUDY

All men dream, but not equally. Those who dream by night in the dusty recesses of their minds wake in the morning to find that it was their vanity; but the dreamers of the day are dangerous men, for they may act their dream with open eyes, to make it possible.

(T.E. Lawrence, 1888-1935)

Introduction

The previous chapter contained the results of the first study. It also outlined the research questions to be answered by this second study. The research hypotheses generated from the findings of the first study were also presented. The present chapter details how the research data were collected to test these hypotheses. It presents the demographic characteristics (including medical background) of the samples of males and females. This chapter also describes general practices that provided permission for patients to be approached for the study. It outlines the criteria employed to select eligible patients. It describes how these patients were invited to participate, as well as the self-report measures completed by participants. The chapter concludes by outlining how the research data set was prepared for statistical analyses.

PROFILE OF GENERAL PRACTICES

The five general practices that participated in the first study were invited again in writing to participate in this second study. The managers of three practices (38%) declined this invitation with lack of time given as the main reason for refusal. Two managers (25%) provided written permission for patients to be recruited from waiting rooms prior to their consultation with a general practitioner. A further three managers (38%) agreed to participate after being approached in person by the researcher.

The five participating practices were in East Keilor, Maribyrnong, and Melton. Four of these (80%) were ‘small group’ practices with no more than four general practitioners on duty at the same time. These practices were providers of family medicine with an interest in holistic medicine. Each practice offered at least one of the following specialised medical services: injury rehabilitation, weight management programs, therapeutic massage, and counselling services. A ‘solo’ general practitioner practising family medicine operated the remaining practice (20%).

PARTICIPANTS

Criteria for Participation

A sample of patients was recruited independent to that of the first study. They were invited to participate in the study while awaiting consultation with a general practitioner. To be eligible for participation participants had to be at least 18 years of age. They also had to be capable of completing a questionnaire written in English. This included being willing to complete a written statement of informed consent while at the general practice. It was stipulated that only patients with a medical condition were eligible for the study. There was, however, no restriction on the reason provided by patients for seeing a general practitioner. There was also no restriction on the severity of symptoms, or their duration. Patients attending for indirect consultations (that is, patients with no self-reported medical condition) were not included in the study. Most of these patients attended for preventative assessments of physiological functioning, namely screening for abnormal pathology. A minority of indirect consultations were for the monitoring of prescription medication.

DEMOGRAPHIC CHARACTERISTICS

The sample comprised 164 general practice patients. There were 114 females (69.5%) and 50 males (30.5%). Almost all participants (98%) resided to the west of Melbourne. They ranged in age from 18 to 88 years with a mean age of 46.3 years (SD = 16.3). The demographic characteristics of participants are presented in Table 17.

Table 17. Selected Demographic Characteristics of Participants

Demographic Characteristics *	Total	Male	Female	x^2	p
	% (n)	% (n)	% (n)		
Participants (sex) [1]	100 (164)	30.5 (50)	69.5 (114)	24.98	.00
Age Groups					
• 18 to 34 years	25.8 (42)	24.0 (12)	26.5 (30)	.92	.63
• 35 to 54 years	47.2 (77)	44.0 (22)	48.7 (55)		
• 55 and more	27.0 (44)	32.0 (16)	24.8 (28)		
Marital Status				.43	.81
• Single	17.5 (28)	20.0 (10)	16.4 (18)		
• Married/De-facto	68.8 (110)	68.0 (34)	69.1 (76)		
• Separated/Divorced/Widowed	13.8 (22)	12.0 (6)	14.5 (16)		
Children				.25	.62
• No children	24.5 (38)	27.1 (13)	23.4 (25)		
• One or more children	75.5 (117)	72.9 (35)	76.6 (82)		
Education				1.18	.88
• Primary	3.1 (5)	4.1 (2)	2.7 (3)		
• Secondary	61.0 (97)	59.2 (29)	61.8 (68)		
• TAFE qualification	14.5 (23)	16.3 (8)	13.6 (15)		
• Some tertiary	6.3 (10)	8.2 (4)	5.5 (6)		
• Tertiary/Post-graduate	15.1 (24)	12.2 (6)	16.4 (18)		
Income				2.74	.25
• Low: Up to $14 999	36.9 (48)	34.1 (15)	38.4 (33)		
• Medium: $15 000 to $34 999	37.7 (49)	31.8 (14)	40.7 (35)		
• High: $35 000 and above	25.4 (33)	34.1 (15)	20.9 (18)		
Employment				.24	.89
• In paid employment	52.9 (81)	54.2 (26)	52.4 (55)		
• Not in paid employment	41.8 (64)	39.6 (19)	42.9 (45)		
• Student	5.2 (8)	6.3 (3)	4.8 (5)		
Country of Birth				3.92	.06
• Australia	73.2 (109)	62.2 (28)	77.9 (81)		
• Other	26.8 (40)	37.8 (17)	22.1 (23)		

[1] Chi-Square Test of Goodness of Fit

* The results of the chi-square tests are presented with some caution due to the possibility of family-wise error. This error refers to the increased probability, often due to performing multiple comparisons, of making one or more type I errors (that is, reporting that significant differences between two or more groups exist when, in fact, they do not; Hair et. al., 1995).

As shown in Table 17, the majority of participants were 54 years of age or younger (73%) with almost half of all participants (47%) aged between 35 and 54 years. Most were married or in de-facto relationships (69%) and had children (76%). The majority of participants had completed primary level education and had completed, or at least attempted, secondary schooling (64%). Most participants were in paid employment (53%), with the vast majority (75%) receiving an annual income of $34, 999 or less. Males were most commonly employed in unskilled manual labour (31%) as cleaners, manufacturing workers, construction labourers, or as tradesman (31%). Females were most commonly employed in the retail sector (27%) as sales assistants or checkout operators, or in the clerical field (26%) as secretaries, personal assistants, and paper clerks. Most participants not in the paid workforce were receiving pension payments such as disability welfare or social security benefits due to long-term unemployment, or were undertaking home duties.

Almost a third of participants were born outside of Australia, with most of these from countries where the dominant language is not English. The majority of overseas born (90%) were from the United Kingdom (including Ireland; 40%), Europe (40%) and South East Asia (10%). Participants born overseas had been living in Australia for between two and 50 years with a mean of 29 years (SD = 14.2, n = 39).

Sex Differences in Demographic Characteristics

A series of chi-square tests for categorical variables was performed to determine the significance of sex differences in frequencies across the response categories of each demographic characteristic. The lowest expected frequency in each cell for each chi-square test was greater than five cases. An unequal distribution of frequencies was assumed if the computed significance level was less than .05. A summary of results for each chi-square test with separate observed category percentages for males and females is presented in Table 17.

There were significantly more females than males in the study (Table 17). There were, however, no significant sex differences in demographic characteristics. There was a noteworthy discrepancy in response categories for country of birth that approached statistical significance ($p = .06$). Females were more likely to have been born in Australia whereas males were more likely to have been born overseas.

MEDICAL CHARACTERISTICS

Most participants (75%) provided reasons for their consultation with a general practitioner. Half of these participants reported more than one medical condition. About 20 percent of participants reported at least three medical conditions as the reasons for seeing a general practitioner.

All participants reported how often they had seen a general practitioner in the previous one-year period. Consistent with recent research (Kersnik et al. 2001; Little et al. 2001; Scaife et al. 2000) consultation rates were condensed into two categories: low attenders and high attenders. Low attenders were participants who had seen a general practitioner no more than twice in the previous one-year period. High attenders were those who had attended general practice at least once each month during this time frame. The medical characteristics of participants are presented in Table 18.

Table 18. Selected Medical Characteristics of Participants.

Medical Characteristics	Total	Male	Female	x^2	p
	% (n)	% (n)	% (n)		
Number of Medical Conditions				3.91	.04
• One	50.4 (63)	63.9 (23)	44.3 (39)		
• Two or more	49.6 (62)	36.1 (13)	55.7 (49)		
Presenting Medical Conditions †				15.51	.16
• Respiratory System	19.2 (42)	21.1 (12)	18.5 (30)		
• Musculoskeletal System	17.8 (39)	12.3 (7)	19.9 (32)		
• Nervous System & Sense Organs	8.7 (19)	8.8 (5)	8.6 (14)		
• Circulatory System	11.0 (24)	14.0 (8)	9.9 (16)		
• Skin	5.0 (11)	7.0 (4)	4.3 (7)		
• Digestive System	5.0 (11)	3.5 (2)	5.6 (9)		
• Endocrine, Metabolic & Nutritional	8.2 (18)	14.0 (8)	6.2 (10)		
• Genitourinary System	4.6 (10)	0 (0)	6.2 (10)		
• Psychological	5.9 (13)	1.8 (1)	7.4 (12)		
• Blood & Blood Forming Agents	1.4 (3)	0 (0)	1.9 (3)		
• Neoplasms (Malignant)	0.9 (2)	0 (0)	1.2 (2)		
• Symptoms/Signs/Ill-Defined *	12.3 (27)	17.5 (10)	10.5 (17)		
General Practice Utilisation †				.37	.55
• High Attenders (once a month or more)	47.6 (78)	44.0 (22)	49.1 (56)		
• Low Attenders (six months or less)	52.4 (86)	56.0 (28)	50.9 (58)		

* For example, allergies, insomnia, sweating, dizziness, chest pain, heartburn, and abdominal pain.

† No significant sex differences in medical conditions or general practice utilisation were found between the three age groups, 18 to 34 years, 35 to 55 years, and over 55 years (chi ^{2}; $p > .05$).

Reasons for the Consultation with a General Practitioner

As shown in Table 18, almost all participants (94%) reported at least one physical condition as the reason for the consultation with a general practitioner. Half reported two or more physical conditions. The most (19%) frequent reason for the consultation was disease of the respiratory system, namely acute episodes of influenza and the common cold. The long-standing conditions of asthma and hayfever were also common. Most of these conditions were described via symptomatic complaints such as persistent cough, sore throat, nasal congestion, and breathing difficulties.

The next three most common reasons were diseases of the musculoskeletal system (18%), circulatory system (11%), and nervous system (9%). The most notable complaints from these bodily systems were arthritis, hypertension, and migraine, respectively. Arthritis, which was particularly prevalent, included prolonged pain in movement joints such as the shoulder, knuckle, elbow, and knee. Back-related complaints of 'damage' to vertebrae were also common. The most reported reasons for seeing a general practitioner (irrespective of bodily system) were high blood pressure, persistent cough, sore throat, runny nose, joint soreness, and skin rash. Undifferentiated symptoms such as fever, headache, abdominal pain, ear pain, tiredness, diarrhoea, and chest pain were also common among participants.

A minority of participants (6%) reported seeing a general practitioner for the management of psychological difficulties. The most common forms of mental disorder were those of the affective domain, namely episodes of anxiety and depression. These episodes were most often described via symptomatic complaints such as irritability, dissatisfaction, discouragement with the future, difficulty with decisions, depressed mood, panic attacks, worry, lack of concentration, social withdrawal, and sleep disturbance. There were also participants who reported 'relationship difficulties' with family members or work colleagues as reason for seeing a general practitioner.

Utilisation of General Practice

The majority of participants (89%) saw a general practitioner at least once in every six months. About half of participants (48%) were 'high attenders': they attended general practice at least once each month over a one-year period. More than 10 percent saw general practitioners once a week or more during this time frame.

Sex Differences in Medical Characteristics

A series of chi-square tests for categorical variables was performed to determine the significance of sex differences in frequencies across the response categories of each medical characteristic. The lowest expected frequency in each cell for each chi-square test was greater than five cases, except for 'reasons for the consultation'. An unequal distribution of frequencies was assumed if the computed significance level was less than .05. A summary of results for each chi-square test with separate observed category percentages for males and females is presented in Table 18.

There were no significant differences in how often males and females saw general practitioners or in the reasons they provided for the consultation (Table 18). There were, however, significant sex differences in the number of reasons provided. Most females (56%) provided multiple reasons for seeing a general practitioner, whereas most males (64%) provided a single reason for their consultation.

There were no further significant differences between males and females in medical characteristics. There were, nevertheless, noteworthy discrepancies on single response categories for reasons for the consultation. Females (7%) were three times more likely than males (2%) to provide mental disorder such as depression as the reason for seeing a general practitioner. Males (14%) were than twice as likely than females (6%) to provide endocrine, metabolic, and nutritional diseases such as diabetes and obesity (described as being over-weight with high cholesterol) as the reason for their consultation.

Number of Physical Conditions and Utilisation of General Practice

A chi-square test for categorical variables was performed to determine if differences between low and high attenders in number of physical conditions were significant. The chi-square test was performed separately for males and females. There was one cell for males with expected frequencies of five or fewer cases. An unequal distribution of frequencies was assumed if significance was less than .05.

The chi-square test was not significant for males, x^2 (36) = 2.21, $p > .05$, or females, x^2 (88) = 2.87, $p > .05$. A summary of results with separate observed category percentages for males and females is available in Appendix C. These percentages did indicate that most males (70%) with multiple reasons for seeing a general practitioner were high attenders. A chi-square test of goodness of fit indicated that this difference was significant, x^2 (17) = 4.77, $p < .05$: males with multiple reasons for the consultation were more likely to be high attenders (than low attenders).

Demographic Characteristics and Utilisation of General Practice

A series of chi-square tests for categorical variables was performed to determine if differences between low and high attenders in demographic characteristics were significant. The chi-square tests were performed separately for males and females. There were multiple cells for males with expected frequencies of five or fewer cases. An unequal distribution of frequencies was assumed if significance was less than .05. A summary of results for each significant chi-square test with observed category percentages is presented in Table 19.

Table 19. Significant Demographic Differences Between Low and High Attenders for Males and Females.

Sex	Demographic Characteristics	Attendance Rates Low	High	x^2	p
		% (n)	% (n)		
Males:	**Employment** (n = 48)			12.86	.00
	• In paid employment	77.8 (21)	23.8 (5)		
	• Not in paid employment	22.2 (6)	76.2 (16)		
	Income (n = 44)			11.54	.00
	• Low: Up to $14 999	18.5 (5)	58.8 (10)		
	• Medium: $15 000 to $34 999	29.6 (8)	35.3 (6)		
	• High: $35 000 & above	51.9 (14)	5.9 (1)		
Females:	**Employment** (n = 114)			8.00	.01
	• In paid employment	66.0 (35)	38.5 (20)		
	• Not in paid employment	34.0 (18)	61.5 (32)		
	Marital Status (n = 114)			4.26	.04
	• Single (or Separated/Divorced/Widowed)	35.3 (12)	64.7 (22)		
	• Married (or De-facto Relationship)	56.6 (43)	43.4 (33)		

Males: Three cells had five or fewer cases.

As shown in Table 19 high attending males and females were more likely to be unemployed. Those in the paid workforce were more likely to be low attenders. High attending males were also more likely to be low-income earners. The vast majority of males (93%) earning high incomes were low attenders. Most females single in marital status were high attenders, whereas most low attenders were married females (78%).

MEASURES

A questionnaire comprising three standardised measures was used to collect the research data. These measures included the Short Form Health Survey, Short Imaginal Processes Inventory, and Revised Life Orientation Scale. The questionnaire also included 'Demographic Information'. A copy of the questionnaire is in Appendix C.

Short Form Health Survey (SF-36): The SF-36 is a self-report measure of health status (Ware & Sherbourne 1992). It comprises 36 items that assess two summary components: physical health and mental health (Ware et al. 1995). The SF-36 was administered in the first study. However, only the mental health summary (and not the physical health summary) was scored in this second study. A description of the mental health summary including a summary of the four dimensions of mental health assessed by the measure, scoring procedures, and the meaning of low and high scores is available in the method chapter of the first study (refer to pages 109 to 111).

Short Imaginal Processes Inventory (SIPI): The SIPI is a self-report measure of affective patterns of daydreaming as well as attention to inner experience (Huba et al. 1982). It consists of 45 items that represent three patterns of daydreaming: (1) positive constructive daydreaming, (2) guilt and fear of failure daydreaming, and (3) poor attentional control. The SIPI was administered in the first study (in addition to the present study). An example item of each pattern of daydreaming, scoring procedures, and the meaning of low and high scores is available in the method chapter of the first study (refer to pages 111 and 112). A description of the summary measure 'quality of daydreaming', which was calculated using the three patterns of daydreaming measured by the SIPI is also available in method chapter of the first study (refer to page 112).

The Revised Life Orientation Scale (LOT-R): The LOT-R is a self-report measure of the expectation that all outcomes to external events will be favourable (or conversely, unfavourable; Scheier at al., 1994). It comprises 10 items modified from the original 12-item Life Orientation Scale (LOT; Scheier & Carver, 1985). A series of factor analytic studies of the LOT indicated that, rather than polar opposites on a single continuum, optimism and pessimism are two separate dimensions of life orientation (Bryant & Cvengros, 2004; Myers & Steed, 1999; Schou et al. 2004).

The LOT-R defines optimism as the expectation that all life outcomes will be favourable, including an unrealistic view of personal abilities such as an exaggerated

perception of personal control over external events. It refers to pessimism as the expectation that life outcomes will be unfavourable. This negative outlook encourages excessive dwelling on unpleasant experiences, as well as a gloomy view of the future.

The LOT-R has separate scoring procedures for optimism and pessimism. Each of these scales has three items. The remaining four items are filler items designed to disguise the underlying purpose of the measure. Participants indicated their degree of agreement with statements such as "In uncertain times I usually expect the best" (optimism) and "If something can go wrong for me it will" (pessimism). Each statement was rated using a five-point response scale that ranged from *'Strongly Disagree'* to *'Strongly Agree'*. Separate scores for optimism and pessimism were calculated, according to recommended guidelines (Scheier at al., 1994), by summing their respective three items. Scores on each scale ranged from zero (*'Strongly Disagree'*) to 12 (*'Strongly Agree'*). A score of zero indicates an absence of optimism or pessimism, whereas a higher score represents more optimism or pessimism.

A summary measure of 'quality of life orientation' was also developed for the present study. It was calculated by dividing the optimism score by that of pessimism. The score for quality of life orientation was the ratio of optimism to pessimism. The scores for this ratio can range from zero to 12. A score lower than one indicates a greater ratio of pessimism (to optimism). A score of one indicates an equal ratio of optimism and pessimism. A score greater than one indicates a greater ratio of optimism (to pessimism).

Demographic Information: Participants were asked to provide information such as sex, age, education, occupation, income, martial status, children, and place of birth. They were also asked to indicate how often they had seen a general practitioner in the previous 12-month period and their reasons for the current consultation. These reasons were classified into bodily systems with the assistance of a registered nurse.

PROCEDURE

Recruitment of Participants

Ethics approval for the study was obtained from Victoria University Human Research Ethics Committee. The researcher approached patients in waiting rooms of general practices prior to their consultation with a general practitioner. Patients who expressed interest in the study were given a plain language statement to read. They were also required to provide a written statement of informed consent at the general

practice. Those who provided consent were asked to complete the questionnaire at home. Questionnaires were returned by postal mail in a supplied self-addressed envelope addressed to the researcher. A copy of the plain language statement is attached to the questionnaire in Appendix C.

It became evident during data collection that the majority of patients in the waiting rooms were female. The procedure was modified to invite more males to the study. Female participants were encouraged to take a second questionnaire home for a male to complete. This modification led to a 40 percent increase in the number of male participants (n = 50) when compared to the first study (male n = 35).

Response Rate

One hundred and ninety-five patients satisfied the eligibility criteria for participation. A minority (n = 8%, n = 16) refused to participate due to time constraints or not feeling well enough to complete the questionnaire. A further 16 patients (8%) were excluded after they returned incomplete questionnaires. Eighty-four percent (n = 164) of patients who consented to participate returned a completed questionnaire.

Sex Differences in Response Rates

The numbers of males and females who did, and did not, participate in the study were recorded. Those who did not participate either refused to take a questionnaire home or did not return it completed. A chi-square test for categorical variables found that there were significant sex differences in participation (and non-participation), x^2 (53) = 8.21, $p < .01$. The vast majority of females (72%) invited to the study participated, whereas about half of all males (45%) failed to participate in the study.

Preparation for Statistical Analysis:

Substitution of Missing Responses

A missing response was replaced for each measure as recommended by its authors. The procedures for substituting missing responses on the SF-36 and SIPI were identical to those used in the first study (a description of these procedures is available in the methodology chapter of the first study on page 115). A missing response on the LOT-R was not substituted due to the low number of items comprising each subscale (n = 3). The replacement of missing responses on the LOT-R would have led to an unacceptable increase in the chance of error during calculation of scores.

Missing Scores on the Measures

There were small numbers of missing scores on the measures: no more than four percent of scores were missing for males and 10 percent for females on any one measure. No participant recorded more than two missing scores on the combination of measures. The pattern of missing scores appeared random for males and females. Most measures (79%) had no more than two missing scores. Missing scores were excluded from statistical analysis using pair-wise method. The percentage of missing scores identified per measure in the present study is much lower than the 10 percent critical value suggested recently by Tabachnick and Fidell (2001).

Development of an Indicator of Socio-economic Status

To reduce the number of demographic characteristics included in statistical analyses the three demographic characteristics of education, occupation, and income were combined to provide an overall index of socio-economic status. These characteristics were each ranked from lowest to highest according to socio-economic advantage. For instance, annual income of up to $5,000 was given a ranking of one, whereas income above $55,000 was ranked at seven. The three scores were than summed and averaged to produce a single score of socio-economic status. These scores ranged from one to seven. A score of one indicates significant financial and social hardship. A higher score indicates greater socio-economic advantage.

Data Analysis Procedures

The research data were analysed using SPSS for Windows Package 11.5 (2002). Prior to statistical analyses each measure was inspected for statistical assumptions underlying multivariate analysis. The data set was summarised using descriptive statistics to compare groups of participants on the measures. The samples of males and females were also compared to their respective samples from the first study. The descriptive statistics also described relationships between measures. These relationships were explored further using inferential statistics to identify the ‘best’ predictors of mental health.

SUMMARY OF THE SAMPLE

Half of all participants cited more than one physical condition as the reason for seeing a general practitioner with females more likely (than males) to report multiple reasons for the consultation. The most common reason (19%) provided by participants was disease of the respiratory system, namely acute episodes of the common cold and influenza. The most frequent symptoms were persistent cough, inflamed throat, nasal congestion, and breathing difficulties. The next most common reason was musculoskeletal disease (18%), most notably rheumatoid arthritis. This included prolonged pain in movement joints such as the knuckle, elbow, shoulder, and knee. A minority of participants saw general practitioners for mental disorders (6%), namely anxiety and depression.

The vast majority of participants (89%) had seen a general practitioner in the six-months prior to their consultation. Almost half were high attenders (48%) in that they had attended general practice at least once each month over a 12-month period. There were no significant sex differences in annual rates of consultations in general practice. However, most males (70%) with multiple reasons for their consultation were high attenders. A minority of females were single in marital status (18%) yet they were more likely to high attenders (65%). Most low attenders were married females (78%).

There were more females in the study with more than two in every three participants being female. In addition, the majority of females (72%) invited to the study participated. Almost half of all males (45%) did not participate in the study in that they either refused to take a questionnaire home or did not return it competed.

Almost all participants (98%) were residents to the west of Melbourne. The socio-economic background of participants was indicative of financial hardship. Most did not have an education beyond secondary schooling (64%). About half (47%) were unemployed with the remainder in occupations that require limited training (53%). Almost three-quarters of participants received an annual income of less than $34,999 with more than a third earning no more than $15,000. Almost one-third of participants were born overseas with most of these speaking English as a second language.

The employment status of participants was related to how often they saw general practitioners. Most males (81%) and females (64%) in the paid workforce were low attenders. Most high attending males (76%) and females (62%) were unemployed. Most males (78%) earning low incomes were also high attenders, whereas the vast majority of males (93%) receiving high incomes were low attenders.

CHAPTER SIX:

RESULTS OF THE SECOND STUDY

Dreams are true while they last,
But do we not live in dreams.

(Tennyson-Baron, 1809-1892).

Introduction

The previous chapter described how the second study was conducted. It presented the demographic characteristics (including medical background) of the samples of males and females. The present chapter describes the results of statistical analyses employed to test the research hypotheses of the second study. There are two sets of results. The first set presents the findings of preliminary analyses. Each measure was inspected for statistical assumptions underlying multivariate analysis. The data set was then summarised using descriptive statistics to compare groups of participants on the measures and to describe relationships between measures. These statistics also compared the demographic characteristics of the samples of males and females with respective samples from the first study. The second set of results presents findings of inferential statistics used to identify the 'best' predictors of mental health.

PRELIMINARY ANALYSIS OF THE RESEARCH DATA

Reliability Estimates of Internal Consistency

The internal consistency of each multi-item measure was assessed using Cronbach's Alpha Reliability Coefficient. These alpha reliability coefficients are computed from the mean score of correlations between the multiple items within a measure (Coakes & Steed, 1997). They provide an indication of the extent to which scores are consistent and reproducible. They also indicate how much variation in a score is 'real or truth' as opposed to chance or random error (Ware, et al. 1994). The recommended alpha reliability estimate for the inclusion of a measure in group-level analyses is .70 (Nunnally & Bernstein, 1994). The reliability coefficients, which were calculated separately for males and females, are presented in Table 20. This table also includes coefficients recorded by the samples of males and females from the first study.

Table 20. Reliability Coefficients of Participants and Normative Samples.

	Cronbach's Alpha Coefficients				
	Participants				
	First Study		Second Study		
Multi-Item Measures	**Males**	**Females**	**Males**	**Females**	**Norm**
	α (n)	**α (n)**	**α (n)**	**α (n)**	**α (n)**
SF-36 Summary Measure					
• Mental Health	.82 (34)	.83 (116)	.81 (49)	.87 (105)	.91
SIPI Daydreaming Patterns					
• Positive-Constructive	.86 (34)	.80 (117)	.88 (48)	.76 (102)	.80
• Guilt & Fear of Failure	.76 (34)	.80 (119)	.82 (48)	.78 (102)	.80
• Poor Attention. Control	.72 (34)	.76 (119)	.76 (48)	.76 (102)	.81
LOT-R Life Orientation †					
• Optimism			.77 (50)	.65 (112)	.67
• Pessimism			.77 (50)	.74 (112)	.80

Normative: Available for total sample only: SF-36 n = 18468; SIPI n = 1196; LOT-R n = 215.
† The measure of life orientation (LOT-R) was not included in the first study.

As shown in Table 20, reliability coefficients recorded by the samples of males and females on the measures ranged from .74 to .92. The exception was optimism. The female sample recorded a reliability coefficient (α = .65) that was marginally lower than the recommended figure of .70. This reliability coefficient is, nevertheless, consistent with that recorded by college students (α = .67) in a study of the psychometric properties of the measure (Chang & Bridewell, 1998). The remaining coefficients recorded by the samples of males and females were similar to their respective samples from the first study and to those of normative samples.

Statistical Assumptions of Multivariate Analysis

Each measure was assessed for statistical assumptions underlying multivariate analysis prior to statistical analyses. This assessment was performed separately for males and females. It included the detection of univariate outliers and the evaluation of score normality. A summarised description of the results of data screening is presented here. A complete output table of these results is available in Appendix D.

Identification of Univariate Outliers: Univariate outliers were identified for each measure using case-wise plots of cases outside $\pm$ 3.0 standard deviations. There were small numbers of univariate outliers on most measures: no more than four

percent of scores were outliers for males and four percent for females on any one measure. No participant recorded more than two univariate outliers on the combination of measures. The pattern of univariate outliers appeared random for males and females. There were measures with no univariate outliers (65%). The majority of measures (86%) contained no more than one univariate outlier.

Modification of Univariate Outliers: There are no standard guidelines as to the number of univariate outliers acceptable per measure for a sample of the present size. This is despite the growing acceptance that small numbers of extreme scores occur in most research populations under investigation (Tabachnick & Fidell, 2001). The small percentages of outliers identified per measure in the present study are much lower than the 10 percent critical value suggested recently by Tabachnick and Fidell (2001).

The inclusion of identified univariate outliers was considered important to the present study. These outliers, although different from most sample participants, were drawn directly from the intended research population. They represent legitimate observations, as it is not uncommon for patients in general practice to report a wide spectrum of mental health states (for example, very poor health through to excellent health; Britt et al. 2001; Sayer et al. 2000). The identified outliers were, therefore, retained in the data set. They were re-scored, however, to reduce their distributional influence by being assigned a score that was one unit larger (or smaller) than the next most extreme score in the distribution (Hair, et. al., 1995; Tabachnick & Fidell, 2001). There were no 'second order' outliers following re-scoring of initial outliers.

Normality of Score Distribution: The assumption of normality for each measure was assessed using Kolmogorov-Smirnov Statistic for females (sample size > 50) and Shapiro-Wilks Statistic for males (sample size < 50). These statistics identified three measures that were significantly skewed for males and females: mental health, quality of daydreaming, and quality of life orientation. A description of the direction of skewness is presented below for each non-normal distribution.

Mental Health: The distribution of scores for mental health was skewed towards more favourable states of health. A cluster of scores was located at the positive tail of the distribution representing greater freedom from emotional difficulties. This cluster accounted for 40 percent of male scores and 35 percent of female scores.

Quality of Daydreaming: Direction of skewness indicated that scores were skewed towards a poorer quality of daydreaming. Most males (56%) and females (77%) did, nevertheless, record a greater ratio of positive daydreams (to negative daydreams). In addition, almost one in every five males and females recorded a score of one indicating an equal ratio of positive and negative daydreams.

Quality of Life Orientation: The distribution of scores was skewed towards a poorer quality of life orientation. Even so, most males (73%) and females (66%) recorded a greater ratio of optimism (to pessimism). Almost one in five males and females recorded a score of one indicating an equal ratio of optimism and pessimism.

Management of 'Non-Normal' Score Distributions: Measures that were significantly skewed were not transformed. This decision was formed for three reasons. The first reason was that multivariate statistics to be performed on the research data report findings on the basis of the *F*-statistic. The *F*-statistic is said to be robust to violations of normality provided that measures are unaffected by the presence of outliers (Thorne & Slane, 1997). It has been argued more recently that even large deviations from normality do not significantly alter the conclusions derived from the '*F*-statistic' (Tabachnick & Fidell, 2001). The present study assumed in light of these reports that the validity of statistical findings would not be compromised by the inclusion of non-normal distributions.

The second reason for non-transformation was that researchers have expressed reluctance in transforming scores of standardised measures (Tabachnick & Fidell, 2001). The meaning attached to the scores of measures in the study would have been distorted had they been transformed. This distortion would have hindered the interpretation of comparisons between groups of participants on the measures, especially if different transformations were performed for males and females. The transformation of scores would have also compromised the interpretation of comparisons between the present sample and normative samples on the measures.

The third reason for non-transformation was that most measures in the present study are non-normal distributions in the general population (Stevenson, 1996; Ware et al. 1994). These measures have not been transformed prior to statistical analysis in previous studies (McHorney et al. 1994; McHorney & Ware, 1995; Shadbolt 1996; Walker et al. 1996). It has also been observed that most measures, of mental health in particular, remain significantly skewed after transformation (Stevenson, 1996).

COMPARISON OF SAMPLES:

The First Study and Second Study

The samples of males and females (from this second study) were compared to their respective samples from the first study to determine if there were significant differences in demographic and medical characteristics.

Demographic Characteristics

A series of chi-square tests for categorical variables was performed to determine if there were significant differences in demographic characteristics between the two samples (first study and second study). There were seven demographic characteristics: sex, age, marital status, children, education, income, employment, and country of birth. The chi-square tests were performed separately for males and females. There were cells with expected frequencies of five or fewer cases. An unequal distribution of frequencies was assumed if computed significance level was less than .05.

There was no significant difference between the first and second study in the numbers of males and females comprising each sample, x^2 (322) = 2.88, $\underline{p} > .05$. There were, however, significant differences in level of education between the two samples of males, x^2 (84) = 20.8, $\underline{p} < .01$. Males in this second study were more educated: almost all (96%) had at least commenced education beyond secondary schooling. About half of all males (43%) in the first study had not progressed beyond primary level schooling. There were no further significant differences in demographic characteristics between the two samples of males. A summary of results of all chi-square tests for males with observed category percentages is available in Appendix D.

There were many significant differences in demographic characteristics between the two samples of females. A summary of results for each significant chi-square test with observed category percentages is presented in Table 21.

Table 21. Significant Differences in Demographic Characteristics Between Females from the First Study and Second Study.

Demographic Characteristics	Participant Samples First	Second		
	% (n)	% (n)	x^2	p
Age Groups				
• 18 to 34 years	43.1 (53)	26.5 (30)	9.25	.01
• 35 to 54 years	43.9 (54)	48.7 (25)		
• 55 and more	13.0 (16)	24.8 (28)		
Marital Status			11.4	.00
• Single	31.7 (38)	16.4 (18)		
• Married/De-facto	47.5 (57)	69.1 (76)		
• Separated/Divorced/Widowed	20.8 (25)	14.5 (16)		
Children			7.18	.01
• No children	40.0 (48)	23.4 (25)		
• One or more children	60.0 (72)	76.6 (82)		
Employment			12.21	.00
• In paid employment	60.7 (44)	38.4 (55)		
• Not in paid employment	24.1 (27)	40.7 (45)		
• Student	15.2 (17)	20.9 (5)		

The results in Table 21 show females in this second study were more likely to be older in age (above the age of 54 years). They were also more likely than females in the first study to be married, to have children, and to not be in the paid workforce. Females in the first study were more likely to be younger in age (18 to 54 years), single in marital status, and to not have children. They were also more likely to be students (than females in this second study). A summary of results of all chi-square tests for females with observed category percentages is available in Appendix D.

Medical Characteristics

A series of chi-square tests for categorical variables was also performed to determine if there were significant differences in medical characteristics between the two samples (first study and second study). There were three medical characteristics: (1) number of reasons and (2) 'actual' reasons for the consultation, and (3) utilisation of general practice. The chi-square tests were performed separately for males and females. There were cells for 'reasons for the consultation' with expected frequencies of five or fewer cases. An unequal distribution of frequencies was assumed if computed significance level was less than .05.

The medical characteristics of the samples of males and females (in this second study) were not significantly different from their respective samples in the first study ($p > .05$). A summary of results for each chi-square test is available in Appendix D.

COMPARISON OF PARTICIPANT GROUPS

There were six separate group comparisons of mean scores on the measures. The first comparison was between the present sample and normative samples. The remaining comparisons were between groups of participants, which are presented here as two sets of results: (1) demographic characteristics and (2) medical characteristics.

Comparison of Samples with Norms

A series of z-score tests were performed to determine the significance of mean score differences on the measures between the present sample and normative samples. A z-score test provides an indication as to whether the 'distance' a mean score deviates from a population is most likely to have occurred by chance (Heiman, 1992). The critical value (or 'cut-off score') used to locate significant differences was equivalent to the significance level of .05 (critical value [z] = ± 1.64). The z-score tests were calculated separately for males and females. The results of the z-score tests including mean scores for male and female samples (and normative samples where available) are presented in Table 22. This table also includes mean scores recorded by the samples of males and females in the first study (to compare with present samples).

Table 22. Mean Score Differences Between the Present Sample and Normative Samples on the Measures for Males and Females.

	Samples			Normative		
	First	Second				
Measures	**M**	**M**	**Z**	**M**	**SD**	**Z**
Mental Health						
• Male	46.2	47.3	.64	50.8	9.6	-2.5*
• Female	45.7	47.2	1.27	49.4	10.3	-3.7*
Positive Constructive						
• Male	47.5	45.2	-1.47	48.5	9.1	-2.5*
• Female	46.4	47.7	1.34	50.2	9.6	-2.7*
Guilt & Fear of Failure						
• Male	38.5	40.3	1.17	34.3	9.9	4.3*
• Female	35.6	36.9	1.34	33.1	10.1	3.9*
Poor Attentional Control †						
• Male	44.4	43.5	-.72	46.9	9.8	-2.4*
• Female	43.4	41.8	-1.46	48.7	10.7	-6.6*

First Study: SF-36, male n = 34, female n = 116; SIPI, male n = 34, female n = 119.
Second Study: SF-36, male n = 49, female n = 105; SIPI, male n = 48, female n = 102.
Normative: SF-36, male n = 8856, female n = 9612; SIPI, male n = 449, female n = 547.
† This measure is negative scored: higher scores represent lower attentional control.
* $p < .05$

The mean scores recorded by the samples of males and females on the measures were significantly different from the norm (Table 22). Specifically, the mental health of the male and female samples was below the norm in the general population. The samples of males and females also reported fewer positive constructive daydreams, but more guilt and fear of failure daydreams than the norm comprising college students. The attentional control of the male and females samples was also 'better' then the norm. The mean scores recorded by the samples of males and females did not differ significantly from their respective samples in the first study.

Comparison of Male and Female Samples

A MANOVA was performed to determine if differences in mean scores on the measures between males and females were significant. There were eight dependent variables: mental health, positive constructive daydreaming, guilt and fear of failure daydreaming, poor attentional control, quality of daydreaming, optimism, pessimism,

and quality of life orientation. Sex (male or female) was entered as the independent variable. Age was included as a covariate as it was a mediating factor in relationships between measures in the first study. The identification of significant multivariate and univariate interactions was set at the significance level of .05.

Multivariate interaction effects were interpreted using Pillai's Trace criterion. There were no univariate outliers (using a case-wise plot of outliers outside $\pm$ 3.0 standard deviations) or multivariate outliers (using Mahalanobis Distance). Two-univariate homogeneity of variance tests (Cochrans C & Bartlett-Box F tests) were not significant ($p < .05$). A multivariate test of homogeneity (Box's M Test) was also not significant ($p > .05$). The number of cases in each cell was greater than the number of dependent variables. Within-cell scatter-plots showed that the relationships between dependent variables were linear, and there were no serious indications of singularity or multicollinearity (using within-cell correlations & Log [Determinant]).

Age had a significant multivariate effect on the combined dependent variables, F (8, 125) = 3.4, $p = .001$. There were significant univariate effects for age on mental health, F (1, 132) = 3.9, $p < .05$, attentional control F (1, 132) = 8.03, $p < .01$, positive constructive daydreaming, F (1, 132) = 4.6, $p < .05$, guilt and fear of failure daydreaming, F (1, 132) = 4.9, $p < .05$, and optimism, F (1, 132) = 7.1, $p < .01$.

There was no significant multivariate effect of sex on the combined measures of mental health, daydreaming, and life orientation, F (8, 125) = 0.7, $p > .05$, controlling for age. The results of univariate tests for each dependent variable are in Appendix D.

Comparison of Age Groups

A MANOVA was performed to determine if there were significant differences in mean scores on the measures between three age groups: (1) 18 to 34 years, (2) 35 to 54 years, and (3) 55 years or more. There were eight dependent variables: mental health, positive constructive daydreaming, guilt and fear of failure daydreaming, poor attentional control, quality of daydreaming, optimism, pessimism, and quality of life orientation. Age was entered as the independent variable. The MANOVA was performed separately for males and females. The identification of significant interactions was set at the significance level of .05.

Multivariate interaction effects were interpreted using Pillai's Trace criterion. There were no univariate outliers (using a case-wise plot of outliers outside $\pm$ 3.0 standard deviations) or multivariate outliers (using Mahalanobis Distance). Two-univariate homogeneity of variance tests (Cochrans C & Bartlett-Box F tests) were

not significant ($p < .05$). A multivariate test of homogeneity (Box's M Test) was also not significant ($p > .05$). The number of cases in each cell was greater than the number of dependent variables. Within-cell scatter-plots indicated that relationships between dependent variables were linear, and there were no serious indications of singularity or multicollinearity (using within-cell correlations & Log [Determinant]).

The multivariate effect of age on the combined dependent variables was significant for females, F (8, 80) = 2.91, $p < .001$, but not males, F (8, 35) = 1.05, $p > .05$. Age of females had significant univariate effects on attentional control F (2, 87) = 5.3, $p < .01$, and positive constructive daydreaming, F (2, 87) = 3.5, $p < .05$. The results for females of Scheffe Post-Hoc Tests used to locate significant differences are presented in Table 23.

Table 23. Post-Hoc Testing for Significant Age Differences on the Measures for Females (n = 90).

Dependent Measures	Age (Years)	M	SD
Poor Attentional Control †	18 to 34	43.4*	8.5
	35 to 54	40.1	8.5
	55 & more	35.9*	6.9
Positive Constructive	18 to 34	50.2*	7.2
	35 to 54	47.3	8.4
	55 & more	43.1*	11.2

* Mean scores for these two age groups were significantly different from each other.
† This measure is negative scored: higher scores represent lower attentional control.

As can be seen from Table 23 there was a linear increase in female attentional control with older age. Specifically, the attentional control of females aged over 54 years was significantly 'better' than that of younger females aged 18 to 34 years. There was also a linear decrease in positive constructive daydreaming with older age: females aged over 54 years reported significantly fewer of these daydreams than did younger females (18 to 34 years). The results of univariate tests including descriptive statistics for males and females are available in Appendix D.

Comparison of Socio-Economic Groups

A MANOVA was performed to determine if there were significant differences in mean scores on the measures between participants low and high in socio-economic status. Scores for socio-economic status were condensed into these two groups via median split (median = 4, score range = 1 to 7). There were eight dependent variables: mental health, positive constructive daydreaming, guilt and fear of failure daydreaming, poor attentional control, quality of daydreaming, optimism, pessimism, and quality of life orientation. Socio-economic status (low or high) was entered as the independent variable. The MANOVA was performed separately for males and females. Age was included as a covariate. The identification of significant interactions was set at the significance level of .05.

Multivariate interaction effects were interpreted using Pillai's Trace criterion. There were no univariate outliers (using a case-wise plot of outliers outside $\pm$ 3.0 standard deviations) or multivariate outliers (Mahalanobis Distance). Two-univariate homogeneity of variance tests (Cochrans C & Bartlett-Box F tests) were not significant ($\underline{p} < .05$). A multivariate test of homogeneity (Box's M Test) was also not significant ($\underline{p} > .05$). The number of cases in each cell was greater than the number of dependent variables. Within-cell scatter-plots indicated that the relationships between dependent variables were linear, and there were no serious indications of singularity or multicollinearity (using within-cell correlations & Log [Determinant]).

Age had a significant multivariate effect on the combined dependent variables for females, F (8, 61) = .264, $\underline{p} < .05$, but not males, F (8, 28) = .25, $\underline{p} > .05$. There was a significant univariate effect for female age on optimism, F (1, 68) = 6.6, $\underline{p}$ = .01. The multivariate effect of socio-economic status on the combined dependent variables was not significant for males, F (8, 28) = .25, $\underline{p} > .05$, or females, F (8, 61) = .14, $\underline{p} > .05$, controlling for age. The results of univariate tests for each dependent variable for males and females are available in Appendix D.

Comparison of Low and High Attenders

An ANOVA was performed to determine if there was a significant difference in mean scores between low and high attenders on the measure of mental health. The measure of mental health was entered as the dependent variable. The independent variable was general practice utilisation (low or high). The ANOVA was performed separately for males and females. Age was included as a covariate. The identification of significant interactions was set at the significance level of .05.

Age did not have a significant univariate effect on male, F (1, 48) = 3.82, p > .05, or female, F (1, 103) = 3.27, p > .05 mental health. There was also no significant difference in mental health between low and high attenders for males, F (1, 48) = 2.0, p > .05, or females, F (1, 103) = 1.0, p > .05. The results of the univariate test including descriptive statistics for males and females are available in Appendix D.

Summary of Comparisons

There was no difference between males and females in mental health. The mental health of both samples was below the norm in the general population. Even so, both samples had score distributions skewed towards 'more favourable' mental health. In addition, only a minority of participants (5%) nominated mental disorders as the reason for seeing a general practitioner. The mental health of male and female high attenders was also not dissimilar to that of low attenders. The mental health of male and female samples did not differ from their respective samples in the first study.

The mental health of males and females was not related to socio-economic status. However, individual indicators of socio-economic status were associated with how often participants saw general practitioners. Most males and females (72%) in the paid workforce were low attenders. Most high attenders (69%) were unemployed. Males earning low incomes also saw general practitioners the most often (78% were high attenders) whereas almost all males (93%) with high incomes were low attenders.

There were no sex differences in life orientation (optimism or pessimism). There were also no differences between males and females in patterns of daydreaming. The samples of males and females reported fewer positive constructive daydreams than the norm, but more guilt and fear of failure daydreams. The attentional control of the two samples was also 'better' than the norm. Older females (aged over 54 years) did report better attentional control and fewer positive constructive daydreams than did younger females (aged 18 to 34 years). The patterns of daydreaming reported by the samples of males and females did not differ from their respective samples in the first study.

The demographic characteristics of males and females differed from their respective samples in the first study. Males in this second study were more educated: they were more likely (than males in the first study) to have completed, or at least commenced, secondary level schooling. Females in this second study were older in age: they were more likely (than females in the first study) to be aged beyond 54 years. They were also more likely (than females in the first study) to be married, to have children, and to not be in the paid workforce.

RELATIONSHIPS BETWEEN MEASURES: MENTAL HEALTH, DAYDREAMING, AND LIFE ORIENTATION

The relationships between mental health, daydreaming, and life orientation were assessed for statistical significance via a correlation matrix. This matrix comprised of four sets of correlations: (1) relationships between the four measures of daydreaming: positive constructive daydreaming, guilt and fear of failure daydreaming, poor attentional control, and quality of daydreaming, (2) relationships among the three measures of life orientation: optimism, pessimism, and quality of life orientation, (3) relationships between measures of daydreaming and life orientation, and (4) relationships between measures of mental health, daydreaming, and life orientation. This correlation matrix comprised two forms of correlation coefficient: Pearson Coefficient and Spearman Rho Coefficient. A Pearson Coefficient is the correlation equivalent of a parametric test. It was calculated where the two measures entered in the correlation each had a normal distribution. A Spearman Coefficient is the non-parametric alternative to Pearson Coefficient. It was calculated where either of the measures entered in the correlation had a significant non-normal distribution. A separate matrix of these correlations was also performed controlling for the effect of age. The correlation matrices were computed separately for males and females. The identification of significant correlations was set at the significance level of .05.

Daydreaming

The significance of relationships between measures of daydreaming is presented in Table 24. This table also presents correlation coefficients reported in the first study.

Table 24. Relationships Between Measures of Daydreaming for Males (n = 48) and Females (n = 102).

	Guilt & Fear	Poor Attention	Quality of Dayd.
Positive Constructive			
• Male	.10 [.16]	-.04 [-.24]	.58** [.77**]
• Female	.05 [.01]	.21 [.16]	.51** [.67**]
Guilt & Fear of Failure			
• Male		.47** [.45**]	-.67** [-.44**]
• Female		.52** [.34**]	-.69** [-.58**]
Poor Attention.			
• Male			-.65** [-.70**]
• Female			-.58** [-.46**]

[ ] Correlation coefficients from the first study.
* $p < .05$ (2-tailed)
** $p < .01$ (2-tailed)

Lower attentional control was significantly associated with more guilt and fear of failure daydreaming for males and females (as shown in Table 24). Neither of these two patterns of daydreaming was significantly associated with positive constructive daydreaming. These relationships did not alter after controlling for age. The matrix of correlations between daydream measures controlling for age is available in Appendix D. The significance of relationships recorded by the samples of males and females resemble those recorded by their respective samples from the first study.

Life Orientation

The significance of relationships between the three measures of life orientation is presented in Table 25.

Table 25. Relationships Between Measures of Life Orientation for Males (n = 50) and Females (n = 112).

	Pessimism	Quality of Life O.
Optimism		
• Male	-.36**	.74**
• Female	-.57**	.81**
Pessimism		
• Male		-.81**
• Female		-.92**

** $p < .01$ (2-tailed)

As can be seen in Table 25 lower pessimism was significantly associated with more optimism for males and females. This relationship remained significant when controlling for the effect of age. Quality of life orientation was significantly associated with both optimism and pessimism for males and females. This latter relationship was expected since the measure quality of life orientation was developed using the optimism and pessimism scores of the LOT-R (see page 112 for scoring of quality of life orientation). The matrix of correlations between measures of life orientation controlling for age is available in Appendix D.

Daydreaming and Life Orientation

The significance of relationships between measures of daydreaming and life orientation is presented in Table 26.

Table 26. Relationships Between Daydreaming and Life Orientation for Males (n = 48) and Females (n = 102).

	Optimism	Pessimism	Quality of Life O.
	r	*r*	*r*
Positive Constructive			
• Male	-.01	.04	.17
• Female	.03	-.16	.15
Guilt & Fear of Failure			
• Male	-.08	.16	-.18
• Female	-.14	.24*	-.21
Poor Attentional Control			
• Male	-.17	.24	-.36*
• Female	-.10	.17	-.20
Quality of Daydreaming			
• Male	.12	-.14	.30*
• Female	.23*	-.34**	.33**

* $p < .05$ (2-tailed)
** $p < .01$ (2-tailed)

The correlations in Table 26 show that for females more pessimism was significantly associated with more guilt and fear of failure daydreaming. For males, 'better' attentional control was significantly associated with a higher quality of life orientation. For females, a higher quality of daydreaming was significantly associated with more optimism and lower pessimism. No measure of life orientation was significantly associated with positive constructive daydreaming for males or females.

When age was controlled, more male pessimism became significantly associated with lower attentional control, $r\ (42) = .36$, $p < .05$, and more guilt and fear of failure daydreaming, $r\ (42) = .31$, $p < .05$. These correlations are presented here with caution: there was a 13 percent reduction in the number of male cases entered when aged was controlled. The matrix of correlations (for males and females) between measures of daydreaming and life orientation controlling for age is available in Appendix D.

Mental Health, Daydreaming, and Life Orientation

The significance of relationships between mental health, daydreaming, and life orientation are presented in Table 27. This table also presents correlation coefficients reported in the first study between measures of mental health and daydreaming.

Table 27. Relationships Between Daydreaming, Life Orientation, and Mental Health for Males and Females.

	Mental Health					
	Males			Females		
	(n)	*r*	*r*	(n)	*r*	*r*
SIPI Daydreaming Scales						
• Positive-Constructive	(47)	-.11	[-.08]	(94)	.04	[-.08]
• Guilt & Fear of Failure	(47)	-.39**	[-.51**]	(94)	-.12	[-.26**]
• Poor Attention. Control	(47)	-.38**	[-.47**]	(94)	-.06	[-.23**]
• Quality of Daydreaming	(47)	.30*	[.32*]	(94)	.11	[.17*]
•						
LOT-R Life Orientation						
• Optimism	(49)	.19		(103)	.23*	
• Pessimism	(49)	-.24		(103)	-.31**	
• Quality of Life O.	(49)	.30*		(103)	.27**	

[ ] Correlation coefficients from the first study.
* $p < .05$ (2-tailed)
** $p < .01$ (2-tailed)

As shown in Table 27, lower mental health of males was significantly associated with both lower attentional control and more guilt and fear of failure daydreaming. The mental health of males was not significantly associated with positive constructive daydreaming or life orientation (optimism or pessimism). The significant relationships between male mental health and daydreaming resemble those found in the first study. For females, lower mental health was significantly associated with more pessimism and lower optimism. The mental health of females was not significantly associated with patterns of daydreaming, which does not resemble that reported in the first study.

When age was controlled, lower mental health of males became significantly associated with more pessimism, r (42) = -.32, $\underline{p} < .05$, while lower mental health of females was no longer significantly associated with lower optimism, r (87) = .18, $\underline{p} > .05$. These correlations are again presented here with caution: there was a 14 percent reduction in the number of cases entered for males and 16 percent for females when aged was controlled. The matrix of correlations between measures of mental health, daydreaming, and life orientation controlling for age is available in Appendix D.

Summary of Relationships

The mental health of males was associated with patterns of daydreaming, but not life orientation (optimism or pessimism). Specifically, lower male mental health was associated with two interrelated patterns of daydreaming: lower attentional control and more guilt and fear of failure daydreaming. The mental health of males was not associated with positive constructive daydreaming. In addition, lower attentional control was not associated with less (or more) positive constructive daydreaming.

The mental health of females was associated with optimism and pessimism, but not patterns of daydreaming. Lower female mental health was associated with more pessimism and less optimism. These two dimensions of life orientation were interrelated: lower pessimism was associated with more optimism. More pessimism among females was also associated with more guilt and fear of failure daydreaming. However, more optimism was not associated with more positive constructive daydreaming.

Implications of Preliminary Analyses

There were no sex differences in mean scores on the measures of mental health, daydreaming, and life orientation. There were, however, important sex differences in relationships between measures. These differences suggest that separate multivariate models might apply to males and females in the prediction of mental health. There was also evidence to suggest that age might be important to the mental life of females: older age was associated with 'better' attentional control and less positive constructive daydreaming. The findings of preliminary analyses suggest that patterns of daydreaming might be important to male mental health whereas life orientation might be important to female mental health. Specifically, lower mental health of males might be predicted by lower attentional control and more guilt and fear of failure daydreaming. Lower mental health of females might be predicted by more pessimism and lower optimism.

MULTIVARIATE ANALYSIS OF RELATIONSHIPS: MENTAL LIFE AND MENTAL HEALTH

A multiple regression was performed to determine if mental health could be predicted by measures of mental life (daydreaming and life orientation). The direction of this regression is consistent with the first study and recent research (Ben-Zur et al. 2000; Furnham, 2001; Schou et al. 2004). The regression was performed using forward stepwise. This procedure enters one predictor in the regression at a time, thereby ensuring that the regression comprises the smallest number of predictors (Tabachnick & Fidell, 2001). This meant that the regressions identified the most important predictors of mental health by excluding measures of daydreaming and life orientation not providing additional prediction to those already in the regression.

The regression was performed with mental health as the dependent variable. The four measures of daydreaming were entered as independent variables: positive constructive daydreaming, guilt and fear of failure daydreaming, poor attentional control, and quality of daydreaming. The three measures of life orientation were also entered as independent variables: optimism, pessimism, and quality of life orientation. Four demographic characteristics were included as covariates: age, socio-economic status, marital status, and children. Demographic characteristics comprising multiple responses were recoded as dummy variables. Preliminary analysis of the research data had suggested that different regression models might apply to males and females. The regressions were, therefore, performed separately for each sex. The inclusion of independent variables in each regression was set at the significance level of .05.

The results of each regression are presented in two sets. The first set describes significant relationships between measures in the regression. These relationships can have a substantial impact on the final model, particularly if more than one independent variable has correlation coefficients with the dependent variable that are of a similar magnitude. Because little variance separates these independent variables if one enters the regression it is highly unlikely that other variable will also enter. Hence, despite not being in the final model, the effect of this latter variable in the prediction is not inconsequential. The second set of results presents the final regression model. It describes the direction of significant predictions including the contribution each predictor has to the variance in mental health scores.

There were no univariate outliers (using a case-wise plot of outliers outside $\pm$ 3.0 standard deviations) or multivariate outliers (using Mahalanobis Distance) among

the measures entered in each regression. The number of cases to number of independent variables was above the recommended ratio of 5:1 (Hair et. al., 1995; Tabachnick & Fidell, 1996) for females (ratio = 9:1), but was marginally lower for males (ratio = 4:1). Within-cell scatter-plots (residual values against predicted values) included that interactions between dependent variables were linear and there were no serious indications of collinearity (using collinearity diagnostics). The results of each regression (correlations between variables) are available in Appendix D.

Regression Findings for Males

Lower mental health was significantly associated with lower attentional control, r (39) = -.50, $p \leq .001$, more guilt and fear of failure daydreaming, r (39) = -.41, $p < .001$, and greater pessimism, r (39) = -.27, $p < .05$. Demographic characteristics were not significantly associated with male mental health ($p > .05$). Poor attentional control entered the regression first as it had the highest correlation coefficient (r) with mental health. Lower attentional control significantly predicted lower mental health, F (1, 37) = 12.32, $p \leq .001$, accounting for 25 percent of the variance in mental health scores.

Once poor attentional control had entered the regression the independent contribution of guilt and fear of failure daydreaming was no longer significant. The regression confirmed that lower attentional control was significantly associated with more guilt and fear of failure daydreaming, r (39) = .43, $p < .001$. It is likely that guilt and fear of failure daydreaming did not predict the mental health of males as much of the variance in this relationship was explained by the inclusion of lower attentional control. Hence, despite not being a direct predictor, more guilt and fear of failure daydreaming remains important to the prediction of lower male mental health.

Regression Findings for Females

The mental health of females was not significantly associated with measures of daydreaming or demographic characteristics ($p > .05$). Lower mental health was significantly associated with more pessimism, r (83) = -24, $p \leq .01$, and lower quality of life orientation, r (83) = .21, $p < .05$. Pessimism entered the regression first as it had the highest correlation coefficient (r) with mental health. More pessimism significantly predicted lower female mental health, F (1, 81) = 5.04, $p < .05$, accounting for six percent of the variance in mental health scores. Quality of life orientation, scored by dividing scores for optimism by those of pessimism, was not a significant predictor of female mental health (once pessimism had entered the model).

Summary of Multivariate Findings

The mental health of males and females was predicted by measures of mental life, but not by demographic characteristics. Patterns of daydreaming, and not life orientation, were associated with the mental health of males. Specifically, lower male mental health was predicted by lower attentional control. More guilt and fear of failure daydreaming, which was associated with lower attentional control, was also associated with lower mental health, although the prediction was not significant. The mental health of males was not associated with positive constructive daydreaming. The mental health of females was associated with life orientation, but not patterns of daydreaming. Specially, lower female mental health was predicted by more pessimism. The mental health of females was not associated with optimism.

These findings suggest that more 'negative thoughts' had adverse implications for mental health. However, different negative thoughts were important to the mental health of males and females: more negative daydreams predicted lower mental health of males while more pessimism predicted lower mental health of females. The inability of males to maintain mental control was also associated with poorer mental health. More 'positive thoughts' did not improve male or female mental health.

CHAPTER SEVEN:
DISCUSSION OF THE RESEARCH

Most people think I' am a dreamer... we need visions for larger things, for the unfolding and reviewing of worthwhile things.

(Mary McLeod Bethune, 1935)

Introduction

The previous chapter contained the results of the second study. It concluded with a summary of multivariate findings. The present chapter is a discussion that draws together the findings of the two studies. It provides an overview of the significance of the findings and reports on whether the hypotheses were, or were not, supported. It also evaluates the findings in relation to the literature review. This evaluation is presented in three sections: the health profile of patients, their mental life, and the effect of mental life on health status, namely mental health. The chapter concludes with an evaluation of the research designs. A review of main implications (and summary) of the research follows in the next, final chapter of the thesis.

Contribution of the Present Research to Psychological Literature

This research was designed to address nine limitations of previous research identified from a review of the literature. These limitations are summarised below:

1. **Health Profile of Patients to the West of Melbourne:** A main determinant of inequalities in health is geographical location (Ostler et al. 2001). The worse health of residents to the west of Melbourne has been attributed in large part to financial hardship (Grace & Shield, 1998). Yet the health profile of medical patients in the region is unknown. A planning paper released by the WMRHD (1987c) 18 years ago stated, with much concern, that research on these patients was almost 'non-existent'. A small number of studies were conducted (Christie, 1979; Dunt et al. 1988; Scotton & Graves, 1979), but these are now out-dated. Unfortunately, these studies did not measure the health status of patients. There have been no recent studies of patients in general practice in the region to the west of Melbourne. The present research established a health profile of these patients and included measures of health status.

2. **Measures of Health Status:** Most research on medical patients has adopted the biomedical model of disease by measuring deviation from 'biological normality'. These measures tend to monitor physiological changes such as elevated heart rate, blood pressure, and cardiac output. Some studies have analysed medical records in the belief that they provide objective assessments of the health status of patients. However, records are often incomplete: for instance, most general practitioners do not record the mental health of their patients (Goldberg & Huxley, 1992). Medical records also tend to be incompatible with patient assessments of their own health: general practitioners perceive patients as 'healthier' than do patients themselves (Jones et al. 1989). Patients evaluate their health in terms of functional capacity to participate in everyday physical activities (Sanderson, 2004). In contrast, doctors tend to focus on bodily sensations that might assist in making a formal diagnosis of disease (Street et al. 1994). The present research assessed health status from the patient viewpoint. Patients completed measures of functional health, in addition to severity of symptoms.

3. **Indirect Consultations:** Much research suggests that patients seek medical attention for physical symptoms that provide some discomfort (Alder, 1999; Scamber, 2003). However, a recent series of studies found that most patients were not 'feeling sick' (Britt et al. 2001; Sayer et al. 2000). A possible explanation of this latter finding was the failure to screen patients prior to their inclusion in the research: some patients were in general practice for indirect consultations. These consultations tend to occur for the monitoring of prescription medication and diagnostic screening for abnormal pathology. The inclusion of these patients might have inflated the self-reported health of patients. The present research stipulated that only patients with a medical condition were eligible for participation: this excluded patients having indirect consultations.

4. **Severe Medical Needs:** Most health-related research has restricted samples to patients with serious medical conditions that threaten their long-term health outlook. Most of these patients were recovering from invasive surgery or undergoing chemotherapy for progressive cancers. The severity of these medical conditions meant that sample sizes were limited in numbers, which has resulted in male and female patients being studied as a homogeneous group. The present research investigated separately males and females attending general practice with less severe health needs.

5. **Neglect of Daydreaming:** There is a distinct absence of scientific research on daydreaming, which appears contrary to the resurgence of research interest in the study of mental life. This absence also contradicts the widespread popularity of daydreaming in the self-help market (Barth, 1997; Langs, 1995; Person, 1995). The present research defined mental life as daydreaming. There were two measures: (1) frequency and (2) patterns of daydreaming. The present research was needed to support, or challenge, assertions made in popular texts that draw little reference to published research. The material in these texts often comprises the personal opinions of the authors who generalised their daydream experiences to those of all others.

6. **Absence of Research in Australia:** The study of daydreaming is virtually unheard of in Australia. An extensive search of the literature identified a single study conducted more than 20 years ago (Giambra & Stone, 1983) that examined cultural differences in the content of daydreams. It is hoped that the present research will encourage further studies in this unappreciated area that has much research potential.

7. **Holistic Health:** Much research (for example, Bright; 2002; Trivieri 2001) has found that affective imagery is associated with physiological responses in heart rate, blood pressure, and cardiac output. This research has relied upon controlled imagery where imagery sequences are given to patients by a researcher. The physiological responses that accompany negative imagery have been associated with unfavourable changes in health status (Vrana & Rollock, 2002). On the other hand, positive imagery can be an effective intervention for medical patients with severe health needs (Dennis, 2004) as it can, for example, reduce intensity of surgical pain (Lewandowski, 2004). The health benefits of positive imagery are most pronounced when it is personalised to the health needs of individual patients (Velasco & Bond, 1998). The present research investigated autonomous daydreams (that occur without manipulation) to determine if affective daydreams were related to changes in the health status of medical patients.

8. **Less Frequent Daydreaming:** A small volume of research has found that medical patients report a marked decline in how often they daydream (Kreitler et al. 1990; Taylor, 2000), and instead adopt concrete forms of thinking focussed on realism (Honkalampi et al. 2000). The need to achieve success in external tasks also provides fewer opportunities for mindwandering. The focus on realism functions to suppress the spontaneous expression of emotion (Luminet et al. 1999), with patients reporting

fewer affective daydreams, namely those containing negative emotions (Kreitler et al. 1990). Unfortunately, the few studies of the daydreams of medical patients did not measure their health status. It remained unknown if less frequent daydreaming was related to changes in health status. The present research investigated this relationship.

9. **Optimism Versus Pessimism:** The original assumption of researchers was that pessimism was the immediate opposite of optimism. This early research reported that more optimism predicted 'better' mental health (Scheier & Carver, 1987; Scheier et al. 1989; Scheier et al. 1986). The most recent research has shown that optimism and pessimism are better viewed as separate dimensions of life orientation (Ben-Zur et al. 2000; Furnham, 2001). This recent research found that it was less pessimism (and not more optimism) that determined improved mental health of patients with serious medical conditions (Mahler & Kulik, 2000; Schou et al. 2004). The present research sought to confirm these recent findings with a sample of medical patients with less severe health needs, but known to be low in mental health. It also examined whether life orientation was associated with affective patterns of daydreaming. It has been inferred by many researchers (Cundiff & Gold, 1979; Giambra & Traynor, 1978; Schoenfeld, 1970; Starker, 1982) that relationships might exist, but few studies have sought to confirm these relationships, and none with a sample of medical patients.

Summary of Hypothesis Testing

The First Study: The hypotheses of the first study were partially supported: measures of health status were related to selected patterns of daydreaming. For males, more severe physical symptoms were predicted by more negative daydreams and related to poorer attentional control. Lower mental health of males and females was also predicted by more negative daydreams and related to poorer attentional control, with the latter prediction significant for females. The mental health of males and females was not related to frequency of daydreaming or positive daydreaming. The physical health of males and females was not related to any measure of daydreaming.

The Second Study: The hypotheses of the second study were also partially supported: selected patterns of daydreaming were related to life orientation. These relationships were found for females, but not males. More negative daydreams were related to more pessimism. However, lower attentional control was not related to more pessimism, nor were more positive daydreams related to more optimism. The mental health of males and females was related to daydreaming and life orientation,

respectively. Lower male mental health was predicted by poorer attentional control and related to more negative daydreams, but was not related to more pessimism. Lower female mental health was predicted by more pessimism, but was not related to more negative daydreams or poorer attentional control. The mental health of males and females was not related to more optimism or more positive daydreaming.

Comparison of Studies: The two studies found that measures of a negative mental life predicted lower male and female mental health. However, measures of a positive mental life did not predict 'better' mental health. The inability of males to maintain mental control was also related to lower mental health. The second study found that different measures of a negative mental life were important to the mental health of males and females: negative daydreams were important for males, while pessimism (life orientation) was important for females. Unlike the first study, lower mental health of females was not related to more negative daydreams, with more pessimism the 'best' predictor. Even so, the importance of negative daydreams to the mental health of females should not be underestimated. It and pessimism are 'alike' in that they share some of the same variance ($r > .20$). That is, both measures represent related features of a negative mental life that is associated with poorer mental health.

Figure 2 reproduces the model of expected relationships between measures identified from the literature review, and which served as the basis for the hypotheses of the present research. The relationships that were confirmed by the present research are presented in 'bold font'.

Insert Figure 2 here: Confirmation of Relationships.

Figure 2 raises questions concerning factors that underpin the decision to see a general practitioner, namely relationships between measures of health status. It shows that demographic characteristics were also important to this decision. It highlights the need to examine the meaning of items that comprise measures of mental life as these items might represent different dimensions of mental life. These differences might help explain why some measures of mental life were not related to mental health. The questions raised by the present findings are discussed below under three sections: the health profile of patients, their mental life, and the effect of mental life on health.

DISCUSSION OF FINDINGS IN RELATION TO AIMS AND HYPOTHESES

1. THE HEALTH PROFILE OF PATIENTS

Demographic Characteristics

Almost all patients (in each study) were residents to the west of Melbourne. Consistent with Dunt et al. (1988) most patients were from backgrounds of financial (and social) hardship. Most did not have an education beyond secondary schooling. Almost half of all patients were unemployed, with the remainder in occupations of low social prestige (both studies combined). More than three-quarters had an income of less than $34,999 per annum, with at least a third earning no more than $15,000. A third of patients were born overseas with most of these speaking English as a second language. These findings indicate that the financial resources available to individuals in the region has changed little in the 18 years since the study by Dunt et al. (1988). The demographic characteristics are also consistent with a population study of the region (Grace & Shield, 1998) suggesting that the demographic characteristics of the samples of patients represented the geographical region from which they were drawn.

The profile of the general practices from which patients were recruited is consistent with that reported in a national survey of general practices (DHFS, 1996). Most practices were small group with no more than four general practitioners on duty at the one time. These practices displayed an interest in holistic medicine and offered at least one of the following health care services: injury rehabilitation, weight management, therapeutic massage, and counselling services. This profile (of general practices in the present research) provides further indirect evidence for the widespread availability of holistic medicine (Bright, 2002; Cohen, 2003). Up to 40 percent of general practitioners offer at least one form of holistic medicine, while more than 75 percent of them refer their patients to holistic practitioners (Pirotta et al. 2000).

General Practice Utilisation

The present research confirms (AMWAC, 2000; Britt et al. 2001) that general practitioners are the principal providers of primary health care in Australia. Almost 80 percent of the two samples of patients reported seeing a general practitioner at least once each year. Females comprised the majority of the clinical workload of general practitioners: 74 percent of the two samples were female. This figure resembles those reported elsewhere (70%, Britt et al. 2001; 72%, Shah et al. 2001), but is higher than that found in a study of patients to the west of Melbourne (60%; Dunt, et al. 1988).

A possible explanation for the lower numbers of males in the samples lies in the finding of the second study that they were more likely to have not participated (than were females). About half of all males either refused to take a questionnaire home or returned it incomplete. Even so, anecdotal evidence by the researcher suggests that more females received questionnaires because there were more of them waiting to see general practitioners. This anecdotal evidence is consistent with reports (Sayer & Britt, 1997; Shah et al. 2001) that greater numbers of females attend general practice.

Half of all patients (with both samples combined) were 'high attenders': they saw a general practitioner at least once each month over a 12-month period. This figure is much higher than previous estimates (Bergh & Marklund, 2003; Botica et al. 2004), which have in general not exceeded 20 percent. In addition, more than 15 percent of the two samples of patients attended a general practice at least once each week. This figure is seven times higher than that reported elsewhere (AMWAC, 2000). The present figures support the observation (Baker et al. 2002; Knox & Britt, 2004) that patients from underprivileged regions see general practitioners the most often. These patients are responsible for much of the financial expenditure on health care services in these regions (Kersnik et al. 2001; Vedsted & Olsesen, 1999).

Unlike recent reports (Heywood et al. 1998, Scaife et al. 2000) females were no more likely than males to be high attenders. In fact, males in the first study saw general practitioners more often (than did females), as most were high attenders. This latter finding might be due to the disadvantaged position of males from the region to the west of Melbourne. There was evidence that most males (from each sample) participated in activities that exposed them to more health risks. Most were employed in manual occupations that have a higher likelihood of job-related injuries. Males in this region are also more likely to participate in maladaptive behaviours that heighten

the risk of long-term health concerns (ABS, 1997). It is likely that these concerns are partly responsible for the lower life expectancy of males in the region (VDPH, 2001).

Reasons for Seeing a General Practitioner: Physical Health

The reasons given by the two samples of patients for seeing general practitioners resemble those reported in national studies (Britt et al. 2001; Sayer et al. 2000). Almost all patients provided physical conditions as their reasons for the consultation. In support of recent reports (Britt et al. 2001; Carney et al. 2001) more than half of these patients reported multiple physical conditions. Females were more likely to have provided multiple reasons for their consultation. Even so, there were no differences between males and females in their reasons for seeing a general practitioner. This finding is contrary to some reports (Jewell, 1998; Laws, 1998), although these reports give conflicting evidence as to the conditions that distinguish males and females.

One possible explanation of the present finding was the exclusion of patients having indirect consultations with general practitioners. These consultations account for up to 60 percent of all female encounters in general practice (Gusbers van Wijk, et al. 1992). Most of these indirect consultations are for preventative screening of the reproductive system. It seems that there are no sex differences in reasons provided by patients when indirect consultations are not included (Gusbers van Wijk, et al. 1992).

The most common reason given by patients for seeing a general practitioner was disease of the respiratory system, namely the common cold and influenza. The next three most common reasons were of the musculoskeletal system (mostly arthritis), nervous system (namely migraine), and circulatory system (specifically hypertension). Some of the most common complaints were degenerative health conditions such as rheumatoid arthritis (which included prolonged pain in movement joints). This latter finding is indicative of an aging patient population: one in every four patients (in both samples) was over the age of 54 years. These older patients (namely females) saw general practitioners the most often. They also had the lowest physical health. Carney et al. (2001) found that most older patients required on-going medical supervision, as they tended to have chronic conditions that have severe effects on functional fitness.

The first study also confirmed reports (Baker et al. 2002; Jyvaesjaervi et al. 1998) that patients in financial (and social) hardship have the poorest physical health. This finding might explain why these patients saw general practitioners the most

often. It is likely that many of these patients had chronic health conditions that require on-going management by general practitioners (Carney et al. 2001; DHAC, 1999).

The physical symptoms reported by most patients were of minor severity. Even patients identified as frequent attenders reported minor symptoms. These findings appear, on face value, to challenge the finding of Andersson et al. (1999) that patients in general practice the most often had the most severe physical symptoms. The present findings do, nevertheless, provide indirect support for the concern of others (Bergh & Marklund, 2003; George, 1998; Scamber, 2003) that large numbers of patients see general practitioners for 'trivial symptoms'. It is possible that many patients present at general practice with trivial symptoms (rather than self-manage them) because almost all consultations have no-out-of-pocket expenses for them. There is also the possibility that many patients see general practitioners at the onset of symptoms (when they are of minor severity), rather than when they 'feel very sick'. The DHHCS (1992) reported a steady increase in annual rates of consultations with general practitioners since the introduction of Medicare. It should be noted nevertheless that the present research found that patients in general practice the most often reported the most significant impairments in functional health (on the SF-36).

The first study confirmed reports (Hales, 2001; Scamber, 2003) that the decision to see a general practitioner is associated with functional limitations in health: those with the most severe functional limitations attended general practice the most often. Patients with the most severe physical symptoms also reported more impairment in functional capacity to participate in routine physical activities. These activities included self-care tasks (bathing and dressing), instrumental tasks (walking and carrying objects), and work tasks (satisfactory performance in the workplace or household). Dowrick et al. (2000) argued that more severe symptoms interfere with the capacity to complete daily physical chores. It is likely that more severe symptoms contributed indirectly to the decision of patients to see general practitioners.

The finding of others (Corney, 1990; Krasnik et al. 1997; Scamber, 2003) that females report lower physical health (than males) was not replicated in the first study. Their physical health was not below the norm for the health of females in Australia even though they were seeing general practitioners for ill health. These findings imply that the finding (Sayer et al. 2000) that few patients in general practice 'feel sick' might be applicable to females in particular. On the other hand, it is possible that seeking medical attention (and more often) can be a positive behaviour that has long-

term health benefits. This observation might explain the finding of Field (1997) that patients with chronic conditions sometimes reported 'feeling well'. It was an indication that symptoms of chronic conditions (and their impact on functional health) were being well managed by seeing general practitioners (and more often). The first study did find, nevertheless, that females seeing general practitioners the most often had the poorest health. This latter finding implies that the primary health care system works for females: those with the most severe health needs access it the most often.

The first study confirmed reports (Laws, 1998; Sayer et al. 2000) that the physical health of males is below the norm for the health of males in Australia. Males seeing general practitioners the most often reported multiple health concerns. These findings suggest that males tend not to seek medical attention until they 'feel very sick'. This observation provides indirect support for the argument of Taylor et al. (1998) that males are often unconcerned with their physical health until they become 'very sick'. They wrote that many males ignore the onset of physical symptoms with some reluctant to see general practitioners even for genuine cases of ill health. Males who wait until they 'feel very sick' before seeing a general practitioner are said to account for a large proportion of patients referred to hospital (Public Health, 2002). It is possible that because males have severe ill health they might be more likely to be requested by concerned general practitioners to return for secondary consultations. This observation might explain the finding of the first study that while fewer males saw general practitioners those who did see them did so more often (than females).

Mental Health

A minority of patients (from both samples) cited mental disorders as the reason for seeing a general practitioner. These disorders resembled those reported elsewhere (Barrett et al. 1998; Harmon et al. 2000) with anxiety and depression reported most often. Most of these disorders were described via affective symptoms such as nervousness, tension, saddened mood, irritability, as well as difficulty with decisions and reduced concentration. There were also patients who cited relationship difficulties with family members or work colleagues as the reason for their consultation.

The latter finding supports the finding of Pini et al. (1995) that large numbers of patients referred to general practice as a legitimate avenue for the discussion of personal difficulties. Most of these patients acknowledged that these difficulties did not require medical intervention. Even so, a recent report by VicHealth (2004) found 'intimate relationship violence' responsible for more mental health concerns among

females, particularly in underprivileged regions, than most other well-known risk factors. These females were five times more likely to have sought medical attention for depression resulting from violence in the home (VicHealth, 2004).

There were no differences between males and females in mental health. This finding is inconsistent with much research (Pilowsky, et al. 1987; Sayer et al. 2000). It also appears contrary to the finding of Harmon et al. (2000) that most patients referred by general practitioners to psychiatry services were female as they were more likely to present at general practice with mental disorders. In addition, Sayer and Britt (1997) found that females seeing general practitioners were more likely (than males) to have received prescriptions for psychotropic medication. The present findings casts doubt on the view that it is socially acceptable for females (but not males) to admit a personal need for assistance (Johnston, 1988). Johnston (1988) argued that females are more tolerant of the stigma attached to seeking psychological help, which might explain why more females use general practice for the expression of mental health concerns. These concerns often centre on family conflicts that do not require medical intervention (Murray & Corney, 1988), except in cases of violence (VicHealth, 2004).

The present findings also appear to contradict reports (Corney, 1990; Johnston, 1988) that females are more able to recognise mental health symptoms (than are males), as they are more receptive to emotional responses that accompany personal difficulties. They are also inconsistent with the finding of Corney (1990) that males restricted their reasons for seeing a general practitioner to those of a physical orientation. Pilowsky et al. (1987) found that even males with the poorest mental health continued to report fewer mental health symptoms in favour of physical symptoms. The male focus on physical distress was 'blamed' for some of the under-diagnosis of mental disorders among male patients (Mant et al. 1983). The present findings indicate that males and females do not differ in self-reported mental health. Even so, the mental health of females (but not males in the first study) did improve with increasing age. This latter finding suggests that recent reports (AIHW, 2000; Walters et al. 2001) of a significant improvement in mental health from early adulthood through to old age might be applicable to females in particular.

The present findings do not dismiss the possibility that males and females differ in the mental disorders that they bring to general practice. The NSMH (1997) found that one-third of males with mental disorders were diagnosed with substance abuse disorders, namely dependence on alcohol and/or narcotics. More than one-third of

females were diagnosed with affective disorders, mostly depression. The present research found that females were three times more likely (both studies combined) to have cited affective disorders as the reason for seeing a general practitioner.

It is possible that males are more willing to acknowledge 'personal difficulties' on a questionnaire than during face-to-face encounters with general practitioners. The first study found that most males provided 'truthful responses' on the self-report measure of mental health. It is feasible that questionnaires arouse fewer emotional responses than does personal interaction with a general practitioner. Meadows et al. (2001) found that the majority of patients in general practice with a mental disorder did not discuss it with their general practitioner. It appears that males might be more willing to report functional limitations due to emotional concerns on a questionnaire.

The mental health of males and females was below their respective norms in the general population. This finding confirms recent reports (Britt et al. 2001; Dowrick, et al. 2000) that patients in general practice have impaired mental health. Even so, patients seeing general practitioners the most often did not have the poorest mental health. This finding is contrary to recent reports (Kersnik et al. 2001; Little et al. 2001) that mental disorder escalates the likelihood of being a 'frequent attender' at general practice. Jyvaesjaervi et al. (1998) reported that even minor symptoms of mental ill health that did not satisfy the clinical threshold for a diagnosis increased rates at which patients saw general practitioners. The present findings indicate that patients in general practice to the west of Melbourne report significant impairments in mental health regardless of how often they see general practitioners.

The first study found that lower mental health was associated with more severe physical symptoms. This finding is consistent with reports (Cassem, 1995; Sayer et al. 2000) that mental disorders are common among patients seeing general practitioners for physical symptoms. Morris et al. (1992) found that up to half of all patients in general practice with physical symptoms had co-existing mental disorders. A further 60 percent complained of physical symptoms that had no recognisable organic origin (Fink, 1992). A factor-analytic study of the symptom checklist (that was administered in the first study) identified a diagnostic cluster of symptoms described as the 'somatic presentation of anxiety' (Salmon et al. 1994). In explaining findings similar to the present study, Fava et al. (1994) argued that physical disease with an organic origin can manifest through affective symptoms while some patients with physical disease often complain of affective reactions to their disease. The present findings

confirm (Ware et al. 1995) that the SF-36, designed to measure changes in mental (and physical) health is sensitive to variations in symptom severity.

2. THE MENTAL LIFE OF PATIENTS

Daydreams of Patients

The first study confirmed reports (Goldstein & Baskin, 1988; Gold et al. 1981) that males and females do not differ in how often they daydream. Most males and females reported less frequent daydreaming in that they daydreamed 'no more than once' in the previous week. Singer and McCraven (1961) found 96 percent of college students reported daydreaming daily, while Klinger (1990) estimated that daydreams comprise half of all daily thoughts. The figures of the present research are consistent with reports (Kreitler et al. 1990; Taylor, 2000) that medical patients have a reduced capacity for imaginal activities, marked by a reduction in frequency of daydreaming.

The present findings also provide indirect support for reports (Jyvasjarvi et al. 1999; Porcelli et al. 1995) that some medical patients manifest characteristics of alexithymia. A main characteristic of alexithymia is reluctance toward introspection. Posse and Hallstrom (1998) found that up to 80 percent of medical patients were unable to become 'absorbed in extended fantasy'. Instead, patients adopted concrete forms of thought focussed on realism (Honkalampi et al. 2000). They also preferred to concentrate on achieving success in external tasks (Vingerhoets et al. 1995). The focus on realism might explain why the samples of patients (in the present research) reported 'better' mental control (than the norm for college students): that is, patients had fewer opportunities for mindwandering, and as such they daydreamed less often.

A possible explanation of the present findings is that the decision of patients to see a general practitioner was incompatible with the need to withdraw from reality. Kreitler et al. (1990) found that patients tended to abandon imaginal activities. Instead they made realistic evaluations of their health needs, which included seeking medical attention as required (Kreitler et al. 1990). It appears that patients in the present research responded in an appropriate manner to their ill health by seeing general practitioners: responses to the measures of health suggested that most patients were 'sick' with significant impairments in functional health not uncommon.

There were no significant differences between males and females in patterns of daydreaming (in either of the two studies). While this finding is contrary to earlier research (Giambra, 1980; Giambra & Traynor, 1978) it might mirror changes in the

societal status of women. It is possible that the content of their daydreams has shifted towards that associated with traditional stereotypes of masculinity. Giambra (1983) speculated that this shift in content would occur as more females entered the workforce. He found that females re-entering the workforce following motherhood reported more achievement daydreams. Yanico (1981) reported that the content of the daydreams of females was determined by their occupation. Those in 'masculine occupations' had more non-traditional female daydreams that revealed a concern with career achievement such as ambition and competition, but also the worry of under-achievement as reflected in more fear of failure. The everyday concerns of males and females might now be more comparable as their roles in the workplace have become similar. This similarity seems to be reflected in their 'like' patterns of daydreaming.

In agreement with previous research (Kreitler et al. 1990; Lumient et al. 1999) patients reported an imbalance in the experience of affective daydreams. They reported more negative daydreams, but fewer positive daydreams than the norm (of college students). These findings provide indirect support for reports (Berthoz, et al. 1999; Sifneos, 1991) that medical patients have a reduced capacity for positive emotions, but were more likely to experience negative emotions. Berthoz, et al. (1999) found that negative emotions tended to manifest via unwanted thoughts that were difficult to suppress. It is possible that the greater number of negative daydreams reported by patients reflects the concerns of individuals facing important health issues that required medical intervention. This explanation is consistent with Giambra (1983) who found that menopausal women reported more negative daydreams. He speculated that the increase in these daydreams was due to heightened concern about bodily changes and their 'restrictive effect' on the capacity to participate in daily activities.

The present findings do not dismiss the possibility that patients had more problem solving daydreams, as medical patients tend to adopt realistic thinking (Sifneos, 1991). These daydreams might encourage the planning of realistic goals for the recovery of health, rather than fanciful goals that are difficult to achieve. Patients with more problem solving daydreams might also be more likely to take an active role to improve their health status, as these daydreams might provide a heightened sense of control over the healing process. Unfortunately, problem solving daydreams only represent one factor on the subscale of positive constructive daydreaming (of the SIPI; n = 4 items). It is possible that patients reported more problem solving daydreams, but that this was masked by responses to the remaining items of the subscale (n =11).

The two present studies found that more uncontrolled thought (which included an inability to concentrate on set tasks) was associated with more negative daydreams. This finding is consistent with reports (Baskin & Goldstein, 1986; Derry, et al. 1993) that individuals unable to maintain attention had more negative thought intrusions, which are difficult to suppress. These thoughts reinforce worrisome concerns, which further intensifies the experience of negative emotions (Giambra & Traynor, 1978). Wenzlaff and Bates (1998) found individuals reporting more negative thoughts were also the most ineffective in controlling the occurrence of them. It is likely that the focus of patients (in the present research) on realistic thoughts restrained the occurrence of negative daydreams, until mental control weakened allowing them to resurface. It also likely that this relationship is reciprocal: (a) the use of ineffective mental control strategies fosters (b) a lessened ability to suppress negative thoughts, which encourages (c) further deteriorations in mental control, and the cycle continues.

Both studies also found that despite having 'better' mental control than the norm, patients reported more negative daydreams (than the norm). This finding suggests that individuals with poor mental health require much more mental control (than the norm) to suppress the production of negative daydreams. Interestingly, more (or fewer) positive daydreams were not associated with better mental control, which implies that the production of positive thoughts might also require concerted mental effort: that is, they are not an automatic process for those with poor mental health. It appears that the suppression of negative daydreams and the production of positive daydreams require much mental effort by individuals with poor mental health.

The first study found evidence to support the decision of Bagby et al. (1994) to omit items of reduced daydreaming from their measure of alexithymia on the assumption that they could be influenced by social desirability. The present research suggests that this decision might apply to females in particular: females 'high' in social desirability reported daydreaming less often (and 'better' attentional control). The present finding is contrary, nevertheless, to reports (Giambra, 1989; Singer, 1981) that the need to promote a good impression had a 'minor influence' on self-reported daydreaming (on the IPI). The present finding has repercussions for the findings of others. Kreitler, et al. (1990) found that most females in general practice reported a 'marked' reduction in daydreaming as reflected by 'better' attentional control. It is possible that rather than daydreaming less often this finding (Kreitler, et al. 1990) reflected the willingness of females to provide responses that were socially desirable.

The present finding suggests that the negative connotations that have plagued the activity of daydreaming (Klinger 1971) continue to 'make it' desirable for individuals, especially females, to report daydreaming less often and improved attentional control.

Relationships Between Measures of Mental Life: Daydreaming and Life Orientation

The second study found that more pessimism was associated with more negative daydreams for females. This finding is consistent with reports (Cundiff & Gold, 1979; Giambra & Traynor, 1978) that negative daydreams are a central feature of a pessimistic orientation. However, most previous studies have considered males and females as a homogeneous group. The present findings suggest that male and female participants must be researched as heterogeneous groups when exploring relationships between selected measures of mental life, as some relationships might be sex specific.

It is likely that the relationship between pessimism and negative daydreams is reciprocal: females with a pessimistic orientation have more negative daydreams, both of which reinforce unpleasant emotions. These negative daydreams then encourage further pessimistic interpretations of external events, and the cycle begins again. It is likely that these negative dimensions of mental life also reframe positive events into negative ones. Hence, it appears that these two negative dimensions encourage females to dwell on the negative side of themselves and their emotional experiences (negative daydreams) and the world in which they live (pessimistic orientation). While it is tempting to conclude that this negative feedback loop is not applicable to males this needs to be confirmed with a large sample size (n of males was 50).

The second study speculated that uncontrolled thought might also be associated with more pessimism, however this relationship was not confirmed. This finding is inconsistent with Giambra and Traynor (1978) who reported that 'pessimistic college students' were unable to concentrate on external tasks without experiencing boredom, distractibility, and mindwandering. However, this finding (Giambra & Traynor, 1978) is questionable as pessimism was measured using a single item. The present finding implies that more uncontrolled thought does not encourage more pessimistic thinking (and vice versa). It also suggests that life orientation (pessimism) might be a more stable affective disposition than affective daydreams (negative daydreams) as more negative daydreams was associated with more uncontrolled thought. The items comprising measures of mental life (used in the second study) suggest that life

orientation refers to stable expectancies concerning outcomes to external events, whereas affective daydreams reflect mood states that alter with changes in everyday perceptions. There is also evidence to suggest that a perceived lack of control over external events is an important characteristic of a pessimistic outlook (Taylor, 2000).

An unexpected finding of the second study was that positive daydreams were not associated with optimism. This finding is contrary to the assertion of Starker (1982) that positive daydreams help maintain an optimistic outlook on life events. It is likely, nevertheless, that both of these dimensions of mental life serve to maximise the experience of positive emotion (Gold et al. 1987 Scheier et al. 1994). It is also possible that the *unrealistic* expectation that outcomes to all external events will be favourable might differ from *realistic* planning to achieve these outcomes. Some positive constructive daydreams help prepare alterative plans for future events, before mentally reviewing their possible outcomes. On the other hand, unrealistic optimism reinforces the belief that favourable outcomes to all events are inevitable (or at least attainable with minimal effort; Bewberry & Richardson, 1990; Weinstein, 1980).

3. MENTAL LIFE AND HEALTH STATUS

Daydreaming and Physical Health

The first study found that physical health was not associated with daydreaming. Unlike Giambra and Traynor (1978) patients who daydreamed the most often did not report reduced functional capacity to undertake the physical activities of daily living. The present finding is also inconsistent with reports (Giambra, 1983; Jensen 1987) that negative daydreams contain emotions associated with adverse changes in physical health. It is also contrary to the report of Kreitler and Kreitler (1991) that positive daydreams lessen the harmful effects of negative emotions on physical health. The present findings suggest that affective daydreams do not manifest emotions that affect the physical health of patients in general practice, most of whom have poor health.

There are two possible explanations for the present findings. The first is that previous studies did not administer the SF-36 measure of physical health. Giambra (1983) relied upon a single item of physical health that asked participants to ‘simply’ rate their capacity to participate in routine physical activities. The validity of a single item of health status is questionable. The SF-36 measure comprises four dimensions of physical health. It could be argued that, in comparison to earlier studies, the present findings were obtained from a more thorough assessment of physical health. In

addition, studies such as that by Jensen (1987) used clinical measures (such as blood chemistry analysis) to identify changes in physical functioning. It appears that daydreaming does not predict the self-reported physical health of medical patients.

The second explanation is that most previous studies (Giambra, 1983; Giambra & Traynor, 1978; Kreitler & Kreitler, 1991) have not investigated medical patients. When studies have included patients, most samples have been restricted to those with severe medical conditions that pose serious long-term threats to health status. Jensen (1987), for instance, studied females with malignant breast cancer. A large proportion of these females died from their cancer during the study. Hence, the present findings might only be applicable to patients in general practice with less severe health needs.

The present findings might also only be applicable to self-generated daydreams. Much evidence indicates that scripted imagery *given* to patients is beneficial for physical health (Dennis, 2004; Walker, 2004), especially when the content is directed toward the health needs of individual patients (Zahourek, 2002). Most of the previous research has again been restricted to patients with severe medical needs, namely those recovering from invasive surgery and those undergoing chemotherapy for cancer. Raft et al. (1986) found that even when patients were allowed to select their own imagery many were unable to select the most positive imagery to use. The use of imagery scripted by Raft et al. (1986) evoked more physiological responses than did imagery selected by patients themselves. The present findings suggest that self-generated daydreams, which are not manipulated by a researcher, are not associated with changes in physical health. These findings do not dismiss the possibility that positive relaxation daydreams scripted by a researcher arouse emotions associated with favourable effects on the physical health of medical patients with severe health needs.

Daydreaming and Mental Health: Findings for Males

The first study found that males (and females) who daydreamed more often did not report lower mental health. This finding is similar to reports (Baskin & Goldstein, 1986; Cazavelan & Epstein, 1966) that 'more depressed' psychiatric patients did not daydream more often (than did college students). Even so, the present finding contradicts reports (Giambra & Traynor, 1978; Greenwald & Harder, 1995; 1997) that more frequent daydreaming is an important characteristic of affective disturbance.

There are two plausible explanations for the present finding. The first is that most previous studies administered the full 12-item frequency of daydreaming

subscale of the IPI. The present research used a single item from this subscale in order to minimise the number of items comprising the questionnaire. Katz et al. (1992) showed that more numbers of medical patients return completed questionnaires when there are fewer items (and a shorter completion time), especially if they 'feel sick'. Even so, the validity of a single item of daydreaming is questionable. It could be argued that, in comparison to earlier studies, the present findings were obtained from a limited assessment of frequency of daydreaming. That is, previous reports (Giambra & Traynor, 1978; Greenwald & Harder, 1995; 1997) that more frequent daydreaming is an important characteristic of affective disturbance were derived from a more thorough assessment of daydream frequency (when compared to the present study).

The second explanation is that it is not frequency of daydreaming, but affective patterns of daydreaming, that is associated with the mental health of males. Both of the present studies found that more negative daydreams predicted poorer mental health of males. These males also reported more uncontrolled thought. These findings confirm much previous research with samples of college students (Gold, et al. 1987; Greenwald & Harder, 1997) and psychiatric patients (Baskin & Goldstein, 1986 Starker & Singer, 1975a). The present findings (and those of previous research) suggest that uncontrolled thought is an important feature of affective disturbance: a lower capacity to maintain mental control corresponds with more negative daydreams (and vice versa), both of which have adverse effects on the mental health of males.

It possible that the function of uncontrolled thought is to enable males to escape from negative emotions that often accompanies life dilemmas. This function might reflect the general tendency of males to avoid concerns in the hope that they 'will go away' (Beevers & Meyer, 2004). This tendency might also explain the hesitation of males to seek medical attention even when they are 'very sick': that is, they mentally withdraw and reduce their efforts to confront worrisome concerns (Earle et al. 1998). However, as reported by others (Klinger, 1990; Sutherland 1971) the use of daydreaming to avoid reality is temporary as unmet emotional needs resurface through daydreams despite repeated efforts to divert attention from them. Sutherland (1971) argued that negative emotions materialise because of the inability to control the production of all thoughts. The present findings indicate that uncontrolled thought, as well as more negative daydreams, has adverse implications for male mental health.

The two present studies found that more positive daydreams did not improve the mental health of males. This finding is inconsistent with earlier research (Baskin &

Goldstein, 1986; Starker & Singer, 1975a: b) that found psychiatric patients with the lowest mental health reported the fewest positive daydreams (on the IPI). The present finding is, nevertheless, consistent with more recent research (Greenwald & Harder, 1995; 1997; Zhiyan & Singer, 1997). This recent research was, however, unable to explain why more positive daydreams did not improve mental health. It is possible that positive daydreams did not predict mental health (in the present research) because males were unable to generate a sufficient number of them. The two samples of males reported fewer positive daydreams than did college students (representing the norm).

It remains unknown if encouraging males to have more positive daydreams would improve their mental health. Schultz (1978) found a marked improvement in the mental health of psychiatric patients when they were 'trained' to focus on positive experiences. Patients able to reframe negative experiences into positive ones reported the most reduction in negative affect (Schultz, 1978). The present research suggests that males who dwell on negative aspects of themselves and their emotional experiences (via introspection that encourages more negative daydreams) have the poorest mental health. It also suggests that the mental health of males does not benefit from more positive daydreams. It is possible, nevertheless, that positive daydreams do play a mediating (or functional) role in determining mental health but that this role was not identified by the present study. The fact that the stepwise regressions did not include positive daydreams as a significant predictor of mental health means it did not provide additional prediction to those variables already in the regression models.

For males, more severe physical symptoms were also associated with lower attentional control and more negative daydreams. This finding confirms earlier reports (Giambra 1983; Gold & Minor, 1984) that more negative daydreams were associated with more bodily sensations. Gold and Minor (1984) argued that these sensations were psychosomatic in origin. It is possible that the present finding was also due, in part, to psychosomatic symptoms. The symptom checklist (used in the first study) comprised symptoms of the 'somatic presentation of anxiety' (Salmon et al. 1994). As noted earlier, this checklist was sensitive to changes in mental health. The present findings for symptom severity, which resemble those found for mental health, might reflect the relationship between severity of physical symptoms and mental health.

An alternative interpretation of the present findings can be made by integrating Klinger's (1990; 1993) theory of current concerns with the theory of separate affective systems proposed by Cacioppo and Gardner (1999). The latter theory

suggests that the experience of positive and negative emotions can be separated in that negative affect is experienced when information is perceived as threat-related (that is, a negative situation) while positive affect is experienced when information indicates safety (that is, positive situations). Cacioppo and Gardner (1999) argued that negative affective dimensions are more influential than positive ones on cognitive (and behavioural) activity. The theory of current concerns suggests that daydreams serve as safety valves to regulate the expression of intense emotions (especially negative emotions) associated with worrisome concerns that are yet to be resolved (Klinger, 1990; 1993). Klinger (1990) estimated that two-thirds of daydreams reproduce current concerns with the most influence concerns being those associated with intense emotions. These two theories imply that unpleasant events (and associated negative emotions) often dominate the cognitive activity of individuals.

The present findings concur that negative dimensions of mental life (measured here as negative daydreaming) are more important (than positive dimensions) to the mental health of medical patients, of males in particular. Spiegel et al. (1989) concluded that medical patients should be encouraged to understand (and confront) negative emotions as this might benefit health outcomes. It is possible that patients with ill health have concerns that are likely to reinforce and arouse more negative emotions. These concerns tend to be reflected in their negative daydreams. That is, patients who are sick have more negative daydreams about being sick. It is likely that a reciprocal relationship exists for those with ill health: concerns about being ill reinforce (and arouse) negative emotions that encourage negative daydreams. These negative daydreams further reinforce negative emotions and also contribute to greater reductions in health (mental health, in particular). The preoccupation with health-related concerns also means that patients are unable to concentrate on external tasks for prolonged periods of time without the need to refocus attention towards these concerns (hence, their low attentional control).

Life Orientation and Mental Health: Findings for Females

For females, findings of the first study resembled those found for males: lower mental health was associated with lower attentional control and more negative daydreams. However, these findings were not replicated in the second study when life orientation was included. In line with the most recent research (Roysamb & Strype, 2002; Schou et al. 2004; Treharne et al. 2000) optimism and pessimism were scored

separately. Lower mental health of females was associated with more pessimism and lower optimism. However, when optimism and pessimism were included in the same regression it was pessimism (and not optimism) that predicted mental health.

The present findings are consistent with recent reports (Ben-Zur et al. 2000; Furnham, 2001; Schou et al. 2004) that while both optimism and pessimism are associated with mental health, it is pessimism that determines mental health. Schou et al. (2004) found, for instance, that females patients 'high' in pessimism were four times more likely to have reported affective symptoms following breast cancer surgery. Similarly, Furnham (2001) and Bromberger and Matthews (1996) found symptoms of depression more prevalent among individuals 'overly' pessimistic when confronted with stressful situations. In contrast, more optimism did not abate the experience of depressive symptoms (Chang & Bridewell, 1998; Furnham, 2001).

To the best knowledge of the researcher the present study was the first to separate male and female patients. It suggests that the finding of others (Furnham, 2001; Schou et al. 2004; Treharne et al. 2000) that mental health is sensitive to changes in pessimism is applicable to females (and not males). It also implies that it is a negative view of external events (and a perceived lack of control over these events) that determines the mental health of females. It is possible that this negative view encourages females to seek medical attention because of the belief that maintaining (or restoring) health is beyond personal control. Pini et al. (1995) found a large volume of females relied upon general practitioners to maintain their long-term health. These females considered their personal involvement in maintaining a healthy lifestyle to be of minor importance (compared to the role of their doctor). It should be noted, nevertheless, that the belief of limited control over the external environment has some foundation in reality for many females from deprived regions (VicHealth, 2004). This limited control seems to have adverse implications for their mental health.

The present findings suggest that psychological interventions that aim to reduce pessimism might lead to favourable changes in the mental health of females. Treharne et al. (2000) found that the capacity to reduce pessimism was more important (than promoting optimism) in fostering positive changes in mood states. Hence, it is crucial for the mental health of females that thoughts are not pessimistic since these thoughts had detrimental effects on mental health. It also appears that encouraging females to maintain better mental control (and to concentrate on set tasks) would not improve mental health, since more controlled thought did not correspond with less pessimism.

Psychological interventions need to focus on the suppression of pessimistic thoughts (rather than the production of optimistic thoughts) for improved female mental health.

The present findings are the first to confirm with patients in general practice that lower mental health stems from more pessimism. Much previous research has been restricted to college students (Chang, 1996; Luten et al. 1997) or medical patients with severe health needs (Ben-Zur et al. 2000; Mahler & Kulik, 2000). The present findings (when combined with recent research) suggest that a reduction in pessimism is important to improving the mental health of female patients regardless of their severity of ill health. The present research also questions the interpretation of earlier findings (Scheier & Carver, 1985; Scheier et al. 1986; Scheier et al. 1989) based on a unidimensional model of life orientation: the earlier finding that optimism improved mental health might have been due to lower pessimism rather than more optimism per se. It appears that negative outcome expectancies are a major determinant of the mental health of patients in general practice, of female patients in particular.

EVALUATION OF THE PRESENT RESEARCH

Methodological Limitations

There were 12 main limitations to the research designs. These limitations are discussed below, as are the measures instigated to minimise potential negative effects.

1. **Recruitment of Participants:** From a statistical standpoint the most effective method of obtaining a representative sample is through random sampling. It was not practical, however, for all patients in general practice to have an equal chance of being selected. The majority of general practices contacted (85%) failed to respond to, or declined, the written invitation to participate. However, the present research was not selective in recruiting patients. All patients in waiting rooms of general practices were invited to participate. The samples were, therefore, drawn directly from the intended population: they represented legitimate observations. It was assumed that the findings of the two studies could be generalised to patients in general practice to the west of Melbourne.

2. **Small Sample Sizes:** The capacity of a study to draw accurate conclusions about a research population is enhanced with the use of larger sample sizes (Heiman, 1992). The sample sizes of males in the two present studies were particularly small: they were one-third the size of female samples. Even so, all statistical analyses involving males

had more than 30 valid cases, the recommended figure for 'minimal power' (Heiman, 1992). For females, all statistical analyses had more than 120 cases, indicative of 'adequate power' (Heiman, 1992). The low numbers of males was an important finding: anecdotal evidence indicated that fewer males saw general practitioners (than females). In addition, the second study found that about half of all males approached to participate either declined to take a questionnaire home or returned it incomplete.

3. **Uneven Numbers of Males and Females:** There are no standard guidelines as to the difference in numbers tolerable when comparing the mean scores of two (or more) groups. Heiman (1992) argued that it is often not practical (nor essential) to have equal numbers in each group when performing multivariate statistical analyses. Even so, the difference in numbers between males and females in the present research (1 to 2.8 respectively with both studies combined) was much larger than the recommended ratio of 1 to 1.5 (Coakes & Steed, 1997). However, inferential statistics used in the two studies are said to be 'robust', so that the numbers in each group need not be equal (Heiman, 1992). It was assumed that the uneven numbers of males and females did not compromise the validity of the findings of the present research.

4. **Reduction in Valid Cases:** There was a reduction in the second study of more than 10 percent of cases entered in correlations when age was controlled. This reduction, which occurred for both males and females, limited the statistical power of the correlations. Heiman (1992) argued that reduced power can impact on the results in two ways. The first is the increased likelihood that results are due to chance or random error. The second is the increased likelihood of failing to detect a relationship when it does exist. The results of correlations in the second study altered when controlling for age. Lower mental health of males became related to more pessimism while mental health of females was no longer related to optimism. It is suspected that these results occurred in response to the decline in cases rather than representing 'actual' relationships. In response to the reduced statistical power the results of correlations controlling for age were not included in the discussion of findings.

5. **Differences in Demographic Characteristics:** Even though the two samples of patients were drawn from the same population there were significant differences in demographic characteristics. These differences (in demographic characteristics) might help explain the discrepancies in findings between the two studies. For instance, the

second study found that (unlike the first study) older females reported 'better' attentional control. This discrepancy might have occurred because females in the second study were twice more likely (than females in the first study) to be aged over 54 years. Heiman (1992) argued that the likelihood of finding statistical significance is reduced if some response categories from the one measure have lower numbers of cases. Even so, most hypotheses of the second study were supported, which is important since they were drawn from the findings of the first study. The multiple regressions of the second study were also designed to control for a number of demographic characteristics (including age) known to affect the health of patients.

6. **Omission of Patients from Migrant Backgrounds:** The diversity of foreign languages spoken in the region to the west of Melbourne meant that it was impractical to transcribe questionnaires. Patients had to be capable of completing a questionnaire that was written in English to be eligible for participation in the study. It was feared that this selection criterion might have excluded large numbers of patients from participating. This seems unlikely, however, as almost three-quarters of patients (from both studies) approached in waiting rooms returned completed questionnaires. One-third of these patients were overseas born with most of these from countries where the dominant language is not English. These figures resemble those found in a population study of the region (Grace & Shield, 1998). It appears that the two samples of patients represented the proportion of residents in the region from migrant backgrounds. The high response rate (74%) is also contrary to reports (Clarke et al. 1991; Lewis et al. 1992) that patients from migrant backgrounds living in underprivileged regions were least willing (or least able to because of language barriers) to participate in research.

7. **Health of Non-Respondents:** The health of the minority of patients (26% both studies combined) who did not return completed questionnaires remains unknown. The health of these patients might have differed from patients who returned completed questionnaires. It could be assumed that patients 'feeling very sick' would be least able (or willing) to complete a questionnaire. If so, the samples may not have 'captured' patients with the worst health, which may explain why no patient reported symptoms of 'a great deal of severity'. Even so, patients in general practice the most often reported the worst health, as was expected. In addition, the mental health of the two samples of patients (and physical health of males) was below the norm in the Australian general population. These findings indicate that the two studies were able

to ‘attract’ patients with poor health. It does, nevertheless, remain unknown whether ‘feeling too sick’ prevented some patients from returning completed questionnaires.

8. **Lack of Causation:** The two studies examined relationships between selected measures of mental life via a correlation matrix. The main limitation of correlations is the inability to infer causal interactions (Heiman, 1992). It was possible, however, to surmise the causal direction of relationships by drawing upon the research of others. Baskin and Goldstein (1986) found, for instance, that patients with diminished mental control reported more negative daydreams. However, the causal direction of many relationships is still unknown. For instance, more negative daydreams might promote more pessimism or vice versa, or alternatively a reciprocal relationship might exist. Future research is needed to establish causation between measures of mental life since the present research was not attempting or designed to determine causal relationships.

9. **Social Desirability:** Almost all patients in the first study provided socially desirable responses, indicative of the need to ‘make a good impression’. It is also possible that the remaining patients were ‘good at faking’ responses. Females were more inclined to provide socially desirable responses on the self-report measures (than were males). The first study was able to perform a regression controlling for the effect of social desirability on the physical health of females. Even so, the present findings need to be replicated with a larger sample size completing a measure of social desirability. The effect of socially desirable responses on self-report measures requires further study.

10. **Psychometric Properties of the LOT-R:** The shortness of the two subscales of the LOT-R (three items each) imposes serious constraints on the validity of scores. Tabachnick and Fidell (2001) argued that small numbers of items increases the likelihood that the final score provides an inaccurate assessment of the construct being measured. However, Marshall et al. (1992) did find that pessimism (as measured by the LOT-R) recorded higher correlation coefficients with other measures of pessimism than with optimism, and vice versa. It is, nevertheless, questionable as to whether the six items comprising the LOT-R are the most suitable were assessing life orientation. They were originally developed on the assumption that pessimism is the immediate opposite of optimism on a single continuum model (Scheier & Carver, 1985). The present study found that optimism and pessimism represent separate dimensions of life orientation. Even so, optimism and pessimism were interrelated: lower pessimism was

associated with more optimism. Consistent with reports of others (Mahler & Kulik, 2000; Treharne et al. 2000) the magnitude of this relationship was moderate (male r = -.36; female r = -.57). The reliability of each of the two subscales was satisfactory.

11. **Self-Report Measures of Daydreaming:** The literature review (pages 25 to 28) discussed limitations associated with self-report measures of daydreaming, which are applicable to the present research. The present research relied upon the retrospective recall of participants. It is possible that the present research only measured daydreams that were remembered by participants (without the aid of the researcher), since most daydreams are followed by partial, if not complete, forgetting (Cundiff & Gold, 1979). Moreover, daydreams that are remembered tend to be those containing the most intense emotions (Klinger 1971; Singer 1981). It is likely that the present findings are only applicable to memorable daydreams (the least common form of daydream reported; Klinger, 1990). Most daydreams are brief episodes lasting, on average, about 15 seconds each, which depict everyday objects or events daydreams. Some daydreams also take the form of isolated images (Lang, 1995). The present study might not have captured 'common daydreams' that occur frequently in everyday thinking. A more effective method of data collection is 'thought sampling' (which is discussed in detail on page 27). However, this method is time-consuming and has seldom been used in studies of daydreaming. Research is yet to compare results obtained from thought samples with those of self-report measures. It must be noted that the limitations outlined above are not exclusive to the present research: they are common to most published studies of daydreaming conducted to date.

12. **Accuracy of Regression Models:** The recommended ratio of number of cases to number of independent variables for a regression is 5:1 (Hair et. al., 1995). All regressions performed for males had a ratio marginally lower than that recommended (4:1; average of all regressions). The present findings need to be replicated with a larger sample size of males, possibility by recruiting males over a longer time period since fewer of them see general practitioners (in comparison to females). The present findings were strengthened by its highlighting of mental life measures that did not enter the regression models. This approach is consistent with the recent argument (Tabachnick & Fidell, 2001) that independent variables failing to enter a regression are not inconsequential, as relationships between independent variables can influence the total variance explained by the final regression model. The regressions controlled

for the potential effects of demographic characteristics, which was important as it was possible that the findings of correlations between measures of mental life and health status were due to the action of one, or more, of these demographic characteristics.

Theoretical Limitations

The discussion has alluded to theoretical confusion over dimensions that comprise mental life. The reasons for this confusion will be outlined here again, but only briefly. There is some uncertainty as to dimensions of mental life being assessed by items that comprise measures. This uncertainty has been reported by other researchers (Klinger, 1971; Marshall et al. 1992; Sanderson, 2004), concerned about the lack of significant relationships between many popular measures of mental life.

Some researchers (for example, Schoenfeld, 1970; Starker, 1982) assumed that life orientation and affective daydreams represent related dimensions of mental life. There has, however, been little research evidence to support this assumption. The present research also found 'few' relationships between these dimensions of mental life. The items that comprise measures of life orientation (LOT-R) and affective daydreams (SIPI) suggest that they represent different orientations towards the self (internal) and the outside world (external). The items imply that affective daydreams refer to perceptions of the self (and emotional experiences) as held by the individual, while life orientation refers to perceptions of the world in which the individual lives.

It is unclear from the items comprising measures of life orientation as to whether optimism and pessimism are traits that are inherent or learned expectations about likely outcomes to external events (or a combination of both). There is also confusion as to whether outcomes to external events are perceived by the individual as beyond personal control (De Ridder, Fournier, & Bensing, 2004; Nes, Segerstorm, & Sephton, 2005). There is current debate regarding whether 'optimists' have the expectation that only favourable outcomes will occur (due to unrealistic perceptions of personal abilities) or explain unfavourable outcomes as resulting from external influences (Sanderson, 2004). Bryant and Cvengros (2004) argued that relationships between life orientation and other measures of mental life also remain unclear. For instance, they reported that it is uncertain as to whether an *optimistic* outlook on external events can be distinguished from a *hopeful* outlook on the successful attainment of specific goals.

In contrast to life orientation, it is likely that the affective composition of daydreams alter with changes in everyday perceptions (Giambra, 1989). Daydreams can also be used to modify outcomes to events that have occurred in the real world.

These outcomes resemble those that were desired, but which did not occur in reality. These daydreams might serve to provide a sense of control over outcomes to external events (even if outcomes are imagined). There is an urgent need to clarify differences (and similarities) between measures of mental life. There continues to be debate as to how to 'best' describe and measure specific dimensions of mental life (Bryant & Cvengros, 2004; Sanderson, 2004). Suggestions for future research to address some of the theoretical confusion over relationships (and lack of relationships) between dimensions of mental life follow in the next final chapter of the thesis.

CHAPTER EIGHT:
SUMMARY AND IMPLICATIONS

Without playing with fantasy no creative work has ever yet come to birth. The debt we owe to the play of this imagination is incalculable.

(Carl Jung, 1875-1961).

Introduction

The previous chapter was the discussion that drew together the findings of the two studies. It stated whether the hypotheses were, or were not, supported and evaluated the literature review in light of the findings obtained. The present chapter examines the significance of these findings for providers of primary health care. It also presents the main implications of the present findings for future research. These implications draw reference to the most recent research (published in the last year). The chapter finishes with conclusions that address the research questions of the thesis.

The Health Profile of Medical Patients

There are nine main implications for providers of primary health care services:

1. The primary health care system to the west of Melbourne can be assured that it is achieving its main objective: patients who see general practitioners the most often have the worst health (and the highest corresponding health needs). They are also more likely to have chronic conditions that require on-going medical intervention (VDPH, 2001). There is an urgent need to reduce the health burden in underprivileged regions. It is unknown if improved access to more medical resources (and more often) would benefit the long-term health of these residents. The main barrier to seeking health-care in disadvantaged regions is not financial hardship, but limited provision of health services (Adamson, Ben-Shlomo, Chaturvedi, & Donovan, 2004).

2. There is a need for preventative programs that encourage positive health behaviours that are known to reduce severity of health burden in vulnerable populations. These programs must also target factors that encourage participation in maladaptive coping behaviours that heighten the risk of long-term health concerns. It is imperative that these programs do not 'blame' the patient for maladaptive behaviours as this often deters them from seeking medical attention when ill (Richards, Reid, & Watt, 2003).

3. There is a need to promote safer work-practices. These practices need to minimise the inherent health risks for those employed in manual occupations, namely males. Many males from disadvantaged regions sustain job-related injuries that require medical attention (Ebrahim, Papacosta, Wannamethee, & Adamson, 2004). It is imperative that programs also be developed to reduce 'intimate relationship violence' (Hamel, 2005), which is responsible for much of the ill health of females (and sometimes males) from underprivileged populations (VicHealth, 2004).

4. The decision of patients to seek medical attention is determined by functional limitations in health, and not severity of physical symptoms: those with more severe functional limitations see general practitioners the most often. It is, therefore, imperative that general practitioners assess health status from the viewpoint of the patient. They need to understand the *meaning* of symptoms by enquiring about their effect on the functional health of the patient. Most general practitioners focus on the clinical discovery of bodily pathology (Thompson, Hunt, & Issakidis, 2004).

5. One might assume that individuals from underprivileged populations receive more preventative information from general practitioners as they see them the most often. This information is important for the effective management of chronic disease (Jones, Schellevis, & Westert, 2004). It is unknown if patients do receive this information or if it is disregarded when provided. A pilot study (Willems, Maesschalck, Deveugele, Derese, & De Maeseneer, 2005) found that patients from deprived regions received less information and fewer positive responses from general practitioners.

6. Patients in general practice report significant impairments in mental health. Yet few of them provide mental disorders as reasons for seeing a general practitioner. It could be speculated based on these findings (and recent research; McLeod, 2004) that many mental disorders remain undiagnosed in general practice. It is vital that general practitioners are aware that fewer patients discuss mental health symptoms with them than is implied by their morbidity (Boardman, Henshaw, & Willmont, 2004). Many general practitioners manage physical symptoms, and not underlying (and associated) mental health concerns that continue to resurface as physical symptoms (Al-Windi, 2004). More general practitioners need to enquire about the mental health of patients, especially in vulnerable populations where poor mental health is common. They need to undertake regular training in mental health care as this improves their effectiveness in diagnosing, and then managing, mental disorders (Richards et al. 2004).

7. The issue of administering screening questionnaires to 'detect' mental disorders needs to be reconsidered, particularly for use with males in general practice. It is possible that males are more willing to disclose vulnerable emotions (and mental health issues) on a self-report measure than during direct consultations with health professionals. This possibility requires further investigation. The factors that discourage males from talking about their feelings (and mental health issues) also need further exploration.

8. The health of males in underprivileged populations is in 'crisis': they are 'very sick'. Yet fewer of them see general practitioners, but those who do see them do so more often (than do females). Males tend to wait until they experience significant impairments in functional health before seeking medical attention. Many of them also rely upon others (namely females) to take partial responsibility for their health and to motivate them to see general practitioners (Parslow, Jorm, Christensen, Jacomb, & Rodgers, 2004). The reluctance to maintain regular contact with health professionals might be partly responsible for the lower life expectancy of males, particularly in underprivileged populations. Most males do not have sufficient access to preventative medicine (and education) since so few of them see general practitioners.

9. More females (than males) see general practitioners, even though the physical health of females in general practice resembles their norm in the general population. There is some evidence that females are more resilient ('better' at coping than males) to bodily pain (Inman, Faut-Callahan, Swanson, & Fillingim, 2004). It is also possible that seeking medical attention (and more often) can be a positive behaviour, which has long-term health benefits. The challenge for health educators is to motivate more males to see general practitioners at the onset of ill health rather than when it is more advanced. These educators need to design programs that encourage males to become more aware of their health (and social) needs and to be more responsible for them. To improve the health of males it is crucial that health promotion strategies are designed to both *inform and motivate* them: males must act upon the information that is given to them by health professionals if their health is to improve (Willems et al. 2005).

The Mental Life of Medical Patients and its Relationship to Mental Health

There are 11 main implications for mental life and its relationship to mental health:

1. Many patients in general practice manifest characteristics of alexithymia (De Gucht, Fischler, Heiser, 2004). They adopt concrete forms of thought focussed on realism, which is not conducive to imaginal activities such as those investigated in the present research. It needs to be determined if this focus on realism encourages patients to make accurate assessments of their health needs and to respond in an appropriate manner to their ill health. This is important, as most studies have referred to alexithymic characteristics as 'maladaptive'. The decision of patients (in the present research) to see general practitioners appeared justified: most patients had poor health.

2. It is unknown whether 'sick' individuals who choose not to see general practitioners are less likely to adopt realistic forms of thinking (than are those in general practice). It is possible that these individuals, in particular those with chronic conditions, make inaccurate assessments of their health needs. They might have more wishful fantasies as a defensive manoeuvre to the stressful demands of living with a chronic condition. They might also under-estimate the severity of the condition and fail to see a general practitioner even when it is justified. These possibilities require further consideration.

3. It is yet to be established whether characteristics of alexithymia are more prevalent in underprivileged populations. It is possible that 'emotional awareness' is determined, in part, by the external environment: those living in adverse conditions adopt action-oriented (or task-focussed) expressions of emotion (Lane, Sechrest, & Riedel, 1998). These actions restrict the verbal expression of emotion, particularly among males from disadvantaged regions (Zimmermann, Rossier, Stadelhofen, & Gaillard, 2005), which could explain why these males are less likely to express emotions, and more likely to adopt behaviours such as substance abuse (Bray, 2004). These possibilities require much further study, as does the likelihood that maladaptive behaviours relieve symptoms in the short term, but have long-term harmful health effects (Bray, 2004).

4. It is likely that some physical symptoms reported by patients from underprivileged regions are psychosomatic in origin as these symptoms are more prevalent in these regions (Kirmayer, Groleau, Looper, & Dao, 2004). The reduced capacity of patients from these regions to identify and describe emotions can lead to the expression of emotional difficulties via somatic symptoms (De Gucht, Fischler, & Heiser, 2004).

These symptoms make the assessment process difficult for general practitioners, which might also explain the under- diagnosis of mental disorders in general practice. There is a need for general practitioners to receive more training to improve their recognition of alexithymia (and related constructs). This recognition is important for when they see patients who are unable to articulate their concerns (or emotional state).

5. Most patients have an imbalance in the experience of affective daydreams. They have a reduced capacity to experience positive daydreams, but at the same time have more negative daydreams (than the norm). It is likely that negative thoughts reinforce (and arouse more) negative emotions (Waller & Scheidt, 2004). These negative thoughts are associated with impaired mental health. It is imperative that researchers are aware that different negative thoughts predict the mental health of males and females: negative daydreams are important for males while pessimism is important for females. Much more research is needed to clarify sex differences in mental life, and in the relationships between mental life and health status, in particular mental health.

6. It is likely that the focus of patients on realism (at the expense of imaginal activities) restrains negative daydreams until mental control weakens allowing them to resurface (Brewin & Smart, 2004). It is also likely that those having more negative daydreams are unable to control the occurrence of them (Beevers & Meyer, 2004). It is unknown if much more mental control (than the norm) is required to suppress the negative daydreams of individuals with poor mental health. The challenge for researchers (and helping professionals) is to develop, and then evaluate, strategies that encourage these individuals to develop better mental control, especially when in stressful situations.

7. It is yet to be established if effective mental control strategies restrict the production of negative daydreams and foster better mental health, particularly among males. The general tendency of males to suppress negative thoughts might actually contribute to impaired mental health (Beevers & Meyer, 2004), as confronting (and expressing) negative emotions is associated with improved mental health (Lumley, 2004). It is also possible that males with impaired mental health have more uncontrolled thought, which has further adverse effects on mental health. The (causal) nature of the relationships between mental control, negative daydreams, and mental health requires much further investigation. It seems unnecessary to include positive daydreams in this investigation, as these daydreams are not associated with better male mental health.

8. It is important for females that they have fewer pessimistic thoughts as these thoughts predict poorer mental health. It is yet to be established if replacing these thoughts would improve the mental health of females. Research needs to determine if the affective content of 'replacement thoughts' is important to mental health. It remains unknown if the most effective replacement thoughts are those that are positive, realistic, fanciful, or neutral in content. It appears unnecessary to encourage females to be more optimistic, as more optimism does not improve mental health. It is possible that the affective content of replacement thoughts is irrelevant, provided that these thoughts do not arouse negative emotions. These possibilities require further research.

9. It is crucial that future research considers optimism and pessimism as separate dimensions when examining relationships between life orientation and mental health. It is possible that the effect of pessimism on mental health is 'masked' when it is combined with optimism. The separation of dimensions of life orientation enables researchers to determine if improved mental health stems from more optimism, less pessimism, or a combination of both. This separation has implications for earlier studies of dispositional optimism: the finding that optimism improves mental health might have stemmed from lower pessimism rather than more optimism per se. It is also possible that the findings of previous studies, which did not separate male and female participants, might be applicable to females (and not males). It is crucial that future research investigates males and females as heterogeneous groups, as there are important sex differences in relationships between life orientation and mental health.

10. There is a need to clarify differences between dimensions of mental life. It appears that some dimensions might represent contrasting beliefs of locus of control. It seems that life orientation refers to anticipated outcomes to external events that are perceived as beyond personal control. This perception might be related to an external locus of control, but this is yet to be established. In contrast, daydreams can be used to modify outcomes to events that have occurred in the real world. These 'imagined outcomes' resemble those that were desired, but which did not occur in reality. These daydreams might be related to an internal locus of control but this is also yet to be established.

11. It is also possible that the *unrealistic* expectation that all outcomes to external events will be favourable (unrealistic optimism) differs from *realistic* planning to achieve favourable outcomes (positive constructive daydreams). It needs to be determined if

unrealistic optimism encourages individuals to adopt ineffective coping strategies when confronted with stressful situations (Iwanga, Yokoyama, & Seiwa, 2004). These individuals might not respond in a suitable manner when facing important health concerns due to the belief that health outcomes will be favourable, regardless of their course of action (or conversely, failure to act; De Ridder et al. 2004). It is also possible that 'optimists' see favourable outcomes to stressful situations as attainable, and as such invest more effort to achieve their goals (Nes et al. 2005).

CONCLUSION

This thesis has highlighted an urgent need to address the severe health needs of individuals from underprivileged regions such as that to the west of Melbourne. These individuals see general practitioners the most often since they experience significant impairments in functional health. Hence, there is a clear need for research to identify, and then develop strategies to address, behavioural (and environmental) factors that contribute to the health burden of underprivileged regions. The health of males from these regions is especially poor as they are often hesitant to see general practitioners at the onset of ill health and instead wail until their ill health is more advanced. The challenge, as yet unmet, is for health educators to design programs that encourage males to seek medical attention, and more often. This thesis suggests that seeing a general practitioner can be a positive behaviour that is important for long-term health.

This thesis has also shown that those with low mental health have an imbalance in their affective thoughts. They have fewer positive thoughts, which reinforce (and are likely to arouse) positive emotions. At the same time, those with low mental health have more negative thoughts, which reinforce (and are likely to arouse) negative emotions. These negative thoughts have harmful effects on mental health. More uncontrolled thought, which is associated with more negative daydreams, also has detrimental implications for mental health, for males in particular.

It is important that research continues to investigate differences in the mental life of males and females, and the negative thoughts that predict their mental health. It seems that negative daydreams (which reflect a negative internal orientation towards the self) are important to the mental health of males, while pessimism (which reflects a negative external orientation towards the outside world) is important for female mental health. While it is clear that uncontrolled thought is also important for males, findings are mixed for females. This thesis suggests that psychological interventions that focus on the suppression of negative thoughts (rather than the production of more

positive thoughts) might help improve mental health, of medical patients in particular. It also suggests that daydreaming is not a mundane activity: rather it is an important dimension of mental life requiring further consideration in mental health research.

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APPENDIX A:

METHOD OF THE FIRST STUDY

Example of Written Letter of Permission from a General Practice.

VICTORIA UNIVERSITY OF TECHNOLOGY
FACULTY OF ARTS

DEPARTMENT OF PSYCHOLOGY

TITLE: A STUDY OF MEDICAL PATIENTS IN THE WESTERN REGION OF MELBOURNE

CONSENT FORM

RESEARCH COPY

I, (Name) .....
of (Address) .....
.....

certify that;

- I am at least 18 years old and freely give my consent to participation involving the use of a questionnaire;
- The aim of the study has been explained to me and if I have any questions about the study I can contact the researchers;
- I understand that I can withdraw from the study at any time, and that withdrawal will not jeopardise me in any way;
- I understand that the information given will be used for research purposes only and that my responses to the questionnaire will be kept strictly confidential.

Signed: .....

Date: .....

Any queries about your participation in this study may be directed to the researchers, Michael Gruis (Ph. 9365 2336), or Denise Charman (9365 2536).
If you have any queries or complaints about the way you have been treated, you may contact the Secretary, University Human Research Ethics Committee, Victoria University, PO Box 14428 MCMC, Melbourne, 8001 (9688 4710).

VICTORIA UNIVERSITY OF TECHNOLOGY
FACULTY OF ARTS

DEPARTMENT OF PSYCHOLOGY

TITLE: A STUDY OF MEDICAL PATIENTS IN THE WESTERN REGION OF MELBOURNE

CONSENT FORM

PARTICIPANT COPY

I, (Name) .....
of (Address) .....
.....

certify that;

- I am at least 18 years old and freely give my consent to participation involving the use of a questionnaire;
- The aim of the study has been explained to me and if I have any questions about the study I can contact the researchers;
- I understand that I can withdraw from the study at any time, and that withdrawal will not jeopardise me in any way;
- I understand that the information given will be used for research purposes only and that my responses to the questionnaire will be kept strictly confidential.

Signed: .....

Date: .....

Any queries about your participation in this study may be directed to the researchers, Michael Gruis (Ph. 9365 2336), or Denise Charman (9365 2536).
If you have any queries or complaints about the way you have been treated, you may contact the Secretary, University Human Research Ethics Committee, Victoria University, PO Box 14428 MCMC, Melbourne, 8001 (9688 4710).

VICTORIA UNIVERSITY

FACULTY OF ARTS

DEPARTMENT OF PSYCHOLOGY

SURVEY OF PHYSICAL AND MENTAL WELL-BEING

This significant study is to learn about important aspects of health, and how health relates to how people think and feel.

If you choose to participate in this study you will be asked to complete a questionnaire at a place (for example, at home) and time which is convenient to you.

The questionnaire will ask about your health in general, the way you generally feel, and some general questions about yourself.

You will be asked to post the questionnaire, whether completed or not. A self-addressed envelope will be provided (no postage stamp required).

Completion of the questionnaire is voluntary and your responses will be anonymous and confidential.

Your assistance in the completion and return of the questionnaire is very much appreciated.

VICTORIA UNIVERSITY OF TECHNOLOGY
FACULTY OF ARTS

DEPARTMENT OF PSYCHOLOGY

THE HEALTH AND PERCEPTIONS OF MEDICAL PATIENTS IN THE WESTERN REGION OF MELBOURNE

The aim of this questionnaire is to learn about the health of medical patients, and how health relates to how patients think and feel.

This study is anonymous and all responses are confidential. Please attempt to complete all questions and try to provide your first response, rather than thinking too long about any particular question. Please provide open and honest responses to the questionnaire items. There are no right or wrong responses.

When completing this questionnaire you are asked to provide your responses to the questionnaire items.

Please post this questionnaire, whether completed or not, in the self-addressed envelope provided (no postage stamp required).

Your assistance in the completion and return of this questionnaire is very much appreciated.

If you have any questions about this study you may contact the researcher, Michael Gruis, at the Department of Psychology, Victoria University, on (03) 9365 2336, or Dr. Denise Charman on (03) 9365 2536.

Thank-you for your cooperation

THE 36-ITEM SHORT-FORM HEALTH SURVEY

This section of the questionnaire asks for your views about your health, how you feel and how well you are able to do your usual activities.

Answer every question by marking the answer as indicated. 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: (circle one)

Excellent	1
Very good	2
Good	3
Fair	4
Poor	5

2. <u>Compared to one year ago</u>, how would you rate your health in general now? (circle one)

Much better now than one year ago	1
Somewhat better now than one year ago	2
About the same as one year ago	3
Somewhat worse now than one year ago	4
Much worse now than one year ago	5

3. The following questions are about activities you might do during a typical day. Does <u>your health now limit you</u> in these activities? If so, how much?

(circle one number on each line)

<u>ACTIVITIES</u>	**Yes Limited A Lot**	**Yes Limited A Little**	**No, Not Limited At All**
a. Vigorous activities, such as running, lifting heavy objects, participating in strenuous sports	1	2	3
b. Moderate activities, such as moving a table, pushing a vacuum cleaner, bowling, or playing golf	1	2	3
c. Lifting or carrying groceries	1	2	3
d. Climbing several flights of stairs	1	2	3
e. Climbing one flight of stairs	1	2	3
f. Bending, kneeling, or stooping	1	2	3
g. Walking more than one kilometre	1	2	3
h. Walking half a kilometre	1	2	3
i. Walking 100 metres	1	2	3
j. Bathing or dressing yourself	1	2	3

4. During the <u>past 4 weeks</u>, have you had any of the following problems with your work or other regular daily activities <u>as a result of your physical health?</u>

	YES	**NO**
a. Cut down on the amount of time you spent on work or other activities	1	2
b. Accomplished less than you would like	1	2
c. Were limited in the kind of work or other activities	1	2
d. Had difficulty performing the work or other activities (for example, it took extra effort)	1	2

5. During the <u>past 4 weeks</u>, have you had any of the following problems with your work or other regular activities <u>as a result of any emotional problems</u> (such as feeling depressed or anxious)?

	YES	NO
a. Cut down on the amount of time you spent on work or other activities	1	2
b. Accomplished less than you would like	1	2
c. Didn't do work or other activities as carefully as usual	1	2

6. During the <u>past 4 weeks</u>, to what extent has your physical health or emotional problems interfered with your normal social activities with family, friends, neighbours, or groups?

(circle one)

Not at all	1
Slightly	2
Moderately	3
Quite a bit	4
Extremely	5

7. How much <u>bodily</u> pain have you had during the <u>past 4 weeks</u>?

(circle one)

No bodily pain	1
Very mild	2
Mild	3
Moderate	4
Severe	5
Very Severe	6

8. During the <u>past 4 weeks</u>, how much did <u>pain</u> interfere with your normal work (including both work outside the home and housework)?

(circle one)

Not at all	1
A little bit	2
Moderately	3
Quite a bit	4
Extremely	5

9. These questions are about how you feel and how things have been with you <u>during the past 4 weeks</u>. For each question, please give the answer that comes closest to the way you have been feeling. How much of the time during the <u>past 4 weeks</u>-

(circle one number on each line)

	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
a. Did you feel full of life?	1	2	3	4	5	6
b. Have you been a very nervous person?	1	2	3	4	5	6
c. Have you felt so down in the dumps that nothing could cheer you up?	1	2	3	4	5	6
d. Have you felt calm and peaceful?	1	2	3	4	5	6
e. Did you have a lot of energy?	1	2	3	4	5	6
f. Have you felt down?	1	2	3	4	5	6
g. Did you feel worn out?	1	2	3	4	5	6
h. Have you been a happy person?	1	2	3	4	5	6
i. Did you feel tired?	1	2	3	4	5	6

10. During the <u>past 4 weeks</u>, how much of the time has your <u>physical health or emotional problems</u> interfered with your social activities (like visiting with friends, relatives, etc)?

(circle one)

All of the time	1
Most of the time	2
Some of the time	3
A little of the time	4
None of the time	5

11. How TRUE or FALSE is <u>each</u> of the following statements for you?

(circle one number on each line)

		Definitely True	Mostly True	Don't Know	Mostly False	Definitely False
a.	**I seem to get sick a little easier than other people**	1	2	3	4	5
b.	**I am as healthy as anybody I know**	1	2	3	4	5
c.	**I expect my health to get worse**	1	2	3	4	5
d.	**My health is excellent**	1	2	3	4	5

12. In general, how severe would you say your medical condition is:

(circle one)

Not at all severe	1
Slightly severe	2
Moderately severe	3
Very severe	4
Extremely severe	5

Insert Photocopy of Severity of Symptom Checklist here

SHORT IMAGINAL PROCESSES INVENTORY

This section of the questionnaire asks for you views about your inner experiences, your images, dreams, and daydreaming. There is no "official" definition for words like "daydream". Interpret these words in terms of their common meanings as they might apply to you. Be careful to distinguish between **thinking** about something you are doing at that moment and **daydreaming** about something else. Thinking about a task while working on it is not daydreaming, although having thoughts about the task at other times, such as while getting ready for sleep or on a long bus ride, could be daydreaming.

Each statement says something about daydreams or daydreaming. Indicate to what extent each statement **applies to you**, or is **true for you**, by placing an "X" in the box above the appropriate number.

5. stands for **"very true or strongly characteristic of me".**
4. stands for **"moderately true or characteristic of me".**
3. stands for **"neither particularly characteristic nor uncharacteristic of me".**
2. stands for **"moderately untrue or uncharacteristic of me".**
1. stands for **"definitely untrue or strongly uncharacteristic of me".**

1. I tend to be get quite wrapped up and interested in whatever I am doing.

☐ ☐ ☐ ☐ ☐
1 2 3 4 5

2. A really original idea can sometimes develop from a really fantastic daydream.

☐ ☐ ☐ ☐ ☐
1 2 3 4 5

3. In my fantasies, a friend discovers that I have lied.

☐ ☐ ☐ ☐ ☐
1 2 3 4 5

4. I do not really "see" the objects in a daydream.

☐ ☐ ☐ ☐ ☐
1 2 3 4 5

5. I am the kind of person whose thoughts often wonder.

☐ ☐ ☐ ☐ ☐
1 2 3 4 5

6. In my daydreams, I see myself as an expert, whose opinion is sought by all.

☐ ☐ ☐ ☐ ☐
1 2 3 4 5

7. Sometimes an answer to a difficult problem will come to me during a daydream.

☐ ☐ ☐ ☐ ☐
1 2 3 4 5

8. My mind seldom wanders from my work.

☐ ☐ ☐ ☐ ☐
1 2 3 4 5

9. I imagine myself failing those I love.

☐ ☐ ☐ ☐ ☐
1 2 3 4 5

5.	stands for	**“very true or strongly characteristic of me”.**
4.	stands for	**“moderately true or characteristic of me”.**
3.	stands for	**“neither particularly characteristic nor uncharacteristic of me”.**
2.	stands for	**“moderately untrue or uncharacteristic of me”.**
1.	stands for	**“definitely untrue or strongly uncharacteristic of me”.**

10. I picture myself as I will be several years from now.

☐ ☐ ☐ ☐ ☐

1 2 3 4 5

11. I find that I easily lose interest in things that I have to do.

☐ ☐ ☐ ☐ ☐

1 2 3 4 5

12. My daydreams often contain depressing events which upset me.

☐ ☐ ☐ ☐ ☐

1 2 3 4 5

13. I am not easily distracted.

☐ ☐ ☐ ☐ ☐

1 2 3 4 5

14. In my dreams, I show anger toward my enemies.

☐ ☐ ☐ ☐ ☐

1 2 3 4 5

15. My fantasies usually provide me with pleasant thoughts.

☐ ☐ ☐ ☐ ☐

1 2 3 4 5

16. My ability to concentrate is not impaired by someone talking in another part of my house or apartment.

☐ ☐ ☐ ☐ ☐

1 2 3 4 5

17. The sounds I hear in my daydreams are clear and distinct.

☐ ☐ ☐ ☐ ☐

1 2 3 4 5

18. I imagine myself not being able to finish a job I am required to do.

☐ ☐ ☐ ☐ ☐

1 2 3 4 5

19. Daydreaming never solves any problem.

☐ ☐ ☐ ☐ ☐

1 2 3 4 5

20. No matter how hard I try to concentrate, thoughts unrelated to my work always creeps in.

☐ ☐ ☐ ☐ ☐

1 2 3 4 5

21. In my daydreams I become angry and even antagonistic towards others.

☐ ☐ ☐ ☐ ☐

1 2 3 4 5

5.	stands for	**“very true or strongly characteristic of me”.**
4.	stands for	**“moderately true or characteristic of me”.**
3.	stands for	**“neither particularly characteristic nor uncharacteristic of me”.**
2.	stands for	**“moderately untrue or uncharacteristic of me”.**
1.	stands for	**“definitely untrue or strongly uncharacteristic of me”.**

22. My daydreams are often stimulating and rewarding.

☐ ☐ ☐ ☐ ☐

1 2 3 4 5

23. I can work at something for a long period of time without feeling a bit bored or restless.

☐ ☐ ☐ ☐ ☐

1 2 3 4 5

24. In my daydreams, I am always afraid of being caught doing something wrong.

☐ ☐ ☐ ☐ ☐

1 2 3 4 5

25. Faced with a tedious job, I notice all the other things that I could be doing.

☐ ☐ ☐ ☐ ☐

1 2 3 4 5

26. I seldom think about what I will be doing in the future.

☐ ☐ ☐ ☐ ☐

1 2 3 4 5

27. In my fantasies, I receive an award before a large audience.

☐ ☐ ☐ ☐ ☐

1 2 3 4 5

28. My daydreams offer me useful clues to tricky situations I face.

☐ ☐ ☐ ☐ ☐

1 2 3 4 5

29. I tend to be easily bored.

☐ ☐ ☐ ☐ ☐

1 2 3 4 5

30. Unpleasant daydreams don’t frighten or bother me.

☐ ☐ ☐ ☐ ☐

1 2 3 4 5

31. The “pictures in my mind” seem clear as photographs.

☐ ☐ ☐ ☐ ☐

1 2 3 4 5

32. In my daydreams, I fear meeting new responsibilities in life.

☐ ☐ ☐ ☐ ☐

1 2 3 4 5

33. I find it hard to read when someone is on the telephone in a neighbouring room.

☐ ☐ ☐ ☐ ☐

1 2 3 4 5

5.	stands for	**“very true or strongly characteristic of me”.**
4.	stands for	**“moderately true or characteristic of me”.**
3.	stands for	**“neither particularly characteristic nor uncharacteristic of me”.**
2.	stands for	**“moderately untrue or uncharacteristic of me”.**
1.	stands for	**“definitely untrue or strongly uncharacteristic of me”.**

34. I find myself imagining ways of getting even with those I dislike.

☐ ☐ ☐ ☐ ☐

1 2 3 4 5

35. I am seldom bored.

☐ ☐ ☐ ☐ ☐

1 2 3 4 5

36. My daydreams often leave me with a warm, happy feeling.

☐ ☐ ☐ ☐ ☐

1 2 3 4 5

37. I picture myself being accepted into an organisation for successful individuals only.

☐ ☐ ☐ ☐ ☐

1 2 3 4 5

38. Daydreams do not have any practical significance for me.

☐ ☐ ☐ ☐ ☐

1 2 3 4 5

39. I find it difficult to concentrate when the TV or radio is on.

☐ ☐ ☐ ☐ ☐

1 2 3 4 5

40. I daydream about what I would like to see happen in the future.

☐ ☐ ☐ ☐ ☐

1 2 3 4 5

41. In my daydreams I feel guilty for having escaped punishment.

☐ ☐ ☐ ☐ ☐

1 2 3 4 5

42. My thoughts seldom drift from the subject before me.

☐ ☐ ☐ ☐ ☐

1 2 3 4 5

43. I find my daydreams are worthwhile and interesting to me.

☐ ☐ ☐ ☐ ☐

1 2 3 4 5

44. I never panic as a result of a daydream.

☐ ☐ ☐ ☐ ☐

1 2 3 4 5

45. I have difficulty in maintaining concentration for long periods of time.

☐ ☐ ☐ ☐ ☐

1 2 3 4 5

INFORMATION ABOUT YOU

For the questions below please circle one of the options where appropriate, or write your answer on the line provided.

1. What was your age on your last birthday? .....

2. Please indicate your sex. Male 1. Female 2.

3. On average how often do you attend a medical clinic?

More than once a week	1.
Once a week	2.
Once a month	3.
Once in every six months	4.
Once a year	5.
Less than once a year	6.

4. On average how often do you daydream:

Infrequently	1.
Once a week	2.
Once a day	3.
A few times during the day	4.
Many different times during the day	5.

5. What is the highest level of formal education you have achieved?

Primary	1.
Some Secondary	2.
Completed Secondary	3.
TAFE Qualification	4.
Some Tertiary Qualification	5.
Tertiary Qualification	6.
Post-Graduate Qualification.	7.

6. Please specify your occupation .....

7. What is your yearly income?

Up to $5, 000	1.
$ 5, 000 - $14, 999	2.
$15, 000 - $24, 999	3.
$25, 000 - $34, 999	4.
$35, 000 - $44, 999	5.
$45, 000 - $54, 999	6.
$55, 000 and above	7.

8. a) Please specify your country of origin .....….
   b) If you were not born in Australia, how many years have you lived here? .....…

9. Do you identify with any ethnic group? Please specify .....….

10. What is your postcode? .....

11. Which of the following best describes your marital status.

Single (never married)	1.
Defacto	2.
Married	3.
Separated	4.
Divorced	5.
Widowed	6.

13. Do you have children? Yes 1. No 2.

WELL DONE! THIS IS THE END OF THE QUESTIONNAIRE.
THANK-YOU VERY MUCH FOR YOUR PARTICIPATION.

Please remember to forward this questionnaire to the researcher using the self-addressed envelope provided.

Ethics Approval: University Human Research Ethics Committee.

APPENDIX B:

RESULTS OF THE FIRST STUDY

The Results of Data Screening of Measures for Males and Females.

	Missing	Outliers		Shape		Normal
Measures	Cases	Low	High	Skewness	Kurtosis	Statistic
Physical Health Summary						
• Male	1	0	0	-.62	-.93	.90*
• Female	7	0	5	-.42	-.53	.07
Mental Health Summary						
• Male	1	0	0	-.72	.08	.95
• Female	7	0	0	-.55	-.27	.08
Severity of Symptoms						
• Male	1	0	1	1.02	.89	.91*
• Female	3	0	1	.77	.18	.11*
Positive Constructive						
• Male	1	2	0	.29	-.26	.96
• Female	6	4	1	.17	.18	.05
Guilt & Fear of Failure						
• Male	1	0	0	.09	-.76	.97
• Female	4	0	5	.29	-.33	.08
Poor Attentional Control						
• Male	1	1	0	-.49	-.35	.96
• Female	4	0	1	-.00	-.35	.06
Quality of Daydreaming						
• Male	1	0	1	.81	1.07	.93
• Female	6	1	4	-.09	-.08	.06
Frequency of Daydream						
• Male	0	0	0	.53	-.89	.87*
• Female	2	0	0	-.10	-1.33	.17*
Social Desirability						
• Male	0	1	0	-.37	-.38	.91*
• Female	0	0	0	-1.16	.46	.17*

* Significant skewness at $p < .05$.

Testing for Significant Differences Between Males (n = 33) and Females (n = 108) on the Measures of Health and Daydreaming (Controlling for Age).

Dependent Variables	M	SD	*F*	p
Physical Health			1.45	.23
• Male	43.3	12.5		
• Female	47.9	9.6		
Mental Health			.01	.92
• Male	46.6	11.9		
• Female	45.4	11.9		
Severity of Symptoms			3.29	.07
• Male	1.6	.4		
• Female	1.5	.3		
Positive Constructive			.22	.64
• Male	47.0	10.7		
• Female	46.4	9.8		
Guilt & Fear of Failure			3.68	.06
• Male	38.3	10.8		
• Female	35.6	9.8		
Poor Attention. Control			1.73	.19
• Male	44.4	8.9		
• Female	43.7	10.0		
Quality of Daydreaming			1.34	.25
• Male	1.2	.3		
• Female	1.2	.3		
Frequency of Daydream			.17	.68
• Male	2.9	1.8		
• Female	3.1	1.6		

Testing for Significant Age Differences on the Measures for Females.

Dependent Variables	Age (Years)	M	SD	*F*	p
Physical Symptoms (n = 108)	• 18 to 34	1.5	.3	.24	.79
	• 35 to 54	1.5	.3		
	• 55 & more	1.5	.3		
Frequency of Daydream (n = 108)	• 18 to 34	3.4	1.7	1.31	.28
	• 35 to 54	3.0	1.6		
	• 55 & more	2.6	1.4		
Positive Constructive (n = 108)	• 18 to 34	46.0	11.6	.23	.80
	• 35 to 54	47.0	7.8		
	• 55 & more	45.0	9.9		
Guilt & Fear of Failure (n = 108)	• 18 to 34	36.9	10.2	.76	.47
	• 35 to 54	34.7	10.3		
	• 55 & more	34.2	4.1		
Poor Attention. Control (n = 108)	• 18 to 34	45.5	9.8	1.57	.21
	• 35 to 54	42.6	10.4		
	• 55 & more	40.8	7.8		
Quality of Daydreaming (n = 108)	• 18 to 34	1.1	.3	1.94	.15
	• 35 to 54	1.3	.3		
	• 55 & more	1.2	.3		
Social Desirability (n = 56)	• 18 to 34	3.8	2.3	.75	.48
	• 35 to 54	4.4	1.7		
	• 55 & more	4.7	1.3		

Testing for Significant Age Differences on the Measures for Males.

Dependent Variables	Age (Years)	M	SD	*F*	p
Physical Symptoms (n = 33)	• 18 to 34	1.9	1.0	1.64	.21
	• 35 to 54	1.6	.5		
	• 55 & more	1.5	.3		
Physical Health (n = 33)	• 18 to 34	45.9	13.6	.35	.71
	• 35 to 54	41.4	13.0		
	• 55 & more	44.3	11.9		
Mental Health (n = 33)	• 18 to 34	44.1	17.4	.37	.70
	• 35 to 54	46.0	11.0		
	• 55 & more	48.9	9.4		
Frequency of Daydream † (n = 33)	• 18 to 34	4.6	1.4	7.34	.00
	• 35 to 54	2.9	1.8		
	• 55 & more	1.8	1.1		
Positive Constructive (n = 33)	• 18 to 34	49.7	9.9	.50	.61
	• 35 to 54	45.1	10.5		
	• 55 & more	48.0	11.9		
Guilt & Fear of Failure (n = 33)	• 18 to 34	44.6	10.2	1.78	.19
	• 35 to 54	37.8	11.1		
	• 55 & more	35.0	10.0		
Poor Attention. Control † (n = 33)	• 18 to 34	52.4	7.1	6.28	.01
	• 35 to 54	44.4	8.2		
	• 55 & more	39.3	7.3		
Quality of Daydreaming (n = 33)	• 18 to 34	1.0	.3	1.38	.27
	• 35 to 54	1.1	.4		
	• 55 & more	1.3	.3		
Social Desirability (n = 25)	• 18 to 34	3.0	.1	.85	.44
	• 35 to 54	3.6	1.7		
	• 55 & more	4.3	1.9		

† Higher scores represent more frequent daydreaming and lower attentional control.

Testing for Significant Differences on the Measures Between Groups Low and High in Socio-Economic Status for Males and Females (Controlling for Age)*.

	Socio-Economic Status					
	Low		High			
Dependent Variables	**M**	**SD**	**M**	**SD**	***F***	**p**
Physical Health						
• Male	41.8	14.5	47.1	11.9	.92	.35
• Female	46.9	9.9	49.6	8.9	1.84	.18
Mental Health						
• Male	46.8	14.3	45.6	10.1	.05	.83
• Female	43.5	12.3	46.0	11.2	1.00	.32
Severity of Symptoms						
• Male	1.6	.4	1.4	.4	1.34	.25
• Female	1.5	.3	1.5	.3	.87	.35
Positive Constructive						
• Male	47.3	13.8	43.5	7.3	.62	.44
• Female	47.5	10.4	46.0	9.4	.56	.46
Guilt & Fear of Failure						
• Male	36.2	12.7	38.3	8.2	.21	.65
• Female	35.7	9.7	36.6	10.7	.19	.66
Attention. Control						
• Male	42.9	11.6	47.3	4.9	1.25	.28
• Female	45.0	9.5	43.8	10.8	.32	.57
Quality of Daydream						
• Male	1.2	.4	1.0	.2	1.59	.22
• Female	1.2	.3	1.2	.3	.23	.63
Frequency						
• Male	2.7	1.7	2.9	1.5	.12	.73
• Female	3.1	1.6	3.24	1.8	.08	.78

* Male n = 25: Low n = 15, High n = 10. Female n = 91: low n = 47, high n = 44.

Testing for Significant Differences on the Measures Between Males (n = 24) Low and High in Social Desirability (Controlling for Age)*.

	Social Desirability Categories					
	Low		High			
Dependent Variables	**M**	**SD**	**M**	**SD**	***F***	**p**
• Physical Health	42.1	10.4	40.3	13.8	.18	.68
• Mental Health	45.3	11.4	47.7	10.8	.18	.67
• Severity of Physical Symptoms	1.8	.5	1.5	.2	2.87	.11
• Positive Constructive	48.5	9.8	47.3	12.7	.03	.88
• Guilt & Fear of Failure	39.7	11.6	34.4	10.8	1.21	.28
• Poor Attentional Control	44.3	8.5	39.5	8.0	1.02	.33
• Quality of Daydreaming	1.2	.3	1.3	.4	.37	.55
• Frequency of Daydreaming	3.5	2.0	1.9	1.3	2.73	.11

Relationships Between Measures of Health for Males (n = 30) and Females (n = 110) Controlling for Age.

Health Status	**Mental Health**	**Symptom Severity**
Physical Health		
• Male	.08	-.36**
• Female	-.07	-.39**
Mental Health		
• Male		-.44**
• Female		-.45**

* $p < .05$ (2-tailed)
** $p < .01$ (2-tailed)

Relationships Between Measures of Daydreaming for Males (n = 31) and Females (n = 113) Controlling for Age.

Daydream Measures	Guilt & Fear of Failure	Poor Attention	Quality of Daydreaming	Frequency of Daydreaming
Positive Constructive				
• Male	.17	-.26	.79**	.25
• Female	-.01	.15	.68**	.37**
Guilt & Fear of Failure				
• Male		.43**	-.41*	.19
• Female		.32**	-.57**	.25**
Poor Attentional Control				
• Male			-.69**	.31*
• Female			-.45**	.36**
Quality of Daydreaming				
• Male				.05
• Female				.02

* $p < .05$ (2-tailed)
** $p < .01$ (2-tailed)

Relationships Between Health and Daydreaming for Males (n = 30) and Females (n = 105) Controlling for Age.

Daydream Measures	Physical Health	Mental Health	Severity of Symptoms
Positive Constructive			
• Male	-.07	-.07	.15
• Female	-.10	-.08	.05
Guilt & Fear of Failure			
• Male	-.06	-.50**	.37*
• Female	-.09	-.26**	.09
Poor Attentional Control			
• Male	.00	-.50**	.20
• Female	-.09	-.24**	.05
Quality of Daydreaming			
• Male	-.03	.31	-.10
• Female	.11	.15	-.01
Frequency of Daydream			
• Male	.04	-.16	.21
• Female	.14	-.15	.02

* $p < .05$ (2-tailed)
** $p < .01$ (2-tailed)

Correlations Between Variables: Regression of Male Symptom Severity (1st Study).

SEVERITY OF PHYSICAL SYMPTOMS OF MALES

Correlations Between Variables

CORRELATION COEFFICIENTS (*r*)										
Variables	**SPSC**	**SIPI: Pattern of Daydreaming**				**Freq.**	**Demographics**			
	Sympt.	PCD	GFFD	PAC	QUAL	FREQ	AGE	SES	Marital	Child
Symptom Severity	1.000	.007	**.413**	**.400**	-.238	.098	-.298	-.035	-.041	.261
Positive Daydream	.007	1.000	.155	-.251	.786	.136	.142	-.156	.291	.033
Guilt and Fear	.258	.155	1.000	.473	-.420	.323	-.278	.204	-.007	.366
Attentional Control	.409	-.251	.473	1.000	-.709	.433	-.650	.366	-.260	.475
Quality Daydream	-.238	.786	-.420	-.709	1.000	-.171	.446	-.335	.306	-.274
Frequency	.098	.136	.323	.433	-.171	1.000	-.614	.458	-.116	.507
Age	-.386	.142	-.278	-.650	.446	-.614	1.000	-.329	.387	-.648
SES	-.035	-.156	.204	.366	-.335	.458	-.329	1.000	.020	.007
Marital Status	-.041	.291	-.007	-.260	.306	-.116	.387	.020	1.000	-.426
Children	.261	.033	.366	.475	-.274	.507	-.648	.007	-.426	1.000

SIGNIFICANCE LEVELS (p)										
	Sympt.	PCD	GFFD	PAC	QUAL	FREQ	AGE	SES	Marital	Child
Symptom Severity	.	.486	**.008**	**.008**	.121	.317	.094	.433	.421	.099
Positive Daydream	.486	.	.225	.108	.000	.254	.245	.223	.075	.436
Guilt and Fear	.101	.225	.	.007	.016	.054	.085	.159	.486	.033
Attentional Control	.019	.108	.007	.	.000	.014	.000	.033	.100	.007
Quality Daydream	.121	.000	.016	.000	.	.201	.011	.047	.064	.088
Frequency	.317	.254	.054	.014	.201	.	.000	.009	.287	.004
Age	.026	.245	.085	.000	.011	.000	.	.050	.025	.000
SES	.433	.223	.159	.033	.047	.009	.050	.	.461	.486
Marital Status	.421	.075	.486	.100	.064	.287	.025	.461	.	.015
Children	.099	.436	.033	.007	.088	.004	.000	.486	.015	.

n for all correlations = 33

Correlations Between Variables: Regression of Female Symptom Severity (1st Study).

SEVERITY OF PHYSICAL SYMPTOMS OF FEMALES

Correlations Between Variables

CORRELATION COEFFICIENTS (*r*)										
Variables	**SPSC**	**SIPI: Pattern of Daydreaming**				**Freq.**	**Demographics**			
	Sympt.	PCD	GFFD	PAC	QUAL	FREQ	AGE	SES	Marital	Child
Symptom Severity	1.000	.087	.096	.008	.025	-.016	-.010	-.019	-.031	-.035
Positive Daydream	.087	1.000	.027	.129	.655	.418	-.082	.008	.015	.042
Guilt and Fear	.096	.027	1.000	.386	-.575	.231	-.119	.109	-.024	.025
Attentional Control	.008	.129	.386	1.000	-.513	.337	-.164	.016	-.304	.143
Quality Daydream	.025	.655	-.575	-.513	1.000	.044	.078	-.003	.160	-.061
Frequency	-.016	.418	.231	.337	.044	1.000	-.183	.062	-.283	.182
Age	-.010	-.082	-.119	-.164	.078	-.183	1.000	-.261	.387	-.574
SES	-.019	.008	.109	.016	-.003	.062	-.261	1.000	.041	.027
Marital Status	-.031	.015	-.024	-.304	.160	-.283	.387	.041	1.000	-.532
Children	-.035	.042	.025	.143	-.061	.182	-.574	.027	-.532	1.000

SIGNIFICANCE LEVELS (p)										
	Sympt.	PCD	GFFD	PAC	QUAL	FREQ	AGE	SES	Marital	Child
Symptom Severity	.	.202	.179	.469	.406	.440	.460	.429	.382	.368
Positive Daydream	.202	.	.400	.107	.000	.000	.217	.469	.444	.343
Guilt and Fear	.179	.400	.	.000	.000	.012	.126	.147	.409	.404
Attentional Control	.469	.107	.000	.	.000	.000	.057	.439	.001	.084
Quality Daydream	.406	.000	.000	.000	.	.338	.229	.488	.062	.278
Frequency	.440	.000	.012	.000	.338	.	.039	.278	.003	.040
Age	.460	.217	.126	.057	.229	.039	.	.006	.000	.000
SES	.429	.469	.147	.439	.488	.278	.006	.	.346	.397
Marital Status	.382	.444	.409	.001	.062	.003	.000	.346	.	.000
Children	.368	.343	.404	.084	.278	.040	.000	.397	.000	.

n for all correlations = 115

Correlations Between Variables: Regression of Male Physical Health (1st Study).

PHYSICAL HEALTH OF MALES

Correlations Between Variables

CORRELATION COEFFICIENTS (*r*)										
Variables	**SF-36**	**SIPI: Pattern of Daydreaming**				**Freq.**	**Demographics**			
	PH	PCD	GFFD	PAC	QUAL	FREQ	AGE	SES	Marital	Child
Physical Health	1.000	-.039	.065	.103	-.102	.193	-.154	**.409**	-.133	.170
Positive Daydream	-.039	1.000	.113	-.259	.783	.216	.060	-.096	.265	.070
Guilt and Fear	.065	.113	1.000	.481	-.457	.372	-.344	.249	-.029	.391
Attentional Control	.103	-.259	.481	1.000	-.716	.441	-.675	.372	-.260	.477
Quality Daydream	-.102	.783	-.457	-.716	1.000	-.142	.423	-.312	.291	-.261
Frequency	.193	.216	.372	.441	-.142	1.000	-.590	.430	-.090	.498
Age	-.154	.060	-.344	-.675	.423	-.590	1.000	-.284	.367	-.648
SES	.309	-.096	.249	.372	-.312	.430	-.284	1.000	.051	-.017
Marital Status	-.133	.265	-.029	-.260	.291	-.090	.367	.051	1.000	-.418
Children	.170	.070	.391	.477	-.261	.498	-.648	-.017	-.418	1.000

SIGNIFICANCE LEVELS (p)										
	PH	PCD	GFFD	PAC	QUAL	FREQ	AGE	SES	Marital	Child
Physical Health	.	.426	.379	.312	.314	.177	.231	**.009**	.264	.209
Positive Daydream	.426	.	.296	.106	.000	.150	.388	.324	.100	.370
Guilt and Fear	.379	.296	.	.007	.011	.034	.046	.115	.444	.027
Attentional Control	.312	.106	.007	.	.000	.014	.000	.033	.105	.008
Quality Daydream	.314	.000	.011	.000	.	.250	.018	.065	.079	.103
Frequency	.177	.150	.034	.014	.250	.	.001	.016	.335	.006
Age	.231	.388	.046	.000	.018	.001	.	.084	.035	.000
SES	.066	.324	.115	.033	.065	.016	.084	.	.404	.467
Marital Status	.264	.100	.444	.105	.079	.335	.035	.404	.	.019
Children	.209	.370	.027	.008	.103	.006	.000	.467	.019	.

n for all correlations = 32

Correlations Between Variables: Regression of Female Physical Health (1st Study).

PHYSICAL HEALTH OF FEMALES

Correlations Between Variables

CORRELATION COEFFICIENTS (*r*)										
Variables	**SF-36**	**SIPI: Pattern of Daydreaming**				**Freq.**	**Demographics**			
	PH	PCD	GFFD	PAC	QUAL	FREQ	AGE	SES	Marital	Child
Physical Health	1.000	.145	-.022	.065	.080	.161	**-.424**	**.223**	-.066	**.261**
Positive Daydream	.145	1.000	.070	.175	.632	.427	-.047	.010	.017	.010
Guilt and Fear	-.022	.070	1.000	.386	-.568	.256	-.140	.093	-.052	.049
Attentional Control	.065	.175	.386	1.000	-.497	.344	-.223	.028	-.303	.176
Quality Daydream	.080	.632	-.568	-.497	1.000	.039	.136	-.003	.166	-.104
Frequency	.286	.427	.256	.344	.039	1.000	-.245	.068	-.295	.220
Age	-.369	-.047	-.140	-.223	.136	-.245	1.000	-.442	.426	-.557
SES	.163	.010	.093	.028	-.003	.068	-.422	1.000	.015	.030
Marital Status	-.066	.017	-.052	-.303	.166	-.295	.426	.015	1.000	-.544
Children	.215	.010	.049	.176	-.104	.220	-.557	.030	-.544	1.000

SIGNIFICANCE LEVELS (p)										
	PH	PCD	GFFD	PAC	QUAL	FREQ	AGE	SES	Marital	Child
Physical Health	.	.087	.420	.272	.229	.076	**.000**	**.007**	.269	**.002**
Positive Daydream	.087	.	.257	.051	.000	.000	.331	.462	.439	.461
Guilt and Fear	.420	.257	.	.000	.000	.008	.095	.193	.313	.323
Attentional Control	.272	.051	.000	.	.000	.000	.018	.398	.002	.050
Quality Daydream	.229	.000	.000	.000	.	.359	.102	.488	.060	.167
Frequency	.003	.000	.008	.000	.359	.	.010	.263	.003	.019
Age	.000	.331	.095	.018	.102	.010	.	.000	.000	.000
SES	.064	.462	.193	.398	.488	.263	.000	.	.444	.390
Marital Status	.269	.439	.313	.002	.060	.003	.000	.444	.	.000
Children	.022	.461	.323	.050	.167	.019	.000	.390	.000	.

n for all correlations = 106

Correlations Between Variables: Regression of Male Mental Health (1st Study).

MENTAL HEALTH OF MALES

Correlations Between Variables

CORRELATION COEFFICIENTS (*r*)										
Variables	**SF-36**	**SIPI: Pattern of Daydreaming**				**Freq.**	**Demographics**			
	MH	PCD	GFFD	PAC	QUAL	FREQ	AGE	SES	Marital	Child
Mental Health	1.000	-.131	**-.537**	**-.453**	.257	-.144	.279	-.273	.013	-.234
Positive Daydream	-.131	1.000	.113	-.259	.783	.216	.060	-.096	.265	.070
Guilt and Fear	-.511	.113	1.000	.471	-.457	.372	-.344	.249	-.029	.391
Attentional Control	-.453	-.259	.471	1.000	-.716	.441	-.675	.372	-.260	.477
Quality Daydream	.257	.783	-.457	-.716	1.000	-.142	.423	-.312	.291	-.261
Frequency	-.144	.216	.372	.441	-.142	1.000	-.590	.430	-.090	.498
Age	.279	.060	-.344	-.675	.423	-.590	1.000	-.284	.367	-.648
SES	-.273	-.096	.249	.372	-.312	.430	-.284	1.000	.051	-.017
Marital Status	.013	.265	-.029	-.260	.291	-.090	.367	.051	1.000	-.418
Children	-.234	.070	.391	.477	-.261	.498	-.648	-.017	-.418	1.000

SIGNIFICANCE LEVELS (p)										
	MH	PCD	GFFD	PAC	QUAL	FREQ	AGE	SES	Marital	Child
Mental Health	.	.267	**.000**	**.007**	.108	.247	.088	.093	.475	.130
Positive Daydream	.267	.	.296	.106	.000	.150	.388	.324	.100	.370
Guilt and Fear	.005	.296	.	.008	.011	.034	.046	.115	.444	.027
Attentional Control	.012	.106	.008	.	.000	.014	.000	.033	.105	.008
Quality Daydream	.108	.000	.011	.000	.	.250	.018	.065	.079	.103
Frequency	.247	.150	.034	.014	.250	.	.001	.016	.335	.006
Age	.088	.388	.046	.000	.018	.001	.	.084	.035	.000
SES	.093	.324	.115	.033	.065	.016	.084	.	.404	.467
Marital Status	.475	.100	.444	.105	.079	.335	.035	.404	.	.019
Children	.130	.370	.027	.008	.103	.006	.000	.467	.019	.

n for all correlations = 32

Correlations Between Variables: Regression of Female Mental Health (1st Study).

MENTAL HEALTH OF FEMALES

Correlations Between Variables

CORRELATION COEFFICIENTS (*r*)										
Variables	**SF-36**	**SIPI: Pattern of Daydreaming**				**Freq.**	**Demographics**			
	MH	PCD	GFFD	PAC	QUAL	FREQ	AGE	SES	Marital	Child
Mental Health	1.000	-.183	**-.324**	**-.283**	**.190**	-.166	.105	-.021	.126	-.041
Positive Daydream	-.183	1.000	.070	.175	.632	.427	-.047	.010	.017	.010
Guilt and Fear	-.281	.070	1.000	.396	-.568	.256	-.140	.093	-.052	.049
Attentional Control	-.316	.175	.396	1.000	-.497	.344	-.233	.028	-.303	.176
Quality Daydream	.140	.632	-.568	-.497	1.000	.039	.136	-.003	.166	-.104
Frequency	-.166	.427	.256	.344	.039	1.000	-.245	.068	-.295	.220
Age	.105	-.047	-.140	-.233	.136	-.245	1.000	-.252	.426	-.553
SES	-.021	.010	.093	.028	-.003	.068	-.252	1.000	.015	.030
Marital Status	.126	.017	-.052	-.303	.166	-.295	.426	.015	1.000	-.544
Children	-.041	.010	.049	.176	-.104	.220	-.553	.030	-.544	1.000

SIGNIFICANCE LEVELS (p)										
	MH	PCD	GFFD	PAC	QUAL	FREQ	AGE	SES	Marital	Child
Mental Health	.	.043	**.004**	**.009**	**.043**	.060	.164	.423	.120	.352
Positive Daydream	.043	.	.257	.051	.000	.000	.331	.462	.439	.461
Guilt and Fear	.004	.257	.	.000	.000	.008	.095	.193	.313	.323
Attentional Control	.001	.051	.000	.	.000	.000	.008	.398	.002	.050
Quality Daydream	.096	.000	.000	.000	.	.359	.102	.488	.060	.167
Frequency	.060	.000	.008	.000	.359	.	.010	.263	.003	.019
Age	.164	.331	.095	.008	.102	.010	.	.009	.000	.000
SES	.423	.462	.193	.398	.488	.263	.009	.	.444	.390
Marital Status	.120	.439	.313	.002	.060	.003	.000	.444	.	.000
Children	.352	.461	.323	.050	.167	.019	.000	.390	.000	.

n for all correlations = 106

APPENDIX C:

METHOD OF THE SECOND STUDY

Differences Between Low and High Attenders in Number of Physical Conditions for Males and Females.

Sex	Number of Physical Conditions	Attendance Rates		x^2	p
		Low	High		
		% (n)	% (n)		
Males:	One Condition (n = 13)	56.5 (13)	43.5 (10)	2.21	.14
	Two or More Conditions (n = 9)	30.8 (4)	69.2 (9)		
Females:	One Condition (n = 41)	59.0 (23)	41.0 (16)	2.87	.09
	Two or More Conditions (n = 38)	40.8 (20)	59.2 (29)		

Males: One cell had five or fewer cases.

VICTORIA UNIVERSITY OF TECHNOLOGY
FACULTY OF ARTS

DEPARTMENT OF PSYCHOLOGY

TITLE: A STUDY OF MEDICAL PATIENTS IN THE WESTERN REGION OF MELBOURNE

CONSENT FORM

RESEARCH COPY

Please indicate your sex: Male ☐ Female ☐

I, (Name) .....
of (Address) .....
.....

certify that;

- I am at least 18 years old and freely give my consent to participation involving the use of a questionnaire;
- The aim of the study has been explained to me and if I have any questions about the study I can contact the researchers;
- I understand that I can withdraw from the study at any time, and that withdrawal will not jeopardise me in any way;
- I understand that the information given will be used for research purposes only and that my responses to the questionnaire will be kept strictly confidential.

Signed: .....

Date: .....

Any queries about your participation in this study may be directed to the researchers, Michael Gruis (Ph. 9365 2336), or Denise Charman (9365 2536).
If you have any queries or complaints about the way you have been treated, you may contact the Secretary, University Human Research Ethics Committee, Victoria University, PO Box 14428 MCMC, Melbourne, 8001 (9688 4710).

VICTORIA UNIVERSITY OF TECHNOLOGY
FACULTY OF ARTS

DEPARTMENT OF PSYCHOLOGY

TITLE: A STUDY OF MEDICAL PATIENTS IN THE WESTERN REGION OF MELBOURNE

CONSENT FORM

PARTICIPANT COPY

Please indicate your sex: Male ☐ Female ☐

I, (Name) .....
of (Address) .....
.....

certify that;

- I am at least 18 years old and freely give my consent to participation involving the use of a questionnaire;
- The aim of the study has been explained to me and if I have any questions about the study I can contact the researchers;
- I understand that I can withdraw from the study at any time, and that withdrawal will not jeopardise me in any way;
- I understand that the information given will be used for research purposes only and that my responses to the questionnaire will be kept strictly confidential.

Signed: .....

Date: .....

Any queries about your participation in this study may be directed to the researchers, Michael Gruis (Ph. 9365 2336), or Denise Charman (9365 2536).
If you have any queries or complaints about the way you have been treated, you may contact the Secretary, University Human Research Ethics Committee, Victoria University, PO Box 14428 MCMC, Melbourne, 8001 (9688 4710).

VICTORIA UNIVERSITY

FACULTY OF ARTS

DEPARTMENT OF PSYCHOLOGY

SURVEY OF PHYSICAL AND MENTAL WELL-BEING

This significant study is to learn about important aspects of health, and how health relates to how people think and feel.

If you choose to participate in this study you will be asked to complete a questionnaire at a place (for example, at home) and time which is convenient to you. The questionnaire will ask about your health in general, the way you generally feel, and some general questions about yourself.

You will be asked to post the questionnaire, whether completed or not. A self-addressed envelope will be provided (no postage stamp required).

Completion of the questionnaire is voluntary and your responses will be anonymous and confidential.

If you are at a medical clinic you will be asked to take a second questionnaire to give to a male (if you are female) or a female (if you are male) who is aged at least 18 years. Taking a second questionnaire is optional.

If you do not receive this questionnaire at a medical clinic or you have not experienced a medical illness in the past four weeks you are not required to complete questions 12 or 13 of the questionnaire.

Your assistance in the completion and return of the questionnaire is very much appreciated.

VICTORIA UNIVERSITY OF TECHNOLOGY
FACULTY OF ARTS

DEPARTMENT OF PSYCHOLOGY

THE HEALTH AND PERCEPTIONS OF MEDICAL PATIENTS IN THE WESTERN REGION OF MELBOURNE

The aim of this questionnaire is to learn about the health of medical patients, and how health relates to how patients think and feel.

This study is anonymous and all responses are confidential. Please attempt to complete all questions and try to provide your first response, rather than thinking too long about any particular question. Please provide open and honest responses to the questionnaire items. There are no right or wrong responses.

When completing this questionnaire you are asked to provide your responses to the questionnaire items.

Please post this questionnaire, whether completed or not, in the self-addressed envelope provided (no postage stamp required).

Your assistance in the completion and return of this questionnaire is very much appreciated.

If you have any questions about this study you may contact the researcher, Michael Gruis, at the Department of Psychology, Victoria University, on (03) 9365 2336, or Dr. Denise Charman on (03) 9365 2536.

Thank-you for your cooperation

THE 36-ITEM SHORT-FORM HEALTH SURVEY

This section of the questionnaire asks for your views about your health, how you feel and how well you are able to do your usual activities.

Answer every question by marking the answer as indicated. 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: **(circle one)**

Excellent	1
Very good	2
Good	3
Fair	4
Poor	5

2. <u>Compared to one year ago</u>, how would you rate your health in general now?

(circle one)

Much better now than one year ago	1
Somewhat better now than one year ago	2
About the same as one year ago	3
Somewhat worse now than one year ago	4
Much worse now than one year ago	5

3. The following questions are about activities you might do during a typical day. Does <u>your health now limit you</u> in these activities? If so, how much?

(circle one number on each line)

<u>ACTIVITIES</u>	**Yes Limited A Lot**	**Yes Limited A Little**	**No, Not Limited At All**
a. Vigorous activities, such as running, lifting heavy objects, participating in strenuous sports	1	2	3
b. Moderate activities, such as moving a table, pushing a vacuum cleaner, bowling, or playing golf	1	2	3
c. Lifting or carrying groceries	1	2	3
d. Climbing several flights of stairs	1	2	3
e. Climbing one flight of stairs	1	2	3
f. Bending, kneeling, or stooping	1	2	3
g. Walking more than one kilometre	1	2	3
h. Walking half a kilometre	1	2	3
i. Walking 100 metres	1	2	3
j. Bathing or dressing yourself	1	2	3

4. During the <u>past 4 weeks</u>, have you had any of the following problems with your work or other regular daily activities <u>as a result of your physical health?</u>

	YES	**NO**
a. Cut down on the amount of time you spent on work or other activities	1	2
b. Accomplished less than you would like	1	2
c. Were limited in the kind of work or other activities	1	2
d. Had difficulty performing the work or other activities (for example, it took extra effort)	1	2

5. During the past 4 weeks, have you had any of the following problems with your work or other regular activities as a result of any emotional problems (such as feeling depressed or anxious)?

	YES	NO
a. Cut down on the amount of time you spent on work or other activities	1	2
b. Accomplished less than you would like	1	2
c. Didn't do work or other activities as carefully as usual	1	2

6. During the past 4 weeks, to what extent has your physical health or emotional problems interfered with your normal social activities with family, friends, neighbours, or groups?

(circle one)

Not at all	1
Slightly	2
Moderately	3
Quite a bit	4
Extremely	5

7. How much bodily pain have you had during the past 4 weeks?

(circle one)

No bodily pain	1
Very mild	2
Mild	3
Moderate	4
Severe	5
Very Severe	6

8. During the <u>past 4 weeks</u>, how much did <u>pain</u> interfere with your normal work (including both work outside the home and housework)?

(circle one)

Not at all	1
A little bit	2
Moderately	3
Quite a bit	4
Extremely	5

9. These questions are about how you feel and how things have been with you <u>during the past 4 weeks</u>. For each question, please give the answer that comes closest to the way you have been feeling. How much of the time during the <u>past 4 weeks</u>-

(circle one number on each line)

	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
a. Did you feel full of life?	1	2	3	4	5	6
b. Have you been a very nervous person?	1	2	3	4	5	6
c. Have you felt so down in the dumps that nothing could cheer you up?	1	2	3	4	5	6
d. Have you felt calm and peaceful?	1	2	3	4	5	6
e. Did you have a lot of energy?	1	2	3	4	5	6
f. Have you felt down?	1	2	3	4	5	6
g. Did you feel worn out?	1	2	3	4	5	6
h. Have you been a happy person?	1	2	3	4	5	6
i. Did you feel tired?	1	2	3	4	5	6

10. During the <u>past 4 weeks</u>, how much of the time has your <u>physical health or emotional problems</u> interfered with your social activities (like visiting with friends, relatives, etc)?

(circle one)

All of the time	1
Most of the time	2
Some of the time	3
A little of the time	4
None of the time	5

11. How TRUE or FALSE is <u>each</u> of the following statements for you?

(circle one number on each line)

		Definitely True	Mostly True	Don't Know	Mostly False	Definitely False
a.	**I seem to get sick a little easier than other people**	1	2	3	4	5
b.	**I am as healthy as anybody I know**	1	2	3	4	5
c.	**I expect my health to get worse**	1	2	3	4	5
d.	**My health is excellent**	1	2	3	4	5

12. In general, how severe would you say your medical condition is:

(circle one)

Not at all severe	1
Slightly severe	2
Moderately severe	3
Very severe	4
Extremely severe	5

13. Please provide a brief description of your medical condition:
Eg. You may be ill with influenza, suffering a migraine or have a skin infection.

SHORT IMAGINAL PROCESSES INVENTORY

This section of the questionnaire asks for you views about your inner experiences, your images, dreams, and daydreaming. There is no "official" definition for words like "daydream". Interpret these words in terms of their common meanings as they might apply to you. Be careful to distinguish between **thinking** about something you are doing at that moment and **daydreaming** about something else. Thinking about a task while working on it is not daydreaming, although having thoughts about the task at other times, such as while getting ready for sleep or on a long bus ride, could be daydreaming.

Each statement says something about daydreams or daydreaming. Indicate to what extent each statement **applies to you**, or is **true for you**, by placing an "X" in the box above the appropriate number.

5. stands for **"very true or strongly characteristic of me".**
4. stands for **"moderately true or characteristic of me".**
3. stands for **"neither particularly characteristic nor uncharacteristic of me".**
2. stands for **"moderately untrue or uncharacteristic of me".**
1. stands for **"definitely untrue or strongly uncharacteristic of me".**

1. I tend to be get quite wrapped up and interested in whatever I am doing.

☐ ☐ ☐ ☐ ☐
1 2 3 4 5

2. A really original idea can sometimes develop from a really fantastic daydream.

☐ ☐ ☐ ☐ ☐
1 2 3 4 5

3. In my fantasies, a friend discovers that I have lied.

☐ ☐ ☐ ☐ ☐
1 2 3 4 5

4. I do not really "see" the objects in a daydream.

☐ ☐ ☐ ☐ ☐
1 2 3 4 5

5. I am the kind of person whose thoughts often wonder.

☐ ☐ ☐ ☐ ☐
1 2 3 4 5

6. In my daydreams, I see myself as an expert, whose opinion is sought by all.

☐ ☐ ☐ ☐ ☐
1 2 3 4 5

7. Sometimes an answer to a difficult problem will come to me during a daydream.

☐ ☐ ☐ ☐ ☐
1 2 3 4 5

8. My mind seldom wanders from my work.

☐ ☐ ☐ ☐ ☐
1 2 3 4 5

9. I imagine myself failing those I love.

☐ ☐ ☐ ☐ ☐
1 2 3 4 5

5.	stands for	**“very true or strongly characteristic of me”.**
4.	stands for	**“moderately true or characteristic of me”.**
3.	stands for	**“neither particularly characteristic nor uncharacteristic of me”.**
2.	stands for	**“moderately untrue or uncharacteristic of me”.**
1.	stands for	**“definitely untrue or strongly uncharacteristic of me”.**

10. I picture myself as I will be several years from now.

☐ ☐ ☐ ☐ ☐

1 2 3 4 5

11. I find that I easily lose interest in things that I have to do.

☐ ☐ ☐ ☐ ☐

1 2 3 4 5

12. My daydreams often contain depressing events which upset me.

☐ ☐ ☐ ☐ ☐

1 2 3 4 5

13. I am not easily distracted.

☐ ☐ ☐ ☐ ☐

1 2 3 4 5

14. In my dreams, I show anger toward my enemies.

☐ ☐ ☐ ☐ ☐

1 2 3 4 5

15. My fantasies usually provide me with pleasant thoughts.

☐ ☐ ☐ ☐ ☐

1 2 3 4 5

16. My ability to concentrate is not impaired by someone talking in another part of my house or apartment.

☐ ☐ ☐ ☐ ☐

1 2 3 4 5

17. The sounds I hear in my daydreams are clear and distinct.

☐ ☐ ☐ ☐ ☐

1 2 3 4 5

18. I imagine myself not being able to finish a job I am required to do.

☐ ☐ ☐ ☐ ☐

1 2 3 4 5

19. Daydreaming never solves any problem.

☐ ☐ ☐ ☐ ☐

1 2 3 4 5

20. No matter how hard I try to concentrate, thoughts unrelated to my work always creeps in.

☐ ☐ ☐ ☐ ☐

1 2 3 4 5

21. In my daydreams I become angry and even antagonistic towards others.

☐ ☐ ☐ ☐ ☐

1 2 3 4 5

5.	stands for	**“very true or strongly characteristic of me”.**
4.	stands for	**“moderately true or characteristic of me”.**
3.	stands for	**“neither particularly characteristic nor uncharacteristic of me”.**
2.	stands for	**“moderately untrue or uncharacteristic of me”.**
1.	stands for	**“definitely untrue or strongly uncharacteristic of me”.**

22. My daydreams are often stimulating and rewarding.

☐ ☐ ☐ ☐ ☐

1 2 3 4 5

23. I can work at something for a long period of time without feeling a bit bored or restless.

☐ ☐ ☐ ☐ ☐

1 2 3 4 5

24. In my daydreams, I am always afraid of being caught doing something wrong.

☐ ☐ ☐ ☐ ☐

1 2 3 4 5

25. Faced with a tedious job, I notice all the other things that I could be doing.

☐ ☐ ☐ ☐ ☐

1 2 3 4 5

26. I seldom think about what I will be doing in the future.

☐ ☐ ☐ ☐ ☐

1 2 3 4 5

27. In my fantasies, I receive an award before a large audience.

☐ ☐ ☐ ☐ ☐

1 2 3 4 5

28. My daydreams offer me useful clues to tricky situations I face.

☐ ☐ ☐ ☐ ☐

1 2 3 4 5

29. I tend to be easily bored.

☐ ☐ ☐ ☐ ☐

1 2 3 4 5

30. Unpleasant daydreams don’t frighten or bother me.

☐ ☐ ☐ ☐ ☐

1 2 3 4 5

31. The “pictures in my mind” seem clear as photographs.

☐ ☐ ☐ ☐ ☐

1 2 3 4 5

32. In my daydreams, I fear meeting new responsibilities in life.

☐ ☐ ☐ ☐ ☐

1 2 3 4 5

33. I find it hard to read when someone is on the telephone in a neighbouring room.

☐ ☐ ☐ ☐ ☐

1 2 3 4 5

5.	stands for	**“very true or strongly characteristic of me”.**
4.	stands for	**“moderately true or characteristic of me”.**
3.	stands for	**“neither particularly characteristic nor uncharacteristic of me”.**
2.	stands for	**“moderately untrue or uncharacteristic of me”.**
1.	stands for	**“definitely untrue or strongly uncharacteristic of me”.**

34. I find myself imagining ways of getting even with those I dislike.

☐ ☐ ☐ ☐ ☐

1 2 3 4 5

35. I am seldom bored.

☐ ☐ ☐ ☐ ☐

1 2 3 4 5

36. My daydreams often leave me with a warm, happy feeling.

☐ ☐ ☐ ☐ ☐

1 2 3 4 5

37. I picture myself being accepted into an organisation for successful individuals only.

☐ ☐ ☐ ☐ ☐

1 2 3 4 5

38. Daydreams do not have any practical significance for me.

☐ ☐ ☐ ☐ ☐

1 2 3 4 5

39. I find it difficult to concentrate when the TV or radio is on.

☐ ☐ ☐ ☐ ☐

1 2 3 4 5

40. I daydream about what I would like to see happen in the future.

☐ ☐ ☐ ☐ ☐

1 2 3 4 5

41. In my daydreams I feel guilty for having escaped punishment.

☐ ☐ ☐ ☐ ☐

1 2 3 4 5

42. My thoughts seldom drift from the subject before me.

☐ ☐ ☐ ☐ ☐

1 2 3 4 5

43. I find my daydreams are worthwhile and interesting to me.

☐ ☐ ☐ ☐ ☐

1 2 3 4 5

44. I never panic as a result of a daydream.

☐ ☐ ☐ ☐ ☐

1 2 3 4 5

45. I have difficulty in maintaining concentration for long periods of time.

☐ ☐ ☐ ☐ ☐

1 2 3 4 5

INFORMATION ABOUT YOU

Indicate to what extent each statement **applies to you**, or is **true for you**, by placing a number in the box next to the statement. Please do not leave any statements unmarked. For all items use the following scale:

0	stands for	**Strongly Disagree**
1	stands for	**Disagree**
2	stands for	**Neutral**
3	stands for	**Agree**
4	stands for	**Strongly Agree**

For example, if you 'Agree' with statement # 1, you would write the number 3 in the column next to statement # 1.

Please remember there are no right or wrong responses

	Statement	**Response (0,1,2,3, or 4)**
1	In uncertain times, I usually expect the best.	
2	It's easy for me to relax.	
3	If something can go wrong for me, it will.	
4	I'm always optimistic about my future.	
5	I enjoy my friends a lot.	
6	It's important for me to keep busy.	
7	I hardly ever expect things to go my way.	
8	I don't get upset to easily.	
9	I rarely count on good things happening to me.	
10	Overall, I expect more good things to happen to me than bad.	

For the questions below please circle one of the options where appropriate, or write your answer on the line provided.

1. What was your age on your last birthday? .....

2. Please indicate your sex. Male 1. Female 2.

3. On average how often do you attend a medical clinic?

More than once a week	1.
Once a week	2.
Once a month	3.
Once in every six months	4.
Once a year	5.
Less than once a year	6.

4. On average how often do you daydream:

Infrequently	1.
Once a week	2.
Once a day	3.
A few times during the day	4.
Many different times during the day	5.

5. What is the highest level of formal education you have achieved?

Primary	1.
Some Secondary	2.
Completed Secondary	3.
TAFE Qualification	4.
Some Tertiary Qualification	5.
Tertiary Qualification	6.
Post-Graduate Qualification.	7.

6. Please specify your occupation .....

7. What is your yearly income?

Up to $5, 000	1.
$ 5, 000 - $14, 999	2.
$15, 000 - $24, 999	3.
$25, 000 - $34, 999	4.
$35, 000 - $44, 999	5.
$45, 000 - $54, 999	6.
$55, 000 and above	7.

8. a) Please specify your country of origin .....….
   b) If you were not born in Australia, how many years have you lived here? .....…

9. Do you identify with any ethnic group? Please specify .....….

10. What is your postcode? .....

11. Which of the following best describes your marital status.

Single (never married)	1.
Defacto	2.
Married	3.
Separated	4.
Divorced	5.
Widowed	6.

13. Do you have children? Yes 1. No 2.

WELL DONE! THIS IS THE END OF THE QUESTIONNAIRE.
THANK-YOU VERY MUCH FOR YOUR PARTICIPATION.

Please remember to forward this questionnaire to the researcher using the self-addressed envelope provided.

Ethics Approval: University Human Research Ethics Committee.

APPENDIX D:

RESULTS OF THE SECOND STUDY

The Results of Data Screening of Measures for Males and Females.

	Missing	Outliers		Shape		Normal
Measures	Cases	Low	High	Skewness	Kurtosis	Statistic
Mental Health Summary						
• Male	1	0	0	-.51	-.98	.93**
• Female	9	1	0	-.99	.35	.13**
Positive Constructive						
• Male	2	0	0	.09	-.10	.98
• Female	12	1	0	-.34	-.12	.09
Guilt & Fear of Failure						
• Male	2	0	0	.39	-.60	.97
• Female	12	0	1	.72	.24	.09
Poor Attention Control						
• Male	2	0	0	.40	-.07	.98
• Female	12	3	6	.29	.42	.10
Quality of Daydreaming						
• Male	2	0	2	.88	.38	.93*
• Female	12	0	4	.71	.40	.12**
Optimism						
• Male	1	0	0	-40	-.17	.96
• Female	2	0	0	-.26	-.08	.07
Pessimism						
• Male	1	0	2	.37	.00	.97
• Female	2	0	0	.26	.34	.08
Quality of Life Orientation						
• Male	1	0	3	3.19	9.9	.54**
• Female	2	0	8	2.6	7.3	.24**

* Significant skewness at $p < .05$.

Testing for Significant Differences in Demographic Characteristics Between Male Samples from the First Study and Second Study.

Demographic Characteristics	Participant Samples First % (n)	Second % (n)	x^2	p
Age Groups				
• 18 to 34 years	22.9 (8)	24.0 (12)	.04	.80
• 35 to 54 years	42.9 (15)	44.0 (22)		
• 55 and more	34.3 (12)	32.0 (16)		
Marital Status				
• Single	22.9 (8)	20.0 (10)	.25	.89
• Married/De-facto	62.9 (22)	68.0 (34)		
• Separated/Divorced/Widowed	14.3 (5)	12.0 (6)		
Children				
• No children	25.7 (9)	27.1 (13)	.02	.89
• One or more children	74.3 (26)	72.9 (35)		
Education				
• Primary	42.9 (15)	4.1 (2)	20.84	.00
• Secondary	34.3 (12)	59.2 (29)		
• TAFE qualification	5.7 (2)	16.3 (8)		
• Some tertiary	11.4 (4)	8.2 (4)		
• Tertiary/Post-graduate	5.7 (2)	12.2 (6)		
Income				
• Low: Up to $14 999	50.0 (15)	34.1 (15)	2.13	.35
• Moderate: $15 000 to $34 999	20.0 (6)	31.8 (14)		
• High: $35 000 and above	30.0 (9)	34.1 (15)		
Employment				
• In paid employment	58.1 (13)	54.2 (26)	.14	.93
• Not in paid employment	35.5 (14)	39.6 (19)		
• Student	6.5 (4)	6.3 (3)		
Country of Birth				
• Australia	64.7 (22)	62.2 (28)	.05	.82
• Other	35.3 (12)	37.8 (17)		

Testing for Significant Differences in Demographic Characteristics Between Female Samples from the First Study and Second Study.

Demographic Characteristics	Participant Samples First % (n)	Second % (n)	x^2	p
Age Groups				
• 18 to 34 years	43.1 (53)	26.5 (30)	9.25	.01
• 35 to 54 years	43.9 (54)	48.7 (55)		
• 55 and more	13.0 (16)	24.8 (28)		
Marital Status				
• Single	31.7 (38)	16.4 (18)	11.4	.00
• Married/De-facto	47.5 (57)	69.1 (76)		
• Separated/Divorced/Widowed	20.8 (25)	14.5 (16)		
Children				
• No children	40.0 (48)	23.4 (25)	7.14	.01
• One or more children	60.0 (72)	76.6 (82)		
Education				
• Primary	33.6 (41)	2.7 (3)	46.44	.00
• Secondary	30.3 (37)	61.8 (68)		
• TAFE qualification	10.7 (13)	13.6 (15)		
• Some tertiary	13.1 (16)	5.5 (6)		
• Tertiary/Post-graduate	12.3 (15)	16.4 (18)		
Income				
• Low: Up to $14 999	41.5 (44)	38.4 (33)	2.66	.26
• Moderate: $15 000 to $34 999	46.2 (49)	40.7 (35)		
• High: $35 000 and above	12.3 (13)	20.9 (18)		
Employment				
• In paid employment	60.7 (44)	52.4 (55)	12.21	.00
• Not in paid employment	24.1 (27)	42.9 (45)		
• Student	15.2 (17)	4.8 (5)		
Country of Birth				
• Australia	64.5 (78)	77.9 (81)	3.86	.09
• Other	35.5 (43)	22.1 (23)		

Significant Differences in Medical Characteristics Between Male Samples from the First Study and Second Study.

Medical Characteristics	Participant Samples First (%)	Second (%)	x^2	p
Number of Medical Conditions			.14	.93
• One	59.1 (13)	63.9 (23)		
• Two or more	40.8 (9)	36.1 (13)		
Presenting Medical Conditions			11.05	.27
• Respiratory System	36.1 (13)	21.1 (12)		
• Musculoskeletal System	22.2 (8)	12.3 (7)		
• Nervous System & Sense Organs	2.8 (1)	8.8 (5)		
• Circulatory System	11.1 (4)	14.0 (8)		
• Skin	2.8 (1)	7.0 (4)		
• Digestive System	5.6 (2)	3.5 (2)		
• Endocrine, Metabolic & Nutritional	5.6 (2)	14.0 (8)		
• Genitourinary System	2.8 (1)	0 (0)		
• Psychological	2.8 (1)	1.8 (1)		
• Blood & Blood Forming Agents	2.8 (1)	0 (0)		
• Neoplasms (Malignant)	2.8 (1)	0 (0)		
• Symptoms / Signs / Ill-Defined	2.8 (1)	17.5 (10)		
General Practice Attendance			3.54	.32
• High Attenders (once a month or more)	62.9 (22)	44.0 (22)		
• Low Attenders (six months or less)	37.1 (13)	56.0 (28)		

Cells with $\leq$ five cases: number of reasons (two cells), reasons for consultation (17 cells), general practice utilization (three cells).

Significant Differences in Medical Characteristics Between Female Samples from the First Study and Second Study.

Medical Characteristics	Participant Samples First (%)	Second (%)	x^2	p
Number of Medical Conditions			3.16	.21
• One	51.9 (41)	44.3 (39)		
• Two or more	48.1 (38)	55.7 (49)		
Presenting Medical Conditions			15.52	.21
• Respiratory System	34.9 (44)	18.5 (30)		
• Musculoskeletal System	16.7 (21)	19.9 (32)		
• Nervous System & Sense Organs	13.5 (17)	8.6 (14)		
• Circulatory System	6.3 (8)	9.9 (16)		
• Skin	5.6 (7)	4.3 (7)		
• Digestive System	4.8 (6)	5.6 (9)		
• Endocrine, Metabolic & Nutritional	4.0 (5)	6.2 (10)		
• Genitourinary System	4.0 (5)	6.2 (10)		
• Psychological	2.4 (3)	7.4 (12)		
• Blood & Blood Forming Agents	0.8 (1)	1.9 (3)		
• Neoplasms (Malignant)	0.8 (1)	1.2 (2)		
• Symptoms / Signs / Ill-Defined	6.4 (8)	10.5 (17)		
General Practice Attendance			2.83	.42
• High Attenders (once a month or more)	39.9 (49)	49.1 (56)		
• Low Attenders (six months or less)	60.1 (74)	50.9 (58)		

Reasons for consultation had 17 cells with $\leq$ five cases.

Testing for Significant Differences Between Males (n = 45) and Females (n = 90) on the Measures (Controlling for Age).

Dependent Variables	M	SD	*F*	p
Mental Health				
• Male	46.8	10.4	.27	.61
• Female	47.4	11.0		
Positive-Constructive				
• Male	45.6	8.5	.81	.37
• Female	47.3	8.9		
Guilt & Fear of Failure				
• Male	39.5	12.9	2.3	.13
• Female	36.5	12.5		
Poor Attention. Control				
• Male	43.1	9.5	1.2	.27
• Female	41.8	8.6		
Quality of Daydreaming				
• Male	1.2	.3	3.5	.07
• Female	1.3	.4		
Optimism				
• Male	7.7	2.2	.30	.59
• Female	7.4	2.2		
Pessimism				
• Male	5.7	2.5	.02	.89
• Female	5.8	2.7		
Quality of Life Orientation				
• Male	1.6	.9	.00	.99
• Female	1.6	.9		

Testing for Significant Age Differences on the Measures for Males.

Dependent Variables	Age (Years)	M	SD	*F*	p
Mental Health † (n = 108)	• 18 to 34	42.0	10.7	3.37	.04
	• 35 to 54	45.8	10.0		
	• 55 & more	52.0	9.1		
Positive Constructive (n = 108)	• 18 to 34	44.7	6.5	.14	.87
	• 35 to 54	46.3	8.9		
	• 55 & more	45.1	9.7		
Guilt & Fear of Failure (n = 108)	• 18 to 34	46.6	9.0	2.51	.09
	• 35 to 54	38.0	14.1		
	• 55 & more	36.0	12.2		
Poor Attention. Control (n = 108)	• 18 to 34	43.2	8.9	.42	.66
	• 35 to 54	44.4	10.5		
	• 55 & more	41.3	8.7		
Quality of Daydreaming (n = 108)	• 18 to 34	1.0	.2	1.34	.27
	• 35 to 54	1.2	.4		
	• 55 & more	1.2	.4		
Optimism (n = 108)	• 18 to 34	7.1	2.4	.74	.49
	• 35 to 54	7.8	2.2		
	• 55 & more	8.1	1.8		
Pessimism (n = 108)	• 18 to 34	5.6	2.5	.12	.89
	• 35 to 54	5.7	2.5		
	• 55 & more	6.0	2.5		
Quality Life Orientation (n = 108)	• 18 to 34	1.5	.9	.13	.88
	• 35 to 54	1.6	.9		
	• 55 & more	1.6	.9		

† Higher scores indicate more favourable states of mental health.

Testing for Significant Age Differences on the Measures for Females.

Dependent Variables	Age (Years)	M	SD	*F*	p
Mental Health (n = 108)	• 18 to 34	45.7	10.2	2.28	.11
	• 35 to 54	46.6	12.0		
	• 55 & more	52.4	7.7		
Positive Constructive (n = 108)	• 18 to 34	50.2 *	7.2	3.45	.04
	• 35 to 54	47.3	8.4		
	• 55 & more	43.1 *	11.2		
Guilt & Fear of Failure (n = 108)	• 18 to 34	37.9	12.3	1.34	.27
	• 35 to 54	37.4	13.1		
	• 55 & more	32.1	10.5		
Poor Attentional Control † (n = 108)	• 18 to 34	43.4 *	8.5	5.34	.01
	• 35 to 54	40.1	8.5		
	• 55 & more	35.9 *	6.9		
Quality of Daydreaming (n = 108)	• 18 to 34	1.3	.3	.30	.74
	• 35 to 54	1.2	.4		
	• 55 & more	1.3	.4		
Optimism (n = 108)	• 18 to 34	6.6	2.5	3.08	.08
	• 35 to 54	7.6	1.9		
	• 55 & more	8.9	2.3		
Pessimism (n = 108)	• 18 to 34	6.4	3.4	1.88	.16
	• 35 to 54	5.3	2.3		
	• 55 & more	6.2	2.2		
Quality Life Orientation (n = 108)	• 18 to 34	1.5	1.1	.45	.64
	• 35 to 54	1.7	.9		
	• 55 & more	1.5	.8		

* Mean scores for the age group 18 to 34 years differed significantly from 55 year and more.

† This measure is negative scored: higher scores represent lower attentional control.

Testing for Significant Differences on the Measures Between Groups Low and High in Socio-Economic Status for Males and Females (Controlling for Age)*.

	Socio-Economic Status					
	Low		High			
Dependent Variables	**M**	**SD**	**M**	**SD**	***F***	**p**
Mental Health						
• Male	46.8	14.3	45.6	10.1	1.18	.28
• Female	43.5	12.3	46.0	11.2	.02	.90
Positive Constructive						
• Male	47.3	13.8	43.5	7.3	2.51	.12
• Female	47.5	10.4	46.0	9.4	2.28	.14
Guilt & Fear of Failure						
• Male	36.2	12.7	38.3	8.2	.50	.49
• Female	35.7	9.7	36.6	10.7	.00	.96
Attention. Control						
• Male	42.9	11.6	47.3	4.9	.02	.90
• Female	45.0	9.5	43.8	10.8	.04	.84
Quality of Daydream						
• Male	1.2	.4	1.0	.2	3.62	.07
• Female	1.2	.3	1.2	.3	.64	.43
Optimism						
• Male	36.2	12.7	38.3	8.2	.77	.39
• Female	35.7	9.7	36.6	10.7	4.80	.03
Pessimism						
• Male	42.9	11.6	47.3	4.9	3.45	.07
• Female	45.0	9.5	43.8	10.8	5.00	.03
Quality of Life Orient.						
• Male	1.2	.4	1.0	.2	2.92	.10
• Female	1.2	.3	1.2	.3	4.20	.04

* Male n = 38: Low n = 20, High n = 18. Female n = 71: low n = 45, high n = 26.

Testing for Differences in Mental Health Between Low Attenders and High Attenders for Males (n = 49) and Females (n = 105) (Controlling for Age).

	General Practice Attendance					
	Low		High			
	M	SD	M	SD	*F*	p
Mental Health						
• Male	48.5	9.4	45.8	11.8	2.01	.54
• Female	48.4	10.7	46.5	12.0	1.06	.71

Relationships Between Measures of Daydreaming for Males (n = 42) and Females (n = 87) Controlling for Age.

Daydream Patterns	Guilt & Fear	Poor Attention	Quality of Dayd.
Positive Constructive			
• Male	.16	.00	.58**
• Female	-.05	.12	.62**
Guilt & Fear of Failure			
• Male		.45**	-.59**
• Female		.49**	-.70**
Poor Attention.			
• Male			-.65**
• Female			-.56**

* p < .05 (2-tailed)
** p < .01 (2-tailed)

Relationships Between Measures of Life Orientation for Males (n = 42) and Females (n = 87) Controlling for Age.

Life Orientation	Pessimism	Quality of Life O.
Optimism		
• Male	-.32*	.68**
• Female	-.53**	.76**
Pessimism		
• Male		-.86**
• Female		-.89**

* p < .05 (2-tailed)
** p < .01 (2-tailed)

Relationships Between Daydreaming and Life Orientation for Males (n = 42) and Females (n = 95) after Controlling for Age.

Measures of Mental Life	Optimism	Pessimism	Quality of Life O.
	r	*r*	*r*
Positive Constructive			
• Male	.07	-.06	.15
• Female	.06	-.15	.16
Guilt & Fear of Failure			
• Male	-.13	.32*	-.24
• Female	.05	.22*	-.09
Poor Attentional Control			
• Male	-.22	.37*	-.37*
• Female	-.11	.13	-.11
Quality of Daydreaming			
• Male	.25	-.39**	.43**
• Female	.21*	-.30**	.26**

* p < .05 (2-tailed)
** p < .01 (2-tailed)

Relationships Between Daydreaming, Life Orientation, and Mental Health for Males (n = 42) and Females (n = 87) Controlling for Age.

	Mental Health	
Measures of Mental Life	Males	Females
	r	*r*
SIPI Daydreaming Scales		
• Positive-Constructive	-.11	.08
• Guilt & Fear of Failure	-.37*	-.05
• Poor Attention. Control	-.44**	.02
• Quality of Daydreaming	.32*	.07
•		
LOT-R Life Orientation		
• Optimism	.19	.18
• Pessimism	-.32*	-.27**
• Quality of Life O.	.36*	.21*

* p < .05 (2-tailed)
** p < .01 (2-tailed)

Correlations Between Variables: Regression of Male Mental Health (2nd Study).

MENTAL HEALTH OF MALES

Correlations Between Variables

CORRELATION COEFFICIENTS (*r*)												
Variables	**SF-36**	**SIPI: Pattern of Daydreaming**				**LOT-R: Life Orientation**			**Demographics**			
	MH	PCD	PAC	GFFD	QUAL	OPTIM	PESSI	QUAL	AGE	SES	Marital	Child
Mental Health	1.000	-.037	**-.497**	**-.413**	.199	.222	**-.267**	.201	.223	.110	-.186	-.084
Positive Daydream	-.037	1.000	.061	.263	.516	.024	.081	.013	-.062	.280	-.084	.068
Attentional Control	-.479	.061	1.000	.432	-.641	-.270	.332	-.389	-.089	.001	.008	-.094
Guilt and Fear	-.420	.263	.432	1.000	-.556	-.161	.244	-.185	-.170	-.100	.075	.112
Quality Daydream	.420	.516	-.641	-.556	1.000	.283	-.262	.343	.117	.292	-.123	-.028
Optimism	.222	.024	-.270	-.161	.283	1.000	-.205	.627	.220	.081	-.230	-.170
Pessimism	-.317	.081	.332	.244	-.262	-.205	1.000	-.828	.268	-.403	-.118	-.181
Quality Life Orient	.428	.013	-.389	-.185	.343	.627	-.828	1.000	-.070	.311	-.104	-.051
Age	.223	-.062	-.089	-.170	.117	.220	.268	-.070	1.000	-.375	-.498	-.467
Socio-Economic	.110	.280	.001	-.100	.292	.081	-.403	.311	-.375	1.000	.016	.090
Marital Status	-.186	-.084	.008	.075	-.123	-.230	-.118	-.104	-.498	.016	1.000	.494
Children	-.084	.068	-.094	.112	-.028	-.170	-.181	-.051	-.467	.090	.494	1.000

SIGNIFICANCE LEVELS (p)												
	MH	PCD	PAC	GFFD	QUAL	OPTIM	PESSI	QUAL	AGE	SES	Marital	Child
Mental Health	.	.412	**.000**	**.000**	.187	.090	**.026**	.144	.089	.255	.131	.307
Positive Daydream	.412	.	.357	.055	.000	.442	.315	.470	.356	.044	.308	.342
Attentional Control	.001	.357	.	.000	.000	.050	.021	.008	.297	.498	.480	.288
Guilt and Fear	.004	.055	.000	.	.000	.167	.070	.133	.154	.275	.326	.251
Quality Daydream	.004	.000	.000	.000	.	.042	.056	.018	.242	.038	.230	.433
Optimism	.090	.442	.050	.167	.042	.	.109	.000	.092	.314	.082	.154
Pessimism	.026	.315	.021	.070	.056	.109	.	.000	.052	.006	.240	.138
Quality Life Orient	.004	.470	.008	.133	.018	.000	.000	.	.337	.029	.267	.381
Age	.089	.356	.297	.154	.242	.092	.052	.337	.	.010	.001	.002
Socio-Economic	.255	.044	.498	.275	.038	.314	.006	.029	.010	.	.462	.295
Marital Status	.131	.308	.480	.326	.230	.082	.240	.267	.001	.462	.	.001
Children	.307	.342	.288	.251	.433	.154	.138	.381	.002	.295	.001	.

n for all correlations = 39

Correlations Between Variables: Regression of Female Mental Health (2nd Study).

MENTAL HEALTH OF FEMALES

Correlations Between Variables

CORRELATION COEFFICIENTS (*r*)												
Variables	**SF-36**	**SIPI: Pattern of Daydreaming**				**LOT-R: Life Orientation**			**Demographics**			
	MH	PCD	PAC	GFFD	QUAL	OPTIM	PESSI	QUAL	AGE	SES	Marital	Child
Mental Health	1.000	.121	.065	-.048	.088	.181	**-.242**	**.208**	.108	-.023	-.062	-.077
Positive Daydream	.121	1.000	.186	-.033	.579	.154	-.151	.234	-.221	.226	.058	.111
Attentional Control	.065	.186	1.000	.484	-.541	-.167	.165	-.123	-.241	.064	.064	.168
Guilt and Fear	-.048	-.033	.484	1.000	-.715	-.014	.266	-.186	-.096	-.006	.087	.113
Quality Daydream	.088	.579	-.541	-.715	1.000	.219	-.354	.358	-.023	.150	-.048	-.062
Optimism	.271	.154	-.167	-.014	.219	1.000	-.618	.760	.264	.216	-.246	-.103
Pessimism	-.276	-.151	.165	.266	-.354	-.618	1.000	-.914	-.175	-.271	.300	-.028
Quality Life Orient	.270	.234	-.123	-.186	.358	.760	-.914	1.000	.116	.265	-.308	.038
Age	.108	-.221	-.241	-.096	-.023	.264	-.175	.116	1.000	-.167	-.283	-.547
Socio-Economic	-.023	.226	.064	-.006	.150	.216	-.271	.265	-.167	1.000	.018	.249
Marital Status	-.062	.058	.064	.087	-.048	-.246	.300	-.308	-.283	.018	1.000	.257
Children	-.077	.111	.168	.113	-.062	-.103	-.028	.038	-.547	.249	.257	1.000

SIGNIFICANCE LEVELS (p)												
	MH	PCD	PAC	GFFD	QUAL	OPTIM	PESSI	QUAL	AGE	SES	Marital	Child
Mental Health	.	.161	.297	.346	.235	.086	**.009**	**.017**	.190	.424	.307	.265
Positive Daydream	.161	.	.062	.394	.000	.103	.108	.027	.034	.031	.318	.182
Attentional Control	.297	.062	.	.000	.000	.085	.088	.156	.023	.301	.301	.084
Guilt and Fear	.346	.394	.000	.	.000	.455	.014	.063	.215	.482	.239	.178
Quality Daydream	.235	.000	.000	.000	.	.035	.001	.001	.425	.109	.348	.306
Optimism	.012	.103	.085	.455	.035	.	.000	.000	.014	.037	.021	.199
Pessimism	.011	.108	.088	.014	.001	.000	.	.000	.075	.012	.006	.411
Quality Life Orient	.012	.027	.156	.063	.001	.000	.000	.	.172	.014	.005	.379
Age	.190	.034	.023	.215	.425	.014	.075	.172	.	.085	.009	.000
Socio-Economic	.424	.031	.301	.482	.109	.037	.012	.014	.085	.	.443	.019
Marital Status	.307	.318	.301	.239	.348	.021	.006	.005	.009	.443	.	.017
Children	.265	.182	.084	.178	.306	.199	.411	.379	.000	.019	.017	.

n for all correlations = 83

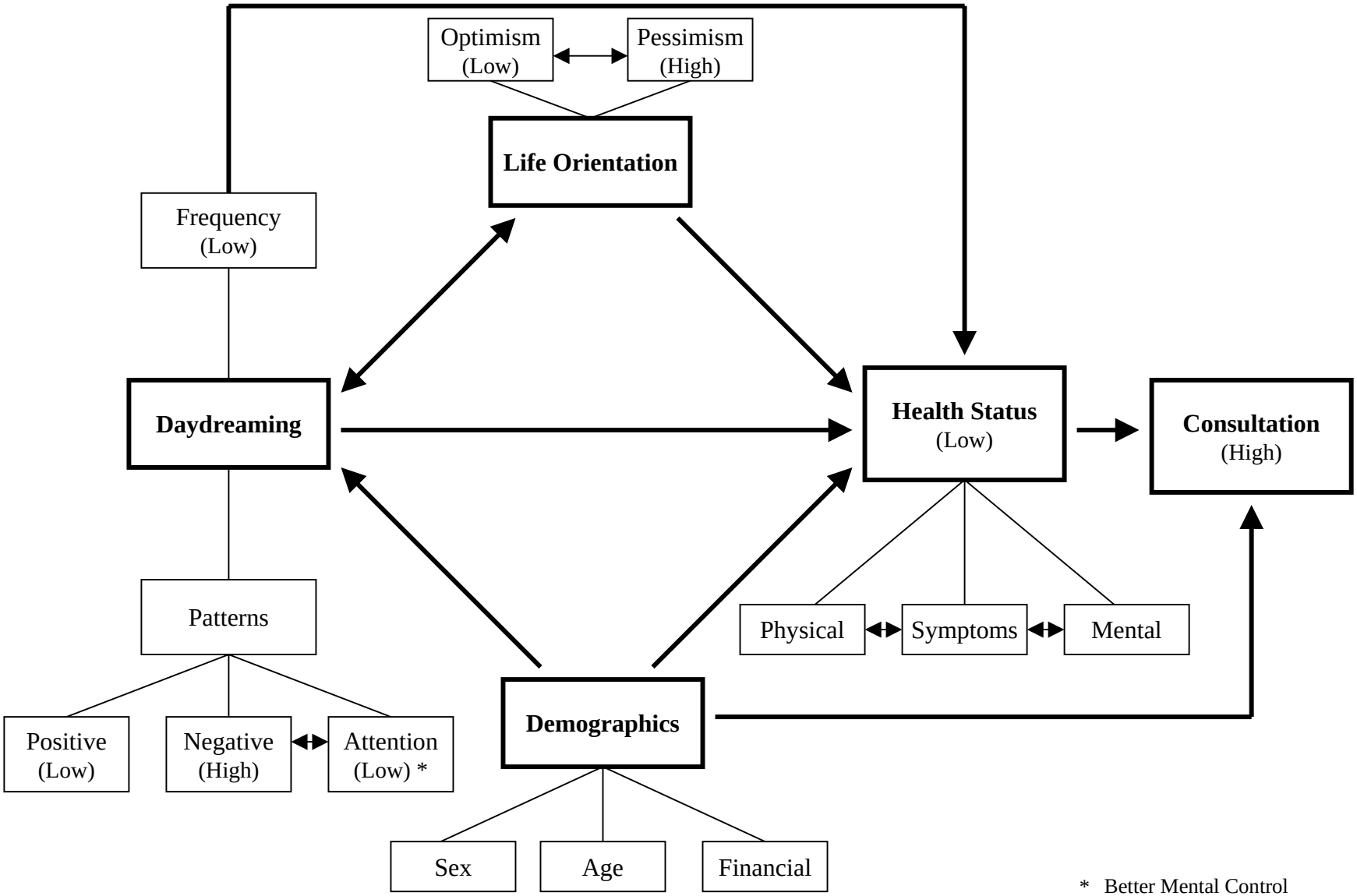

Figure 1. Model of Expected Relationships drawn from Literature Review

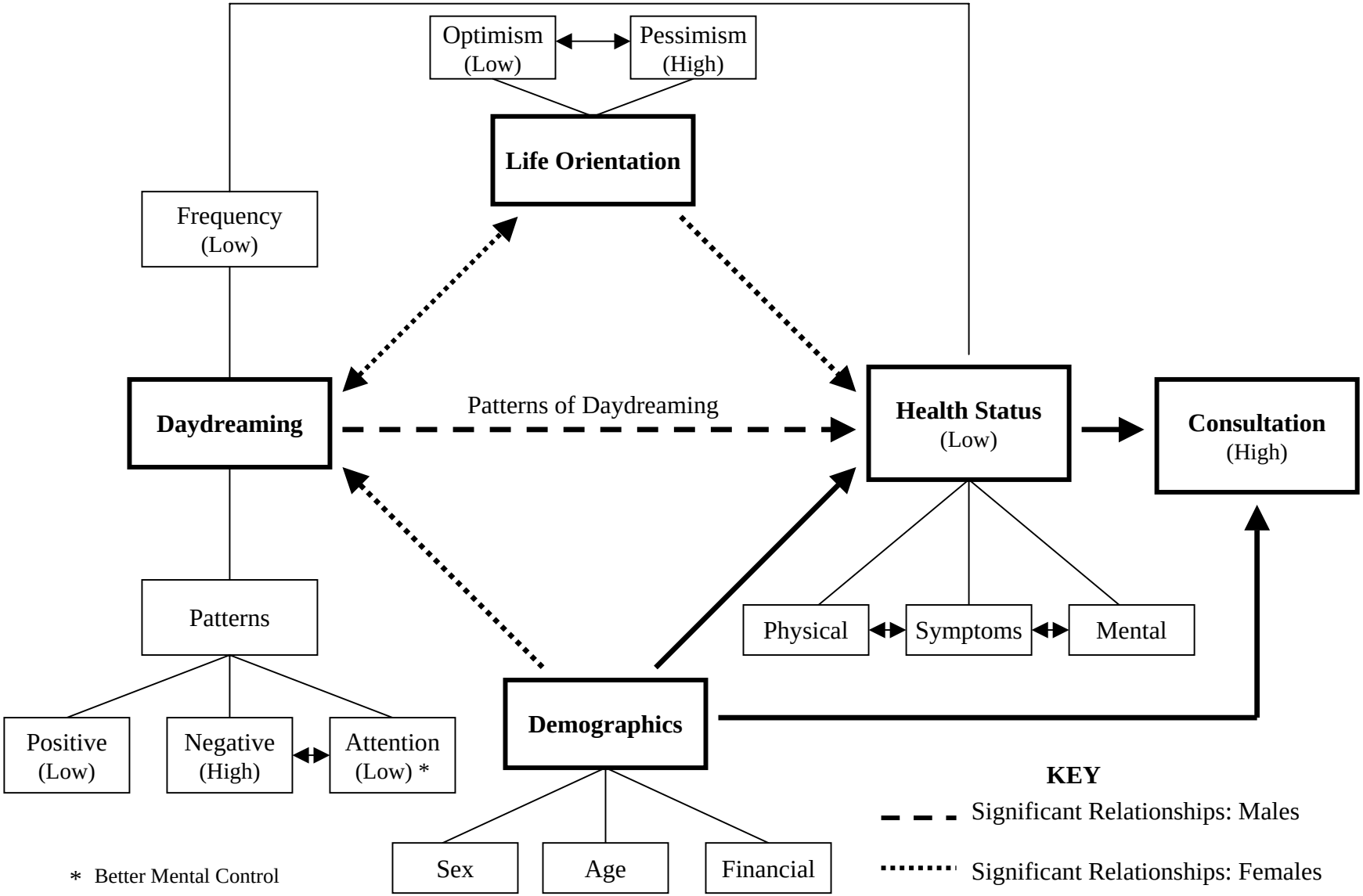

Figure 2. Model of Relationships Confirmed by the Present Research.