Meaning in Life and Psychological Well-Being in Older Adults

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ABSTRACT

Personal meaning in life refers to the presence of consistent meaning in any domain of action and to a generalised sense of purpose in life (Reker, 1992). The notion that a sense of meaningfulness is relevant to psychological well-being, and conversely that a sense of meaninglessness is relevant to psychological distress is of central importance in a number of influential and existential theories. The present investigation examined the differences and the patterns of associations between meaning in life, psychological well-being in differently functioning groups (a community comparison group, a psychiatric outpatients' group and a geriatric outpatients' group) of adults who are above the age of 65. The measures of meaning in life and psychological well-being which were used were: the Short Form 36 Items Health Status Questionnaire, Zung's Self Rating Anxiety and Depression Scales, the Purpose in Life Test, the Hospital Anxiety and Depression scale and the Life Attitude Profile-Revised. Three studies were conducted: two quantitative and one qualitative. Evidence is obtained that a) meaning in life and well-being differ significantly between differently functioning groups of older adults, b) meaning in life is consistently associated with measures of psychological well-being, c) meaning in life is a consistent predictor of psychological well-being d) changes in personal meaning were predicted from changes in mental health in a psychiatric outpatient group of older adults which had been targeted to change their mental health status through medical and psychotherapeutic treatment (indicating a direction of effect) and that e) sources of meaning such as religion, relationships, and gaining life-satisfaction from "here and now" appear to be important for older adults in order to maintain and/or find meaning in their lives. These findings lead strongly to the conclusion that there is a substantial and consistent relationship between meaning in life and psychological well-being in older adults which should be taken into consideration in clinical practice. It is concluded that the neglected meaning in life issue deserves greater scientific and therapeutic consideration. Clinical implications and suggestions for future research are discussed.

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↑	High
↓	Low
ANX	Anxiety
CO	Coherence
DA	Death Acceptance
DEPRES	Depression
ENERFAT	Energy/Fatigue
EV	Existential Vacuum
FUNSTAT	Functional Status
GENERH	General Health
Group 1	Community comparison sample
Group 2	Psychiatric outpatients' sample
Group 3	Geriatric outpatients' sample
GS	Goal Seeking
HAD	Hospital Anxiety and Depression Scale
LABI	Life Attitude Balance Index
LAP-R	Life Attitude Profile-Revised
LC	Life Control
MENTALH,	Mental Health
PHYSFUN, PF	Physical Functioning
PIL	Purpose in Life test
PMI	Personal Meaning Index
PU	Purpose
RLATEP	Role Limitations Attributed to Emotional Problems
RLATPP	Role Limitations Attributed to Physical Problems
SF-36	Short-Form 36 Items Health Status Questionnaire
SOCFUN	Social Functioning
WBEING, WB	Well Being

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Preface

The broad aim of the thesis is to investigate the complex relationship between meaning in life and psychological well being in older adults. Quantitative and qualitative methods have been employed to assess and examine the relationship. The thesis is broadly divided into three sections: literature review (Chapters 1 and 3), empirical evidence (Chapters 4 to 8) and general discussion (Chapter 9). The terms purpose in life, meaning in life, life meaning and personal meaning are used synonymously in the present thesis.

Chapter 1

General Introduction

Imagine a happy group of morons who are engaged in work. They are carrying bricks in an open field. As soon as they have stacked all the bricks at one end of the field, they proceed to transport them to the opposite end. This continues without stop and everyday of every year they are busy doing the same thing. One day one of the morons stops long enough to ask himself what he is doing. He wonders what purpose there is in carrying the bricks. And from that instant on he is not quite as content with his occupation as he had been before.

I am the moron who wonders why he is carrying the bricks.

Yalom, 1980

Despite a growing concern in modern society with the meaning and value of life, and repeated cries for the need for a psychology of human growth and potential (Maslow, 1968), the study of meaning in life has commonly been ignored by empirically oriented behavioural scientists. Generally, this stems from a preference for behavioural, objective data rather than for feelings and subjective experience, from a pathology oriented rather than a health-oriented tradition, and in particular from a perception that the study of meaning in life is primarily concerned with philosophical questions such as: "What is the meaning of life?" or "What is the purpose of living?" (Battista and Almond, 1973, p. 36).

Several theoretically and phenomenologically oriented behavioural scientists have developed an extensive literature concerned with the questions: "What is the meaning of life?", "What is the purpose of life?", "What is the nature of an

individual's experience of their life as meaningful?", "What are the conditions under which an individual will experience their life as meaningful?" or "What are the sources from which an individual derives meaning and purpose?". There may be a variety of losses, such as death of a significant other, changes of residence, retirement, financial difficulties and a declining health status.

Older adults have been identified as a group at risk for loss of their sense of meaning in life (Crumbaugh, 1972; Miller, 1979) particularly when they reach the point of retirement (Antony, 1980). Loss of meaning could be a serious threat to older adults due to the many changes and multiple losses that many encounter in the later years of life (Peterson, 1985; Burbank, 1992) but at the same time discovering and/or creating meaning in life has been associated with psychological well-being (Frankl, 1963; Yalom, 1980) in older adults (Wong, 1989; Zika and Chamberlain 1992; Ryff, 1995).

1.1 On the meaning in life

Meaning in life has traditionally been thought to be the domain of philosophy or theology (Burbank, 1992). However, in the recent years, references, to meaning and its importance in people's lives and well-being are found in sociological, psychological, anthropological and gerontological literature. Whether or not people discover or create meaning or meanings in their lives and how they discover or create them is a very interesting and challenging question. Some people discover meaning and purpose in the course of their everyday life whist others fail to do so or expect to discover it in the after life (Klemke, 1981). It is also possible for people to lose meaning with the loss of their health, job, or the death of their significant other/s. Others may experience the "... yes, I have a good job, a nice car, a wonderful partner, ... but still... something is missing".

Theoretically, people do not reach adulthood without having considered what is worthwhile, meaningful, interesting, or worth doing (Jung, 1959). In the older years of development, the question of meaning in life becomes more acute because activities previously given meanings have been realised such as working and raising a family. In such a developmental phase, as Erikson (1963) has pointed out, individuals tend to evaluate their lives critically and arrive at an overall assessment that will give them varying degrees of meaning, satisfaction and integrity. It makes sense to consider that the discovery or creation of personal meaning becomes one of the major developmental tasks in later years.

Loss of meaning has been considered to be an ultimate loss state in which feelings of emptiness, hopelessness and lack of purpose in life may arise. Meaninglessness has also been recognised as a "modern malaise" (Frankl, 1963; Yalom, 1980) that, if left unresolved, can lead to symptoms of anxiety, depression or physical decline. On the other hand, meaning in life has been recognised as an important component of psychological well-being (Ryff, 1995) and as one of the critical factors in developing and maintaining a strong sense of psychological well-being in the older years of development (Wong, 1989; Reker, 1992; Zika and Chamberlain, 1992, Ryff, 1995).

1.2 The thesis of the present research

The present research primarily focuses on the relationship between meaning in life and psychological well-being in older adults.

Although, the association between personal meaning and psychological well being has been theoretically established (Frankl, 1971; Yalom, 1980) in older adults (Wong, 1989; Reker, 1992; Ryff, 1996) and empirical evidence has substantiated the relationship (Zika and Chamberlain, 1992), the direction of

associations between personal meaning and psychological well-being has not been ascertained yet, i.e.: which of the two precedes the other. The present thesis does not aim to address a cause and effect relationship between the constructs of meaning in life and psychological well-being in older adults but it aims to explore further this association between these two constructs in older adults by using combined quantitative and qualitative methods of investigation. The present thesis views quantitative and qualitative research methodologies as complementary.

Chapter 2 reviews the origins of the meaning in life concept in philosophy, how the concept is perceived in psychological terms and how integral meaning in life appears to be in the psychological functioning of general populations but most specifically to a particular one; that of older adults. Chapter 3 reviews the literature on the relationship between psychological well-being in general populations and older adults. Chapters 4 and 5 present the methodology and results of quantitative Study 1, Chapters 6 and 7 present the methodology and results of quantitative Study 2, Chapter 8 presents the methodology and results of qualitative Study 3 and finally Chapter 9 presents a general discussion of the present research including clinical implications and proposals for further research.

Chapter 2

The origins of "meaning in life" concept

The question whether life has any meaning is difficult to interpret and the more individuals concentrate their critical faculty on it the more it seems to elude them. One wants to turn it aside, as a source of embarrassment, as something that, if it cannot be abolished, should at least be decently covered. Yet any reflective human beings recognise that the question it raises is important and that it deserves serious consideration.

Klemke, 1981, p.5

2.1 General Introduction

The present chapter presents a background review of the "meaning in life" concept in philosophy and psychology. The construct has originated mainly from philosophy and theology and it came to have central importance in what it became to be known as existential psychology (Hoeller, 1990). In recent years meaning in life has influenced mainstream psychology and it has been the focus of research that still remains limited (Zika and Chamberlain, 1992). In this chapter the development of the "meaning in life" construct through existential thinking is presented first, followed by a review of the literature on the relevance of meaning in life to psychological well-being in general populations as well as in the population of interest - the one of older adults.

2.2 The search for personal meaning in existential philosophy

This section presents a brief historical background of the origins of existential philosophy (known as Existentialism) and how the concept "meaning in life" has emerged from philosophical-existential thought.

In Europe, the philosophical movement of Existentialism started to develop in the 19th century (Bootzin and Acocella, 1988). Existentialism, which is a branch of philosophy, was a reaction against the prevailing thinking and the dominant trends of the nineteenth century, namely: i) unlimited faith in the power of reason, ii) the depersonalising spirit of scientism and iii) an idealistic view of man and the world (Vanderpool, 1968). Existential thought was born out of the historical crises of that era such as the rise of industrialisation, the challenge to religion from Darwin's theory and the catastrophes of the First World War. These facts left the residents of Europe with a pessimistic view towards life and without hope for the future (Bootzin and Acocella, 1988), and philosophers to wonder again about life's ultimate questions.

Life's ultimate questions, including the questions on human existence, meaning and purpose in life, death, free will, mind and body and their relationship (subjectivity vs. objectivity) run through philosophy back to Socrates, Plato and Aristotle (Simon, 1978). The questions of the status and relationship between subjectivity and objectivity re-appeared with Descartes who defined man as the thing who thinks (*res cogitans*) against a world of objects (*res extensae*). After Descartes separated the world into object and subject, Hegel conceived subject (mind) and body (nature) as two abstractions of one invisible whole. Hegel tried to lay a rational system over human beings (Fancher, 1990). For Hegel, the task of philosophy was to comprehend the rationality of what already exists. The Danish philosopher Soren Kierkegaard (1813-1855) strongly opposed Hegel's

rational system. The origin of existentialism[1] is traced back to Soren Kierkegaard, who is regarded as the founder of Existentialism. He reacted strongly against Hegel's objective and rational system-building and he tried to resurrect philosophy's concern with life's ultimate meaning. In the book "Either/Or", Kierkegaard (1844) is concerned with personal purpose and meaning in life and he argues that it is not his goal to find the objective truth about them or to develop a new system of philosophy since no system of thought could explain the unique experience of the individual. Although Kierkegaard was not declaring an ultimate or objective purpose and meaning in life he was emphasising the importance of subjective meaning in life which for him was found through philosophy. Characteristically he wrote that:

> *"...philosophy would not be important if it had no deeper meaning for me and my life...This is what I need, this is what I strive for"* (Volume II, p. 362).

Likewise Husserl (1900) reacted against the positivist philosophy evolving from the technical discoveries of the 19th century that accentuated the dichotomy between subject and object. The guiding principle of Husserl's scientific phenomenological methodology in philosophy was that things are as they appear ("φαινονται"= appear), or are as they seem to be in people's consciousness. He, like Kierkegaard, considered meaning in life to be a subjective phenomenon dependent on the individual's needs and consciousness. Husserl's return to experience and to the phenomenological method of description has been considered (Hoeller, 1990) as the link between philosophy and psychology. Husserl's student, Martin Heidegger (1962) in the book "Being and Time" takes the phenomenological method and gives it an existential turn related to

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[1] Among the proponents of Existentialism were Martin Heidegger in Germany and Jean-Paul Sartre in France.

psychology. The next section provides a brief historical background of the transition of the "meaning in life" concept from philosophy to psychology.

2.3 The search for personal meaning in existential psychology

Existential philosophy has made a great impact in psychology and psychiatry where the growth of the existential attitude stemmed from dissatisfaction with existing methods for gaining an understanding of mental illness (Hoeller, 1990). It was felt from a philosophical point of view (Heidegger, 1962) that man was reduced to a biological object that was observed, dissected in chemical or physical reactions and in sets of mental mechanisms, inevitably leaving out his basic attribute: his existence, Being, or *Da sein* (= what it means to be). Psychiatrists Boss (1962) and Binswanger (1963) realised and emphasised very clearly in their writings that existential thinking represents a new dimension in psychology and psychiatry and they based "*Dasein analyse*" and *"Dasein analysis"* respectively, on Heidegger's analysis of *Da sein*. At the same period the Austrian psychiatrist Victor Frankl, influenced from existential thought, made a substantial contribution to the importance of meaning in life in mental health and psychological well-being and he proceeded in developing a theory of meaning in life (Frankl, 1959).

2.4 Frankl's theoretical model of meaning in life

The Austrian psychiatrist Victor Frankl, while he was imprisoned in Auschwitz concentration camp from 1943-1945, observed that the prisoners who were able to "survive psychologically" (Frankl, 1959, p. 52) were those who could find spiritual meaning in their suffering, and noticed that even under conditions of extreme psychological and physical functioning life can be meaningful (Frankl, 1959). Frankl found meaning for himself by helping others instead of

concentrating on his own self-preservation and personal suffering. His own meaning in life since that time has been to "help others find their meaning" (Frankl, 1959, p. 61). These experiences have served as a basis for a theory of meaning. Frankl (1959, 1963) considered the struggle of human beings to find some reason for their existence as a prime universal motive of human behaviour.

Frankl's (1963) conceptualisation of human nature is based on the premise which regards the "will-to-meaning" as a universal human motive. He argues that human behaviour is neither motivated by the will to pleasure, as Freudian psychoanalysts hypothesised, nor by the will to power, as Adlerians emphasised, but by the inborn urge of human beings to search for meaning. In other words, Frankl, disagreed with the deterministic views of the psychodynamic approaches and he theorised that humans have free-will to become the best of what they can. He emphasises that the understanding of life represents some goal, function, or purpose for life which the individual sees himself as striving for- e.g., self-expression, materialism, or a religious / political calling. According to Fabry (1968), an interpreter of Frankl's work, meaning consists of seeing the world as orderly, despite its obvious chaos at times, and of searching for a purpose or task with which to define one's life.

Frankl (1967) identified three meaning systems - the creative, experiential and attitudinal. Life, then, can be meaningful in the following three ways (Reker, 1987): i) through what people give to life (in terms of their creative work), ii) by what they take from the world (in terms of their experiencing values) and iii) through the stand they take towards a fate they no longer can change (such as an incurable disease).

Frankl referred to his approach in theoretical and therapeutic context as *"logotherapy."* Logotherapy is concerned both with *being* (ontos, da sein) and *logos* (reason, purpose, meaning) and focuses on the process to help an individual/client find meaning. (Frankl 1964; 1978). Logotherapy focuses on three fundamental facts of human existence: the will to meaning, the meaning in unavoidable suffering (as opposed to masochism) and the freedom of will. As to the last, free-will implies a sense of responsibility. Humans beings are free to make choices but at the same time they have the responsibility of searching and fulfilling the meaning of their life themselves within the boundaries their freedom allows (Yalom, 1980). Interestingly, it has been theorised that: a) individuals who experience a sense of meaning in life enjoy better health as expressed through greater life-satisfaction, higher levels of psychological well-being and positive mental health (Yalom, 1980) than b) individuals who do not experience a sense of meaning in life and are vulnerable to psychopathological mental problems (Frankl, 1963).

2.5 Meaning in life defined

Following Frankl, several theoretically oriented scientists have developed an extensive literature concerned with the question "What is the meaning in life?" and its definition. The following paragraphs present a review of definitions and conceptualisations of "meaning in life" proposed from several theorists and researchers. The present thesis adopts Frankl's theoretical model of meaning in life and consequent models proposed by Reker and Wong (1989) and Zika and Chamberlain (1992).

Hocking (1957) identified two kinds of personal meaning: i) personal meaning that is derived from specific events and gives rise to meaning and satisfaction and

ii) ultimate or total meaning such as religion. Maslow (1968) agrees with Frankl and considers meaning to be a universal human motive. He describes the experience of one's life as meaningful, based on a feeling of fulfilment and significance. Weisskoph-Joelson (1968) views meaning as an interpretation of life based on a feeling of integration and relatedness. Fabry (1968) has emphasised the necessity of faith, commitment or belief in the experience of meaning in life.

Battista and Almond (1973) who used the term "positive life regard" instead of "meaning in life" have defined it as the "individuals' belief that they are fulfilling a life framework or life goal that provides them with a highly valued understanding of their life". The authors suggest that people who experience life as meaningful have a conscious, articulated structure which provides a framework or goal from which to view life. They perceive their lives as related to or fulfilling this concept, and experience this fulfilment as feelings of integration, relatedness or significance. Antonovsky (1979, 1987) considers meaning as integral to sense of coherence.

Yalom (1980) holds a similar position to Hocking's (1957) and has made a clear theoretical distinction between cosmic and terrestrial meaning. The first theoretical approach to considering meaning is that meaning is ultimate or cosmic, that it exists apart from one's perception of it, and that it can be discovered. Frankl (1963) stated that meaning can be discovered by self-transcendence, by moving beyond concern for the self and focusing on other people and social and spiritual values. He held that direct focusing on pleasure and happiness leads to existential vacuum (see section 2.6), while self-transcendence leads to fulfilment. Cosmic meaning implies some design existing

outside of and superior to the person and invariably refers to some magical or spiritual ordering of the universe. The second view is that meaning is terrestrial, based on a relative view of reality and rejects belief in an external source of meaning (i.e.: God). Tillich (1953) perceived the loss of an ultimate concern, such as God, in the modern world as the event underlying the search of meaning in life and its despair. It is therefore the process of constructing meaning that is important (Battista and Almond, 1973). Terrestrial meaning may have foundations that are entirely secular; that is, one may have a personal sense of meaning without a cosmic meaning system. Yalom (1980) commented that overall psychologists are more concerned and interested in specific meanings in life rather with the cosmic or ultimate meaning in life. According to Reker and Wong (1988) a better understanding of meaning should take into consideration both types of meaning. Baird (1985) stresses that meaning must involve the pursuit of objects that provide satisfaction, because "without subjective satisfaction, meaning is incomplete" (p. 119). He also points out that part of what it means to be fully human is to create meaning by establishing in depth relationships, by committing to projects that give order and purpose to life and by placing life in the context of meaning-creating stories. Rosenmayr (1985) defines meaning as "cognitive content that provides emotional satisfaction and the knowledge that one's actions correspond to one's goals in a way that can be clearly formulated" (p.119).

Reker and Wong (1988) proposed a more detailed account than Frankl (1964) and Rosenmayr (1985) of how meaning in life influences psychological states. Reker and Wong (1989) clarified Frankl's model of meaning in life and theorised that the concept of personal meaning is a multidimensional construct with at least three components: cognitive, motivational and affective. The cognitive

component deals with making sense of one's experience in life. They postulated that each individual constructs a belief system, a world view , to manage a number of existential concerns such as: what is the total meaning in life? or is there an ultimate meaning in life? The belief system deals with not only "cosmic meaning" (Yalom, 1980) but also existential understanding of specific life-events. In this respect, the individual seeks to understand the value and purpose of various encounters and interpret their experiences. From the cognitive perspective, meaning is an explanation or interpretation of one's life (Weisskoph-Joelson, 1968). Dittmann-Kohli (1990) refers to this framework, with which individuals who share a common culture learn to interpret and evaluate the features of human nature and their life course, as a "life script". This particular term was chosen to emphasise its relation to cognitive science and social cognition research (Dittmann-Kohli, 1990). The motivational component of personal meaning refers to the process of pursuing selected goals and refers to a value system constructed by the individual (Reker, 1988). The process of pursuing selected goals and their attainment give a sense of purpose and meaning to one's existence. The affective component comprises the feelings of satisfaction and fulfilment that people get from their experiences or from the achievement of their goals. Taking into consideration this view of personal meaning Reker and Wong, (1988) defined meaning as the : *"The cognisance of order, coherence, and purpose in one's existence, the pursuit and attainment of worthwhile goals, and an accompanied sense of fulfilment"*, (p. 221).

These three "structural components" (O'Connor and Chamberlain, 1996) of how meaning is experienced are interrelated and are common to people's experience of meaning. The definition of meaning given by Reker and Wong (1989) is the definition that the present thesis favours. The definition provides a

multidimensional structure of meaning in life and is directly based on Frankl's theoretical model of meaning in life.

2.6 Meaning in life linked to psychopathology

In the early stages of the exploration of "meaning in life", C.G. Jung (1966), felt that the absence of meaning played a crucial role in psychopathology and specifically in the aetiology of neurosis. He noted that about a third of his cases were not suffering from any clinically definable neurosis but from the senselessness and aimlessness of their lives. Jung thought that neurosis must be then understood as the *"suffering of a soul"* (p. 83) which has not discovered its meaning.

Similarly, Frankl (1967, 1969) asserted that when a person's will-to-meaning is blocked, existential frustration results. A frustrated or repressed will-to-meaning may lead to *existential vacuum*, "the experience of a total lack, or loss, of an ultimate meaning in one's existence that would make life worthwhile" (Frankl, 1967, p.48). Symptoms of existential vacuum include a sense of lack of meaning in life, feelings of boredom, apathy or indifference and it can result in *existential frustration*. The latter can lead the predisposed neurotic individual, even under the most favourable external conditions, to a *noogenic neurosis* breakdown, a state characterised by a compound of neurotic symptoms derived from the individual's failure to find meaning in life. Frankl (1967) estimated that half of his patients[2] had experienced an "existential crisis"; and concluded that lack of meaning in life is the paramount existential stress.

[2] Frankl had observed his patients during his practice and not under experimental conditions.

Frankl's proposal that absence of meaning in life is linked to psychopathology[3] has been shared by Maddi (1967) who described a similar neurotic condition with cognitive, affective and behavioural components. In his essay "On the search of meaning" Maddi (1970) stated that failure to find meaning leads to existential sickness and existential neurosis (see also Maddi, 1967). This makes up a syndrome characterised by the belief that one's life is meaningless, by the affective tone of apathy and boredom, and by the absence of sensitivity in actions (p. 313). Furthermore, it is a state in which the cognitive component is meaninglessness, or a chronic inability to believe in the importance and usefulness of any of the things an individual is engaged in or can imagine doing. Further, a person who suffers from existential neurosis may experience alienation from self and society.

2.7 Operational definition of meaning in life: The Purpose in Life test (PIL)

These theoretical systems of Frankl (1959, 1964, 1967, 1969) and Maddi (1967) attracted particular attention from contemporary researchers such as James Crumbaugh and Leonard Maholick, who attempted to transfer the meaning in life concept to empirical science. In 1964, Crumbaugh and Maholick influenced by the work of Victor Frankl, published a psychometric instrument designed to measure purpose in life. The Purpose in Life (PIL) test (Appendix 9) operationalises Victor Frankl's definition of meaning in life. The self report scale is designed to measure the degree to which an individual experiences a sense of meaning and purpose in life (Crumbaugh and Maholick, 1969).

[3] It is aknowledhged that the terms psychopathology, neuroticism and depression were defined differently in the 1960's and 1970's. In the present thesis these terms are upgraded and used according to current terminology and conceptualisation of mental illness.

2.8 Other approaches to the measurement of meaning in life

Another approach in measuring the meaning in life is taken from Battista and Almond (1973) who developed the Life Regard Index, a 28-item, 5-point scale, designed to measure an individual's belief that they are fulfilling a life-framework or life goal that provides the person with a highly valued understanding of life. Their scale is based on the concept of positive life regard, which conceptually, may be related more to the concept of self-esteem than the construct of meaningful life. Ebersole and DeVogler-Ebersole (1986) use the personal-document approach in their assessment of types and depth of meaning. Scripts obtained through biographical sources or provided by respondents are content analysed for sources of meaning. Unfortunately, both the above mentioned approaches do not provide conceptual definitions of meaning in life and are mainly based on research focusing on the sources of meaning.

Although the PIL has been criticised for item heterogeneity and susceptibility to social desirability (Battista and Almond, 1973; Ebersole and De-Vogler Ebersole, 1985; Yalom, 1980) it is the only psychological instrument that has been widely used to study meaninglessness in a systematic manner. In addition it is based on a firm conceptual definition of meaning in life based on Frankl's theory of meaning. For these reasons the Purpose in Life test (Crumbaugh and Maholick, 1964) was selected as a measurement instrument for Study 1 of the present research as opposed to the Life Regard Index (Battista and Almond, 1973).

2.9 Purpose in life in general populations

The writings of Jung (1959, 1966), Frankl (1959, 1964, 1967, 1969) and Maddi (1967) have inspired some researchers to investigate the life-meaning concept using almost exclusively the Purpose in Life test (PIL). This section presents epigrammatically studies and their conclusions that have used the Purpose in Life as a measurement instrument. One study (Doerries, 1970) has demonstrated that

students who have high scores on the Purpose in Life test would participate in greater number of organisations (i.e.: religious, ethnic, political or in community service and involvement in sports or hobbies) than students scoring low on the PIL ($p<.001$). Yarnell (1971), recruited air Force servicemen and hospitalised male schizophrenics and reported that scores on the Purpose in Life test are not related to age or IQ. Yarnell (1971) concluded that life can be considered meaningful regardless of age, IQ or educational level. This supported Crumbaugh (1972) who reported a lack of association between Purpose in Life scores and educational level ($p>.05$). Furthermore significant positive relationships were found in the normal group with preferences for being active in groups ($r=.33$, $p<.05$) and for stable and familiar situations ($r=.40$, $p<.01$) and among the schizophrenics a positive relation with preference for avoiding conflict ($r=.39$, $p<.05$). Durlak (1972) reported a significant negative correlation between purpose in life and fear of death ($r=-.37$, $p<.01$). These results supported Frankl's notions that individuals who reported a high purpose and meaning in their life tended to fear death less and to have a more accepting attitude towards it. In comparison participants who reported less purpose and meaning in their life showed a higher fear of death.

Shean and Fechtman (1971) found that students who had smoked marijuana regularly over a six month period scored significantly lower on Crumbaugh and Maholick's Purpose in Life test (1969) than did non-users ($p<.001$).

Black and Gregson (1973) reported that recidivists differ significantly from first sentence prisoners($p<.05$), who in turn differ from normals with respect to purpose in life ($p<.01$). The authors concluded that criminality and purpose in life are inversely related. In other words, the more persistently someone offends, the more likely he is to be sentenced to increasing terms of imprisonment and the less likely he is to increase his sense of purpose in life when released. Garfield (1973)

administered the Purpose in Life test to participants from different cultures and then interviewed subjects with low, intermediate and high scores to determine what each item meant to them. Depending in part upon their culture, subjects interpreted the items in highly idiosyncratic ways; those who came from religious cultures tended to interpret the items within religious connotations and frameworks. Sharpe and Viney (1973) reported that subjects with low PIL scores expressed their lack of purpose in their world views (*Weltanschaung*), tended to be more negative than positive and lacked purpose and transcendent goals. Pearson and Sheffield (1974) reported that people with high purpose are less neurotic and sociable ($p<.001$) and Robertson (1974) that purpose in life is related to ego strength ($r=.39$, $p<.01$). Delinquent adolescents and high school students (Padelford, 1974) who use drugs showed that drug involvement was greater among students with low purpose in life than among those with high purpose in life ($p<.001$). Another study (Jacobson, Ritter and Mueller, 1977) showed low-normal scores for hospitalised alcoholics but did note that during a month-long treatment program ($p<.001$). The Purpose in Life scores rose significantly.

These empirical studies supported the importance of meaning in people's life and supported theorists (Frankl, 1972; Kotchen, 1960) who considered lack of meaning and purpose in life as indicatives of emotional maladjustment and psychological distress and theorists who considered a sense of meaningfulness as an important component of psychological well-being and psychological functioning (Maddi ,1969; Reker, 1992; Ryff, 1992; Yalom, 1980).

2.10 Purpose in life and mental health outcomes

A number of other studies have explored the hypothesis that the "will-to-meaning" (Frankl, 1963) is a reliable criterion of mental health and have

investigated the meaning in life concept in psychiatric populations using the Purpose in Life test (Crumbaugh and Maholick, 1964) as a measurement instrument. For example, Crumbaugh and Maholick (1968) found the PIL to discriminate between psychiatric groups and non-psychiatric groups ($p<.01$). Patients hospitalised for chronic alcoholism and psychotic disorders have been found to have lower PIL scores ($p<.001$) than neurotic outpatients (Crumbaugh and Maholick, 1968). In the same study, hospitalised patients and outpatients were found to score significantly lower on the PIL than nonpatient samples ($p<.001$). The same authors (Crumbaugh and Maholick, 1968) reported that purpose in life was found to be significantly negatively related to psychoticism and neuroticism ($p<.01$), and positively to extroversion ($p<.05$) as these are measured from the Eysenck Personality Inventory (Eysenck and Eysenck, 1973). In a study of outpatients in a British psychiatric clinic (Sheffield and Pearson, 1974) a positive correlation was demonstrated between high purpose in life and conservatism, religious-puritanical values and idealism ($p<.01$). Diagnoses for these participants included anxiety states, neurotic depression, other neuroses, personality disorders and endogenous depression. Except for the category of "other neuroses" the data obtained indicate a general tendency for men to have higher Purpose in Life scores than women ($p<.05$). Inspection of the Sheffield and Pearson (1974) data indicates that those patients diagnosed as depressed did not have, in terms of their mean Purpose in Life scores, less purpose in life than the other diagnostic categories.

2.11 Meaning in life as a "given of existence"

After reviewing this body of research literature Yalom (1980) concluded that lack of meaning in life was associated with psychopathology whereas positive life meaning was associated with strong religious beliefs, self-transcendent values, memberships in groups, dedication to a cause, and clear life-goals. Yalom

suggested how involvement in a meaningful group or a cause might increase one's sense of meaning. Consequently, meaning in life appears to be a hidden dimension of health and psychological well-being. Yalom also pointed out that the sources of meaning change over a person's life and need to be viewed from a developmental perspective.

Yalom (1980) identified four ultimate existential concerns or four "givens of existence", inherent in a man's existence: death, freedom, isolation and meaninglessness. These givens of existence are certain ultimate concerns or properties that are an inescapable part of an individual's being (Ruffin, 1984). Rollo May (1983) agrees these four ultimate existential concerns are facts of life or *phenomena,* (= those which appear to be in one's awareness). Other authors suggested that these existential concerns can readily be understood and shared by others, such as the existential concern of meaninglessness (Reber, 1985; Fowler and Fowler 1991).

Yalom (1980) has also emphasised the importance of these "givens of existence" to psychotherapy. The position held by Yalom is that a conflict can arise when an individual confronts these givens of existence such as when wondering for example: "What is the meaning of my life if I am going to die in an isolated world where I am solely responsible from my actions?" (Hoeller, 1990, p. 172). When core existential conflicts are created with the confrontation of the "givens of existence" psychopathological symptoms might emerge. At the same time though these concerns or givens of existence are very important elements of psychological well-being.

The present focus is on the fourth ultimate existential concern identified by Yalom (1980) and refers to meaninglessness. When humans are confronted with

the reality of death, and realise that they have to create their meanings (Baird, 1985) through choices they also confront their isolation in an indifferent universe and start to wonder "What meaning does life have"?, "What is the purpose of life"? In this case, an existential dynamic conflict may stem from the dilemma of an individual who is seeking meaning in a meaningless universe into which they were "thrown". This state of meaninglessness is viewed by Yalom (1980) as one of the causes of existential anxiety (as opposed to neurotic anxiety, Cohn 1984). On the other hand, when individuals confront *meaninglessness* and construct, create or discover their own meanings, these tend to relate with psychological-well-being. It appears that experiencing a sense of purpose and meaning in life relates to positive psychological well-being (or mental health), whilst experiencing a lack of purpose and meaning in life relates to negative psychological well-being (or mental health). These patterns of associations between personal meaning in life and psychological well-being are the primary concerns of the present research.

2.12 Meaning in life and its relation to stress and copying

More recently, meaning in life has influenced psychological models of stress and coping. Lazarus and DeLongis (1983) argued that a sense of personal meaning can influence coping strategies for dealing with stress throughout the life-span of the individual. It is argued that a relatively stable feature of personality affects the way situational events are appraised in terms of their possible impact on well-being, as well as influencing the way these events are managed. Life encounters, which challenge important commitments, are likely to be appraised as a threat, thus increasing the person's vulnerability to stress. However, this vulnerability may also serve as a positive function by driving a person towards an action which alleviates the threat and thus maintains coping. Patterns of commitment are viewed as necessary since their absence would lead to a pervasive state of

meaninglessness. Antonovsky (1979) developed an underlying personality dimension, called "sense of coherence", which protects people against the potential harm of stressors on health and provides a buffer against stress and stress-related diseases. This construct comprised three interrelated factors: comprehensibility, manageability and meaningfulness. Antonovsky (1979) argued that people with a strong "sense of coherence" perceive the experiences they have in life as meaningful, and furthermore that the things they will experience in the future will continue to be meaningful.

A few studies have established the function of meaning in life as a moderator of stress. Newcomb and Harlow (1986) found that perceived loss of control and meaninglessness in life mediated the relation between uncontrollable stress and substance use. It has been shown that existential concerns, such as the meaning in life and isolation, are correlated with trait and state anxiety (Ruzninsky & Thauberger, 1982). Alienation from self, according to Ganellen and Blaney (1984), mediates the effects of life stress on depression. Newcomb (1986, 1987) reported that nuclear anxiety (anxiety due to a fear of a nuclear war) was found to be significantly associated with less purpose in life, less life satisfaction, more powerlessness, more depression and drug use.

Harlow, Newcomb and Bentler (1986) examined the possible mediating influences of perceived loss of control and meaninglessness interposed between the experience of stressful life events and the use of drugs in groups of adolescents. It was hypothesised that uncontrollable stress in the form of negative life events creates a sense of loss of control, which in turn engenders a decreased level of meaning in life. This meaninglessness in life is then minimised through use of narcotics. Ryff and Heidrich (1993), investigated how the self-esteem mediates the relationship between physical and mental health in elderly women

and reported that social integration and social comparisons mediated the effects of physical health on psychological distress, well-being and developmental outcomes.

2.13 Meaning in life and psychological well-being

Zika and Chamberlain (1987) reported that meaning in life has a direct effect on well-being and is the most consistent predictor. They examined meaning in life, locus of control and assertiveness as possible moderators of the relation between stressors and well-being. Chronic daily stressors were found to have a direct effect on well-being. Among the personality dispositions meaning in life was the most consistent predictor of well-being. Consistent associations were noted between high well-being and high meaning in life scores and between low well-being and low meaning in life scores. Internal locus of control and assertiveness had also direct but less consistent effects. These findings demonstrate the relevance of personal meaning to psychological well-being. These findings have also important implications for understanding the foundations of psychological health since meaning in life appears to be one of the critical factors in obtaining and maintaining a strong sense of psychological well-being. A few more studies have shown how meaning in life is related to psychological well-being. Epigrammatically it has been shown that individuals who are able to find meaning in experiences, such as terminal illness, (Hamera and Shontz, 1978), cancer (Taylor, Lichtman and Wood, 1984), AIDS (Schwartzberg, 1993), traumatic life-events (Thompson and Janigian, 1988) or being a victim of incest (Silver, Boom and Stones, 1983) cope better after the event than those who are unable to find meaning. A phenomenological study (Coward and Lewis, 1993) found that gay men with AIDS experienced meaning through the three systems identified by Frankl, (1967): - the creative, experiential and attitudinal. The men experienced "self-transcendence" (Coward and Lewis, 1993) by reaching out for

others for help and helping others. Their acceptance of the closeness of death led to a sense of urgency to create a legacy and to participate in activities which gave them meaning or which had meaning for them.

2.13.1 Religion as a source of meaning in life

It has been proposed that religion, as a source of meaning (Reker, 1992), provides a framework that gives purpose and meaning in life (Paloutzian and Ellison, 1982). There are indications of increasing interest in studying the role of religious faith as a protective factor against mental illness and positive psychological-functioning. Religion as a belief system might have been proposed to be an important source of meaning for older adults (DeVogler and Ebersole, 1983; Wong, 1989) but modern psychiatry according to Neeleman and Persaud (1995) has neglected the therapeutic effects of religious beliefs. The authors claim that the gap which exists between psychiatry and religion is a relatively recent phenomenon and is partly related to psychiatry's progress in elucidating the biological and psychological causes of mental illness, rendering religious explanations superfluous. It has also been suggested that a positive association exists between religion and psychological well-being (Petersen and Roy, 1985, Zika and Chamberlain, 1992) but there is no direct empirical evidence to confirm such a link between depression and religiosity (Neeleman and Persaud, 1995). However, Frankl (1972) considered that in an era when traditional belief systems crumble, there is a need to recognise, in addition to neurotic depression, an existential depression which does not feature guilt but rather meaninglessness, hopelessness and emptiness.

2.14 Summary of Chapter 2

Chapter 2 reviewed the origins of the meaning in life concept through existential philosophy to psychology. Psychological theory and empirical evidence indicate that personal meaning and psychological well-being are closely related. The message from theory and empirical evidence is that a sense of personal meaning is associated with positive psychological well-being and that lack of meaning in life is associated with pathological outcomes. This supports the theoretical views of existential oriented theorists who asserted that positive meaning in life may result in psychological well-being while failure to find meaning may result in (some types of) psychopathology. It follows that the discovery or creation of meaning in life appears to be a substantial and important element for the attainment of psychological well-being (Shek, 1991; Zika and Chamberlain, 1992; Ryff, 1995). This suggested relationship between positive meaning in life and psychological well-being has serious implications for treatment and therapy especially for individuals in these particular developmental stages where the sources of meaning in life are particularly threatened (Wong, 1989). The significant association between meaning in life and psychological well-being is found to be consistent amongst a group that has been suggested to be at risk for having lowered well-being - older adults. The present research aims to explore further this significant association between personal meaning and psychological well-being in older adults. It does not however, by any means, attempt to address a cause and effect relationship between the two constructs or to find a causal link between them. Chapter 3 reviews the background of the relationship between meaning in life and psychological well-being in older adults and suggests methods to investigate it further.

Chapter 3

Meaning in life and psychological well-being in older adults

A human being would certainly not grow to be seventy or eighty years old if this longevity had no meaning for the species. The afternoon of human life must also have a significance of its own right and cannot be merely a pitiful appendage to life's morning.

Carl Jung, 1959

3.1 General Introduction

Although some empirical evidence is available for the relevance of personal meaning to well-being in general populations, the empirical evidence on meaning and psychological well-being in older adults is still limited (Coleman, 1992). The present chapter reviews the theory and empirical evidence of the relevance of personal meaning to psychological well-being in older adults and suggests methods to explore and substantiate the relationship further.

3.1.1 The interest in older adults

The noted increasing academic interest in the study of older adults in the twenty-first century is unlikely to diminish. This interest can be explained with the increase in the proportion of people over 60 years that started in the 1940's (Kimmel, 1996). There are two major reasons for this rapid growth of the older adult population: i) the decline in birth rates, especially in the western population, that is resulting in an increase in the proportion of older people and ii) the improvement in life expectancy (Kimmel, 1996). Advances in medical science

and improvements in the quality of life in the adult and older adults have resulted in an increase of older adults' life expectancy.

As a result older adults are becoming a higher priority in planning, and take up resources. In 1990, 13% of men and 18% of women were aged 65 years or over (Department of Health, 1994). The number of very elderly people will increase in the next decade, with those aged 85 years and over expected to increase by 34% (Department of Health, 1994). It follows that elderly people's needs are an increasingly important factor in programmes designed to safeguard and improve their health and quality of life (Department of Health, 1994).

3.2 Meaning in life through the life span

Development in the present thesis includes a longer term view of change, growth and development throughout the life-span. This implies that development ends at no specific time and that the organism will continue to differentiate behaviours long after physical maturity and move toward increasing complexity (Birren and Birren, 1990; Schroots 1988).

The present thesis views meaning in life from a life-span perspective. This position is supported theoretically by a number of life-span psychologists who theorised about the development of changing values, beliefs and meanings over the life-span (Battista and Almond, 1973; Erikson, 1963; Freden, 1982; Jung, 1971; Maslow, 1968; Reker, 1988).

3.2.1 Age differences in personal meaning

There is some empirical evidence that age differences in meaning and purpose exist (Ryff, 1995; Baum and Stewart, 1990; Meier and Edwards, 1974; Pearson and Sheffield, 1974; Yarnell, 1971). Reker, Peacock and Wong (1987),

examined age differences using the Life Attitude Profile (LAP) scale (Reker and Peacock, 1981) in 30 men and 30 women at each of the following five developmental stages: young adulthood (16-29 years), early middle-age (30-49 years), late middle age (50-64 years), young-old (65 to 74 years) and old-old (75 years and over). Significant age differences were found on five life attitude dimensions including life purpose (fulfilment, contentment, satisfaction), death acceptance (lack of fear or anxiety to face death), goal seeking (desire to achieve new goals), future meaning (determination to make the future meaningful, acceptance of future possibilities) and existential vacuum (lack of purpose, lack of goals, free floating anxiety). Purpose in life and death acceptance were found to increase with age while goal seeking and future meaning were found to decrease with age (Reker, Peacock and Wong, 1987). On the contrary, Ryff (1995) who asked young, middle-aged and old-aged adults to rate themselves in self-reports showed that purpose in life, a dimension of psychological well-being, decreased from mid-life to old age[1]. However, other studies designed to assess age differences have not consistently found significant differences (Meir and Edwards; 1974). It was suggested (Reker, Peacock and Wong, 1987), that this lack of age related findings may be attributed to the restriction in age range of the samples.

3.3 The discovery of meaning in life as a developmental task

The concept of "individuation" proposed by Jung (1959, 1966) is directly related to the development of meaning in life. Jung (1959) felt that there must be some purpose in human life continuing into its later years, after fulfilling sources of meaning such as caring for children. It is then that, at least for some, the question "what is the purpose of life now?" or "what is the meaning of life now?" can appear.

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[1] The specific age ranges are not mentioned.

Jung (1971) argued that the first half of life is spent in preparation for living and that people hang on to youth instead of looking forward. Thus, many people reach old age with unsatisfied demands and without goals for the future. He suggested that this is the reason why religions hold out the hope of afterlife, in order to make it possible for a person to live the second half of life with as much purpose as the first one. According to Jung, during some part of the second half of life inividuals prepare for old age and death and place more emphasis on the spiritual values. The individual's attention is turned inwards and the inner exploration helps individuals to find meaning and purpose in life that makes it possible for them to accept death.

3.3.1 Meaning as a means to reach integrity in later years

A number of life-span theorists have emphasised the importance of meaning to psychological well-being in older adults. Erikson (1963) has linked societal values with developmental tasks to be accomplished, and theorised about the development of changing values and meanings over the life span. According to Erikson (1963) meaning is derived at each psychosocial developmental phase when one or more of four basic tendencies (need-satisfying, adaptive, creative, inner order) have been satisfied. During the later years, integration becomes the primary goal; therefore the task of late life is to develop a sense of integrity. Erikson also argued that one must solve the task of establishing self-growth and personal identity before being able to develop a self satisfying sense of life meaning. Achieving a sense of purpose and meaning will make it easier for older adults to reach integrity (Erikson, 1963).

Yalom (1980) has suggested that meanings change over a person's life and need to be viewed from a developmental perspective. According to Thompson (1992),

meanings for the adolescent, young and middle age adult are centred on establishing a stable identity, forming intimate relationships and being productive and creative. The task of late life is to develop a sense of integrity, an appreciation of why and how one has lived. Integrity is defined as the sense of having lived a meaningful life and the capacity to maintain meaning until death. The crucial task during this stage is to evaluate one's life and accomplishments critically and arrive at an overall assessment that gives satisfaction. A sense of integrity (Erikson, 1963) reflects an affirmation that one's life has been meaningful, while the opposite (a sense of despair) reflects existential meaninglessness and a feeling that one's life was wasted or should have been different than it was. It follows that the discovery or creation of personal meaning becomes the major integrative factor (Weisskoph-Joelson, 1968) and a developmental task in later years.

It appears that the common trend for these theoretical positions is that as the individual ages, the developmental task is directed toward integrating the experience of a lifetime. So, integration is the task and integration becomes a meaning-producing process; a feature of positive psychological functioning.

3.3.1.1 Meaning in life and death

Anxiety about death is a basic human concern, which is critical to persons of advancing age (Rappaport, 1993). The existential theorists have focused on the importance of death, postulating that an individual must accept the inevitability of death, and must ultimately find the meaning of human existence in the fact of their own death.

Hull noted the relevance of meaning in life, death and older adults as early as in 1922 when one of the earliest books on the psychology of ageing with the title "Senescence: The Second Half of Life" was published. The book is a rather

complete review of what was then known about ageing providing a vast amount of information from the psychological, biological, physiological, medical, historical, literary and behavioural point of view.

Hull (1922) gave particular attention to the psychology of death and did not deal with death as an aspect of ageing but as a developmental issue in itself. Furthermore, he contrasted the curiosity about death and the death wish with the fear of death itself. "Thus the wish for and belief in immortality is at bottom the very best of all possible auguries and pledges that man as he exists today is only the beginning of what he is to be and do" (Hall, 1922, p. 515). Hall implies in this passage that human beings are evolving social creatures as well as organisms capable for self-awareness.

May (1958) hypothesised that existence takes on vitality and immediacy with the act of confronting death or nonbeing. Heidegger (1962) stressed the finitude of human existence and suggested that the finitude implies a very personal experience: it is not the knowledge that "one dies" but the knowledge that "I die". Only when individuals become aware and accept the finitude of their *own* being can *Freiheit-zum-Tode* (Freedom-to-death) occur. Butler (1969) suggested that avoiding reality of death or the "deep rooted uneasiness" is a common phenomenon shared by humans and may be a psychological defence mechanism against anxiety about the person's own ageing and death. Jung (1959, 1966) has pointed out that it is important for older adults to discover meaning in old age in order to accept death. These views are very close to Erikson's (1963) view of the final struggle to resolve the issue of meaning in life in the last life stage in order to reach integrity and attain wisdom. They are also very similar to the existential perspective which claims that people strive to find meaning in their lives and when this fails, despair takes place.

However, in the existential view, death is an ever possible choice that provides ultimate freedom, which is the core of the meaning of existence (Kovacs, 1982). According to Barnes (1989) one finds meaning in life when one is committed to something for which one is willing to accept death or when one is voluntarily accepting the reality of death (Moody, 1995). Yalom (1980) considers death as one of the four "givens of existence" and notes that although the physicality of death destroys an individual, the idea of death can save them and prevent meaninglessness.

It follows that coming to terms with one's finitude and thus discovering meaning in life is one of the key features of psychological well-being in old age. Frankl (1967) theorised that those who are experiencing ageing and dying appear to be especially likely to find meaning through what Frankl (1967) named the "attitudinal" meaning system where individuals take a stand when facing a fate they no longer can change.

Ryff (1982) proposed that the conceptualisations of successful ageing should be approached from a developmental point of view. Drawing from Frankl's conceptualisations, it has been postulated (Butt and Beiser, 1987; Reker and Wong, 1988) that the personal meaning system of an individual is possible to become more "integrated"[2] as a function of age for those who "age successfully". Although the definition of successful ageing is still debated (Aldwin, 1986), there is some consensus that it can be defined as a relatively high level of physical health, psychological well-being and competence in adaptation (Wong, 1989).

[2] According to Jung's (1960) definition of "integrity".

3.4 Sources of meaning in older adults

Sources of meaning are the areas of a person's life from which meaning is derived (O'Connor and Chamberlain, 1996). Research suggests that meaning can be derived from a variety of sources (DeVogler-Ebersole and Ebersole, 1985). DeVogler and Ebersole (1980) conceptualised meaning as having eight sources for individuals of all ages: understanding (trying to gain more knowledge), relationships (interpersonal orientation), service (a helping, giving orientation), belief (living according to one's beliefs), expression (through art, athletics, music, writing), obtaining (developing personal potential, meaning in life, obtaining goals), and existential-hedonistic (the importance of the pleasures of daily life). Baum and Stewart (1990), after asking people to review their life-experiences in terms of life events, reported that themes of meaning sources include love, work, births of children, independent pursuits, accidents, illness, deaths, separations or divorces. Thompson (1992) emphasised the importance of intimate relationships, as a source of meaning between adults, that can lead to self-perceptions of having meaning in later years. Prager (1997) reported that participation in personal relationships was the most important source of meaning in all age categories in Australian and Israeli younger and older women. Sources might also vary according to socio-economic background, developmental stage (DeVogler and Ebersole, 1983; Ebersole and De Paola, 1987, 1989) and ethnic and cultural background (Yalom, 1980).

Coleman (1986) emphasised the theme of reminiscence and Wong (1989) those of commitment, personal optimism and religiosity. He also suggests that a sense of meaning can be a source of motivation and life satisfaction. Coleman (1986) points out and emphasises that personal meaning represents a new perspective on the promotion of psychological well-being of older adults and an area in which

the individual can experience personal growth in the face of death, pain and the physical or mental decline of health.

3.4.1 Implications of sources of meaning to health care

This existential need for meaning and its sources that is often observed in older adults has been characterised as a challenge for health care professionals as it can make a significant difference within therapy and health care of older adults (Trice, 1990). Pursuit of experiencing meaning has been identified as a concern of the spiritual component of the whole person and loss of it has been regarded to have a negative effect on the health and psychological well-being of the individual. It follows that the area of meaning in life is a legitimate concern for health care professionals and that an individual's loss or potential loss of a sense of meaning is an area that will welcome even more professional health care intervention. It has been suggested that psychotherapeutic treatment (Debats, 1996) and medical care without facilitating a struggle for meaning will not reinforce the treatment processes, prolong life or facilitate well-being (Heidrich, 1993; Ryff and Singer, 1996; Trice, 1990). Research efforts have been initiated to provide a firm scientific basis for the application of personal meaning as a means of promoting physical health and psychological well-being (Wong, 1989). For example, Baum (1988) reported that noninstitutionalised elders felt younger than their institutionalised peers, experienced more meaningful life events and had higher PIL scores. The author concluded that meaningful events have important consequences for older adults. Coleman (1992) supported the suggestion that more consideration has to be given to ways of enhancing a sense of meaning for older adults, especially to the frail and chronically ill, because it is perhaps one of few sources of motivation and life satisfaction that transcend physical constraints.

3.5 Aspects of lack or loss of meaning in older adults

A number of studies have demonstrated that lack of meaning in life in older adults is associated with psychopathological outcomes. For example; Lukas (1972) found that fewer people over the age of 60, could state something that contributed meaning to their lives. Baum and Stewart (1990) found that the age group of 70 to 96 score lower in the PIL than any other group. Fisk (1978) reported a significant loss of meaning in life for those who suffered a decline in physical health status. Reker and Wong (1987) discovered that age groups in the 75+ year old range are characterised by heightened levels of existential vacuum. Shek (1994) also reported that individuals with low meaning in life had higher levels of psychiatric morbidity and perceived their health as poorer. Heidrich (1993) reported that older adult women have lower levels of purpose in life, personal growth and fewer personal relationships.

3.5.1 Depression

Depression is common in older adults (Katona, 1991). Losses, particularly those that are highly personally meaningful, have been viewed as the primary cause of depression in children, young or middle older adults and the elderly (Belsky, 1990). The primary symptoms of depression include poor appetite or overeating, insomnia or hypersomnia, low energy or fatigue, low self-esteem, poor concentration or difficulty making decisions and feelings of hopelessness or meaninglessness (APA, 1994). This idea that helplessness, hopelessness and meaninglessness can be the root of psychopathology and depression has been proposed by the existential psychology theorists as argued earlier (Frankl, 1963; Frankl, 1967; Yalom, 1980).

A number of factors have been suggested to explain depression in older adults (Coleman, Bond and Peace, 1993). In summary, medical work suggests that there

are changes in the ageing brain, psychologists have suggested changes in older people's self concepts, especially self-esteem, and finally sociologists have suggested that changes in the social relationships of older adults are important. Overall, it has been suggested that several interacting factors such as self concept, self-esteem, sense of control and personality and may have a significant effect on a person's degree of meaning in life. Battista and Almond (1973) view self concept as a precursor to the development of meaning in life; for an individual to acknowledge that his/her life has meaning a sense of self must be already present. Hunter (1981) reported that those who reported low self-esteem also reported poorer health and higher scores on depression and anxiety - factors that can, but not necessarily, affect one's meaning in life. Self-worth, self-value and self-esteem have also been considered inseparable aspects of loss of meaning (Becker, 1985). Shapiro and Sandman (1995) reported that a sense of control can influence the affective, cognitive and physical well-being, which in turn may influence one's meaning in life. It has also been suggested (Wong, 1989) that as sources of personal meaning are lost the sense of personal control is either reduced or threatened with advancing age.

3.6 Psychological well-being in older adults

It has been argued that knowledge of psychological well-being has mainly focused on psychological dysfunction (Ryff, 1995). Theories of psychological well-being have traditionally emphasised the absence of negative affect and psychopathology and focused on positive facets of mental health (Bradburn, 1969). For more than twenty years, the study of psychological well-being has been guided by two primary conceptions of positive functioning. One formulation (Bradburn, 1969) distinguished between positive and negative affect and defined happiness as the balance of the two. The second primary conception emphasises life satisfaction as the key indicator of well-being (Bryant and Verof, 1982). Ryff

(1995) noted though that knowledge of psychological well-being still lags behind knowledge of psychological dysfunction. The author (1995, 1996) argued that this imbalance is evident in: a) research studies of psychological problems which dwarf the literature on positive psychological functioning and b) in the meaning of basic terms (e.g.: typical usage equates health with the absence of illness). The notion that a sense of meaningfulness is important to psychological well-being has been central component in Frankl's (1973), Maddi's (1970) and Yalom's (1980) theoretical works. For example, Frankl (1968) stated that positive affective states are by-products of having fulfilled one's meaning. It follows that individuals who experience a sense of meaning in life may possibly enjoy better health as expressed through greater life-satisfaction, higher levels of psychological well-being and positive mental health. It has also been observed that as the older person frequently feels a lessening of personal control, the search for meaning becomes crucial for psychological well-being and adaptation (Butler, 1963; Birren, 1964).

The relevance of personal meaning to psychological well-being has been further emphasised (Ryff, 1995) and recognised (Reker, Peacock and Wong, 1988; Reker and Wong, 1987; Wong, 1989; Ryff, 1989) in older adults.

3.6.1 Purpose in life as a dimension of psychological well-being

Ryff (1989a, 1995; Ryff and Kaynes, 1995) proposed a theory-guided synthetic model of psychological well-being in adulthood that is characterised from seven dimensions: self-acceptance, positive relationships with other people, autonomy, environmental mastery, happiness, purpose in life and personal growth. Taken together, these dimensions encompass a breadth of wellness that includes positive evaluations of one's self and one's life, a sense of continued growth and development as a person, the belief that life is purposeful and meaningful, the

possession of quality relations with others, the capacity to manage effectively one's life and surrounding world, and a sense of self-determination. Ryff (1996) pointed out that little gerontological research had been amassed on these theory based components of well-being, particularly older persons' reported levels of purpose in life.

Ryff's (1989) dimension of purpose in life integrates different theories on meaning in life (Allport, 1961; Erikson, 1963; Jung, 1970; Frankl, 1963; Maslow, 1964; 1968, Neugarten, 1977). An individual who possesses psychological well-being and functions positively has goals, intentions and a sense of direction, all of which contribute to the feeling that life has meaning (Ryff, 1989). According to Ryff, (1989) a high purpose scorer has goals in life and a sense of direction, feels that there is meaning to present and past life, holds beliefs that give life purpose and has aims and objectives for living . A low purpose in life scorer lacks a sense of meaning in life, has few goals or aims, lacks sense of direction, does not see purpose in past life and has no outlooks or beliefs that give life meaning.

Ryff (1995) reported that certain aspects of well-being such as environmental mastery and autonomy, increase with age, particularly from young adulthood to mid-life. Other aspects, such as purpose in life and personal growth, decrease, particularly from mid-life to old age. Ryff (1995) also reported that purpose in life and personal growth show a decline with ageing, and suggested that longitudinal studies will clarify whether these age patterns reflect developmental, maturational changes or cohort differences. Ryff (1991) also reported that in a study with young, middle-aged, and older adults groups, the only measure of the six well-being scales (Ryff, 1989) that failed to show replicative consistency between the three groups was purpose in life. The older adults scored significantly lower than

the middle-aged. It was suggested (Ryff, 1989) that these recurring lower self-ratings on purpose in life in older adults (and personal growth) require particular attention. Two arguments are suggested to explain these lower self-ratings: a) opportunities for meaningful experience and for continued growth and development may be limited for older persons today, and b) older persons place less value on purpose in life and personal growth than younger age groups do. Other empirical studies demonstrated that older adults are no worse off, and in fact may be often better off, than younger adults when it becomes to psychological well-being. Older adults report higher levels of life satisfaction, well-being, morale and happiness and lower levels of depression and anxiety than younger adults (Idler and Kasl, 1991; Markides and Lee, 1990). Further more, older adults report fewer stressful events than younger adults and perceive these events as less stressful than younger adults do (Idler, 1993). These findings have led to questions of how ageing individuals manage to maintain high levels of psychological well-being when faced with the negative events of old age (Heidrich and Ryff, 1996). Empirical studies exploring the relation between meaning in life and psychological well-being in older adults are few in number.

3.7 The relation between meaning in life and psychological well-being in older adults

Zika and Chamberlain (1992) attempted to examine the links between meaning in life and psychological well-being in three ways. Firstly, they examined the relationship using multiple measures of meaning. Meaning in life was assessed with the Purpose in Life Test (Crumbaugh and Maholick, 1968), the Life Regard Index (Battista and Almond, 1973) and the Sense of Coherence Scale (Antonovsky, 1987). Secondly, they examined meaning in life in relation to three major dimensions of well-being: life satisfaction, positive affect and negative affect (Chamberlain, 1988; Diener, 1984). They also explored the association of

meaning in life to some lower-components of well-being (Viet and Ware, 1983) such as depression and anxiety.

Zika and Chamberlain (1992) argue that our understanding of the relation between life meaning and well-being should be extended by examining these constructs. The well-being constructs were assessed using i) the Mental Health Inventory (Viet and Ware, 1983) to assess a range of psychological well-being factors ii) the Andrews and Witney's (1976) estimate Life 3 measure to assess general life satisfaction and iii) the Affectometer 2 (Kammann and Flett, 1983) to measure the positive and negative affective components of psychological well-being. Thirdly, Zika and Chambelain (1992), examined the relation of life meaning to positive aspects of well-being as well as to the negative. The relationship was examined in two demographically different samples: mothers at home caring for young children (N=194) and elderly people (N=150). The respondents from the elderly group sample were 66 men and 87 women, aged 60 years or more. The elderly participants were located through a variety of community based organisations for senior citizens. Initial contact involved completion of a structured questionnaire in the presence of the researcher. Respondents were sent two mail questionnaires, three and six months after their first contact. Well-being measures were collected at all three times but, meaning in life measures were collected on one occasion only because the authors believed that stability was expected in these particular measures. The inclusion of these groups allowed comparisons of the relationships between meaning and well-being at different life stages. This was relevant to previous research (Reker, 1994) which found the components of meaning to relate differently to psychological well-being at different life stages. In this life-span study life purpose was significantly correlated with psychological well-being for young (16-

29), early middle-ages, late middle age (50-64), young-old ages and old-old (75-93).

Relationships between the life-meaning variables were examined first. The measures related to each other at moderate to high levels (.67 to .90, $p<.01$) and the strengths of correlations were generally similar for both groups, suggesting that each life meaning measure was assessing a similar construct. Relationships between the well-being measures were found to be at moderate to high levels (-.47 to .81, $p<.01$). The positive measures showed a moderate to high association with each other, as did the negative measures. The positive and negative measures demonstrated a moderate to high inverse relationship with each other in line with previous findings (Viet and Ware, 1987; Zika and Chamberlain, 1987). Analysis indicated that psychological well-being measures were significantly linked to life meaning measures at moderate to high levels (-.40 to .79, $p<.01$). These correlations were calculated between measures collected at the same time in order to represent the data most accurately and were similar for both samples.

The Purpose in Life test (Maholick and Crumbaugh, 1969) consistently showed higher correlations with the well-being measures than the correlations showed with the Life Regard Index (Battista and Almond, 1973) and of the Sense of Coherence Scale (Antonovsky, 1987) with the well-being measures.

The relationships between the lower-order dimensions of the well-being measures (including anxiety, depression, emotional control, general positive aspect and emotional ties) and meaning in life were examined. Correlations between the Mental Health Inventory (Viet and Ware, 1983) subscales and the meaning in life measures were generally moderate but showed some variation between measures. Of the MHI subscales, general positive affect had the

strongest association with the meaning in life measures (range from .49 to .76) and anxiety had the weakest (range from -.22 to -.53). The pattern of associations with the higher-order MHI variables was parallel to the associations with that of the lower-order MHI variables although the strength of the associations was reduced presumably because these scales were shorter with lower reliabilities.

The overall findings illustrated a consistent relationship between psychological well-being and meaning in life over a range of well-being dimensions and over several meaning measures. These findings showed that meaning in life is related moderately to every component of well-being (including mental health) with slight variations in the strength of the association. Although causation cannot be determined from the correlations, the theory of meaning suggests that meaning in life has an influence on well-being and that people who lack meaning in their lives show detrimental effects in their psychological functioning.
Zika and Chamberlain (1992) reflecting on their research, concluded that their research was limited by its correlational nature. The association between well-being and meaning variables was established but the direction of effects could not be ascertained. Although the position they favour is that meaning in life may influence well-being, it is conceivable that a person's sense of well-being may influence his or her perception of what is meaningful.

Zika and Chamberlain's (1992) research has provided strong evidence for a clear relationship between meaning in life and psychological well-being. Taking into consideration these findings the present research aims to explore further the intimate relationship between meaning in life and psychological well-being in older adults.

3.8 Summary and aims of Study 1

Chapter 3 reviewed the theoretical importance of purpose and meaning in life to the psychological well-being of older adults. Empirical evidence was presented which has established the relationship between personal meaning and well-being and addressed it in older adults. Taking these into consideration the present thesis aims to explore further the complex relationship between meaning in life and psychological well-being in older adults. The present research does not aim to address a cause and effect relationship between the two constructs or to ascertain their direction. The position the present research favours is that meaning in life influences psychological well-being but it does acknowledges and accepts that a person's psychological well-being may influence his or her perception of what is meaningful.

In order to examine the association between meaning in life and psychological well-being in older adults Study 1 was designed to explore: i) differences in personal meaning and psychological well-being in two samples of older adults; a well-functioning group and a non-well functioning group (see section 4.1), ii) the relationships between personal meaning and psychological well-being between and within the groups, c) the prediction of meaning in life from psychological well-being and d) whether the Purpose in life (PIL) test will discriminate between well-functioning and non-well functioning groups of older adults.

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Chapter 4

General methods of Study 1

Study 1[1] was designed to: i) convey differences between well and non-well functioning older adults in personal meaning and psychological well-being, ii) to explore patterns of associations between personal meaning and psychological well-being between and within the two groups and iii) to predict purpose in life from psychological well-being. The present research focuses primarily on explaining variability in purpose in life (PIL) from psychological well-being and not the opposite although it is acknowledged and accepted that psychological well-being can equally be predicted from purpose in life (PIL).

4.1 The samples

One hundred thirty-one elderly men and women from two settings aged from 60 to 94 years old were recruited for the purposes of this study. The first group, which served as a baseline measure against which performance of the second group was assessed, was termed "community comparison group" (Group 1) and the second group was termed "outpatients' comparison group" (Group 2).

4.2.1 Recruitment and characteristics of Group 1

One hundred-eight older adults comprised the community comparison group for the study. These were Leeds city residents who were recruited in Leeds University with the help of the *Student Committee Action. Action* comprises a group of Leeds University and Leeds Metropolitan University students who are involved in voluntary work throughout the city of Leeds community. It runs a

[1] Prior to the commencement of the first study ethical approval was obtained from the Leeds Health Authority Clinical Research Committee (see Appendix 1).

diverse range of projects including work with older adults in both a club setting at the local Woodhouse Age Concern Centre (Leeds 2), and on one-to-one basis with a visiting scheme for those older adults who find themselves isolated. One of the highlights of the *Action* year is the "Elderly People's Tea Party" held in the Leeds University Refectory. The party brings together student volunteers and around 150 older adults from Leeds (Areas: Leeds 2, Leeds 6, Leeds 18, Leeds, 26 and Leeds 29) for food, music, dancing and Bingo. Following permission taken from Action, 150 set of questionnaires were given to older adults who attended the event. The sample of older adults in this community comparison group comprised a pragmatic group, that is older adults who were physically well functioning socially active and involved in community work.

The participants were provided with an information sheet (see Appendix 2) and a consent form (see Appendix 4). They were asked to fill in the questionnaires in their own time at home and send them back to the researcher in the stamped self-addressed envelopes provided. One-hundred twenty sets of questionnaires were mailed back (80 percent response rate) including 12 which were incomplete or blank and inappropriate for inclusion in the statistical analysis (72 percent complete response sets).

4.2.2 Recruitment and characteristics of Group 2

Respondents were 31 older adults recruited from the Rosemary Day Hospital which is situated in Seacroft Hospital in Leeds, which is part of the local psychiatric service for the elderly. The patient group at the hospital comprises men and women over the age of 65 who may be suffering from a wide variety of mental health problems. The modal period for attendance is between six and twelve weeks. A number of outpatients had been hospitalised in the past and they were receiving medication, mainly anti-depressants and anxiolytics. The

outpatients were involved in a variety of social activities and they were receiving professional care from nursing staff.

The researcher visited the Rosemary Day Hospital once a week over a period of four months and spent the day getting involved in the in the social and occupational activities with which the patients were engaged. Towards the end of the afternoon and before the patients left, they were approached individually and asked if they would want to participate in a study. The patients were informed about the nature of the study and it was made clear to them that they had no obligation to participate. The researcher was present when a patient was completing a questionnaire in order to answer questions and assist if further help was needed.

Participants were able to communicate effectively with the interviewer and the staff of the hospital. They were not severely cognitively impaired and their psychiatric condition was characterised by the consultant psychiatrists as "mild" or "moderate"[2]. Eighteen participants had been admitted to a psychiatric hospital in the past. Participants were diagnosed mainly with clinical depression and anxiety related disorders sometimes accompanied with symptoms of physical illness such as cardiovascular and skeletal problems.

Initially forty-eight outpatients were approached and asked to participate in the study. Eleven indicated that they preferred not to participate and six left the questionnaires incomplete. Thirty-one participants completed the set of questionnaires successfully and their responses were included in the statistical analysis.

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[2] The researcher had access to confidential records.

4.3 Materials

Participants were provided with an information sheet (see Appendix 3) and were asked to sign a consent form (see Appendix 4). The participants were first asked to state personal and demographic details (see Appendix 5). Four questionnaires were used in Study 1 which were presented in the following order: **a)** The SF-36 Health Status Questionnaire (see Appendix 6), **b)** Zung's self-rating Anxiety scale (see Appendix 7), **c)** Zung's self-rating Depression scale (see Appendix 8) and **d)** the Purpose in Life test (see Appendix 9). The questionnaires took approximately 30 to 40 minutes to complete.

4.3.1 Personal and demographic variables

Participants were asked to state their sex, date of birth, previous occupation, current occupation (if any), marital status and religion. They were also asked to state if they were actively religious, whether or not they lived alone, with spouse, family, friend or other. In addition information was obtained on whether or not they were able to go out by themselves and to take care of themselves.

4.3.2 SF-36 Health Status Questionnaire

The Short-Form 36 (SF-36) health survey instrument (Ware and Shelbourne, 1992; McHorney, Ware and Rackzek, 1993; McHorney, Ware, Rodgers, Rackzek and Lu, 1994) was developed by Ware (1987) and its development was based on the Medical Outcomes Study (MOS) surveys Ware (1987) which include both a cross-sectional and a longitudinal component. The Medical Outcomes Study (MOS) was a four year observational study designed to examine the influence of specific characteristics of providers, patients and health systems in outcomes of medical and psychiatric care (Hays, Shelbourne and Mazel, 1993).

4.3.2.1 Characteristics

The SF-36 health survey instrument is a self-administered general health questionnaire which generates a profile across eight dimensions of health (Ware and Shelbourne, 1992). It is one of the most widely applied measures of health in the United States of America and is increasingly being used in the United Kingdom and in health organisations (Brazier et al, 1992; Jenkinson, Coulter and Wright, 1993; Garratt et al, 1993). The popularity of the SF-36 has risen with researchers mainly due to its ease of administration, acceptability, psychometric performance and potential usefulness for health economics (Brazier, 1993).

The SF-36 has been found to achieve satisfactory levels of internal consistency, test-re-test reliability, construct and criterion validity on the general population (Brazier et al, 1992; Jenkinson, Coulter and Wright, 1993; McHorney, Ware and Rackzek, 1993; Jenkinson, Wright and Coulter, 1994). Norms for mail and telephone versions of the SF-36 survey are also provided for use in interpreting individual and group scores (McHorney, Kosinski and Ware, 1994).

The SF-36 was found suitable for use in older adults aged 65 and over, when used in interview settings and to distinguish between those elderly persons who would be expected to differ in health status (Lyons, Perry and Littlepage; 1994).

4.3.2.2 Subscales of the SF-36

The SF-36 Health Status Questionnaire produces a profile of health, contains 36 items and covers eight dimensions of health. It measures three major health attributes and eight health concepts (see Table 4.1).

Table 4.1. SF-36's three major health attributes and eight health concepts

I.	**FUNCTIONAL STATUS**
	A. Physical Functioning
	B. Social functioning
	C. Role Limitations attributed to:
	1. Physical Problems
	2. Emotional Problems
II.	**WELL-BEING**
	A. Mental Health
	B. Energy/Fatigue
	C. Pain
III.	**OVERALL EVALUATION OF HEALTH**
	1. General Health Perception

Physical functioning refers to the extent which health limits physical activities such as self-care, walking, climbing stairs, bending, lifting and moderate and vigorous activities. The items comprising the physical functioning scale are items 3a, 3b, 3c, 3d, 3e, 3f, 3g, 3h, 3I and 3j.

Social functioning refers to the extent to which physical health or emotional problems interfere with normal social activities. The items comprising the social functioning scale are items 9j and 6.

The *role limitations attributed to physical problems* refer to the extent to which physical health interferes with work or other regular daily activities. The items comprising the role limitations attributed to physical problems scale are items 4a, 4b, 4c and 4d.

The *role limitations attributed to emotional problems* refer to the extent to which emotional problems interfere with work or other regular daily activities, including decreased time spent on work, accomplishing less than wanted, didn't do work as carefully as usual. The items comprising the role limitations attributed to emotional problems scale are items 5a, 5b and 5c.

Mental health is made up of items concerning a range of factors including anxiety, depression, behavioural emotional control and general positive affect. The items comprising the mental health scale are items 9b, 9c, 9d, 9f and 9h.

Energy/Fatigue refers to feelings of being tired or worn out. The items comprising the energy/fatigue scale are the items 9a, 9g, 9e and 9i.
Pain in terms of bodily pain refers to the intensity of and effect of pain on normal work, both inside and outside the house. The items comprising the pain scale are items 7 and 8.

The *General health perceptions* include current health, health outlook and resistance to illness. The items comprising the general health perception scale are the items 1, 10a, 10b, 10c and 10d.

4.3.2.3 Validity of the SF-36 subscales

The validity of the subscales of the SF-36 has been established against clinically defined criterion. These analyses demonstrated that the subscales perform

favourably in discriminating psychiatric conditions from physical illnesses and also severe major medical illness groups from moderately ill and healthy groups (McHorney, Ware, Rogers, Raczek and Lu, 1992).

Furthermore, the physical and mental subscales discriminate moderate and severe levels of burden in patient groups due to physical or psychiatric illness. The SF-36 instrument has the power to discriminate between different levels of health, to correctly detect smaller differences or changes for an individual patient and correctly identify ill-health (McHorney, Ware, Rodgers, Raczek and Lu, 1992; McHorney, Ware, Lu and Sherbourne, 1994). Other clinical studies report that the SF-36 discriminates between symptomatic and asymptomatic patient groups, stages and severity of disease. (Anderson, Aaronson and Wilkin, 1993).

According to Lyons, Perry and Littlepage, (1994a) the SF-36, when used in an interview setting, is suitable for an older adult population. Brazier et al. (1992) reported higher rates of missing data for respondents aged 65-74 years in a postal survey and suggested that the SF-36 was not suitable for older adults.

4.3.2.5 Scoring of SF-36 subscales

SF-36 items and scales are prepared for analysis in two steps. The first step involves the recoding of certain questionnaire items. The second step in scoring involves summing scores for all items in the same scale, thereby giving a summary score for each of the eight health concepts. It is not necessary to standardise items or weight them although the raw scales scores can be transformed into percentages. These transformed scores represent the relative position of the respondent in a continuum of lowest to highest possible scale scores. These end points are expressed as 0 (worst health) and 100 (best health) respectively.

All scales are scored so that a high score indicates a positive health status. For example, a "functioning" scale is scored so that a higher score reflects increased physical or social function. The "pain" scale is scored so that a higher score indicates decreased levels of pain.

Another advantage of the SF-36 scale is that if one or two items are left blank a scale score can be estimated. The most valid estimate is the average score across completed items in the same scale for that respondent. For example, if a respondent leaves one item in the five-item mental health subscale blank, the average score across the four completed items can substitute the missing response.

4.3.3 Zung's Self Rating Anxiety Scale

The self rating anxiety scale (see Appendix 7) was developed by Zung (1980). The instrument derived from a revision made by the author of diagnostic criteria of anxiety and analysis of interview records of anxious patients. The purpose of the scale is to measure anxiety as a clinical entity. There are 5 items measuring affective symptoms and 15 items measuring somatic symptoms The scoring for each item is based on a scale of growing severity of four grades.

The validation of the scale (Zung, 1971) was carried out with inpatients or outpatients of different ages consisted of face validity, validity of content, concurrent validity, split-half reliability and internal consistency. The scale is sensitive in discriminating normal and anxious participants for each item and for the global score. The scale has been found to be suitable for studies applied to age groups over 65, for diagnostic and clinical studies of anxiety and screening of pathological anxiety.

4.3.4 Zung's Self Rating Depression Scale

The self rating depression scale was developed by Zung (1965, 1973, 1974, 1975) and it measures depression conceived as a clinical entity (see Appendix 8). The instrument resulted from a census of diagnostic criteria on depression and an analysis of tape recorded interviews with depressed patients aimed to formulate and refine the items. Items deal with respondent's condition during the past week.

It contains 20 items which are constructed on the basis of the clinical diagnostic criteria most commonly used to characterise depressive disorders in terms of the presence of a pervasive affective mood of feeling depressed accompanied with physiological and psychological disturbances. The participant is asked to rate each of the 20 items as to how it applies to him/her at the time of testing. There are 10 positive and 10 negative items, assessed according to a frequency scale containing 4 grades from 4-1 or from 1-4, so that global score becomes higher if the syndrome is intense. Zung's self rating depression scale has been validated on older normal adults participants (Zung 1967, 1970), 65 years of age and older. The scale is considered a sensitive measure of clinical severity in depressed patients (Biggs, Wylie and Ziegler; 1978) and its continued use as a research instrument is supported.

4.3.5 The Purpose in Life test

The Purpose in Life Test (see Appendix 9) was developed by Crumbaugh and Maholick (1964). The Purpose in Life (PIL) operationalises Victor Frankl's definition of meaning in life. The PIL is a 20-item scale designed to assess the *degree* to which a person experiences a sense of meaning and purpose (Crumbaugh and Maholick, 1969). The 20 items of the PIL are assessed according to a 7 Likert-point scale. Raw scores of 113 or above suggest the

presence of definite purpose and meaning in life, while raw scores of 91 or below suggest the lack of clear meaning and purpose. The test was constructed to serve as a unidimensional measure of discovered meaning. The aim of the Purpose in Life Test is to detect "existential vacuum" as defined by Frankl (1967). The determination of whether or not noogenic neurosis is also present must be made by evaluation of the symptoms of neurosis. This can be done by either psychological methods or clinical procedures. The Purpose in Life test has proved useful in studies of students' individual counseling, in vocational work, in treatment of both in and out patients neurotics and with alcoholic, retired and handicapped populations (Crumbaugh and Maholick, 1969). Crumbaugh and Maholick (1969) also suggested that the scale should not be used alone in clinical situations without corroborating evidence from other sources. The same authors also noted that the test has been proved to be useful when administered to groups for research purposes (see sections 2.7 and 2.9).

The split-half (odd-even) reliability of the PIL was determined and reported by Crumbaugh and Maholick (1964), Crumbaugh (1968) and Reker (1977) in excess of .90. Both construct and criterion validity of the PIL have been assessed (Crumbaugh, 1968) where combined "normal" groups (mean=112.42, N=805, sd=14.07) versus combined psychiatric groups (mean=92.60, N=346, sd=21.31) yielded a significant difference of purpose in life at $p<.001$.

4.3.5 Reiteration of aims and hypotheses

Using the methods described in this chapter, the differences between the two groups on personal meaning and psychological well-being measures were examined. The null hypothesis stated that no significant differences exist between Group 1 and Group 2 on purpose in life or on psychological well-being (including mental health measures). The alternative hypothesis states that the

community comparison group will score significantly better in the variables of interest. The patterns of relationships and associations of purpose in life and well-being between and within the two groups of older adults are investigated using Pearson's correlation coefficient. Finally, the prediction of purpose in life from well-being measures is looked at by using stepwise multiple regression analyses.

Chapter 5

Results of Study 1[1]

5.1 Demographical context

According to the 1991 Census for the Yorkshire Region (HMSO, 1991), the percentage of male Yorkshire residents aged 75 and over is 2.4 percent while for female Yorkshire residents of the same age range the percentage is 4.7 percent. The Census does not provide summary figures for residents aged 65 and above. The percentages for Leeds residents do not change dramatically when compared with the percentages for Yorkshire residents. Specifically, the percentage of Leeds male residents aged 75 and over remains the same as above (2.4 percent) while for female Leeds residents the percentage rises slightly to 4.8 percent. Half (57.3 percent) of the people aged 60 or over in 1991 in Great Britain (HMSO, 1991), were married. Almost a third (30.6 percent) were widowed, and 8.2 were single (never married). The Census does not provide exclusive figures for Yorkshire or Leeds but it provides figures for the West Yorkshire Metropolitan County. According to these figures 58.4 percent of persons aged 60 and over are married, 30.7 percent are widowed, 7.4 percent are single and 3.3 percent are divorced.

[1] i) The data collected from the two samples were analysed with the use of SPSS/PC$^+$ 6.0 and SPSS 6.1 for Windows 3.1 using, non-parametric and parametric methods as appropriate.
ii) The tests applied on demographic data are not considered as major findings but as ways to check data, to ensure that later inferences about other study variables are not drawn spuriously because of the effect of biographical factors.

5.2 Biographical details

Respondents were 108 individuals from the community comparison group (Group 1) and 31 from the outpatients' comparison group (Group 2). Participants from Group 1 came from several Leeds areas and particularly from Leeds 2 and Leeds 6. Seventy-five participants from the community group indicated that they were involved actively with community action work. Participants from Group 2 came mainly from the Seacroft Leeds area (Leeds 27) where the hospital from which they were recruited is situated.

5.2.1 Chronological age

Group 1 respondents were aged 60 to 94 years old (mean=75.44, sd=7.7) Group 2 respondents were aged 66 to 89 (mean=74.87, sd=5.61). A t-test for independent samples with unequal variances ($F=4.315$ and $p<.05$) indicates a non-significant difference in terms of mean age between the two groups ($t=46$, $df=63.90$[2], $p>.05$).

5.2.2 Sex and age

Forty males from Group 1 were aged from 60 to 90 years (mean=74.55, sd= 6.99) and the 10 males from Group 2 were aged from 68 to 81 years (mean=72.8, sd=4.69). Sixty-eight females from Group 1 were aged from 60 to 94 years (mean=75.96, sd=96) and the 21 females from the outpatients group were aged from 66 to 89 years old (mean=75.86, sd=75.86). A chi square test for goodness of fit ($\chi^2=.24$, $df=1$, $p>.05$) showed no significant differences for age and sex frequencies between the two groups.

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[2] When the samples are found to have unequal variances then the degrees of freedom are not whole values. The degrees of freedom for unequal variances are calculated appropriately from SPSS.

5.2.3 Socio-economic status

The participants of both groups were retired. Their previous occupations were coded according to the Standard Occupational Classification (Reid, 1977; HMSO, 1992). In this, the socioeconomic classes are classified as follows: **I.** *Professional Occupations,* **II.** *Managerial and Technical Occupations,* **III.** *Skilled Occupations including:* **a)** Non-manual skilled occupations and ***b)*** *Manual* skilled occupations (M), ***IV.*** *Partly skilled occupations* and ***V.*** *Unskilled occupations.* The reported occupations of Study 1 participants were merged into four categories in order to obtain categories of occupations with frequencies more than 5. Table 5.1 presents the recoded socioeconomic classification categories for the two comparison groups.

Table 5.1. Recoded socioeconomic classification categories for the two comparison groups (N=139).

	I and II	IIIN	IIIM	IV, V, and Housework	Total
Group 1	27	34	17	14	92
Group 2	4	6	6	8	22
Total	31	40	23	22	116

A chi-squared test for independence on the collapsed occupation frequency categories showed no significant frequency differences in terms of socio-economic class between the two groups (χ^2=5.64; df=3; p>.05).

5.2.4 Marital status

Participants from both groups were asked to state whether they were married, single, divorced, separated or other. These categories were merged into two categories of those married and not married. Forty-two (31.3 percent) from Group 1 and 14 (10.4 percent) from Group 2 indicated that they were married whilst sixty-two (46.3 percent) from Group 1 and 16 (11.9 percent) from Group 2 indicated that they were either married, single, divorced, separated

or other. A chi-square test onto the resulting data indicated that the frequencies of married and not married participants were not significantly different (χ^2=.38, df=1, p>.05).

5.2.5 Religious activity

Participants were asked to state whether they were actively religious or not. Forty-six participants (33.1 percent) from Group 1 and 12 participants from Group 2 (8.6 percent) stated that they were actively religious, while 62 respondents from Group 1 (44.6 percent) and 19 from Group 2 (13.7 percent) indicated they were not actively religious. A chi-square test of goodness of fit indicated no significant differences between religious and non religious activity frequencies (χ^2=.15, df=1, p>.05).

5.2.6 Co-habitation

Participants of both groups were asked to indicate whether or not they live alone, with spouse, family, friend or other. The frequencies of their responses are summarised in Table 5.2 .

Table 5.2. Co-habitation status of Group 1 and 2 participants (N=139)

	Alone	Spouse	Family	Friend	Total
Group 1	59	37	9	3	108
Group 2	17	11	3		31
Total	76	48	12	3	139

The cohabitation categories were recoded further to produce two categories in order to obtain cells with frequencies more than 5. Those who lived with spouse, family or friend were treated as one category and those who lived alone were treated as another category. A chi square for independence applied on the two

collapsed categories showed no significant differences in the two groups in terms of co-habitation (χ^2=.42; df=1; p>.05).

5.2.7 Independence and self care

Participants were asked to indicate whether or not they were able to go out by themselves. One hundred-one participants from Group 1 (72.7 percent) and 19 participants from Group 2 (32.7 percent) indicated that they were able to go out by themselves whilst 7 participants from Group 1 (5 percent) and 19 participants from Group 2 (8.6 percent) indicated that they were not. A chi square test for goodness of fit indicated a difference between the frequencies (χ^2=21.2; df=1; p<.001). Respondents were also asked to indicate whether or not they were able to take care of themselves. One hundred-three participants from Group 1 (74.1 percent) and 18 participants from Group 2 (12.9 percent) indicated that were able to self care whilst 5 participants from Group 1 (3.6 percent) and 13 participants from Group 2 (9.4 percent) indicated that they were not. A chi square test for goodness of fit showed a difference between the frequencies of the two groups (χ^2=29.74; df=1; p<. 001).

5.2.8 Summary of biographical results

The descriptive and non-parametric procedures applied on the personal data served as a way to check whether the two groups were comparable in terms of the biographical variables obtained. In summary, although the two comparison groups are different in terms of sample size they are comparable in terms of age, sex, estimated socio-economic status, marital status, living arrangements and co-residence. Finally, the number of participants from the community comparison who go out independently and are able to self care is statistically higher than the number of participants from the outpatients' comparison group.

5.3 Descriptives and differences on SF-36, Zung and PIL scales

All SF-36 scales are scored so that a high score is consistent with a positive health status. The variables were treated on the interval scale of measurement. Table 5.3 presents the means and standard deviations of the SF-36 health concepts for the two comparison groups. Significant mean differences were expected between the two groups on functional status, well-being and general health.

Table 5.3. Descriptive statistics and t-test independent sample test summaries for SF-36's health concepts

SF-36	Groups	N	Mean	sd	Levene's p	t-value	df	1-tail
Functional Status	Group 2	31	25.10	6.94	p<.005			
	Group 1	108	36.52	9.38	U	7.42	64.68	p<.025
PhysFun	Group 2	31	18.55	5.58	.629			
	Group 1	108	22.81	5.77	E	3.64	137	p<.025
SocFun	Group 2	31	5.61	2.25	.983			
	Group 1	108	9.25	2.29	E	7.83	137	p<.025
RlaPp	Group 2	31	0.71	1.19	p<.005			
	Group 1	108	2.35	1.79	U	5.99	2.81	p<.025
RlatEp	Group 2	31	0.23	0.42	p<.005			
	Group 1	108	2.11	1.19	U	13.66	131.18	p<.025
Well-Being	Group 2	31	30.77	8.55	.316			
	Group 1	108	46.84	7.58	E	10.10	137	p<.025
MentalH	Group 2	31	14.29	5.63	p<.005			
	Group 1	108	24.57	4.05	U	9.48	39.31	p<.025
Ener/Fatig	Group 2	31	10.06	3.90	.417			
	Group 1	108	16.10	4.31	E	7.01	137	p<.025
Pain	Group 1	31	6.42	1.02	.106			
	Group 2	108	6.17	0.86	E	-1.38	137	.17
GenHeal	Group 2	31	11.19	4.20	.454			
	Group 1	108	17.31	4.37	E	6.93	137	p<.025

Key: *Group 1: Community group, Group 2: Outpatients' group, U = Unequal variances, E = Equal variances*

Group's 2 mean statistic values were consistently lower than Group's 1 mean statistic values. The shaded "1-tail" cells of Table 5.2 indicate significant differences between the two samples with equal score variances on physical functioning, social functioning, well-being, energy/fatigue and general health. In these variables Group 1 scores significantly better than Group 2. No significant mean differences between the two samples were found on the "pain" dimension. Unequal variances of scores were found in the variables of functional status, role limitations attributed to physical and emotional problems and mental health.

Significant mean differences between the two samples were also expected in anxiety, depression and purpose in life. Similar statistical treatment was employed to analyse the data of Zung self-rating anxiety/depression scales and of Crumbaugh and Maholick Purpose in Life (PIL) test. High scores on the Zung's scales reflect high levels of depression and anxiety while high scores on the PIL scale reflects high degree of purpose in life. Table 5.4 presents the means and standard deviations of anxiety, depression and PIL for the two comparison groups.

Table 5.4. Descriptive statistics and t-test independent sample summaries for depression, anxiety and Purpose in Life test

	Groups	N	Mean	sd	Levene's p	t-value	df	1-tail
Anxiety	Group 2	31	40	8.91	p<.025			
	Group 1	108	33.52	5.52	E	3.83	137	p<.025
Depression	Group 2	31	41.41	5.81	.931			
	Group 1	108	40.95	4.85	E	-.39	137	.931
PIL	Group 2	31	73.93	24.29	p<.025			
	Group 1	108	110.33	16.94	E	7.91	137	p<.025

Key: *Group 1: Community group, Group 2: Outpatients' group, U = Unequal variances, E = Equal variances*

Group 2 demonstrated lower mean statistics on anxiety and purpose in life than Group 1. The shaded "1-tail" cells of Table 5.4 indicate significant mean differences between the two samples in anxiety ($t=-3.83$, $df= 137$, $p<.025$) and purpose in life ($t=7.91$, $df=137$, $p<.025$). The groups did not differ significantly in depression.

5.4 Relationships between the main variables for each comparison group

Table 5.5 presents the intercorrelations of variables for the community comparison group and the outpatients' comparison group separately. Intercorrelations for Group 1 are given above the diagonal and intercorrelations for Group 2 are given below the diagonal.

Concerning the variables of interest, purpose in life was found to be positively and significantly correlated with well-being ($r=.419$, $p<.001$) and mental health ($r=.40$, $p<.001$) in Group 1 and Group 2 ($r=.53$ and $r=.47$, $p<.01$) respectively. It is important to emphasise at this point that these are not two separate analyses; mental health is a component of well-being (see Table 4.1). Purpose in life is also positively and significantly correlated with general health in both Group 1 ($r=.28$, $p<.01$) and Group 2 ($r=.49$, $p<.01$).

In Group 1, anxiety is negatively and significantly correlated with all of the variables except age. In Group 2, anxiety is significantly and negatively correlated with social functioning ($r= -.39$, $p<.05$), role limitations attributed to physical problems ($r= -.41$, $p<.05$), role limitations attributed to emotional problems ($r= -.38$, $p<.05$) and energy/fatigue ($r= -.37$, $p<.05$).

It is interesting that in Group 1 depression is not significantly correlated with any variable except age ($r=-.28$, $p<.01$), functional status ($r=.19$, $p<.05$), pain ($r=-.23$,

$p<.05$) and anxiety ($r= .34$, $p<.001$). In Group 2 depression is only significantly correlated with physical functioning ($r=.35$, $p<.05$).

Table 5.5. Correlation matrix of SF-36's health attributes, anxiety, depression and Purpose in Life test for the community comparison group (N=108) and the outpatients' comparison group (N=31)

		Group 1												
Group 2		***1***	***2***	***3***	***4***	***5***	***6***	***7***	***8***	***9***	***10***	***11***	***12***	***13***	***14***
1.	Age		-.3812***	-.3613***	-.2673**	-.3273***	-.2465**	-.1411	-.0517	-.1842	-.0766	-.1988	.0856	-.2785**	-.0289
2.	**FunStat**	-.1533		.9232***	.8434***	.7641***	.6337***	.6236***	.4239***	.679***	.0982	.7123***	-.4004***	.1952*	.1325
3.	PhysFun	-.0955	.9088***		.6432***	.5465***	.3677***	.4816***	.2782**	.5613***	.1215	.6138***	-.3336***	.1824	.0146
4.	SocFun	-.0437	.4983**	.145		.6375***	.6462***	.5978***	.5048***	.5692***	.0404	.633***	-.3452***	.1639	.1791
5.	RlaPp	-.2905	.4558**	.2106	.2686		.6436***	.5731***	.3754***	.6399***	.772	.6264***	-.4193***	.1286	.2363*
6.	RlatEp	-.2388	.4893**	.3533	.1994	.464		.5682***	.4562***	.5726***	-.0091	.478***	.244*	.1457	.2736**
7.	**WBeing**	.091	.3707*	.1534	.6198***	.2294	.1245		.8766***	.8895***	.2306*	.6411***	-.4028***	.1057	.419***
8.	MentalH	.1445	.2932	.1293	.5201**	.0976	.0691	.9426***		.5797***	.1146	.4766***	-.2942**	.0831	.4021***
9.	Ener/Fat	.0491	.3667***	.0871	.6768***	.3998*	.1519	.8661***	.673***		.0987	.6593***	-.3775***	.1541	.3531***
10.	Pain	-.2219	.0877	.2379	-.26	-.1429	.0814	-.1294	-.1891	-.2738		.1028	-.2737**	-.2329*	.0313
11.	GenHeal	.0717	.3097	.0628	.6113***	.3263	.0913	.8239***	.746***	.7772***	-.1798		-.3455***	.1762	.2848**
12.	**Anx**	-.1633	-.2898	-.1547	-.398*	-.1164	-.2728	-.4141*	-.3857*	-.3781*	.1021	-.3225		.3403***	-.1534
13.	**Depres**	-.0136	.2176	.3548*	-.1657	.0423	-.3496	-.1434	-.072	-.2202	.0366	-.1629	.2623		.1429
14.	**PIL**	.1205	.4255**	.2986	.4113*	.2453	.1694	.5316**	.4629**	.5014**	-.0149	.4894**	-.1492	.1502	

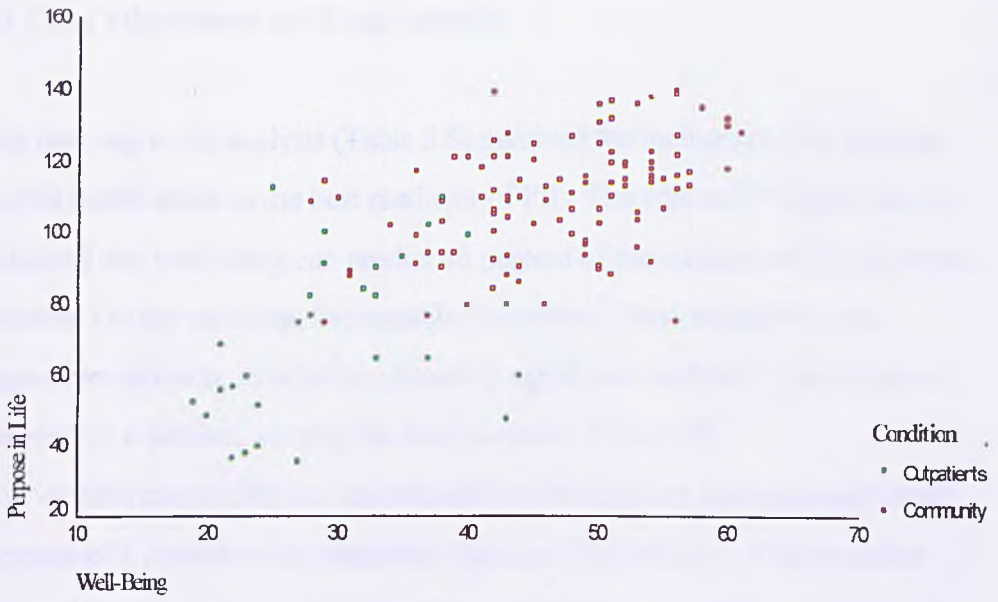
**p<.05; **p<.01; *** p<.001*

Intercorrelations for Group 1 are given above the diagonal, and for Group 2 below the diagonal.

5.4.1 The relation between purpose in life and well-being

In this section the intercorrelations between PIL and well-being will be looked at more closely for each group separately and both groups combined. The correlation coefficient between purpose in life and well-being in Group 1 (r=.419, p<.005) and the correlation coefficient between purpose in life and well-being in Group 2 (r=.53, p<.005) were found to be significantly different from each other (z=-3.13, p<.001) using Fisher's exact test. When the groups are combined the correlation co-efficient statistic rises to (r=.69, p<.001). The relationship of PIL and well-being scores for the combined group is depicted graphically in Figure 5.1.

Figure 5.1. Scatterplot of Well-Being and Purpose in Life for the combined group (N=139)



Key: Experimental=Outpatients' group, Control=Community group

The scatterplot demonstrates graphically the association between purpose in life and psychological well-being in the combined groups. It is reminded that the

mental health scores are included in the well-being scores (see also Table 4.1). Examining the scatterplot it is noted that although the relationship between and within the group is positive, the outpatient participants do score significantly lower in both the PIL and well-being (in green colour) than the participants from the community comparison group supporting the hypothesis that Group 1 will score significantly better in these variables than Group 2.

5.5 Prediction of PIL from SF-36 and HAD variables

One of the main aims of Study 1 is to predict purpose in life from a selected well-being variable pool. Stepwise multiple linear regression analysis was applied to the data in order to investigate which well-being variables predict purpose in life. Two selected pools of variables were used for the regression analysis: a) group membership (="condition"), the health concepts of the SF-36, Zung's depression, Zung's anxiety and b) condition, the major health attributes of the SF-36, Zung's depression and Zung's anxiety.

The first step in the analysis (Table 5.6) involved the inclusion of the variable mental health alone as the best predictor of PIL. The adjusted R square statistic indicated that well-being can predict 46 percent of the variance in the dependent variable. On the next step, the variable "condition[3]" was included in the regression equation; its addition, caused a significant increase in the explained variance of 6 percent, causing the total to rise to 52 percent[4].

The variable energy/fatigue was included in the next step, causing a significant increase of 1 percent in the explained variance. The addition of the variables physical functioning, social functioning, role limitations attributed to physical

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[3] The variable "condition" indicates membership in Group1 or Group 2.

[4] This does not mean that the variable "condition" only predicts 7 percent of the variation in purpose in life; it means that condition predicts 7 percent of the variation in purpose in life that cannot be accounted for by well-being alone.

problems, role limitations attributed to emotional problems, pain, anxiety and depression did not significantly increase the explained variance in PIL and consequently these variables were not included in the final regression equation.

Table 5.6. Stepwise multiple regression summary with condition, SF-36's major health attributes, depression, and anxiety as predictor variables and PIL as dependent variable

Dependent	Predictors	Adjusted R^2	B	SE B	Beta	T	Sig T
PIL	Mental health	.46	2.58	2.34	.68	11.02	.0000
	Mental health		1.68	.30	.44	5.46	.0000
	Condition	.52	-19	4.55	-.34	-4.18	.0001
	Mental health		1.2	.37	.32	3.19	.0017
	Condition		.84	.39	.17	2.12	.0353
	Energy/Fatigue	.53	-18.85	4.5	-.33	-4.18	.0001

$F_{(1,137)} = 121.61$, $p<.0001$; $F_{(2,136)} = 76.85$, $p<.0001$; $F_{(3,135)} = 54.07$, $p<.0001$

When the second pool of selected variables (see Table 5.7) is entered in the regression analysis well-being and "condition" appear to be the best predictors of purpose in life. Well-being alone explains 46 percent of the variance in purpose in life. On the next step "condition" added 7 percent raising the adjusted R square to 53 percent. The stepwise regression ended here with no further variables predicting PIL.

Table 5.7. Stepwise multiple regression summary with condition, SF-36's health concepts, depression, and anxiety as predictor variables and PIL as dependent variable

Dependent	Predictors	Adjusted R^2	B	SE B	Beta	T	Sig T
PIL	Well-Being	.46	1.55	.14	.68	11.01	.0000
	Well-Being		1.01	.17	.45	5.88	.0000
	Condition	.53	-20	4.2	-.35	-4.69	.0000

$F_{(1,137)} = 121.34$, $p<.0001$; $F_{(2,136)} = 81.04$, $p<.0001$

5.6 Summary of main results, discussion and rationale for Study 2

In Study 1, the participants of the community and outpatients groups did not differ significantly in the biographical variables. It was found that Group 1

participants were more independent and able to self-care than Group 2 participants. The absence of significant differences on the biographical variables between the two groups ensures that inferences about purpose in life and well-being inferences are not drawn spuriously because of the effect of biographical factors.

In terms of differences the two groups differ in terms of physical functioning, social functioning, well-being, energy/fatigue, general health, purpose in life and anxiety. The community comparison group is likely to score higher on well-being and purpose in life than the outpatients' group.

Differences in depression were not found between Group 1 and Group 2. It is possible that this is due to the fact that the psychiatric group was under treatment at the period of recruitment. The difference in purpose in life scores between normal and outpatient participants older adults indicates that the PIL has discriminated successfully between well-functioning and non-well functioning older adults.

The relationship between purpose in life and well-being is positive for the community and outpatients' group and for the combined group. In other words, people who score high on the purpose in life also score high in well-being. In other words, the positive relationship retains its characteristic regardless of group membership; high scores in PIL are associated with high scores in well-being with participants from the outpatients' comparison group score significantly lower than participants from the community comparison group in both purpose in life and well-being. It is very interesting that Group 2 participants nevertheless retain the positive association between the PIL and well-being. These support

previous findings (Zika and Chamberlain, 1992; Ryff, 1991) which demonstrate a consistent relationship between meaning in life and psychological well-being. Well-being was found to be the best predictor of purpose in life for the combined group explaining almost half of the variance in purpose in life. Group membership also appears to be a significant predictor of purpose in life; in other words purpose in life differs between the groups. An important question not addressed in Study 1, is the direction of the meaning/health outcome relationship. Does a strong sense of meaning and purpose lead to a higher level of well-being, or does a high level of well-being influence one's sense of meaning and purpose in life? A prospective study in which participants are assessed at more than one instance will address this issue.

On the basis of Study 1 findings and in order to explore further the intimate relationship between purpose in life and psychological well-being in older adults Study 2 was designed. The focus of Study 2 continued to be on purpose in life and its patterns of association with psychological well-being as in Study 1. Principally, Study 2 looks on what is happening to purpose in life when a special effort is made to change the psychological well-being or mental health status of older adults. It extends the understanding of the links between meaning in life and psychological well-being by exploring the patterns of associations between changes in personal meaning and psychological well-being in three samples of older adults who were recruited and were followed over a time period of three months. The groups of older adults recruited were: a) a community comparison group, b) a psychiatric outpatients group with which a special effort was made to improve mental health through medical and psychotherapeutic treatment and c) a geriatric outpatients group which was comprising older adults experiencing limitations in life due to physical problems and who were not targeted to change their mental health status over time. Two new measures were used in Study 2.

The Hospital Depression and Anxiety (Zigmond and Snaith, 1983) scale (see Appendix 17), which substituted Zung's self-rating anxiety and depression scales, and the Life Attitude Profile-Revised (Reker, 1992) which substituted the Purpose in Life Test. The LAP-R (see Appendix 18), as the PIL, was constructed based on Frankl's logotherapeutic concepts (Reker, 1989). In Study 2 purpose in life will be termed personal meaning or meaning in life.

Chapter 6

General methods of Study 2

6.1 Rationale of Study 2[1]

On the basis of Study 1 findings which demonstrated a consistent relationship between purpose in life and psychological well-being, and in order to explore this intimate association between the two constructs further, Study 2 was designed.

Study 2 was designed: a) to establish the differences between three groups of older adults in personal meaning and psychological well-being, b) to explore the patterns of associations between personal meaning and well-being in the three groups over time and c) to predict changes of personal meaning from changes in well-being.

Study 2 is focusing on predicting psychological-well being measures from purpose in life measures and not the opposite. Also, as it was the case for Study 1, Study 2 does not attempt to address a cause and effect relationship between the two constructs. Particularly, Study 2 is looking on what is happening to the personal meaning of older adults over time who are therapeutically targeted to change their mental health status. In Study 2, three samples of older adults were recruited and followed over a period of three months. These were: a) a group of well-functioning older adults, b) a group of older adults who were receiving medical and psychotherapeutic treatment in order to change their mental health status and c) a group of older adults who were experiencing limitations in life due

[1] After the end of the first study and prior to the commencement of the second (Study 2) ethical approval was obtained from the Leeds Health Authority Clinical Research Committee (see Appendix 10).

to physical problems and were not targeted to change their mental health status. Two new measures were used in Study 2. The Hospital Depression and Anxiety (Zigmond and Snaith, 1983) scale substituted Zung's self-rating anxiety and depression scales and Life Attitude Profile-Revised scale (Reker, 1992) substituted the Purpose in Life test (see section 6.4 for justification).

6.2 The samples at Time 1

One hundred fifty older adults from three settings aged from 66 to 96 were recruited for the purposes of Study 2. The first sample group, which served as a baseline measure against the performance of the other two groups, was termed "community comparison group" (Group 1), the second was termed "psychiatric outpatients' comparison group" (Group 2) and the third as "geriatric outpatients' comparison group" (Group 3).

6.2.1 Recruitment and characteristics of Group 1

Fifty older adults comprised the community comparison group. These were Leeds city residents who were recruited in Leeds University with the help of the *Student Committee Action* (see 4.2.1). The community comparison sample comprised a pragmatic group; meaning that the participants could be characterised as physically well functioning, socially active and involved in community work.

Following permission taken from the event organisers, 85 sets of questionnaires were given to older adults who attended the event. The participants were provided with an information sheet (see Appendix 11) and a consent form (see Appendix 13). The participants were asked to fill in the questionnaires in their own time at home and send them back to the researcher in the stamped self-addressed envelopes provided. Sixty-seven set of questionnaires were returned

(84 percent response rate) from which fifty were randomly selected using SPSS 6.1 for Windows so as: a) the number of Group 1 participants will match the number of Group 2 and 3 participants and b) the number of the sexes will be equally represented in the community sample (i.e.: 25 males and 25 females). In order to avoid replication effects, the participants were asked to indicate in the questionnaire whether they had or had not participated in last year's study.

6.2.2 Recruitment and characteristics of Group 2

Participants were 50 older adults who were recruited from Newsam Centre; an outpatients' clinic situated at Seacroft University hospital at the Leeds area which accepts men and women suffering from a variety of mental health problems. The psychiatric group comprised older adults with mixed diagnoses, chosen at different points of their treatment. Twenty-six were diagnosed, according to the patients' records, with clinical depression (65 percent), 9 with nervous anxiety (22.5 percent), 3 with schizophrenia (6 percent), 2 with manic disorder (4 percent) and 10 (20 percent) with other. The diagnoses were based on the ICD-10 (1992) diagnostic system. The mean period between visits to the appointed consultant psychiatrist is approximately two to three months.

The patients were approached after they had their appointment with a consultant psychiatrist and asked if they would be interested in filling a set of questionnaires. The administration took place in a private office located next to the consultant's office in the Newsam Centre. Participants were informed about the nature of the study and if they agreed to participate they were given an information form and consent form. The participants filled in the questionnaires in the presence of the researcher. The recruitment procedure was terminated when the desired number of 50 respondents was reached.

6.2.3 Recruitment and characteristics of Group 3

Participants were 50 older adults who were recruited from St. James's University Hospital in Leeds. The clinics accept men and women suffering from a variety of physical health problems. The geriatric group comprised older adults with mixed diagnoses and they were chosen at different points of their treatment. The mean period between visits to the appointed consultant geriatrician is approximately two to three months. According to the outpatients' records seven were diagnosed with arthritis (16.7 percent), 4 with angina (9.5 percent), 6 with asthma (14.3 percent), 3 with lung problems (7.1 percent), 3 with bowel problems (7.1 percent), three with diabetes (7.1 percent), 8 with epilepsy (16 percent), 10 were recovering from stroke (23 percent) and two from an accident (4 percent).

The patients were approached after they had their appointment with a consultant geriatrician and asked if they would be interested in filling a set of questionnaires. The administration took place in a private office next to the office of the consultant geriatrician. Participants were informed about the nature of the study and if they agreed to participate they were given an information form and consent form. The participants filled the questionnaires in the presence of the researcher. The recruitment procedure was terminated when the desired number of 50 respondents was reached.

6.3 The samples at Time 2

During recruitment at Time 1, the participants consented to complete the same set of questionnaires after a period of three months. All respondents were sent follow-up letter (see Appendix 19) one and a half months after Time 1. The addresses of the participants have been obtained at Time 1.

After three months 50 set of questionnaires, information sheets (see Appendix 12) consent forms (see Appendix 14) and self-addressed stamped envelopes were posted to Group 1 respondents' home addresses obtained at Time 1. Forty-four set of questionnaires were sent back to the researcher (88 percent returned and usable response rate).

The respondents of Group 2 and 3 completed the same set of questionnaires at the psychiatric and geriatric clinic approximately three months after Time 1 when they had a following appointment with their appointed psychiatrist or geriatrician. When an outpatient was not able to keep the appointment, a meeting was scheduled for their next scheduled appointment. In a few instances the respondents were not able to complete the questionnaires at the clinic due to time constraints. In such instances (12 for Group 1 and 16 for Group 2) the respondents were provided with self-addressed stamped envelopes. From each group, 44 questionnaires were included for statistical analysis at Time 2 (88 percent usable rate). The completion of questionnaires in the presence of the researcher took place in the same offices as at Time 1. The recruitment of Group 1 and 2 participants took approximately 16 months to complete.

6.4 Measures

Participants were provided with an information sheet (see Appendix 3) and they were asked to sign a consent form (see Appendix 4). The participants were asked first to re-state personal and demographic details (see Appendix 15). Three questionnaires were used in Study 2 and were presented in the following order: **a)** The SF-36 Health Status Questionnaire (Appendix 16), **b)** the Hospital and Anxiety Depression Scale (Appendix 17) and **c)** the Life Attitude Profile-Revised (Appendix 18). The questionnaires took approximately 30 to 40 minutes to complete.

6.4.1 Personal and demographic variables at Time 2

Participants were asked to state their sex, date of birth, previous occupation, current occupation (if any), marital status, religion, whether or not they were actively religious, whether or not they lived alone, with spouse, family, friend or other. In addition to Study 1, participants were asked to indicate their main activities. Information was obtained on whether or not they were able to go out by themselves and to take care of themselves. The personal and demographic variables were collected again at Time 2 in order to ensure that an inference about a statistical relationship is not drawn spuriously because of the effect of a biographical variable between Time 1 and 2.

6.4.2 SF-36 Health Status Questionnaire

The short form 36 (SF-36) health survey instrument (Ware and Shelbourne, 1992; McHorney, Ware and Rackzek, 1993; McHorney, Ware, Rodgers, Rackzek and Lu, 1994) was used at Time 2. For a description of the SF-36's scales and subscales see section 4.3.2.

6.4.3 The Hospital Anxiety and Depression (HAD) Scale

The Hospital Depression and Anxiety scale (see Appendix 17) substituted Zung's self-rating anxiety and depression scales which did not pick up high levels of anxiety and depression in Study 1.

The 14 item Hospital Anxiety and Depression scale was developed by Zigmond and Snaith (1983) on the basis of their clinical experience. The Hospital Anxiety and Depression Rating Scale is a brief self-assessment scale distinguishing the concepts of anxiety and depression, initially devised for the detection of mood disorder in hospital medical and surgical departments (Zigmond and Snaith, 1983). The odd numbered items of the HAD form the anxiety sub-scale and the

even numbered items form the depression sub-scale. The items have been designed to be influenced as little as possible by concomitant physical illness, and items relating to anergia, anorexia and insomnia are excluded. The concept of depression in the HAD scale is that of the anhedonic state (Snaith and Taylor, 1987). The depression subscale comprises seven items: one dysphoria, one retardation, and the other five items on the subscale describe the anhedonic experience in various forms. This may be the aspect of depression which is most likely to respond to antidepressant drugs. The HAD scale may have advantages over other measures of depression in the elderly, as other scales have a high proportion of somatic items and this population when well have typically many physical symptoms. A validation study of the HAD scale (Kenn, Wood, Kucy, Wattis and Cunane, 1987) has been undertaken with depressed older adults over the age of 65 years old, of either sex, suffering from a primary depressive disorder admitted acutely into a mental hospital. The results of the study supported the validity of the HAD depression subscale in elderly depressed patients. The same finding was found for of the HAD anxiety subscale. In another study undertaken to validate the HAD in an older adults' psychiatric population, the depression scale was shown to relate well to global measures of depression and to be sensitive to its changes.

6.4.4 The Life Attitude Profile-Revised (LAP-R)

Study 2 explores the link between meaning in life and psychological well-being by using another measure of meaning. The Purpose in Life test was substituted by the Life Attitude Profile-Revised (Reker, 1992). The LAP-R is another measure of meaning which was constructed based on Frankl's logotherapeutic concepts (Reker, 1989).

The Purpose in Life test has been criticised on validity grounds by some researchers (Dufton and Perlman, 1986; Dyck, 1987; Yalom, 1980).
The total Purpose in Life test score has been regarded as an indicator of life meaning, assuming that life meaning as measured by the test is a unidimensional construct. A number of recent studies have supported the multidimensional structure of the Purpose in Life test (Chamberlain and Zika, 1988a; Dufton and Perlman, 1986; Harlow, Newcomb and Bentler, 1987) suggesting the need to develop a single, reliable and valid multidimensional instrument that would operationalise Frankl's logotherapeutic concepts of will to meaning, existential vacuum, personal choice and personal responsibility, realities and potentialities as well as death transcendence. Dafton and Perlman (1986) proposed that there are two different dimensions of the Purpose in Life test: life satisfaction and life purpose.

Battista and Almond (1973) claimed that the Purpose in Life test implies that the more someone sees himself/herself as responsible and the more he/she perceives her life to be under control, the greater his/her degree of meaning in life. Therefore; it is not clear a priori that the experience of one's life as meaningful is related to these beliefs and thus the Purpose in Life test is a relatively inadequate operational definition of a meaningful life.

The Purpose in Life test has also been criticised (Yalom, 1980; Battista and Almond; 1973) as failing to control the effects of social desirability or denial in answering the questionnaire. A correlation coefficient of .57 is reported with the Marlow-Crowne Social Desirability scale (Ebersole and Quiring, 1988).
Yalom (1980) argued the Purpose in Life test items deal with several different concepts such as: **a.** life meaning (purpose, mission), **b.** life satisfaction (life is boring, routine, exciting or painful), **c.** freedom, **d.** fear of death, **e.** contemplation

of suicide and **f.** worthwhileness of one's life. This conceptual confusion raised questions about the multidimensional nature of personal meaning.

Reker and Cousins (1979) after factor analytic investigation of the combined Purpose in Life test (PIL) and the Seeking of Noetic Goals test (SONG), provided evidence for the multidimensional nature of the meaning and purpose construct. The Seeking of Noetic Goals developed by Crumbaugh (1977a) is an attitude scale designed to measure the strength of the motivation to find meaning and purpose in life and it was constructed to complement the Purpose in Life test, in the sense that if an individual has found meaning and purpose in life they would have little motivation to search for more; whereas if they have not, they would be highly motivated to fulfill this need. Together the Purpose in Life test and Seeking of Noetic Goals were viewed as complementary dimensions of life attitudes. The factorial analysis by Reker and Cousins (1979) of the Purpose in Life test and the Seeking of Noetic Goals revealed ten independent dimensions, providing strong evidence for the multidimensional nature of meaning and purpose in life. The Purpose in Life test contributed six dimensions which they labelled purpose in life, goal achievement, contentedness with life, internal-external locus of control, self-fulfillment and life view, while the SONG four dimensions were labelled goal seeking, existential vacuum, search for adventure and futuristic aspirations.

6.4.4.1 Dimensions and constructs of the Life Attitude Profile Revised

The Life Attitude Profile (Reker, 1981) is a multidimensional measure of attitudes toward life. The measure was designed to assess the degree of existential

meaning and purpose in life and the strength of motivation to find meaning and purpose. Following Crumbaugh (1977), particular emphasis was placed on the degree of existential meaning and purpose in life as the extent to which the meaning of personal existence has been discovered, as well as on the strength of motivation to find meaning and purpose in life (Reker and Peacock, 1981).

The Life Aptitude Profile-Revised (Appendix 18) is a 46-item instrument consisting of seven factorially derived dimensions: Life Purpose, Existential Vacuum, Life Control, Death Acceptance, Goal Seeking and Future meaning. Each item on the LAP-R is rated on a 7-point scale of agreement (1-7), ranging from "strongly agree" (7) to "strongly disagree" (1).

The LAP-R is scored and profiled in terms of six dimensions and two composite scales (see Table 6.1).

Table 6.1. Dimensions and constructs of the Life Aptitude Profile-Revised (Reker, 1992)

DIMENSIONS OF LAP-R
i. Purpose **(PU)**
ii. Coherence **(CO)**
iii. Life Control **(LC)**
iv. Death Acceptance **(DA)**
v. Existential Vacuum **(EV)**
vi. Goal Seeking **(GS)**

COMPOSITE SCALES OF LAP-R
I. Personal Meaning Index **(PMI)**
PMI = PU + CO
II. Life Attitude Balance Index **(LABI)**
LABI = PU + CO + LC + DA - (EV + GS)

The *Purpose* dimension refers to having life goals, having a mission in life, having a sense of direction from the past, present and future. Implicit in purpose is the notion of worthwhileness and what is of central importance in a person's life. The items comprising the Purpose dimension are the items 1, 2, 5, 18, 26, 31, 37, and 48.

The *Coherence* dimension refers to having a logically integrated and consistent analytical and intuitive understanding of self, others, and life in general. Implicit in coherence is a sense of order and reason for existence, a clear sense of personal identity and greater social consciousness. The items comprising the Coherence dimension are the items 7, 12, 16, 27, 29, 35, 38 and 46.

The *Life Control* dimension refers to the perception of freedom to make all life choices, the exercise of personal responsibility, and integral control of life events. It is an operational index of the degree to which persons perceive themselves to have personal agency in directing their lives. The items comprising the Life Control dimension are the items 3, 11, 17, 19, 23, 30, 39, and 45.

The *Death Acceptance* dimension refers to the absence of fear and anxiety about death and the acceptance of death as a natural aspect of life. It is an operational index of the degree to which a person has achieved death transcendence. The items comprising the Death Acceptance dimension are the items 8, 15, 22, 25, 28, 32, 44, and 47.

The *Existential Vacuum* dimension refers to having a lack of meaning in life, lack of goals, lack of direction, boredom, apathy, or feelings of indifference. It is an operational index of a frustrated "will to meaning". The items comprising the Existential Vacuum dimension are the items 4, 6, 9, 13, 20, 33, 40 and 42.

The *Goal Seeking* dimension refers to the desire to get away from the routine of life, to search for new and different experiences, to welcome new challenges and to be more eager to get more out of life. The items comprising the Goal seeking dimension are the items 10, 14, 21, 24, 34, 36, 41 and 43.

The *Personal Meaning Index* was developed to provide a more focused measure of personal meaning. Personal meaning is a dual component construct defined as having life goals, having a mission in life, having a sense of direction from past, present and future and having a logically integrated and consistent understanding

of self, others and life in general. The PMI is derived by summing the Purpose and Coherence dimensions of the LAP-R scale.

The *Life Attitude Balance Index* (LABI) is a global measure of attitudes toward life that takes into account both the degree to which meaning and purpose have been discovered and the motivation to find meaning and purpose. The Life Attitude Balance Index is derived by summing the scores on the LAP-R dimensions of Purpose, Coherence, Life Control, and Death Acceptance and subtracting the scores on Existential Vacuum and Goal Seeking.

The Life Attitude Profile-Revised is designed to be used with individuals of all ages from adolescence to later adulthood. It has been successfully used with institutionalised older adults and adults requiring nursing care (Reker, 1989). The LAP-R requires 15-20 minutes to complete.

6.5 Reiteration of aims and hypotheses

Using the methods described in the present chapter, the differences between the three samples on personal meaning and psychological well-being measures were investigated at Time 1, Time 2 and across time. The null hypothesis states that no significant differences exist between Group 1, Group 2 and Group 3 on purpose in life or on psychological well-being (including mental and physical health measures) at Time 1, Time 2 or across time. The alternative directional hypothesis states that the community comparison group will score significantly better in the variables of interest and the psychiatric group will score significantly the lowest. The patterns of relationships of personal meaning and well-being between and within the three groups at Time 1, Time 2 and across time are investigated using Pearson's correlation coefficient. Finally, the prediction of purpose in life from well-being measures is looked at by using stepwise multiple regression analyses.

Chapter 7

Results of Study 2[1]

7.1 Biographical details at Time 1 and Time 2

The descriptive summaries for the personal and demographic data for the three Groups are presented for Time 1. The biographical and personal data for Time 2 are presented on the variables of marital status, religious activity, co-habitation, independence, self-care and main activities.

7.1.1 Chronological age

The community comparison respondents were aged 66 to 91 (mean=76.8, sd=6.7), the psychiatric group respondents were aged 66 to 89 (mean=74.3, sd=6.3) and the geriatric group respondents were aged 68 to 96 (mean=79.1, sd=6). One way analysis of variance for independent samples on age between the three Groups indicated that there was a significant difference in terms of age (see Table 7.1). Tukey's B post hoc test indicated that the significant difference in age was found between the psychiatric and geriatric group ($p<.05$). However, the age means of the community group and psychiatric

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[1] i) The data generated by this study were analysed with the use of SPSS/PC$^+$ 6.0 and SPSS 6.1 for Windows.
ii) The biographical results are not directly relevant to the aims of this study but they help to ensure that an inference about a statistical relationship is not drawn spuriously because of the effect of a biographical variable.
iii) "Group 1" refers to the community comparison group, "Group 2" refers to the psychiatric group and "Group 3" refers to the geriatric group. "Time 1" refers to the first time participants completed the set of questionnaires and "Time 2" refers to the second time the same participants completed the same set of questionnaires, three months after the completion of the first set.

group and the age means of the community group and the geriatric group were found not to be significantly different.

Table 7.1. One-way ANOVA on age for the three comparison Groups (N=150)

Source	df	Sum of squares	Mean Squares	F Ratio	F Prob.
Between Groups	2	566.65	283.33	7.1	.0011
Within Groups	147	5867.72	39.92		
Total	1495	6434.37			

7.2.2 Sex and age

The sexes were equally represented in Group 1 and almost equally in Group 3 at Times 1 and 2. Group 2 had the least of the balance between the sexes at Times 1 and 2. Table 7.2 illustrates the characteristics of age and sex for the three Groups in terms of number, mean, standard deviation, median and range.

Table 7.2. Descriptive characteristics of age of the two sexes for the three Groups at Time 1 (N=150)

	Female					Male				
	N	Mean	sd	Med	Range	N	Mean	sd	Med	Range
Group 1	25	78.48	7.1	79	25	25	75.12	5.78	75	21
Group 2	32	75.84	6.73	75.5	22	18	71.67	4.52	70.5	15
Group 3	27	79.37	6.2	68	28	23	78.78	5.88	79	19

Group membership ($F=_{(2,144)}$ 8.862, $p<.001$) and sex ($F=_{(1,144)}$ 6.961, $p<.05$) were found to have a significant main effect on age, presumably due to the least balance of sex representation in Group 2 (32 females and 18 males).

7.2.3 Socio-economic status

All but one participant of the community comparison group and all but two from the psychiatric group were retired. Participants were asked to state their main previous occupation. The professions were coded according to the Standard Occupational Classification (SOC) manual (HMSO, 1991), with the same way they were coded for Study 1 (see section 5.3.3). Table 7.3a shows the raw frequency data of professions coded according to SOC (HMSO, 1992).

Table 7.3a. Socio-economic category frequencies in the three groups at Time 1 (N=150)

	I	II	IIIN	IIIM	IV	V	Housework	Total
Group 1	2	12	14	10	7	1	4	50
Group 2	3	8	16	6	7	3	7	50
Group 3	0	8	12	21	6	0	3	50

Eight cells in Table 7.3a were found to have frequencies less than five; for this reason the social-economic classes were recoded further so as to include more than five instances of occurrence in each socio-economic category. The professional, technical and managerial occupations were merged into one social class category, the skilled non-manual and skilled manual occupations were treated as two different categories and the partly skilled occupations, unskilled occupations and housework occupations were merged and treated as another category (see Table 7.3b).

Table 7.3b. Recoded socio-economic category frequencies in the three groups (N=150)

	I and II	IIIN	IIIM	IV, V, and Housework	Total
Group 1	14	14	12	10	50
Group 2	11	16	6	17	50
Group 3	8	12	21	9	50

A chi square test for independence on the collapsed categories indicated that the observed values did deviate from the expected ones (χ^2=14.14, df=6, $p<.05$)

meaning that the Groups did differ significantly in terms of social-economic status.

7.2.4 Marital status

Respondents were asked to indicate whether or not they were married, single, divorced, separated, remarried or widowed. Those who were married and remarried were treated as one category versus those who were single, divorced, separated and widowed. Eighteen (12 percent) from Group 1, 23 from Group 2 (15.3 percent) and 18 from Group 3 (12 percent) indicated that they were married or re-married. A chi square for goodness of fit test was applied on the recoded marital status data which showed that the observed frequencies did not deviate from the expected ones (χ^2=1.4, df=2, p>.05). The marital status pattern had not changed at Time 2 (χ^2=1.1, df=2, p>.05).

7.2.5 Religious activity

Participants of the three Groups were asked to indicate whether or not they were actively religious. Fourteen (9.3 percent) from Group 1, 18 from Group 2 (38.7 percent) and 16 from Group 3 (10.7 percent) indicated that they were actively religious. The frequencies of the observed frequency values did not deviate from the expected ones (χ^2=.73, df=2, p>.05). The religious activity pattern had not changed at Time 2 (χ^2=.62, df=2, p>.05).

7.2.6 Co-habitation

All participants were asked to indicate whether they were living alone, or with spouse, friend, tenant, partner, relative or other nursing home residents. Those who stated to live alone were treated as one category. Those who were living with spouse, friend, tenant, partner, relative or nursing home residents were

treated as another category. Twenty-seven (18 percent) from Group 1, 12 from Group 2 (15.3 percent) and 27 from Group 3 (18 percent) indicated that they were living alone. The obtained frequencies did not deviate from the expected ones indicating that no significant differences were found between the co-habitation categories (χ^2=3.41, df=2, p>.05). The co-habitation status had not changed at Time 2.

7.2.7 Independence and self care

Participants were asked to indicate whether or not they were able to go out by themselves. Forty-eight from Group 1, 33 from Group 2 and 34 from Group 3 indicated that they were able to go out by themselves. Deviations were found between the observed and expected frequencies at Time 1 (χ^2=15.72, df=2, p<.005) and Time 2 (χ^2=15.22, df=2, p<.005) indicating that more participants from Group 1 go out than participants from Groups 2 and 3.

Participants were also asked to indicate whether or not they were able to take care of themselves. Forty-seven from Group 1, 34 from Group 2 and 29 from Group 3 indicated that they were able to self-care. A chi square test of independence on the self-care frequencies indicated a deviation between the observed and expected data (χ^2=17.66, df=2, p<.005). The pattern is the same at Time 2 (χ^2=23.171, df=2, p<.005) showing that participants from Group 1 were able to self care than participants from Groups 2 and 3.

7.2.8 Activities

Participants were asked to characterise their main activity (see Table 7.4) indicating only one category of the following: physical (i.e.: playing sports, swimming, golf), social (i.e.: going out with friends, visiting friends, going to

pub), home-oriented (i.e.: watching television, knitting, jigsaws) intellectual (i.e.: painting, drawing, writing) and voluntary-community work (i.e.: charity shops, active member). The physical, intellectual and voluntary work activities were merged into one category. These are activities that require some sort of prior planning and organisation.

Table 7.4. Activities for the three comparison Groups participants (N=150)

	Physical, Intellectual, Voluntary work	Social	Home-Oriented	Total
Group 1	18	22	10	50
Group 2	9	16	25	50
Group 3	11	14	25	50

The expected frequencies of the collapsed cells deviated from the observed ones (χ^2=13, df=4, $p<.05$) indicating that more participants from Group 2 and Group 3 were involved in home-oriented activities. The pattern had not changed at Time 2 (χ^2=11, df=4, $p<.05$).

7.2.9 Summary of biographical results

The three comparison Groups did not differ significantly in terms of sex, religious activity, marital status and co-habitation. Significant differences were found in age, socio-economic status, independence-self care and activities. The community comparison group participants are more independent and able to self care than Group 2 and 3 participants who are more involved in home-oriented activities than Group 1 participants. These patterns had not changed at Time 2.

7.3 Descriptives and comparisons between Groups of SF-36, HAD and LAP-R scales at Time 1 and Time 2

One of the aims of Study 2 is to investigate differences in three Groups of older adults in the focused variables of personal meaning and psychological well-being. The following sections describe the differences found between the SF-36, HAD and LAP-R variables between and within Times 1 and 2. Firstly, differences in the three Groups in the SF-36 variables are presented at Time 1 and then at Time 2. Then the differences between the three Groups in the HAD and LAP-R variables are presented at Times 1 and 2.

7.3.1 SF-36 comparisons

All the scales of SF-36 are scored so that a high score is consistent with a positive health status; the "well-being" scale is scored so that a higher score reflects increased well-being while a lower score indicates decreased well being. The major health attributes of the SF-36 are noted on Tables 7.5 and 7.6 with capital letters and the health concept attributes are noted with lower case letters.

One-way independent ANOVA and Tukey's B tests were employed in order to investigate differences on the SF-36 variables between Groups at Time 1 (see Table 7.6) and Time 2 (see Table 7.7).

At Time 1, one-way ANOVA for independent samples (see Table 7.6) indicated that the three Groups differed significantly in terms of role limitations attributed to physical problems ($F_{(2,147)} = 37.06$, $p<.0001$), role limitations attributed to emotional problems ($F_{(2,147)} = 76.43$, $p<.0001$), well-being ($F_{(2,147)} = 69.77$, $p<.0001$) and mental health ($F_{(2,147)} = 71.03$, $p<.05$).

Group 1 scored significantly higher in these variables ($p<.05$) than Groups 1 and 2. Group 2 scored significantly lower in these variables than Groups 1 and 3 except in the case of role limitations attributed to physical problems ($p<.05$) where Group 3 had scored significantly lower than Group 2.

Concerning significant pairwise comparisons using Tukey's B post-hoc test, Groups 1 and 2, and Groups 1 and 3 differ significantly in all the variables of SF-36 ($p<.05$) except pain ($F_{(2,147)} = 0.98$, $p=.9073$). Groups 2 and 3 did not differ significantly only in the variables of functional status, physical functioning, social functioning, energy/fatigue, pain and general health.

Table 7.5. Means, standard deviations of SF-36 health attributes and health concepts and one-way ANOVA for independent samples for the three comparison Groups at Time 1 (N=150)

	Group 1				Group 2				Group 3				One-Way ANOVA		Tukey's B		
	Mean	sd	Min	Max	Mean	sd	Min	Max	Mean	sd	Min	Max	F Ratio	F Prob	G1 vs G2	G1 vs G3	G2 vs G3
FUNSTAT	39.14(3)	7.09	23	48	26.78(2)	9.22	12	42	25.56(1)	7.27	13	46	44.96	.0001	*	*	
PhysFun	23.50(3)	4.55	14	30	18.38(2)	6.02	10	29	16.68(1)	5.48	10	29	21.73	.0001	*	*	
SocFun	9.88(3)	1.78	4	11	6.18(1)	2.50	2	11	6.3(2)	2.27	2	11	45.43	.0001	*	*	
RlatPp	3.1(3)	1.71	0	8	1.88(2)	1.78	8	6	.46(1)	.99	0	4	37.06	.0001	*	*	*
RlatEp	2.66(3)	.94	0	3	.34(1)	.72	0	3	2.12(2)	1.22	0	3	76.43	.0001	*	*	*
WBEING	48.84(3)	7.25	28	60	30.28(1)	8.72	15	50	36.94(2)	7.84	16	50	69.77	.0001	*	*	*
MentalH	25.46(3)	4.10	13	30	14.04(1)	4.96	5	27	19.30(2)	5.26	5	27	71.03	.0001	*	*	*
Ener/Fat	16.94(3)	3.73	8	24	9.76(1)	4.61	4	21	11.24(2)	3.57	4	17	54.01	.0001	*	*	
Pain	6.44	.79	4	8	6.48	.95	4	9	6.40	.97	4	9	.098	.9073			
GENERH	18.64(3)	3.69	7	25	13.02(2)	3.44	5	21	12.62(1)	2.68	5	20	51.98	.0001	*	*	

Key: *Min=Minimum raw score, Max=Maximum raw score.*
G1=Community group, G2=Psychiatric group, G3=Geriatric Group.
The numbers superscipted in parentheses to the means indicate their rank order from lower to higher.
*The last column indicates significant pairwise mean differences using Tukey's B, * $p<.05$.*
FUNSTAT=Functional Status, PhysFun=Physical Functioning, SocFun=Social Functioning, RlatPp=Role Limitations Attributed to Physical Problems, RlatEp=Role Limitations Attributed to Emotional Problems, WBEING=Well Being, MentalH= Mental Health, Ener/Fat=Energy/Fatigue, GENERH=General health.

Table7.6. Means, standard deviations of SF-36 health attributes and health concepts and one-way ANOVA for independent samples for the three comparison Groups at Time 2 (N=150)

	Group 1				Group 2				Group 3				One-Way ANOVA		Tukey's B		
	Mean	sd	Min	Max	Mean	sd	Min	Max	Mean	sd	Min	Max	F Ratio	F Prob	G1 vs G2	G1 vs G3	G2 vs G3
FUNSTAT	38.82(3)	7.05	26	48	28.48(2)	10.64	12	63	26.45(1)	6.96	12	45	30.19	.0001	*	*	
PhysFun	22.94(3)	5.09	11	30	18.82(2)	7.29	10	30	16.66(1)	4.89	10	27	14.20	.0001	*	*	
SocFun	9.88(3)	1.53	6	11	6.7(1)	2.37	2	11	6.93(2)	2.04	2	11	37.84	.0001	*	*	
RlatPp	3.16(3.)	1.47	0	6	2.23(2)	1.76	0	4	.64(1)	1.22	0	4	33.44	.0001	*	*	*
RlatEp	2.84(3)	58.41	0	3	.73(1)	1.17	0	3	2.22(2)	1.18	0	3	54.28	.0001	*	*	*
WBEING	48.3(3)	7.26	29	61	32.34(1)	8.74	15	55	38.45(2)	7.58	16	53	49.62	.0001	*	*	*
MentalH	25.06(3)	4.14	13	30	15.75(1)	5.24	5	27	20.32(2)	5.37	5	29	42.1	.0001	*	*	*
Ener/Fat	16.82(3)	3.68	9	24	10.11(1)	4.66	4	22	11.68(2)	3.33	4	18	38.17	.0001	*	*	
Pain	6.42	.9055	5	10	6.48	.87	4	8	6.45	.84	5	8	.05	.9503			
GENERH	18.37(3)	3.6	10	25	13.14(2)	3.33	5	20.4	12.71(1)	3.04	5	20.4	41.75	.0001	*	*	

Key: *Min=Minimum raw score, Max=Maximum raw score.*
G1=Community group, G2=Psychiatric group, G3=Geriatric Group.
The numbers superscipted in parentheses to the means indicate their rank order from lower to higher.
*The last column indicates significant pairwise mean differences using Tukey's B, * p<.05.*
FUNSTAT=Functional Status, PhysFun=Physical Functioning, SocFun=Social Functioning, RlatPp=Role Limitations Attributed to Physical Problems, RlatEp=Role Limitations Attributed to Emotional Problems, WBEING=Well Being, MentalH= Mental Health, Ener/Fat=Energy/Fatigue, GENERH=General health.

At Time 2, the pattern of significant differences between the three Groups on the SF-36 variables had not changed (see Table 7.7). One-way ANOVA for independent samples indicated that all three Groups differ significantly again in terms of role limitations attributed to physical problems ($F_{(2,147)} = 33.44$, $p<.0001$), role limitations attributed to emotional problems ($F_{(2,147)} = 54.28$, $p<.0001$), well-being ($F_{(2,147)} = 49.62$, $p<.0001$) and mental health ($F_{(2,147)} = 42.1$, $p<.0001$). Examining Group's 2 means on well-being from Tables 7.6 and 7.7 it is noted that its mean have risen slightly at Time 2. Figure 7.1 illustrates this graphically; it can be seen that the psychiatric group appears to have improved in terms of well-being at Time 2.

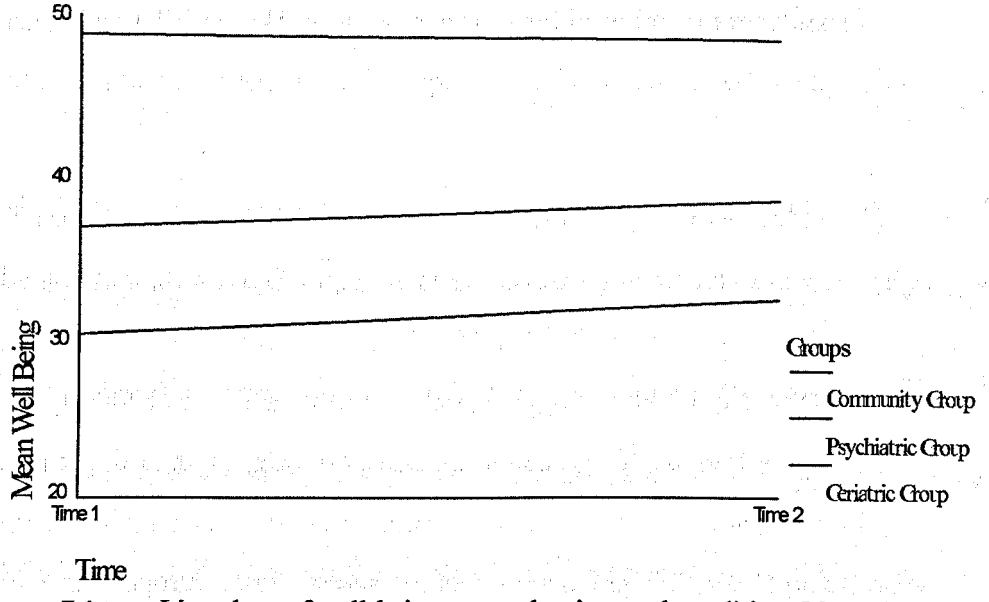

Figure 7.1. Line chart of well-being means by time and condition (N=150)

At Time 2, the patterns of significant pairwise comparisons using Tukey's B post-hoc test had not changed when compared with Time 1. Groups 1 and 2, and Groups 1 and 3 continue to differ significantly in all the SF-36 variables except pain ($F_{(2,147)} = 0.5$, $p=.9073$). For once more, Groups 2 and 3 did not

differ significantly in functional status, physical functioning, social functioning, energy/fatigue, pain and general health.

7.3.2 HAD and LAP-R comparisons

The two sub-scales of HAD are scored so that a high score indicates a high level of anxiety and depression. A high total score on each LAP-R dimension reflects a high degree of the attribute in question; a high score in the purpose dimension refers to a high degree in having life goals and mission in life, and having a sense of direction from the past, present and future. Table 7.8 presents the means of the HAD and LAP-R variables obtained from the three Groups at Time 1 and Table 7.9 presents the means of the HAD and LAP-R variables obtained from the three Groups at Time 2. One-way independent ANOVA and Tukey's B tests were employed in order to investigate differences between the three Groups on the HAD and LAP-R variables .

At Time 1, one-way ANOVA for independent samples (see Table 7.7) indicated that all three Groups differ significantly in terms of anxiety ($F_{(2,147)} = 35.2$, $p<.0001$), purpose ($F_{(2,147)} = 21.04$, $p<.0001$), personal meaning ($F_{(2,147)} = 22.03$, $p<.0001$) and life attitude balance ($F_{(2,147)} = 34.53$, $p<.0001$). Group 1 scored significantly higher on these variables ($p<.05$) than the other two groups whilst Group 2 scored significantly lower on the same variables. Concerning significant pairwise comparisons using Tukey's B post-hoc test, Group 2 scored significantly lower in anxiety ($p<.05$), depression ($p<.05$) and the LAP-R variables ($p<.05$) than Group 1. Group 1 has also scored significantly higher in locus of control and existential vacuum ($p<.05$) than Group 3. Finally, Group 2 scored significantly lower in depression ($p<.05$), locus of control ($p<.05$) and death acceptance ($p<.05$) compared to Group 3.

Table 7.7. Means, standard deviations of HAD depression and anxiety, LAP-R six dimensions and two composite scales and one-way ANOVA for independent samples for the three comparison Groups at Time 1 (N=150)

	Group 1				Group 2				Group 3				One-Way ANOVA		Tukey's B		
	Mean	sd	Min	Max	Mean	sd	Min	Max	Mean	sd	Min	Max	F Ratio	F Prob	G1 vs G2	G1 vs G3	G2 vs G3
Anx	8.46(1)	2.3	5	15	12.42(3)	2.35	8	16	10.4(2)	2.43	7	17	35.2	.0001	*	*	*
Depress	8.34(2)	1.28	4	10	9.36(3)	1.96	5	15	8.3(1)	1.84	4	12	6.09	.005	*		*
PU	39.371(3)	7.19	19	54	28.6(1)	8.77	8	46	32.64(2)	8.77	9	50	21.04	.0001	*	*	*
CO	39.12(2)	8.29	20	55	28.7(1)	9.32	8	48	36.26(2)	7.85	18	51	20.02	.0001	*		
LC	43.1(3)	7.32	21	56	33.64(1)	8.79	8	48	38.88(2)	7.43	17	52	18.11	.0001	*	*	*
DA	41.24(3)	7.7	20	55	32.68(1)	9.81	16	51	37.54(2)	8.55	16	49	12.2	.0001	*		*
EV	23.96(1)	9.14	9	46	35.92(3)	7.39	14	46	32.48(2)	7.79	16	48	28.61	.0001	*	*	
GS	32.46(3)	8.72	14	48	27.88(1)	7.76	15	46	30.52(2)	6.96	14	45	4.29	.05	*		
PMI	78.41(3)	14.1	52	109	57.3(1)	17.54	16	91	68.9(2)	15.7	33	101	22.03	.0001	*	*	*
LABI	106.45(3)	26.05	55	164	59.82(1)	30.93	0	138	82.32(2)	26.5	-12	146	34.53	.0001	*	*	*

Key: *Min=Minimum raw score, Max=Maximum raw score.*
G1=Community group, G2=Psychiatric group, G3=Geriatric Group.
The numbers superscipted in parentheses to the means indicate their rank order from lower to higher.
*The last column indicates significant pairwise mean differences using Tukey's B, * $p<.05$.*
ANX=Anxiety, Depress=Depression, PU=Purpose, CO=Coherence, LC=Life Control, DA=Death Acceptance, EV=Existential Vacuum, GS=Goal Seeking, PMI=Personal Meaning Index, LABI=Life Attitude Balance Index.

Table 7.8. Means, standard deviations of HAD depression and anxiety, LAP-R six dimensions and two composite scales and one-way ANOVA for independent samples for the three comparison Groups at Time 2 (N=150)

	Group 1				Group 2				Group 3				One-Way ANOVA		Tukey's B		
	Mean	sd	Min	Max	Mean	sd	Min	Max	Mean	sd	Min	Max	F Ratio	F Prob	G1 vs G2	G1 vs G3	G2 vs G3
Anx	7.7(1)	1.95	5	15	11.18(3)	2.63	5	16	10.34(2)	2.53	6	16	27.89	.0001	*	*	
Depress	8.4(1)	1.12	7	11	9.16(3)	1.47	5	13	8.79(2)	1.53	6	12	3.55	.0313	*	*	
PU	40.2(3)	6.94	24	53	31.7(2)	7.45	8	47	32.63(2)	9.15	8	46	16.76	.0001	*	*	
CO	39.04(3)	9.34	17	55	31.93(1)	7.83	8	47	36.11(2)	7.86	17	50	8.38	.0004	*		*
LC	44.46(3)	6.95	25	56	35.52(1)	8.42	8	49	38.13(2)	6.83	15	48	18.21	.0001	*	*	
DA	40.42)	8.63	16	55	37.14	8.37	17	50	38.79	9.32	16	51	1.64	.1981			
EV	24.16(1)	8.91	9	44	35.32(3)	8.2	12	45	33.5(2)	7.7	15	48	24.79	.0001	*		*
GS	32.86(3)	9.06	12	45	29.11(2)	6.33	15	45	29.04(1)	6.44	18	43	4.09	.0189	*	*	
PMI	79.24(1)	15.17	41	108	63.64(2)	14.64	16	94	68.75(3)	16.21	30	93	12.75	.0001	*	*	
LABI	107.1(3)	32.04	13	168	71.86(1)	26.95	18	132	83.09(2)	29.62	-15	151	17.38	.0001	*	*	

Key: *Min=Minimum raw score, Max=Maximum raw score.*
G1=Community group, G2=Psychiatric group, G3=Geriatric Group.
The numbers superscipted in parentheses to the means indicate their rank order from lower to higher.
*The last column indicates significant pairwise mean differences using Tukey's B, * $p<.05$.*
ANX=Anxiety, Depress=Depression, PU=Purpose, CO=Coherence, LC=Life Control, DA=Death Acceptance, EV=Existential Vacuum, GS=Goal Seeking, PMI=Personal Meaning Index, LABI=Life Attitude Balance Index.

At Time 2 on the HAD and LAP-R variables (see Table 7.8), the pattern of Group differences had changed slightly. Group 1 and Group 2 continued to differ significantly in all the HAD and LAP-R variables as in Time 1 ($p<.05$) but not in the case of death acceptance where Group 1 scored significantly higher than Group 2.

Group 1 scored significantly higher than Group 3 in anxiety ($p<.05$), depression ($p<.05$), locus of control ($p<.05$), goal seeking, $p<.05$), personal meaning ($p<.05$) and life attitude balance ($p<.05$). Finally, Group 3 has scored significantly higher than Group 2 in coherence ($p<.05$) and existential vacuum ($p<.05$). Group 2 appears to have improved in terms of personal meaning at Time 2. Figure 7.2 illustrates this graphically.

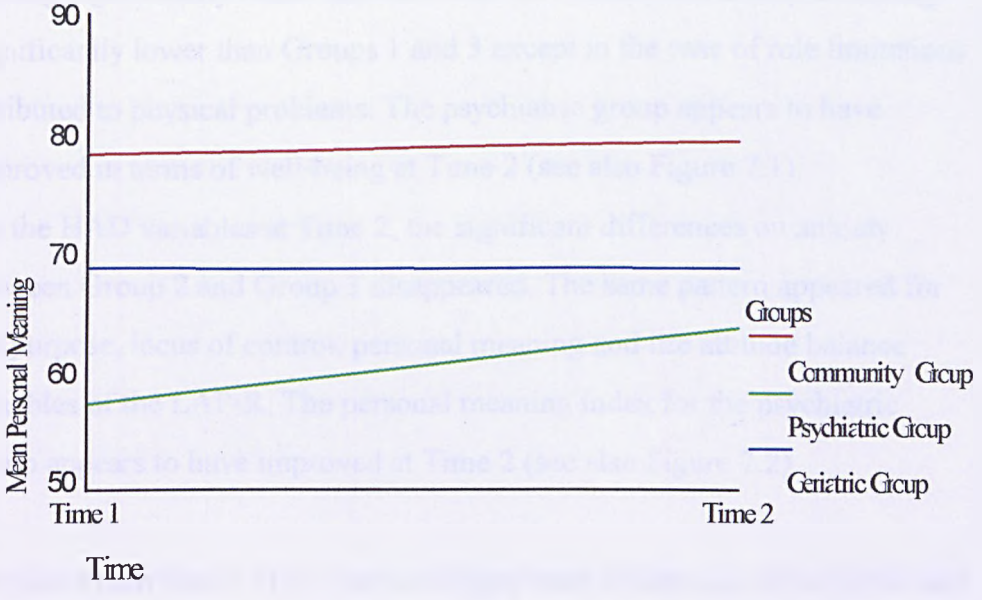

Figure 7.2. Line chart of PMI means by time and condition (N=150)

7.3.3 Summary of comparisons between Groups on SF-36, HAD and LAP-R scales at Time 1 and Time 2

On the SF-36 HAD and LAP-R variables at Time 1 the three Groups differed significantly in terms of role limitations attributed to physical problems, role limitations attributed to emotional problems, well-being, mental health, anxiety, purpose, locus of control, personal meaning and life attitude with Group 1 scoring significantly better than Groups 2 and 3. Group 2 scored significantly lower in the above mentioned variables than the other two groups except in the case of role limitations attributed to physical problems where Group 3 had scored higher than Group 2.

At Time 2 the differences between the three groups in terms of the SF-36 variables have retained their characteristics as in Time 1 with Group 1 scoring significantly better than the other two groups and Group 2 scoring significantly lower than Groups 1 and 3 except in the case of role limitations attributed to physical problems. The psychiatric group appears to have improved in terms of well-being at Time 2 (see also Figure 7.1).
On the HAD variables at Time 2, the significant differences on anxiety between Group 2 and Group 3 disappeared. The same pattern appeared for the purpose, locus of control, personal meaning and life attitude balance variables of the LAP-R. The personal meaning index for the psychiatric group appears to have improved at Time 2 (see also Figure 7.2).

It appears then that at Time 2 several significant differences on the HAD and LAP-R variables that were noted between the psychiatric and geriatric group at Time 1 have disappeared and that the psychiatric group has improved on anxiety, purpose, locus of control, personal meaning and life attitude over the

geriatric group at Time 2. The next investigates significant differences in Groups on the SF-36, HAD and LAP-R variables over time.

7.4 Comparisons on the SF-36, HAD and LAP-R variables across time

Tables 7.9 and 7.10 present the summary descriptive statistics of the SF-36, HAD and LAP-R variables for the three comparison Groups across time. The means of the variables of interest obtained at Time 2 were subtracted from Time 1. A negative score on the SF-36 variables indicates that the mean score of Time 2 on a particular SF-36 variable was higher than Time 1. On the other hand, a negative score on the HAD and LAP-R variables indicate that the participants scored higher on these variables at Time 2 as compared to Time 1; for the LAP-R this indicates improvement while for the HAD it indicates deterioration.

Pairwise comparisons, using Tukey's, indicate that Groups 1 and 2 differ significantly on well-being ($p<.05$), mental health ($p<.005$), coherence, ($p<.005$), death acceptance ($p<.005$), personal meaning ($p<.01$) and life attitude balance ($p<.01$). Group 1 and Group 3 differ significantly in terms of coherence, ($p<.005$), goal seeking ($p<.01$), personal meaning ($p<.01$) and life attitude balance ($p<.01$). No significant pairwise differences were found between Groups 1 and 3.

In summary, the psychiatric group has demonstrated significant differential improvement in well-being (see Figure 7.1), mental health, coherence, death acceptance, personal meaning (see Figure 7.2) and life attitude over the community comparison group. Differential improvement of the psychiatric

group over the geriatric group was observed in coherence, goal seeking, personal meaning and life attitude.

Table 7.9. Difference means, standard deviations of SF-36 health attributes and health concepts and one-way ANOVA for independent samples for the three comparison Groups (N=150)

	Group 1				Group 2				Group 3				One-Way ANOVA		Tukey's B		
	Mean	sd	Min	Max	Mean	sd	Min	Max	Mean	sd	Min	Max	F Ratio	F Prob	G1 vs G2	G1 vs G3	G2 vs G3
FUNSTAT	.32	3.68	-11	11	-1.61	6.19	-27	13	-1.2	3.5	-27	13	2.35	.09			
PhysFun	.56	2.28	-3	12	-.32	4.08	-27	7	-.4773	2.59	-9	6	1.31	.27			
SocFun	.0	1.5	-6	5	-.59	1.56	-4	3	-.5	1.42	-4	2	2.16	.12			
RlatPp	-.06	1.75	-6	4	-.36	1.7	-4	6	-.204	.7	-3	1	.49	.62			
RlatEp	-.18	.9	-3	2	-.34	1.43	-3	3	-.022	.07	-2	2	1.01	.36			
WBEING	.54(1)	4.35	-7	22	-2.32(2)	7.28	-16	15	-1.23(3)	3.52	-9	8	3.55	.03	*		
MentalH	.4(3)	2.75	-6	12	-1.82(1)	4.59	-13	7	-.84(2)	2.25	-6	4	5.3	.006	*		
Ener/Fat	.12	2.08	-3	9	-.5	3.4	-8	9	-.38	2.32	-8	5	.74	.47			
Pain	.02	1.15	-5	2	.0	.83	-2	2	.0	.96	-3	2	.07	.99			
GENERH	.29	2.64	-7	6.4	-.29	2.58	-10	5	-.063	1.58	-4	3	.74	.48			

Key: *Min=Minimum raw score, Max=Maximum raw score.*
G1=Community group, G2=Psychiatric group, G3=Geriatric Group.
The numbers superscipted in parentheses to the means indicate their rank order from lower to higher.
*The last column indicates significant pairwise mean differences using Tukey's B, * $p<.05$.*
FUNSTAT=Functional Status, PhysFun=Physical Functioning, SocFun=Social Functioning, RlatPp=Role Limitations Attributed to Physical Problems, RlatEp=Role Limitations Attributed to Emotional Problems, WBEING=Well Being, MentalH= Mental Health, Ener/Fat=Energy/Fatigue, GENERH=General health.

Table 7.10. Difference means, standard deviations of HAD depression and anxiety, LAP-R six dimensions and two composite scales and one-way ANOVA for independent samples for the three comparison Groups (N=150)

	Group 1				Group 2				Group 3				One-Way ANOVA		Tukey's B		
	Mean	sd	Min	Max	Mean	sd	Min	Max	Mean	sd	Min	Max	F Ratio	F Prob	G1 vs G2	G1 vs G3	G2 vs G3
Anx	.76	1.8	-5	5	1.22	2.42	-5	7	.20	2.2	-3	5	2.53	.08			
Depress	-.06	1.28	-4	3	.0682	1.48	-3	5	-.34	1.83	-6	3	.82	.44			
PU	-.84	4.53	-10	12	-2.52	6.3	-16	13	-.204	4.15	-11	7	2.48	.09			
CO	0.8(2)	5.17	-11	19	-2.7(1)	5.54	-15	14	.38(2)	3.79	-8	1151	5.39	.005	*		*
LC	-1.3	5.74	-13	13	-2.02	5.47	-16	17	.54	4.4	-10	12	2.78	.066			
DA	.82(3)	6.33	-12	18	-3.6(1)	6.52	-24	14	-1.16(2)	5.3	-15	10	6.15	.002	*		
EV	-.2	5.4	-15	12	.5	6.63	-12	23	-.864	5.07	-.9	15	.62	.54			
GS	-.4(1)	5.6	-13	11	-1.5(2)	4.7	-9	13	1.57(3)	5.33	-15	13	3.9	.023			*
PMI	-.612(2)	8.7	-16	31	-5.23(1)	10.86	-28	20	.182(3)	6.81	-16	12	4.75	.01	*		*
LABI	-.449(3)	16.55	-35	45	-9.84(1)	20.72	-62	29	1.16(2)	14.1	-35	30	4.08	.02	*		*

Key: *Min=Minimum raw score, Max=Maximum raw score.*
G1=Community group, G2=Psychiatric group, G3=Geriatric Group.
The numbers superscipted in parentheses to the means indicate their rank order from lower to higher.
The last column indicates significant pairwise mean differences between the Groups.
ANX=Anxiety, Depress=Depression, PU=Purpose, CO=Coherence, LC=Life Control, DA=Death Acceptance, EV=Existential Vacuum, GS=Goal Seeking, PMI=Personal Meaning Index , LABI=Life Attitude Balance Index.

7.5 Relationships between main variables

Study 2 also aims to investigate the patterns of associations between the variables of interest and most specifically the relationships of well-being (including mental health) and personal meaning (including life attitude) for each Group at Time 1 and Time 2[2].

7.5.1 Relationships of personal meaning-well-being and their co-variates between Groups at Time 1 and 2

Tables 7.11 to 7.13 present the correlation co-efficients between the SF-36, HAD, PMI and LABI variables at Times 1 and 2. The intercorrelations between the variables at Time 1 are presented above the diagonal and at Time 2 below the diagonal in all the tables.

Of particular interest are the relationships between: a) personal meaning-well being, b) personal meaning-mental health, c) life attitude balance-well-being and d) life attitude-mental are. The shaded cells in Tables 7.12 to 7.16 indicate the significant associations as these were calculated using Pearson's product correlation co-efficient. It is important here to note, for once more, that mental health is a component of well-being (see also Table 4.1).

Concerning Group 1 at Time 1, personal meaning is positively and significantly correlated with well being ($r=.32$, $p<.05$) and mental health ($r=.32$, $p<.05$). Life attitude is also found to correlate positively and significantly with well-being ($r=.57$, $p<.001$) and mental health ($r=.66$, $p<.001$). At Time 2 personal meaning is still found to correlate significantly with well being ($r=.41$, $p<.01$) and mental health ($r=.34$, $p<.05$). Life attitude

[2] For the overall correlation matrices see Appendices 21-31.

was also significantly correlated with well-being (r=.57, p<.001) and mental health (r=.59, p<.001).

In Group 2 at Time 1, personal meaning is strongly and significantly correlated with well being (r=.69, p<.001) and mental health (r=.68, p<.001). Life attitude is also correlated with the same variables respectively (r=.48, p<.001; r=.55, p<.001). At Time 2 personal meaning is significantly correlated with well being (r= .58, p<.001) and with mental health than Time 1 (r=.6, p<.001). Life attitude is found to be positively and significantly correlated with well-being (r=.38, p<.01) and mental health (r=.51, p<.001). Generally, the significant results on the .01 significance level and below replicate across time for the psychiatric comparison Group for the SF-36, HAD and LAP-R variables. Other strong associations with personal meaning include social functioning (r=.52, p<.001), energy fatigue (r=.55, p<.001) and general health at Time 1 and Time 2 (r=.45, p<.01; r=.42, p<.01; r=.45, p<.01) respectively. It is interesting to note that personal meaning at Time 2 is negatively correlated with depression (r=.30, p<.05) which was not the case at Time 1 (r=-.11, p>.05).

Looking at Group 3 at Time 1 personal meaning is moderately and significantly correlated with well being (r=.6, p<.001) and mental health (r=.55, p<.001) whilst life attitude is positively correlated with the same variables respectively (r=.59, p<.001; r=.6, p<.001). At Time 2, personal meaning is still significantly correlated with well being (r=.63, p<.001) and mental health (r=.47, p<.001). Life attitude was also positively and significantly correlated with well-being (r=.47, p<.001) and mental health (r=.51, p<.001). In Group 3 the strongest associations in personal meaning

are noted with energy/fatigue at Time 1 ($r=.56$, $p<.001$) and Time 2 ($r=.65$, $p<.001$).

Table 7.11. Intercorrelations of SF-36, HAD, PMI and LABI scores for the community comparison group at Time 1 and Time 2

	1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*
***1* FUNSTAT**		.8724***	.8013***	.7107***	.5219***	.6657***	.6136***	.6137***	.0290	.4808***	-.4262**	.1198	.2053	.3545*
2 PhysFun	.9459***		.4968***	.3541*	.1649	.4309**	.3052*	.4745***	.1313	.4380***	-.3353*	.1168	.0895	.1679
3 SocFun	.7111***	.5168***		.6561***	.5610***	.6119***	.6541***	.5179***	-.2239	.3077*	-.4006**	.2408	.2516	.4318**
4 RlatPp	.6538***	.4579**	.4685**		.5951***	.6103***	.6272***	.4915***	.0274	.4002*	-.2569	-.0251	.1845	.3031*
5 RlatEp	.3149*	.1958	.2742	.1487		.6751***	.7787***	.4656**	-.0420	.2019	-.3707**	-.0712	.3026*	.4917***
***6* WBEING**	.7624***	.6640***	.6668***	.5078***	.3869**		.9079***	.9103***	.1700	.5688***	-.5666***	-.0115	.3265*	.5792***
7 Mental	.5641***	.4678**	.5889***	.3256*	.3667**	.8972***		.6717***	-.0261	.4175**	-.5696***	.0278	.3257*	.6651***
8 EnergyF	.7946***	.7188***	.6108***	.5466***	.3471*	.9089***	.6541***		.1482	.6287***	-.4752***	-.0381	.2223	.3853**
9 Pain	.3029*	.2625	.1693	.3610**	.0139	.2195	-.0395	.2314		.0852	-.0014	-.0701	.2570	.0431
***10* GENER**	.6696***	.5967***	.5499***	.5088***	.2173	.6903***	.5046***	.7113***	.4499***		-.2354	.0246	.0111	.2085
***11* ANX**	-.1316	-.0635	-.2987*	-.0043	-.2400	-.4071**	-.3816**	-.3744**	.0035	-.2508		-.1506	-.1122	-.4810***
***12* DEPRES**	.0504	.0756	.0639	.0590	-.3665**	-.0300	.0561	-.1055	-.0681	-.1346	.2790*		.0704	.0183
***13* PMI**	.2347	.1813	.2197	.2107	.1449	.4182**	.3470*	.4111**	.0950	.2461	-.2955*	-.0344		.7335***
***14* LABI**	.2867*	.2209	.3516*	.2133	.0750	.5754***	.5943***	.4757***	-.0388	.3487**	-.4589***	-.0396	.7812***	

**p<.05; **p<.01; *** p<.001*

Results for Time 1 are given above the diagonal, and for Time 2 below the diagonal.

Table 7.12. Intercorrelations of SF-36, HAD, PMI and LABI scores for the psychiatric comparison group at Time 1 and Time 2

	1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*
***1* FUNSTAT**		.9702***	.7403***	.7242***	.3292*	.6404***	.4796***	.7156***	-.0899	.5915***	-.2661	-.2839*	.4307**	.2189
2 PhysFun	.9562***		.6163***	.6705***	.2623	.5936***	.4076**	.6957***	-.0467	.4962***	-.2323	-.2214	.3460**	.0938
3 SocFun	.7818***	.6079***		.2842*	.1470	.6943***	.6422***	.6426***	-.0883	.6701***	-.3254*	-.3842**	.5284***	.4572***
4 RlatPp	.7922***	.6793***	.6346***		.2084	.1809	.0607	.3026*	-.1218	.3334**	-.0219	-.1573	.1326	.0370
5 RlatEp	.3567**	.2068	.3399*	.1775		.3757**	.3519*	.3650**	-.1541	.2821*	-.2803*	-.0599	.4588***	.3394**
***6* WBEING**	.6734***	.5212***	.7916***	.5275***	.4784***		.8973***	.9028***	.1259	.6218***	-.2748	-.1782	.6965***	.4809***
7 Mental	.5586***	.4055**	.6981***	.3684**	.5844***	.9093***		.6388***	-.0733	.5549***	-.2995*	-.2604	.6891***	.5509***
8 EnergyF	.6390***	.5140***	.7285***	.5745***	.2665	.8831***	.6231***		.1105	.5810***	-.2717	-.1148	.5515***	.2928*
9 Pain	-.0225	.0394	-.1547	.0034	-.1425	-.1615	-.2266	-.2360		.0002	.3550*	.2777	.1280	.1221
***10* GENERH**	.6736***	.5910***	.6923***	.5117***	.3763**	.6198***	.5128***	.6197***	-.2029		-.2662	-.0933	.6340***	.5091***
***11* ANX**	-.2935	-.2523	-.2483	-.1693	-.3385*	-.3936**	-.4292**	-.3410*	.4554**	-.2174		-.0647	-.2613	-.3007*
***12* DEPRES**	-.3984**	-.3381*	-.4249**	-.2909	-.2167	-.2816	-.3970**	-.1075	.1376	-.2431	.0462		-.1133	-.1473
***13* PMI**	.3341*	.2426	.4531**	.1655	.3598**	.5821***	.6048***	.4247**	-.0714	.4533**	-.2527	-.2994*		.8355***
***14* LABI**	.1485	.0539	.2843	-.0595	.5296***	.3897**	.5133***	.1684	-.0799	.3139*	-.2783	-.2085	.8399***	

**p<.05; **p<.01; *** p<.001*

Results for Time 1 are given above the diagonal, and for Time 2 below the diagonal.

Table 7.13. Intercorrelations of SF-36, HAD, PMI and LABI scores for the geriatric comparison group at Time 1 and Time 2

	1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*
***1* FUNSTAT**		.8889***	.6843***	.4915***	.2929*	.4706***	.3360*	.4975***	.1500	.4493***	-.3439*	.0953	.0473	.0174
2 PhysFun	.8864***		.3407**	.2485	-.0307	.1904	.0381	.2916*	.2589	.2433	-.1417	.1369	-.0891	-.1754
3 SocFun	.7606***	.4520**		.3988**	.3617**	.5596***	.4933***	.5699***	-.2505	.6244***	-.4656***	-.0317	.2099	.2664
4 RlatPp	.5502***	.2666	.4939***		.2558	.3677**	.3362*	.2902*	.0805	.1359	-.1367	.1013	.0749	.0944
5 RlatEp	.3413*	.0258	.3743*	.2525		.6075***	.6386***	.3577*	.1309	.3118*	-.4349**	-.0706	.2302	.3185*
***6* WBEING**	.4743***	.1722	.6262***	.3923	.5970***		.9200***	.8431***	-.0102	.6048***	-.5370***	-.1725	.6006***	.5941***
7 Mental	.3799**	.0864	.5025***	.3366*	.6671***	.9207***		.5895***	-.1562	.5260***	-.5329***	-.1421	.5539***	.6006***
8 EnergyF	.4924***	.2727	.6504***	.3650*	.2734	.7844***	.5002***		-.0637	.5974***	-.4270**	-.1940	.5598***	.4775***
9 Pain	-.1028	-.0795	-.1431	-.0612	.0339	.0214	-.0733	-.0875		-.1635	.1212	.0914	-.2106	-.2129
***10* GENERH**	.3710**	.1149	.5601***	.3544	.3781**	.7342***	.6249***	.6793***	-.0674		-.4471***	-.2450	.4318**	.4486***
***11* ANX**	-.4573**	-.2137	-.5402***	-.4249**	-.4394	-.6499***	-.5920***	-.5268***	.0128	-.5807***		.1775	-.2538	-.4177**
***12* DEPRES**	.1200	.1175	.1293	-.1151	.1164	-.0338	-.0793	.0689	-.0699	-.0617	-.0834		-.1661	-.1121
***13* PMI**	.0624	-.0917	.2324	.1362	.2064	.6395***	.4748***	.6547***	.1354	.5239***	-.2001	-.0667		.8463***
***14* LABI**	.0514	-.1427	.2252	.2279	.2609	.6245***	.5139***	.5647***	.1364	.5363***	-.2507	-.0980	.8825***	

**p<.05; **p<.01; *** p<.001*
Results for Time 1 are given above the diagonal, and for Time 2 below the diagonal.

Figure 7.3 presents graphically the relationship of personal meaning and well-being (r=.68, p<.001) at Time 1 for the three comparison Groups. Group 1 (in red colour) shows the strongest positive associations between personal meaning and well-being scores (r=.35, p<.05), Group 3 shows moderate associations (r=.47, p<.001) and Group 2 (in green colour) shows the weakest associations (r=.6, p<.001).

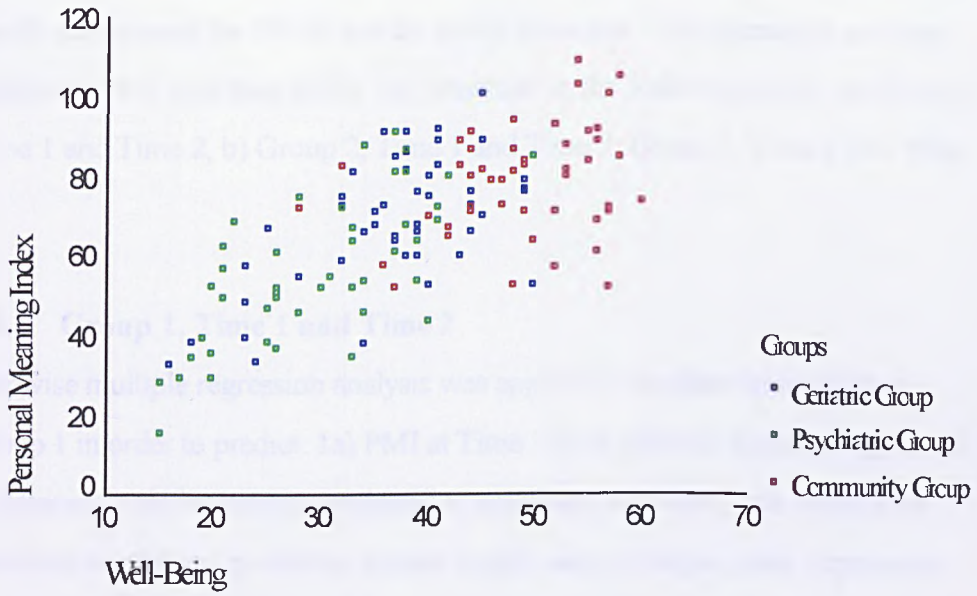

Figure 7.3. Scatterplot of personal meaning and psychological well-being for Groups 1, 2 and 3 at Time 1 (N=150)

7.6 Prediction of PMI and LABI from SF-36 and HAD variables between and within Groups at Time 1 and Time 2

Stepwise multiple linear regression analysis was applied to the data in order to investigate well-being variables that predict either personal meaning or life attitude. The selected pools of variables were employed in the analysis based on the subscales of the measures. The first pool of variables, in order to predict PMI, was consisting of the health concepts of the SF-36 and the HAD subscales. The second pool of variables, in order to predict LABI, was consisting from the major health attributes of the SF-36 and the HAD subscales. The regression analyses predicting PMI, and then LABI, are presented in the following order: a) Group 1, Time 1 and Time 2, b) Group 2, Time 1 and Time 2, Group 3, Time 1 and Time 2.

7.6.1 Group 1, Time 1 and Time 2

Stepwise multiple regression analysis was applied to the data obtained from Group 1 in order to predict: 1a) PMI at Time 1 from physical functioning, social functioning, role limitations attributed to emotional problems, role limitations attributed to physical problems, mental health, energy/fatigue, pain, depression and anxiety, 1b) PMI at Time 2 from physical functioning, social functioning, role limitations attributed to emotional problems, role limitations attributed to physical problems, mental health, energy/fatigue, pain, depression and anxiety at Time 2; 2a) life attitude balance at Time 1 from functional status, well-being, general health, depression and anxiety and finally 2b) life attitude balance at Time 2 from functional status, well-being, general health, depression and anxiety.

At Time 1, the best predictor of personal meaning (see Table 7.14a) was mental health, explaining a significant 8 percent of its variance, whilst at Time 2 the best predictor of personal meaning was energy/fatigue explaining a significant 15

percent of PMI variance. Mental health and energy/fatigue are both health concepts of the well-being major health attribute of the SF-36.

Table 7.14a. Stepwise multiple regression summary with SF-36 health concepts and HAD as predictors and PMI as dependent variable at Time 1 and Time 2 for Group 1

Group 1, Time 1

Dependent	Predictors	Adjusted R^2	B	SE B	Beta	T	Sig T
PMI	Mental Health	.087	1.11	.47	.32	2.36	.0224

$F_{(1,47)} = 5.57$, $p<.05$

Group 1, Time 2

Dependent	Predictors	Adjusted R^2	B	SE B	Beta	T	Sig T
PMI	Energy/Fatigue	.15	1.69	.54	.41	3.12	.003

$F_{(1,48)} = 9.76$, $p<.005$

At Time 1 the best predictor of life attitude balance (see Table 7.14b) was well-being, explaining a significant 32 percent of its variance. The pattern has not changed at Time 2 as the best predictor of LABI was found to be well-being explaining a significant 31 percent of LABI variance.

Table 7.14b. Stepwise multiple regression summary with SF-36 major health attributes and HAD as predictors and LABI as dependent variable at Time 1 and Time 2 for Group 1

Group 1, Time 1

Dependent	Predictors	Adjusted R^2	B	SE B	Beta	T	Sig T
LABI	Well-Being	.32	2.06	.42	.57	4.87	.0000

$F_{(1,47)} = 23.72$, $p<.0001$

Group 1, Time 2

Dependent	Predictors	Adjusted R^2	B	SE B	Beta	T	Sig T
LABI	Well-Being	.31	2.45	.51	.57	4.81	.0000

$F_{(1,47)} = 23.22$, $p<.0001$

7.6.2 Group 2, Time 1 and Time 2

The same procedures as in Group 1 were employed in order to predict PMI and LABI for Group 2, at Times 1 and 2. Firstly, the prediction of PMI is presented

for Group 2 at Time 1. At Time 1 the first step in the analysis (Table 7.15a) involved the inclusion of the variable mental health alone as the best predictor of PMI. The adjusted R square statistic indicated that mental health can predict 46 percent of the variance in the dependent variable. On the next step the variable role limitations attributed to emotional problems was included in the regression equation; its addition caused a significant increase in the explained variance of 4 percent, causing the total to rise to 50 percent. The final step of the regression analysis involved the inclusion of the variable pain. Its addition caused a significant increase in the explained variance of 4 percent, causing the total to rise to 54 percent.

Table 7.15a. Stepwise multiple regression summary with SF-36 health concepts and HAD as predictors and PMI as dependent variable at Time 1 and Time 2 for Group 2

Group 2, Time 1

Dependent	Predictors	Adjusted R^2	B	SE B	Beta	T	Sig T
PMI	Mental health	.46	2.43	.37	.68	2.3	.0000
	RlatEp	.50	6.03	2.61	.24	2.3	.0255
	Mental health		2.13	.37	.60	5.62	.0000
	RlatEp		6.8	2.52	.27	2.68	.0101
	Mental health		2.14	.36	.60	5.89	.0000
	Pain	.54	3.96	1.79	.21	2.21	.0321

$F_{(1,48)} = 43.4$, $p<.0001$; $F_{(2,47)} = 26.31$, $p<.0001$; $F_{(3,46)} = 20.62$, $p<.0001$

Group 2, Time 2

Dependent	Predictors	Adjusted R^2	B	SE B	Beta	T	Sig T
PMI	Mental health	.35	1.68	.34	60	4.9	.0000

$F_{(1,47)} = 23.72$, $p<.0001$

At Time 2, the best predictor of PMI was only mental health, explaining a significant 35 percent of PMI variance. When regression analysis was also applied to Group 2 at Time 1 order to predict LABI, the first step of the regression analysis (see Table 7.15b) involved the inclusion of the variable general health which explained 24 percent of the variance in LABI.

Table 7.15b. Stepwise multiple regression summary with SF-36 health concepts and HAD as predictors and LABI as dependent variable at Time 1 and Time 2 for Group 2

Group 2, Time 1

Dependent	Predictors	Adjusted R^2	B	SE B	Beta	T	Sig T
LABI	General Health	.24	4.6	1.13	.50	4.05	.0002

$F_{(1,47)} = 16.44$, $p<.0001$

Group 2, Time 2

Dependent	Predictors	Adjusted R^2	B	SE B	Beta	T	Sig T
LABI	Well-Being	.12	1.18	.44	.38	2.65	.0112

$F_{(1,41)} = 7.06$, $p<.01$

At Time 2, the best predictor of LABI (see Table 7.15b) was well-being instead of general health. Well-being explained a significant 12 percent of LABI variance.

7.6.3 Group 3, Time 1 and Time 2

The same statistical regression procedures applied for Groups 1 and 2 were also applied for Group 3 in order to predict PMI and LABI at Times 1 and 2. At Time 1 the first step in the regression analysis (Table 7.16a) involved the inclusion of the variable energy/fatigue alone as the best predictor of PMI. The adjusted R square statistic indicated that energy/fatigue can predict 29 percent of the variance in PMI. On the next and final step, the variable mental health was included in the regression equation; its addition, caused a significant increase in the explained variance of 7 percent, causing the total to rise to 36 percent.

Table 7.16a. Stepwise multiple regression summary with SF-36 health concepts and HAD as predictors and PMI as dependent variable at Time 1 and Time 2 for Group 3

Group 3, Time 1

Dependent	Predictors	Adjusted R^2	B	SE B	Beta	T	Sig T
PMI	Energy/Fatigue	.29	2.46	.52	.55	4.6	.0000
	Mental health	.36	1.02	.42	.34	2.43	.0188
	Energy/Fatigue		1.57	.61	.35	2.53	.0146

$F_{(1,48)} = 21.9$, $p<.0001$; $F_{(2,47)} = 15.03$, $p<.0001$

Group 3, Time 2

Dependent	Predictors	Adjusted R^2	B	SE B	Beta	T	Sig T
PMI	Energy/Fatigue	.41	3.18	.56	.65	5.61	.0000
	PhysFunc		-.96	.37	-.291	-2.56	.0142
	Energy/Fatigue	.48	3.57	.55	.73	6.44	.000

$F_{(1,42)} = 31.5$, $p<.0001$; $F_{(2,41)} = 21.11$, $p<.0001$

At Time 2, when regression analysis was applied to Group 3 in order to predict PMI, the first step of the regression analysis (see Table 7.16a) involved the inclusion of the variable energy/fatigue which explained 41 percent of PMI variance. On the second step, physical functioning was included in the regression equation raising the predictable variance to 48 percent.

When predicting LABI at Time 1 the first step in the analysis (Table 7.16b), involved the inclusion of well-being as the best predictor of LABI. The adjusted R square statistic indicated that well-being can predict 33 percent of the explained variance in LABI. On the next step the variable functional status was included in the regression equation causing the total explained variance to rise to 41 percent.

Table 7.16b. Stepwise multiple regression summary with SF-36 health concepts and HAD as predictors and LABI as dependent variable at Time 1 and Time 2 for Group 3

Group 3, Time 1

Dependent	Predictors	Adjusted R^2	B	SE B	Beta	T	Sig T
LABI	Well-Being	.33	2	.39	.59	5.11	.0000
	FunStat	.41	-1.22	.44	-.33	-2.72	.0091
	Well-Being		2.54	.41	.75	6.09	.0000

$F_{(1,48)} = 26.18$, $p<.0001$; $F_{(2,47)} = 18.55$, $p<.0001$

Group 3, Time 2

Dependent	Predictors	Adjusted R^2	B	SE B	Beta	T	Sig T
LABI	Well-Being	.37	2.41	.47	.62	5.12	.0000
	FunStat	.44	-1.39	.55	-.32	-2.50	.0165
	Well-Being		3.03	.50	.78	5.97	.0000

$F_{(1,41)} = 26.21$, $p<.0001$; $F_{(2,40)} = 17.92$, $p<.0001$

At Time 2 the pattern has not changed for the geriatric group when predicting LABI (see Table 7.16b). Well-being and functional status were found to be its best predictors as in Time 1. The adjusted R square statistic indicated that well-being can predict 37 percent of the variance in LABI. On the next step, the variable functional status was included in the regression equation causing the total explained variance to rise to 44 percent.

7.7 Relation of personal meaning and well-being between and within Groups across time

Tables 7.17a and 7.17b present the correlation co-efficients of the change scores between Time 1 and Time 2 for the three comparison Groups. Table 7.18a presents the correlation co-efficients for the community comparison above the diagonal and for the psychiatric group below the diagonal. Table 7.18b presents the correlation co-efficients for the geriatric group above the diagonal. Changes in personal meaning or life attitude were found not to correlate significantly with changes in mental health or well being changes for any of the Groups.

In the geriatric group though changes in PMI were found to correlate significantly with changes in role limitations attributed to physical problems ($r=.32$, $p<.05$). Changes in LABI were found to correlate significantly with changes in general health ($r=.38$, $p<.01$) and changes in general health were found to correlate significantly with anxiety ($r=-.43$, $p<.01$).

Table 7.17a. Intercorrelations of SF-36, HAD, PMI and LABI scores for the community and psychiatric comparison group across time

	1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*
***1* FUNSTAT**		.5233***	.6138***	.6472***	.4813***	.0960	.2714	-.2533	.1717	-.1480	.2965	.0990	-.0516	.0011
2 PhysFun	.8834***		-.0774	-.1695	.0601	.2583	.3825**	-.0230	.1041	-.1383	.1331	-.0370	-.1244	.1055
3 SocFun	.2963	.0550		.4814***	.1064	-.3602**	-.2032	-.4198**	-.1183	-.0874	-.1065	.3712**	-.0586	.0017
4 RlatPp	.5154***	.1850	.1101		.3304**	.0043	.0432	-.1828	.2430	.0541	.4565***	-.0379	.1557	-.0386
5 RlatEp	.4277**	.1871	-.1237	.3020*		.3291*	.3943**	.0776	.1617	-.2211	.1632	-.0450	-.1019	-.1919
***6* WBEING**	.2959	.1208	.4235**	.0450	.3604**		.8561***	.7589***	.3646**	.2424	.1900	-.2316	-.1285	.0981
7 Mental	.2522	.1220	.3599*	-.0510	.3502*	.9284***		.4135**	.1006	.1263	.1568	-.1839	-.2104	.1011
8 EnergyF	.2806	.0742	.4482**	.1573	.2901	.8844***	.6695***		.0758	.2458	.1396	-.1733	-.0929	.0412
9 Pain	.0540	.0812	-.1071	.0328	.0390	.0230	-.1214	-.0328		.1851	.0914	-.1234	.1846	.0546
***10* GENERH**	.2518	.2810	.3493*	-.1209	.1272	.2629	.2566	.2561	-.1466		.0904	-.2048	.1801	.0983
***11* ANX**	-.3817*	-.2939	-.2162	-.1378	-.2662	-.3775*	-.2616	-.4929***	.1496	-.4111**		-.2637	-.0402	-.1158
***12* DEPRES**	-.2002	-.2741	-.0324	-.0084	.0989	-.0733	-.0907	-.0623	.1125	.0882	-.0368		-.1530	-.1963
***13* PMI**	-.2135	-.3521*	.2404	-.0827	.0938	.2519	.2858	.1774	-.0949	.1132	.0002	.0284		.6489
***14* LABI**	-.2073	-.3685*	.2627	-.0307	.0898	.1851	.2605	.0769	-.1303	.0316	-.0610	.1493	.8628***	

**p<.05; **p<.01; *** p<.001*

Results for the community group are given above the diagonal and for the psychiatric group below the diagonal.

Table 7.17b. Intercorrelations of SF-36, HAD, PMI and LABI scores for the geriatric comparison group across time

	1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*
***1* FUNSTAT**		.8585***	.6222***	.3417*	.2259	.2469	.1137	.3294*	-.1581	.1395	-.1877	.0831	.0425	.1026
2 PhysFun			.2239	.0985	.0452	.2021	-.0387	.3584**	-.0372	.1480	-.0070	.0728	-.1609	-.0241
3 SocFun				.2214	.0351	.1069	.1350	.1512	-.2882	-.0476	-.2197	.1743	.2663	.2404
4 RlatPp					-.1046	.0561	.1543	.0217	-.2062	.2273	-.3800*	-.0556	.3291*	.1490
5 RlatEp						.2156	.2847	-.0055	.1381	.0197	-.0879	-.1518	-.0626	-.0291
***6* WBEING**							.6776***	.7371***	.2948	.0836	-.2680	.0166	.0949	.1354
7 Mental								.0835	-.0538	.1330	-.2621	.1270	.1428	.1749
8 EnergyF									.0830	.0223	-.1437	-.0043	.0956	.1049
9 Pain										-.0580	-.0220	-.2241	-.2159	-.1979
***10* GENERH**											-.4295**	.0390	.2708	.3874**
***11* ANX**												.2089	-.2296	-.3720*
***12* DEPRES**													-.1535	-.2537
***13* PMI**														.7900***
***14* LABI**														

**p<.05; **p<.01; *** p<.001*

7.7.1 Prediction of PMI and LABI changes between and within Groups across time

No variables entered the regression equation when changes in personal meaning and changes in life attitude across time were chosen as outcome variables for Group 1.

In the psychiatric group though changes in physical functioning (see Table 7.18a) explained 10 percent of the variance in changes in PMI. The addition of changes in mental health, on the second step of the regression, caused a significant increase in the predicted variance of 9 percent.

Table 7.18a. Regression summaries with SF-36 and HAD changes as predictor variables and Personal meaning index changes as dependent variable in Group 2

Group 2

Dependent	Predictors	Adjusted R^2	B	SE B	Beta	T	Sig T
change PMI	PhysFunct	.10	-.79	.32	-.35	-2.43	.0191
	PhysFunct		-88	.31	-.39	-2.85	.0068
	Mental Health	.19	.78	.32	.33	2.42	.0199

$F_{(1,41)} = 5.94$, $p<.05$; $F_{(2,41)} = 6.24$, $p<.005$

No variables entered the regression equation when changes in life attitude across time were chosen as outcome variable for Group 2. Inspection of a scatterpgraph plotted with changes of physical functioning and changes in mental health revealed the appearance of an outlier (see Figure 7.4).

Figure 7.4. Scatterplot of changes in mental and physical health in Group 2 (N=41)

The data were checked in order to establish that the outlier score was coming from a real person. The same regression analysis presented in Table 20 was applied again to the data of the psychiatric group leaving the data from this person out and thus reducing the psychiatric sample to 49. This time the best predictor of changes in personal meaning was only mental health explaining 8 percent of the variance in changes in PMI (see Table 7.18b). No variables entered the regression equation when LABI changes were chosen as the outcome variable in Group 2 without the outlier case.

Table 7.18b. Regression summaries with SF-36 and HAD changes as predictor variables and Personal meaning index changes as dependent variable in Group 2 omotting the outlier case

Group 2

Dependent	Predictors	Adjusted R^2	B	SE B	Beta	T	Sig T
change PMI	Mental Health	.10	.71	.32	.32	2.17	.0355

$F_{(1,41)} = 4.73, p<.05$

In summary, when regression analysis was performed on the change scores with the full sample then the best predictors of change in personal meaning were physical functioning and mental health (see Table 7.20). When the outlier case was omitted from the regression analysis then the best predictor of change in personal meaning was found to be change in mental health (see Table 7.20a). The changes in physical functioning were not shown to be predictors of personal meaning. The above demonstrate the difference in the outcome results when the outlier score is excluded from the analyses. However, there are no justified grounds for leaving that person out of the analyses so all the analyses are based on the full sample. However, the appearance of the outlier score suggests the presence of individual cases which do not "fit" the general pattern and will lead to Study 3.

In Group 3 changes in personal meaning were predicted from changes in role limitations attributed to physical problems which explained 8 percent of the variance in personal meaning (Table 7.19).

Table 7.19. Regression summaries with SF-36 and HAD changes as predictor variables, and PMI changes as dependent variable in Group 3

Group 3

Dependent	Predictors	Adjusted R^2	B	SE B	Beta	T	Sig T
change PMI	RlatPp	.08	3.19	1.41	.32	2.25	.0292

$F_{(1,42)} = 5.1$, $p<.05$

Changes in life attitude balance were predicted from changes in general health which explained 12 percent of the LABI (see Table 7.20).

Table 7.20. Regression summaries with SF-36 and HAD changes as predictor variables, and LABI changes as dependent variable in Group 3

Group 3

Dependent	Predictors	Adjusted R^2	B	SE B	Beta	T	Sig T
change LABI	GeneralH	.12	3.41	1.27	.38	2.69	.0103

$F_{(1,41)} = 7.24$, $p<.01$

7.8 Descriptives of clinically depressed outpatients in Group 2

The relevance of personal meaning in psychopathology and depression has been addressed repeatedly in the literature review. In order to investigate the relationship of personal meaning to well-being a clinically depressed outpatients subsample was selected from the psychiatric group. The same regression statistical procedures that applied to the three samples were also applied to this subgroup. Twenty-six participants from Group 2 were diagnosed with clinical depression according to their records. The mean age of this group was 74. 5 (sd=5.79, min_{age}=66, max_{age}=89).

Eighteen were females (69.2 per cent) and 8 males (30.8 per cent) with a mean age of 75.5 (sd=5.8) and 72.12 (sd=4.1) respectively. All participants were retired. Thirteen (50 per cent) were classified in the skilled manual and non-manual socio-economic category. Nine (34.6 per cent) were stated to be actively religious and 17 (65.4) not.

Ten (38.5 per cent) were married, 13 were widowed (50 per cent), two were single (3.8 per cent) and three were divorced (7.7 percent). Fourteen (53 per cent) were living alone whilst 6 (23.1 per cent) with spouse and the remaining participants were living either with a friend (3 per cent) or other. Seventeen stated that they were able to go out by themselves (65.4 per cent) and 9 that they were not (34.6 per cent). Eighteen were able to self-care (65.2

per cent) and 8 (30.8 per cent) were not. Twelve respondents stated that their main activities were home oriented (46.2 per cent), 8 social (30 per cent), 2 physical (7.7) and four intellectual (15.2 per cent).

7.8.1 Descriptives on SF-36, HAD and LAP-R at Time 1 and 2

The means and standard deviations of the SF-36, HAD and LAP-R for Times 1 and 2 for the 26 clinically depressed are summarised in Table 7.21.

Table 7.21. Descriptives on SF-36, HAD and LAP-R at Time 1 and 2

	Time 1 (N=26)		Time 2 (N=23)		Change scores (N=23)	
	mean	sd	mean	sd	mean	sd
FUNSTAT	25.31	8.85	26.52	9.20	-1.04	6.18
PhysFun	17.38	5.54	17.26	5.27	.48	2.98
SocFun	5.88	2.52	6.48	2.50	-.78	1.54
RlatPp	1.85	1.95	1.96	1.77	-.13	2.01
RlatEp	.19	.49	.83	1.23	-.61	1.27
WBEING	27.77	8.28	30.17	8.73	-2.48	7.51
Mental	12.58	4.46	14.52	5.48	-2.09	4.94
EnergyF	8.81	4.06	9.26	4.43	-.43	3.47
Pain	6.38	.98	6.39	.94	.04	.88
GENERH	12.64	3.63	12.78	3.92	-.15	1.80
ANX	12.42	2.25	11.43	2.54	1.17	2.17
DEPRES	9.15	2.09	9.26	1.36	-.09	1.81
PMI	51.46	18.24	62.13	17.71	-9.91	10.97
LABI	53.42	30.26	73.00	30.60	-19.48	22.87

7.8.2 Prediction of PMI and LABI from SF-36 and HAD variables at Time 1, Time 2 and across time in the clinically depressed subsample

Stepwise multiple linear regression analysis was applied to the data in order to investigate well-being variables that predict either personal meaning or life attitude. Two same selected pool of variables were employed in the analysis as in

Groups 1 to 3 (see section 7.6). Firstly the regression analyses predicting PMI at Time and 2 for the clinically depressed subgroup of Group 2 is presented. Then, summary regression analyses are presented for LABI at Times 1 and 2.

Table 7.22a presents the regression summaries when personal meaning was predicted from the SF-36 variables and HAD subscales. Mental health appears to be the best and only predictor of personal meaning in the group of the clinical depressed outpatients explaining 43 percent of the predicted variance in PMI at Time 1. The pattern has not changed at Time 2. Mental health was the best predictor of PMI explaining 39 percent of the variance in PMI. Personal meaning, using Pearson's correlation coefficient, was found to be strongly correlated with mental health at Time 1 ($r=.67$, $p<.001$, $N=26$) and Time 2 ($r=.64$, $p<.001$, $N=23$) respectively.

Table 7.22a. Stepwise multiple regression summary with SF-36 health concepts and HAD as predictors and PMI as dependent variable for the clinically depressed subgroup

Clinically depressed subsample of Group 2, Time 1

Dependent	Predictors	Adjusted R^2	B	SE B	Beta	T	Sig T
PMI	Mental Health	.43	2.76	.61	.67	4.48	.0002

$F_{(1,24)} = 20.1$, $p<.001$

Clinically depressed subsample of Group 2, Time 2

Dependent	Predictors	Adjusted R^2	B	SE B	Beta	T	Sig T
PMI	Mental Health	.39	2.09	.53	.64	3.89	.0008

$F_{(1,21)} = 15.15$, $p<.001$

The best predictor of LABI in the clinically depressed subsample at Time 1 was found to be general health explaining 37 percent of the predicted variance in LABI whilst at Time 2 the best predictor was found to be well-being which explained 19 percent of the predicted variance in LABI (see Table 7.22b). Life attitude was found to be strongly correlated with general

health at Time 1 (r=.67, p<.001, N=26) and moderately with well-being at Time 2 (r=.48, p<.05, N=23) respectively.

Table 7.22b. Stepwise multiple regression summary with SF-36 major health attributes and HAD as predictors and LABI as dependent variable for the clinically depressed subgroup

Clinically depressed subsample of Group 2, Time 1

Dependent	Predictors	Adjusted R^2	B	SE B	Beta	T	Sig T
LABI	General Health	.37	5.32	1.37	.62	3.88	.0007

$F_{(1,23)} = 15.11$, $p<.001$

Clinically depressed subsample of Group 2, Time 2

Dependent	Predictors	Adjusted R^2	B	SE B	Beta	T	Sig T
LABI	Well-Being	.19	1.69	.66	.48	2.54	.0190

$F_{(1,21)} = 6.45$, $p<.05$

No variables entered the regression equation when changes in PMI and LABI were selected as outcome variables.

7.9 Summary and conclusions of Study 2 results

No significant deviations appeared in the biographical details among the participants of the three groups. Significant mean differences on personal meaning and well-being between the three Groups were found in the predicted directions; the community comparison group scored significantly higher in personal meaning and psychological well-being than the psychiatric and geriatric group at both times, whilst the psychiatric group scored significantly lowest in personal meaning and psychological well-being than the community comparison and geriatric group at Times 1 and 2. The psychiatric group has shown significant differential improvement in well-being, mental health and personal meaning over time. Within and between groups a consistent relationship was found between personal meaning and

psychological well-being which supports the initial hypothesis that personal meaning is related to psychological well-being. Strong positive associations between personal meaning and mental health were found in Group 1; moderate in Group 3 and weak in Group 2. The same applies for the relationship between life attitude and well-being.

The community comparison group did not show any significant changes in personal meaning over time supporting Zika and Chamberlain's (1992), speculation that personal meaning will not undergo significant changes over time in a well-functioning group of older adults. Interestingly, changes in personal meaning were predicted from changes in mental health for Group 2. The same pattern did not appear for the clinically depressed subgroup of the psychiatric group. Personal meaning though was found to be the best predictor of mental health at both times in the clinically depressed subgroup. The personal meaning and mental health of the psychiatric group did not show stability over time; both have changed significantly over time. Group 3 has shown significant improvement in general health status over time. Mental health, a measure of psychological well-being, was found a consistent predictor of personal meaning for the three Groups at Times 1, 2 and across time.

In the present study, a direction of effect maybe speculated between meaning in life and psychological well-being. It is more likely that changes in mental health and well-being were associated with changes in personal meaning. This makes sense, since the participants of the psychiatric group were targeted therapeutically in order to improve their mental health. One of the possible explanations for this phenomenon is that the improvement in personal meaning and mental health in the psychiatric group, might be

attributed to the pharmaceutical and therapeutic treatment the group was undergoing during recruitment. It appears that improvements in mental health enhance personal meaning strategies and facilitate the creation or discovery of personal meaning. Overall, personal meaning appears to be a significant component of mental health and psychological well-being.

The appearance of the outlier score encourages the search for the relationship between personal meaning and well-being or mental health for individual cases which do not fit the above model. That is in individuals who are not troubled by psychological dysfunction but who lack personal meaning, and in individuals who are troubled by psychological dysfunction but do not lack personal meaning. It has been suggested (Ryff, 1995) that those individuals who possess psychological well-being make up a significant and neglected category of people. The question arising is: What gives meaning to individuals who are troubled from mental (or even physical) dysfunction? There is also a category of individuals who are not troubled from mental (or physical dysfunction) but do not experience personal meaning. In order to explore how these individual experience or do not experience meaning in life and its relation to their well-being, phenomenological qualitative research methods were employed. Study 3 examines qualitatively the appearing relationship between personal meaning and well being and sources of personal meaning in 6 participants (two from each comparison group) who scored significantly high in personal meaning and low in well-being and vice versa.

Chapter 8

General methods and results of Study 3

8.1 General Introduction

The findings of Study 2 have indicated that the three groups differed significantly in terms of personal meaning and well-being at Time 1 and 2 and across time. Furthermore, the community comparison group did not show any significant changes across time in personal meaning and mental health or life attitude and well-being. The psychiatric group has shown significant differential improvement over time in personal meaning, well-being and mental health. The geriatric group on the other hand has shown differential improvement in personal meaning and general health status. A consistent relationship between meaning in life and psychological well-being was found in all three groups. This positive significant relationship between personal meaning and psychological well-being was retained in the three groups at Times 1 and 2 and across time. Generally, mental health and well-being were found to be consistent predictors of personal meaning or life attitude at Times 1 and 2 and across time for the three groups. The direction of effects cannot be ascertained but it may be speculated for the psychiatric group, that interventions that improve mental health may also improve personal meaning.

8.2 Rationale of Study 3

In Group 2, the outlier appearance of a change score in physical functioning (see section 7.7.1) suggests that there may be different relationships between personal meaning and well-being for individual cases which do not fit the above model. Ryff (1995) identified the category of people who are towards

the positive side of the psychological well-being spectrum and lack meaning in life as a neglected one. Another neglected category of people may also be identified: the category of people who are towards the negative side of the psychological well-being spectrum and do not lack meaning in life. Study 3 looks more closely on these categories of people. Therefore; it focuses on individuals from Groups 1 and 2 at Time 2 who possess comparatively[1] high psychological well-being (i.e.: mental health) but lack personal meaning (i.e.: life attitude balance) and at individuals who possess comparatively low psychological well-being (i.e.: mental health) but do not lack personal meaning. Furthermore, it looks closely at individuals from Group 3 at Time 2 who possess comparatively high positive physical functioning but lack personal meaning and individuals who possess comparatively negative physical functioning but do not lack personal meaning. The individuals/participants were selected on the basis of extreme (outlier) attitude scores of personal meaning (PMI) or life attitude balance. Sections 8.3 and 8.4 present a theoretical background of qualitative research methods including phenomenology. Then, the methodology of Study 3 is presented followed by the detailed content analyses of each interview. The general discussion of results of Study 3 are presented in Chapter 9.

8.3 Phenomenology

The present study employs the method of phenomenology which primarily refers to the method of inquiry as a means of examining one's immediate experience (Reber, 1985). Phenomenology is concerned with perception. One learns to look at the self as the perceived object and in this way the split between the perceiver and the perceived, the observer and the observed is reduced but not eliminated. The essence of phenomenology is pure description, that is description without

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[1] High and low well-being, mental health and psychical functioning scores as these compared to the group mean statistic of the same variables.

pre-judgment. Phenomenological analysis (from the Greek *phenomenon* = an appearance, that which appears to be) avoids focusing upon the physical events themselves and instead deals with how these physical events are perceived and experienced. The phenomenological approach partly advocates that the scientific study of immediate experience must be the basis of psychology (Hoeller, 1990). Such an approach opposes, but does not reject, the positivist tradition of looking for causal and mechanistic explanations of "observed" behaviour. The phenomenological tradition of research in psychology, also adopted as a means of scientific inquiry from existential psychology, requires that researchers take the individual's point of view and try to discover the meaning the individual gives to experience (Hoeller, 1990). Following these lines, the presence or absence of meaning can be regarded as an empirical fact because when one describes the emptiness of life without meaning such a description can be readily understood by others who share a common language and culture (Reker and Wong, 1988). If development in middle age and old age is concerned with self-knowledge and self-awareness rather than external achievement, then a phenomenological approach may also be appropriate in the study and therapy of older adults (Carlsen, 1988). In the present study the phenomenological methodology is employed as a means for examining how six older adults subjectively perceive meaning and purpose in their lives.

8.4 Qualitative research

Qualitative research is used to grasp the *meaning* of events and situations, paying attention to the influence of social context (Gergen, 1985). Research is generally conducted in naturalistic settings and is a collection of material (in the form of life stories, documents, verbal accounts) of peoples' experiences using structured or semi-structured interviews (Smith, 1996). Qualitative research is based on a social constructionist's view of the world

(Gergen 1985), which assumes that knowledge is a fluid social reality which is co-constructed (McLeod 1995). The goal of the researcher is to extract meaning from the data, often with help from informants, significant others or external auditors. Unlike quantitative research, it is inductive and does not impose predetermined categories upon the data. This endeavour to obtain the uniqueness and intricacies of events in real life contexts is a major strength of qualitative research (Orford, 1995).

8.4.1 The quantitative - qualitative dichotomy or synthesis

The quantitative - qualitative dichotomy has long been exaggerated and misconceived, and it has been said that it maybe feasible to use them together as complementary, as opposed to exclusively (Pope and Mays, 1995). Yet, as they have fundamentally different ideas about the nature of human knowledge (natural vs. human science), this makes the combination more problematic (Silverman, 1989). Instead it has been argued that may be they should be conceptualised as poles at opposite ends of a continuum (Moon, Dillon and Sprenkle; 1990).

Qualitative methodology falls into the paradigm of human science, searching for the understanding of individuals' experiences which are embedded within the social construction of their world (Henwood and Pidgeon, 1992). It is also argued that neither research paradigm should be viewed as producing a "better" research, but as different inquiry methods which are associated with investigating distinct kinds of knowledge. As Allport (1962) stated "we should adapt our methods so far as we can to the object and not define the object in terms of our faulty methods" (p. 28). The present research views quantitative and qualitative approaches as complementary and supplementary.

8.5 Contact

Initially, ten participants were selected (three from Group 1, four from Group 2 and three 3 from Group 3) on the basis of their outlier scores and comparatively high and low scores on the dimensions of personal meaning and life attitude. The participants were contacted via mail. In the letter (see Appendix 32), the participants were reminded that they had completed a questionnaire on their perceptions of meaning in life and health in the past, and asked if they would give their consent to participate in an interview, that would take place in their houses, on how they view meaning and purpose in life. The respondents were asked to sign a consent form and provide details on when and where to meet (see Appendix 33). Participants were asked to return the consent form in the provided self-addressed envelope. The participants were reminded of the option of withdrawal. The final number of the participants was six.

8.6 Selection of participants

Six older adults from Study 2, participated in Study 3 who did not fit the meaning in life and psychological well-being model. Two participants were selected comparatively from Group 1: one with an outlier personal meaning score and comparatively high well-being score, and one with an outlier high personal meaning score and relatively low well-being score (see Table 8.1 for individual outlier scores and Table 8.2 in order to compare comparatively low and high well-being and mental health variable scores noted on Table 8.1).

Another, two participants were selected from Group 2: one with an outlier high personal meaning score (see Table 8.1) and comparatively low mental health score (see Table 8.1 and 8.2) and one with an outlier low life attitude score (see Table 8.1) and comparatively high psychological well-being score (see Table 8.1 and 8.2).

Finally, two participants were selected from Group 3: one with an outlier high personal meaning score and comparatively low physical functioning score and one with an outlier low life attitude balance score and comparatively high physical functioning score[2].

Table 8.1 presents the age of each participant and the individual mean scores on physical functioning, well-being, mental health, personal meaning and life attitude. The personal meaning index scores and the life attitude scores noted on the table are outlier scores.

Table 8.1. Descriptives for personal meaning, well-being, mental health and physical functioning scores (N=6)

	Group 1 (N=2)		**Group 2 (N=2)**		**Group 3 (N=2)**	
	Int # 2	*Int # 5*	*Int # 1*	*Int # 4*	*Int # 3*	*Int # 6*
	73y.o.	72 y.o.	71 y.o.	68 y.o.	76 y.o	68 y.o
PhysFun	26	21	26	18	11↓	26↑
WBEING	39	42	43	44↑	43	42
Mental	22↑	18↓	23↓	21	17	17
DEPRES	5	5	2	4	4	4
PMI	19↓	47↑	75↑	83	71↑	71
LABI	58	45	77	53↓	68	46↓

Table 8.2 allows comparisons to be made between the comparatively high and low score variables presented in Table 8.1 and the mean, minimum and maximum scores of these variables in each comparison group at Time 2.

[2] It is reminded again that mental health is a component of well-being, physical functioning is a component of functional status (see Table 4.1). PMI and LABI (see Table 6.1) are composite scales of the LAP-R (Reker, 1992).

Table 8.2. General comparative means, maximum and minimum scores

	Group 1			Group 2			Group 3		
	Mean	**Min**	**Max**	**Mean**	**Min**	**Max**	**Mean**	**Min**	**Max**
PhysFun	23.5	14	30	18.38	10	29	16.68	10	29
WBEING	48.84	28	60	30.28	15	50	36.94	15	50
Mental	25.46	13	30	14.04	5	27	19.3	5	27
DEPRES	8.34	4	10	9.36	5	15	8.3	5	15
PMI	78.41	19	109	57.30	16	91	68.9	16	91
LABI	106.45	45	164	59.82	51	138	82.32	.46	138

8.7 Semi-structured interview schedule

A semi-interview schedule had been prepared in advance. Having determined the overall issue to be tackled in the interview (personal meaning/meaning in life/purpose in life), a broad range of questions had been set. These questions served as probes since the interaction with the participant would have brought other themes to the surface. Five of the probes were phrased based on the LAP-R (Reker, 1992) items as guides (see Table 8.3). For example the question : "Have your past achievements given your life meaning and purpose?" is based on item 1 of the LAP-R: "My past achievements have given my life meaning and purpose" (see Appendix 18).

Table 8.3. Probes used in the semi-interview schedule

- What do you think about the meaning in life?
- Do you think that life has any meaning?
- What does the expression meaning in life mean to you?
- (PU)[3] Have your past achievements given your life meaning and purpose?
- What kind of goals and aims do you have in your life? Is there something that you would like to achieve?
- Have you discovered a satisfying life purpose? Can you tell me of something that has given you satisfaction lately?
- Do you live the kind of life you want to live?
- Do you know where your life is going in the future?
- (GS) In achieving life goals have you felt completely fulfilled? (family, work, health).
- Is you life running over with exciting things? How do you spend your time? Does this give you purpose? (family, activities).
- (CO) Is the meaning of life evident in the world around you?
- (LC) Do you determine what happens in your life?
- Are you in control of your life?
- (DA) Does the thought of death enter your mind?
- (EV) Do you feel that some element is missing in your life?
- Do new and different things appeal to you? (Activities? Challenges?)
- Do you evaluate and examine your life? Do you think you have done as well in life as could have been expected?
- How would you rate your life at the moment, would you say it has purpose and meaning to it?

The scheduled semi-structured questions were used by the researcher during the interviews to indicate the general area of interest (i.e.: personal /meaning in life/purpose in life) and to provide cues when the participant had difficulties talking and not to cover all these topic areas. None of the interviews covered all these probes or topics (see also section 8.9).

[3] PU = Purpose (item 1), EV = Existential Vacuum (Item 6), CO = Coherence (item 7), LC = Life Control (item 17), GS = Goal Seeking (item 31), DA = Death Acceptance (item 44). The items numbers corresponding to the LAP-R items (Reker, 1992).

8.8 Setting

The interviews took place in the participants' place of residence. The participants were reminded of the option of withdrawal from the study. The first ten-fifteen minutes were spent in general conversation with the participants. Rafuls and Moon (1987) state that spending time with informants (for example, through observation or being part of their life) will enable the researcher to achieve a greater understanding of their world, and assimilate as much meaning as possible to the individual's experiences. Sometimes this is not feasible or practical and instead, or as well as, researchers should adopt strategies of empathy, warmth and genuineness. This ability to empathise with the informants should enhance their feelings of trust, which should increase self disclosure and decrease the need to act in a socially acceptable manner (McCracken, 1988; Yalom, 1980). Stiles (1993) points out that "accurate empathy is undoubtedly even more difficult than accurate perception" (p. 596). The researcher should make every attempt to consider the social and cultural influences on the informant's testimony, and check out meanings and understandings through an interactive process.

8.9 Conducting the interview

It was practical that the interviews could take place at the respondents' homes where people usually feel most comfortable (Smith, 1996). At the beginning of the interview the respondents were put at ease and allowed time to familiarise themselves with the presence of the tape-recorder. Then, a specific probe was asked: "What do you think about the meaning in life?" in order to focus the awareness of the respondent on the topic of interest.

The respondent played a strong role in determining how the interview proceeded. The interview did not follow the exact sequence of questions on

the schedule (see Table 8.3), nor was every question asked, or asked in exactly the same way for each respondent. The interviewer decided when it was appropriate to ask a question earlier or later than it appears on the schedule because it followed what the respondent had just said. A question was phrased, or made more explicit, depending on how the participants were responding. When the interview entered an area that had not been predicted by the researcher, but was informative, the respondents were free to move away from the scheduled questions. In such instances the interviewer made sure that the conversation did not move too far away from the agreed domain. When the respondent was entering an interesting area related to meaning in life, minimal probes were given in order to help them continue, for example: "Can you tell me more about that?".

8.9.1 Transcribing the interviews

A tape-recorder was used during the interviews (SONY audio cassette recorder, Model TCM 939), to allow a fuller record than notes taken during the interview, and to allow the interviewer to concentrate on how the interview was proceeding. The whole interviews were transcribed, including the interviewer's questions, and wide margins were left on both sides of the transcription paper to allow possible space for future analytic comments.

8.10 Method of qualitative content analysis

The content analysis approach taken to examine the interviews was similar to that described by Smith (1996). The procedure described here refers to Interview 1. Similar analytical procedures were applied to analyse each interview individually. The interviews were analysed with the same chronological order they took place. The researcher read the transcript of Interview 1 several times. Two times it was read simultaneously whilst

listening to the original tape interview recording. Extracts on the topics of meaning and purpose in life including sources of meaning and purpose and references on personal and general well-being were selected (see Appendix 34). One side of the margin was used to note down something significant of what the respondent was saying (i.e.: church, religion, God, religious group). The other margin was used to document emerging theme titles (i.e.: religion) using key words to capture the quality of what was in the text. The emerging subthemes for each interview were listed and their connections were looked up in order to derive a major theme. The researcher made use of both computerised tables, memos and visual diagrams to enable description of the emerging themes and connections between them, and enable different subthemes to emerge by tracing different paths between the categories.

These different pathways facilitated the process of making interpretations about which categories were central to making sense of and explaining the data. Through this process the outline master themes emerged from interview 1 (see Table 8.4). These were listed, ordered coherently, and checked back by looking on the text where the major themes and subthemes, when applicable, could be identified with numbers indicating the location of extracts from the transcribed interviews. For example, five major themes were identified from interview 1 (death, others' sources of meaning, religion, sources of meaning, well-being) which captured most strongly the respondent's perceptions of meaning in life and well-being.

The master theme list from interview 1 was also used to begin the analysis of the second interview, looking for more instances of the themes that were identified in interview 1 and identifying new ones that arose in interview 2. Therefore; the analysis is based on identical categories. This system was

chosen because the number of six participants is quite small enough for the investigator to have an overall picture of each and the location of themes within them. Frequencies of each category were counted.

8.11 Analysis and Results

Selected extracts from the interviews that corresponded to the representation of the emerging themes and subthemes are presented. The frequencies of each subtheme in the text are also noted. The following sections present the most representative extracts from the interviews that represent the themes and its components. A brief biographical note is given for each individual. The analyses of each transcription are presented in chronological interview order. The interviews were analysed in the order they are presented. This order also counteracted subjective interpretations from the part of the researcher that might have been based on group membership.

8.11.1 Interview 1

The first interviewee (Participant 1) was male, 73 years old, married and selected from Group 2 based on his high personal meaning score (see Table 8.1). The respondent had comparatively low well-being and mental health scores (see Table 8.1 and 8.2). The respondent desired to become a priest when he was young. He used to work in the armed forces' military intelligence. He retired seven years ago at the age of 65. He reported that he is not able to take care of himself at all times but his wife is helping him. He has a main interest in arts and drawing. Currently he is recovering from a nervous breakdown and clinical depression. On this issue he said: (7,3,14)[4] *"The psychiatrist, after being psychoanalysed, said that the reason for my mental break down was a head on*

[4] The numbers indicate page, numerical sequence of interviewee's response to a question and line as these are found in the transcribed interviews in Appendix 34.

collision between my experiences in the armed services, ... in true terms it is very much the dirty tricks department, with my religious beliefs and he said that was what had caused the grief, ... the mental crisis".

Table 8.4. Themes and subthemes of Interview 1

Death	Others' sources	Religion (belief\God)	Sources of meaning	Well-being
fear of death (7), fear of afterlife (1)	day to day basis (3), *here and now (1),* financial security (2)	religious groups (1), religious beliefs (3), God (2), reason for creation (2), creative force (2)	pain (1), suffering (4), relationships (4), love (3), beauty (2), music (1), art (2)	feels the same as when young, RlatPp[5], inward growth of things, memory, greater perception

Key: The number in parentheses indicates the subtheme' s occurrence frequency in the text, RlatPp = Role limitations attributed to Physical problems appears as a theme category

Participant 1 has admitted to think about the meaning in life often and to have a philosophical view of the world. He says that (2,4,8) *"man himself is unique because he can create things of exquisite beauty, like no other animal, and that man has the power of original thought and is capable of creating art"* (see Table. 8.4).

His view on the meaning in life is that (2,4,6) *"the world is such a vast and complex thing that to say that it has no purpose or origins is unbelievable and unacceptable"*[6]. In other words Participant 1 believes that there must be a reason, a "cosmic" (Yalom, 1980) meaning and a purpose or a reason for such a vast creation as the universe. He admits that (1,4) *"the meaning of life is certainly an enormous question but most people do not consider it".* He attributed this to the fact that the question on meaning in life is linked to the concept of death and afterlife in most people's minds. He said that *because most people are afraid of*

[5] RlatPp (Role limitations attributed to physical problems) as this is defined from the SF-36 (see section 4.3.2.2).

[6] The text in italics are verbatim.

death they choose not to think about it and therefore not to think about what the meaning and purpose in life might be[7]. He thinks that most people *don't think things through* and that (4, 1) they give a *gut reaction* towards such issues. He commented on those who like to take each day as it comes and try to get the maximum enjoyment out of their life on a day to day basis. In this case Participant 1 was referring to people who live at the "here and now" (Maslow, 1968) and find immediate meaning in any living moment. Participant 1 thought that these people who do not think (2,5,3) *why are we here or what happens to you when you die tend to spend more time in saving and insuring for old age instead of thinking of something more constructive and positive such as what is the meaning in life?*. The topics of financial security and money appear in subsequent interviews too.

Participant 1 thinks that these (1,10) "*people who do not go around terrified of death are those who have a fairly strong religious belief*". He said that he had a fairly strong religious belief himself and (5,7) that *he can't see any point in life if God doesn't exist*. It appears that God and religious belief provide major sources of meaning and purpose in life for Participant 1 (see Table 8.4).

Participant 1 talks about the "ultimate" or "cosmic" meaning of life (Yalom, 1980) which he attributes mainly to religious belief. He supposes (5,6) that *religious belief is for some people the greatest meaning in their life*. Although Participant 1 admits to being religious himself he talks about God with an open mind and seems to have flexible ideas on the nature of higher forces. Characteristically Participant 1 said that: (5.6) *"God maybe not in the exact form*

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[7] Death implies the unknown and as Yalom (1980) wrote humans tend not to be comfortable with idea of the unknown, therefore they choose not to think about death, meaning in life or other existential concerns. By doing so human beings deny a large part of their human existence.

that we have been brought up to believe what it is but I would think that he's obviously a powerful creative force in the world otherwise where did the world come from and what's the point of it all?". Interestingly he concluded by saying: (12,1,3) *"I think, that people who have no religious belief when they get old do fear death very much more than people who have strong religious belief. That is a fact of life"*.

(2,6) Participant 1 believes that meaning of life is an experience of the mortal part of humans who have Christian faith to learn something from life. He sees human suffering as part of the education of the "inner being". Frankl (1961, 1963) talked extensively about those who find spiritual meaning in their suffering even under extreme conditions of psychological and physical constraint (see section 2.4). It appears that religious belief enables Participant 1 to find meaning from his psychological suffering.

(3,1,4) On the issue of suffering in human life, Participant 1 thinks that this is one of the reasons why religious beliefs are criticised. The question critics raise is: (3,1,6) *"Why are people allowed, if there is a living God to suffer?"* (i.e.: from diseases). Participant 1's opinion on this issue is that (3,1,24) *"If one believes in the Christian faith, then suffering is part of the education of your inner being"*. He also adds that people's response to suffering is probably more edifying than the most pleasurable experiences and (3,1,26) *"that a time of suffering teaches you more than all the pleasure in the world. It teaches you endurance, how to keep faculties alive and in order under great duress and it teaches you patience"*. It is possible that Participant 1 takes a personal opinion on the issue influenced from his own personal experiences through his psychological suffering and mental illness.

In response to what he thinks the purpose of life is Mr. J said that his own personal belief is that (13,2,6) "*the purpose of life is to love,* (14, 1) *to learn the true meaning of it and learn through experience*". Love was defined not as only the kind of love from man to woman, or parents to their child but love in every sense of the word. Love can be learned through loving relationships, the arts and through pain and suffering. On love Mr. J said that (14,1,22) *"if you really love somebody you put their well being and happiness in front of your own every time. If you really love somebody they come first, you come second".* Meaning in life can also be derived from the arts and music. Participant 1 likes to hear classical music and opera.

Talking about his own personal well-being Participant 1 described that in his age (6,4,3) people tend to lose their train of thought. Characteristically, he pointed (6,4,3) out *"That one of the most irritating things about getting old; is you don't feel any different inside. You feel just the same as you did when you were young. It isn't until you try to do things that you realise that you've got strong limitations"* (i.e. having a bad back). He finds the same thing happening with thought although he is able to reminisce. (6,4,6) "*You suddenly realise you can't either think as fast or recall things but you can recall the past far more more vividly than you can recall what happened yesterday. It's one of the strange things, the past becomes more vivid and day to day things become more away.* (7,3,1) He also thinks that when somebody becomes older he/she gets greater inward growth of things.

In summary, Participant 1 appears to find a major source of meaning in religion and religious belief (see also Table 8.4). Religion has played a serious part in his life and he is consciously aware that the clash between his *religious beliefs and the dirty tricks department* precipitated the nervous breakdown and crisis. The

psychotherapeutic treatment Participant 1 received mainly at home also assisted him to overcome the mental crisis. Currently he is recovering from it and he seems to reflect on this experience. He thinks that the purpose in life is to learn through experience even if this entails human suffering. It also appears that Participant 1, after confronting the conflict himself, is better able to cope with his life and enjoy his belief in God which gives him meaning in life.

8.11.2 Interview 2

The second interviewee was 73 years old, male, divorced (his wife lives in Jersey) with one son and daughter. Participant 2 was selected from Group 1 on the basis of a low personal meaning score (see Table 8.1) .The participant had comparatively high well-being and mental health scores (see Table 8.1 and Table 8.2). The respondent is retired and stated he is an author, lecturer and psychical researcher. He considers himself a missionary of psychic studies and he claims to study death. He describes his general health as very good. His main activities are walking, writing poems, books and articles and giving courses in psychic studies. He strongly recommends psychic studies to older adults.

Table 8.5. Themes and subthemes of interview 2

Growing old	Higher order (God/Soul)	Here and now (Present)	Sources of meaning
RlatPp, physical health (9), vitality (4), finance (5), education (2)	fairies (1), angels (1), soul (5), metaphysical (2), after life (3)	pour soi - en soi (6), aesthetic beauty (2), spirituality, harmony, reminiscing (2)	strong interests (3) and stimuli (1), music (3), read (2), integrity, truthfulness (2), inner repose (2), interpersonal relationships (2)

Key: The number in parentheses indicates the subtheme' s occurrence frequency in the text

Participant 2 (1,1,2) thinks that it is very interesting growing old. He finds that when somebody gets old he/she gets tired more quickly than when they were younger. He also agrees that the majority of (6,1) older people become

preoccupied with physical health and financial security and that these two dominate them and their lives (a point that Participant 1 raises as well). He finds that (11, 5) the old are not very pleasant to look at and he thinks that they are a bit dull, that they talk about the past, they are ill, (18,1,5) they reminisce and often are self centred. At this point Participant 2 brought up the issue of vitality and its importance in old age. Characteristically he said that (29,2,2) *"Vitality and the preservation of vitality are very important as you grow older"*. He believes that older adults are parasitic upon the young and are feeding off their vitality and he recommends that it is not good for the young to mix with the old.

In response to what does he think the meaning of life is, he referred firstly on how meaning in life is viewed from other older adults. He said that (6,3) *"the meaning of life for old people who are well is to go from day to day and for those who feel well the most important thing is to have enough money"*. He believes that when somebody (6,5) is physically ill, or very tired he does not have any meaning in life and lives only from one day to another. At this point the themes of death and afterlife appear in relation to meaning in life. He thinks that older adults, who are physically ill, do not think about meaning in life mainly because they have not thought about post life and therefore they have nothing to look forward to (this is not necessarily so, though).

According to Participant 2 (29,5,9) *"the meaning of life in old people is how their bodies are and how much money they've got. When they haven't any money it is crucially important to them"*. (30,1) Participant 2 thinks that is mostly older adults who have no education or modest education who will be more preoccupied with their physical level, physical condition, health and relatives. On the contrary, he finds middle classes to be, perhaps, more philosophical in terms of what is the meaning on life, from where human beings have come from and

where they are going to. After that (30,5) "*you enter psychic studies because you're talking about the non physical, that is; the metaphysical*".

In response to whether or not he is religious he said that he (10,8) believes in higher orders and (11,1) certainly in fairies and angels. His philosophy about human existence is that (4,2) "*before you come down here we belong to a group soul. (7,3) You pick out a script like an actor going on to the stage and there's a line down the middle, there's the times you are born and you can't do much about and there's free will which is sovereign*". Then during life (28,5,12) "*the body is made by the soul which is imprisoned in the body and with the dissolution of the body you're expanding consciousness, so everybody should be looking forward to dying as I am*". He believes that (3,7) *"it's very important for people to realise that there is* (16,5,8) a *higher order,* (18,5) *a soul"*

He says that (1,1,9) nowadays somebody can take an active interest in what happens after death and the soul by getting involved with psychic studies. Participant 2 considers himself a missionary of psychic studies and it appears that this is his personal purpose in life. He attempts to attract, not always successfully, other people into the mystery of psychic studies by broadcasting on the local radio by writing books and articles in books and magazines on psychic studies and particularly on fairies which is the topic of his interest.

He believes that (14,6) "*psychic studies are concerned with the here and now; the intersection of infinity and finality. This present moment.* (14,15) *If you take this present moment, any time, you can live in psychic luxury any time*". Participant 2 describes a personal experience which gives him psychic luxury: "*I like to just walk along, very quietly, and look at the clouds and I talk to the clouds and I talk*

to the trees and leaves, every leaf on that tree is different; have you ever noticed that?".

He concludes on the meaning in life issue by saying that (16,5,8) "*meaning in life depends on to what extent you can live with the intersection of here and now. It's to what extent you can appreciate here and now, to get pleasure from the sunsets and aesthetic pleasure from beauty, truth and goodness. If people concentrated on the present moment (here and now) they would be happier.* Participant 2 also adds that except the here and now, (17,10) reminiscing is also very important.

In response to from where can somebody find meaning in life Participant 2 suggested that (3,5,7) "*strong interests that you can pursue, that gives meaning to life. Strong interests*". Participant 2 has strong interests himself and (1,1,7) he thinks that it is a joy to grow older because somebody can pursue his/her favourite paths which make life richer altogether. He gets his meanings from (14, 6) external stimuli and claims that (31,5,4) at 73, he has the best time of his life because he has the time to do what something he always wanted to do: to write musicals and a few songs.

In response to what he thinks the purpose of life is he explained (7,6) "*you come down here to develop your talents and contribute to the harmony of mankind.* (5,2) *Humans got greed, lust, hate, fear, all the sins, so you've got to try and cultivate at an inner level repose, integrity and benevolence.* (28,6) *What is important is to feel good, to have a clear conscience and to be light of heart*". He concludes by saying that (28,5) "*meaning in life, it's at the very centre of physical existence. It's at an ordinary, everyday level that inner meanings have the greatest force.*"

Although Participant 2 has comparatively high scores in well-being and life attitude, paradoxically his personal meaning index score is low (an outlier score on PMI). After analysing the content of the interview, the reason why his personal meaning score is low becomes clearer. Participant 2 stated that the purpose of his life is to attract people to the mystery of the psychic studies. He is particularly interested in the scientific establishment of psychic studies. He has also interviewed people who have claimed to have psychic experiences mainly by meeting fairies and angels in the Yorkshire area (Yorkshire Post, 1989). Implicitly in the interview he showed his dissatisfaction with the indifference he has found with the response of other people on the matter. Participant 2 has a philosophical attitude towards meaning in life and according to him other people's response to the issue of meaning in life depends on their socio-economic class and education. He does not share other older adult's pre-occupation with financial security and he thinks that vitality is very important for older adults.

8.11.3 Interview 3

The third interviewee was 78 years old, female, widowed with one daughter. She used to be a dining room attendant and she lives alone in a flat of sheltered housing where her daughter visits her usually in the mornings. Her main activities are home-oriented. Participant 3 was selected from Group 3 based on a high personal meaning scores (see Table 8.1). The participant had comparatively low physical functioning (see Table 8.1 and Table 8.2) and describes her general health as fair. (10,4,2) She visits a day centre once a week and suffers from emphysema. (1,4,2) She lost her son when he was 55 years old. (1,4,2) She said that "*When my son died, I went right down. I felt oh well life is not worth living. Then I studied it and thought: "that's stupid", you've got to go on".*

Table 8.6. Themes and subthemes of interview 3

Responsibility	**Meaning and Purpose**	**Here and now**	**Sources of meaning**
make the best of what you have (8), life is what you make of it (9)	no necessity for money (9), religion (2), God (2), afterlife (2)	life is here today (4), live for the present (5), here and now (3)	friends (2), go out (5) help others (6), happiness (7)

Key: The number in parentheses indicates the subtheme' s occurrence frequency in the text

Participant 3 repeatedly and consistently claimed on several occasions during the interview that (1,2) *the meaning of life* is up to the individual (see also Table 8.6). (1,3,11, and 11,4,2) Human beings are what they make out of life. She thinks that people should take responsibility for their actions and try to do the best with what they have. She thinks that it is not necessary for someone to have a lot of money (3,5 and 5,3,2) in order to be happy. She says that (4,2,10) *"she is only working class and I've never had a load of money. I just make the best of what I've got"*. She believes that people should make the best of what they have got and that it is up to them to find meaning in their lives. Clearly, she states that (1,4) *"you can't expect people to do things for you. You want things you'll work for it. When you can't work, do the best you can or forget about it"*. On this she brings up an example from her own personal experience when her son died and she felt that her life had no purpose (1,4,2).

Participant 3 is a Christian herself but her opinion on belief in God is: (2,3) *"God is a load of crap. Life is what you make it. You don't have to depend on God above. Life is here today, I say be happy. I don't worry about what's gonna happen in ten years time or twenty - I won't be here"*.

Clearly, Participant 3 says that meaning and purpose in life can not be found in the belief in a higher order, such as God but instead meaning and purpose in life can be found in the present or in the here and now and that people do not have to

depend on external forces in order to find or discover meaning and purpose in their lives. (3,5) "*Live life today. Not what has gone and what's gonna happen. I believe in living for today. You might be dead tomorrow*".

Concerning her everyday life and how she finds meanings in her life Participant 3 said: (2,1) "*I just carry on. I like to go out. I can't go out much now because I can't walk for long but it doesn't stop me going out. I only go to the club for a game of bingo. I have a drink, I go twice a week and see my friends, I'm happy*". (11,4,12) "*I like going to the day centre on a Wednesday, it's a day out from here, I'm in a bit of company*". She concludes: (2,1,11) "*You should take life as it comes and don't let it get you down*". Mrs. B finds meanings in her life by helping others, by being with a bit of a company, by making a cup of tea and by making the most of what she has.

Concerning her personal meaning in life Participant 3 said: (2,2) "*I'm getting a bit old now for purpose. The purpose of life is that you are just sent here to do the best you can. You make yourself happy. If you help other people you get a bit of happiness yourself. (11,4,12) If you can help anybody, help them, definitely help them*". Explicitly Participant 3 says that she finds meaning and gets fulfillment by helping other people as much as she possibly can.

On her own personal well-being Participant 3 admits that she has role limitations attributed to physical problems and the emphysema but these physical limitations do not restrict her in doing the best of what she can in order to achieve the best possible result. She says: (8,1,18) "*It takes me ages to get ready but I do it in my own time. Like I can't walk about a lot and I can't vacuum, but I go round with a duster and I make sure I don't make nothing on the floor because I can't vacuum. So, I try to make the most of it*". Participant 3 has taken responsibly for her life

and well-being despite her poor physical health. She strongly believes that humans are responsible for what they make of their lives even when role limitations attributed to physical or emotional problems are present. She does not rely on higher orders/God to fulfill purpose and meaning in life. According to Participant 3 the purpose of life is to help other people. By helping other people, by doing the best she can within her personal abilities, she gets happiness herself. It appears that helping others is a major source of meaning and this possibly explains Participant 3's extreme high personal meaning score.

8.11.4 Interview 4

The fourth interviewee was 70 years old, female, widowed with one daughter and two sons and selected from Group 2 based on a low life attitude score (see Table 8.1). The participant had comparatively high psychological well-being score (see Table 8.1 and Table 8.2). Her life attitude balance index score is comparatively low.

She used to be a shop assistant and to live with a friend from the same religion as hers, until he died one year ago. Before this incident Participant 4 had lost two husbands. She is actively religious, she likes to go to church when she can, she likes to read the Bible and she is interested in different religions. (6,1,5) She was diagnosed with clinical depression, heart failure, arthritis and angina. She admits not to value her life very much (she has attempted to committee suicide in the past for this reason) and to have low self esteem and low confidence which sometimes keeps her in the flat of the sheltered house she lives in instead of going out.

Table 8.7. Themes and subthemes of interview 4

Well-being	Sources of meaning	Here and now	Religion
physical limitations (2), adjusting (2), accepting (2), cope, independence (2)	write (6), poetry (2), read (3), communication, company (4), go out (4), family (4), friends (4), help community (6)	present (3), do everything in this life, day to day existence	church, religion (2), belief in God (2), meaning in God (2), death, afterlife (2)

Key: The number in parentheses indicates the subtheme' s occurrence frequency in the text

Upon reflection on her own existence Participant 4 says: (20,7,2) *"I am at peace. Physically, is a matter of wear and tear. It's a process of age"*. She thinks that it is very important for somebody to adjust and cope with their life situation and try to live life as well as possible (see Table 8.7). Characteristically, she says: *"It's a matter of adjusting to what you can do* (6,1,13 and 10,2,10) *of accepting and living your life accordingly to how you can. It's a totally different adjustment as you get older the meaning of life"*. (1,4,4 and 5,2) *"My meaning of life is living and being able to help my family. My life revolves round my family and friends"*.

She admits to being actively (Roman Catholic) religious. She says: (3,1) "*I am religious. I wouldn't have any meaning, without God. (3,4) That has got my meaning - that is my meaning in life, the belief in God. (3,6) God and my religion and my family give me meaning. My children mean a lot to me"*.

(2,6,9) Although Participant 4 remarks that she cannot see any specific meaning in her life she does make a distinction between her personal subjective meaning and the value of meaning in life in general. Although she claims not to have meaning or purpose in her life she recognises what the general value of life might be. She says: (3,6,9) *"when you're on your own I think it's just a day to day - for me it's just a day to day existence"*. Concerning her recovery from depression she believes that she feels better than she used to but one of her major concerns is that she might not be (3,6,11) "*much use in the community*". She sees this as a way of

communicating and helping people who are in need. She also finds meaning in going out, in her family, children, religion and such activities as writing and reading. She enjoys her own company and when she feels lonely she goes out.

Going out is (3,6,9) "*something to look forward to. I go to the day room, they play bingo at night. I like to write poetry and read the Bible and write letters to a prisoner*". Participant 4 links here and now or the present moment with death by saying: (4,5) *"I think I know I've got to do everything I can in this life. Death it's the most surest thing*".

Overall, Participant 4 implies that adjustment and copying in the life situation somebody lives in, are very important factors in order to live a better and happier life. She believes that as an individual grows older the meaning in life is a different adjustment. Participant 4 lives life at the here and now and tries to make the best of it although she admits placing low value on her own life. Her meaning in life is found in religious belief, God, and her family. Although Participant 4 has a positive attitude towards life despite the depression she has low scores in the life attitude balance index. Participant 4 said that (4,1,6) if she was physically fit she would love to have a purpose in life by helping others. "*If I I'd have a meaning that would be my meaning to be able to do things*". This is another source of meaning that could potentially give purpose to Mrs. M: to help other people and contribute to the community. Although Participant 4 appears to help others paradoxically, she perceives herself as not attaining this goal. This can be possibly explained from the fact that Participant 4 places low value on her own life, has low self-esteem and confidence and therefore no faith in herself and her achievements. It appeared to be important for her that her achievements, when helping others, to be acknowledged from third parties in order for her to gain self-esteem and confidence.

Other sources of meaning for Participant 4 include reading the Bible and writing letters and journals. These journals are self-reflective diaries which Participant 4 is keeping. She claimed that the reflection of her experiences and thoughts have helped her in overcoming her depression.

8.11.5 Interview 5

The fifth interviewee was 70 years old, male and married with no children. He stated his previous occupation as: UK manager for French co-operation in Textile Machinery. Currently, after his retirement, he is involved in club secretarial work.

He rates his general health as good. Participant 5's main activities are social; he also likes gliding and computers. Participant 5 was selected from Group 1 based on an extreme high personal meaning score (see Table 8.1). The participant had a comparatively low mental health score (see Table 8.1 and Table 8.2).

Table 8.8. Themes and subthemes of interview 5

Job satisfaction	**Short-term goals**	**Financial**	**Religion as purpose**
enjoy job (2), interest in job (2)	striving for some purpose (3), problem-solving (2), short term satisfaction (2)	money (5), financial (4), power (2), ambition	theoretical and speculative (4), skeptical on religion (3), wrong purposes (2)

Key: The number in parentheses indicates the subtheme' s occurrence frequency in the text

Participant 5, a reticent man, said that he had never thought about the meaning and purpose in life before. The first time he thought about it, was when he received the invitation letter to the interview. (9,7 and 1,1,1) "*I haven't sort of sat down and thought about the meaning in life. I am too busy to do other things to start theorising, speculating what meaning of life means*". He speculates though that (2,3) "*perhaps meaning in life has got something to do with striving for some purpose or some ideal or some target maybe*". He offers an example of people

who might strive to achieve a goal or a target. (2,4) "*Perhaps for some tycoons is to make lots of money or to be in charge of powerful companies.* (2,5) *So perhaps it's, it is mixed up with ambition*".

In response to whether or not he has purpose in his life he said: (2,6) *"No, I don't think I ever had purpose in life. I didn't always. (4,3) I think I found meaning in enjoying my job because I was finding it interesting and not having to worry about something or worrying about losing it"*. At this point of the interview, Participant 5 thought that he takes short-term satisfaction by completing tasks (see also Table 8.8). An example: (8,3,2) "*I guess, if I've had a problem with a computer somewhere, or if somebody else gives me a problem then to solve these, it gives me short term satisfaction. Even to the extent that well it would be much quicker to buy a new but some how it seems, it seems to be more satisfaction to recover something*".

He is not religious, he does not believe in God or any other higher force and he is very (6,7,4) skeptical about people who regard religion as their purpose in life (6,8) "*because they use it for wrong purposes. I'm sure there are lots of people who genuinely feel about it but religion is an excuse for not very nice things"*.

Participant 5's mental health score is comparatively low but his personal meaning index score is high. He has never thought what the meaning and purpose in life might be and he admits that he had never had a purpose in life (at least not consciously). His previous main occupation in a highly competitive business environment left him no time to speculate and theorise on what the meaning and purpose in life might be. Nowadays, he is pre-occupied with a computer which he keeps at home and club secretarial work; activities that keep him busy and active in his retirement. He says that older adults are mainly concerned with

financial security. He brings up examples of financially successful people, i.e. tycoons. He does not find meaning in believing in God and thinks that religion has been used as a tool to cause distraction around the world. During the interview, he thought that he might be finding meaning in life and achieving life-satisfaction by completing a do-it-yourself task, such as changing a part in his computer. Mr. B. did not talk about his wife or relatives and he seemed reluctant to do so during the interview when Participant 5 was probed from the interviewer. Although Participant's 5 physical health is comparatively high, his mental health score is comparatively low. He appeared to be calm, logistic without signs of expressed happiness and content.

8.11.6 Interview 6

This interview was noticeably shorter that the previous ones mainly due to the fact that Participant 6 was reluctant to express herself and consequently the researcher encountered difficulties in eliciting speech from Participant 6. Participant 6 mainly talked about her life, personal wealth, herself and her two successful children (see Table 8.9).

The sixth interviewee lives alone, she is 74 years old, female, divorced, with two children. She was selected from Group 3 based on an extreme low life attitude score (see Table 8.1). The participant had a comparatively high physical functioning score (see Table 8.1 and Table 8.2). Perhaps the comparatively low life attitude score reflects Participant 6's attitude in life twenty-five years ago when her husband left her. From that point onwards Participant 6 describes her life to be a continuous effort to raise her two children as best as she could under conditions of severe and extreme poverty. She used to come from a very wealthy family which also ended in poverty. She did her best to recover from it and to raise her two children to in such a way as to enable them to become successful

and wealthy. She appears very satisfied to have achieved this. Participant 6 said that her son is able to support her financially, including the house her son has bought her. She said that (2,2) "*the purpose in life is to help everybody else. You lead a good honest life and help everybody*".

Table 8.9. Themes and subthemes of interview 6

Financial	Sources of meaning	Religion
personal and (5) financial wealth (4)	helping others (4), honesty in life (2), happiness (2), family (3), children (4)	religion, greater-force, church

Key: The number in parentheses indicates the subtheme' s occurrence frequency in the text

In response to what does she think the meaning of life is, if any, she said: (1,2) "*Oh I don't know what you really mean by the meaning of life. What's the meaning of.... in helping others or your personal wealth?* (4,2) *I can't give you a definite answer really. I'm just happy*". (1,3) Nowadays Participant 6 believes "*that if you help people and do whatever you can they will in return help you. I think whatever you give you always get back*".

On previous meanings she says: (1,5) "*Well the meaning in my life was when my husband left me and the children were little to see they got a better life than what I did. I wanted them to not work as hard as I've had to do to bring them up.* (2,4) *I think when you live on your own you've got to be strong*". Her greatest satisfaction in life was (2,3) *"in bringing the children up because they've all done so very well*".

In response to whether or not she is religious she said that: (1,8) "*I've always believed in religion and I always think there's someone much greater than what we are*".

Economic prosperity are very important factors for Participant 6 She has managed to recover with her own efforts from poverty and raise her two children the way she wanted them to be: successful, wealthy and secure for the future. She finds purpose in life by helping others and meaning in her family/children/grand children and God 2, all of which may be possible reasons to justify her comparatively high personal meaning index score (see Table 8.1). Participant 6's life attitude score though still remains extremely low when compared to her personal meaning index score.

8.12 Summary table of themes

The emerging themes and subthemes from each interview were summarised and listed according to group membership. The common themes that emerge from each interview are presented in Table 8.10. In addition the individual extreme scores of PMI and LABI are presented as well as the comparatively high and low well-being, mental health and physical functioning scores.

Table 8.10. Summary table of biographical and theme data in Group order

Int2 Group 1	**Growing old**	**Sources of meaning**	**Higher order (God/Soul)**	**Here and now (Present)**	
↑MH (22), ↓PMI (19)	RLatPp, physical, health (9), vitality (4), finance (5), education (2)	Strong interests (3) and stimuli (1), music (3), read (2), integrity, truthfulness (2), inner repose (2), interpersonal relationships (2)	Fairies (1), angels (1), soul (5), metaphysical (2), after life (3)	Pour soi - en soi (6), aesthetic beauty (2), spirituality, harmony, reminiscing (2)	
Int5 Group 1	**Job satisfaction**	**Short-term goals**	**Religion (as purpose)**		**Financial**
↓MH (18), ↑LABI (47)	enjoy job (2), interest in job (2)	striving for some purpose (3), problem-solving (2), short term satisfaction (2)	theoretical and speculative (4), skeptical on religion (3), wrong purposes (2)		money (5), financial (4), power (2), ambition
Int4 Group 2	**Well-being**	**Sources of meaning**	**Religion**	**Here and now**	
↑WB (44), ↓LABI (53)	physical limitations (2), adjusting (2), accepting (2), cope, independence (2)	write (6), poetry (2), read (3), communication, company (4), go out (4), family (4), friends (4), help community (6)	church, religion (2), belief in God (2), meaning in God (2), death, afterlife (2)	present (3), do everything in this life, day to day existence	
Int1 Group 2	**Well-being**	**Sources of meaning**	**Religion (belief/God)**	**Other's sources**	**Death**
↓MH (23), ↑PMI (75)	feel the same as when young, RlatPp, inward growth of things, memory, greater perception	pain (1), suffering (4), relationships (4), love (3), beauty (2), music (1), art (2)	religious groups (1), religious believes (3), God (2), reason for creation (2), creative force (2)	day to day basis (3), here and now (1), financial security (2)	fear of death (7), fear of afterlife (1)
Int6 Group 3		**Sources of meaning**	**Religion**	**Here and now**	**Financial**
↑PF (26), ↓LABI (46)		helping others (4), honesty in life (2), happiness (2), family (3), children (4)	religion, greater force, church	life is here today (4), live for the present (5), here and now (3)	personal wealth (5), financial wealth (4)
Int3 Group 3	**Responsibility**	**Sources of meaning**	**Meaning and Purpose**		
↓PF (11), ↑PMI (71)	make the best of what you have (8), life is what you make of it (9)	friends (2), go out (5) help others (6), happiness (7)	no necessity for money (9), religion (2), God (2), afterlife (2)		

Key: Int = Interviewee, ↑ high, ↓ low, MH=mental health, PW=psychological well-being, PF=physical functioning (*all* refer to Well-Being), PMI=personal meaning index, LABI=life attitude balance index (*both* refer to personal meaning in life), Group 1 = Community comparison group, Group 2 = Psychiatric group (the cells in gray, indicate membership in Group 2), Group 3 = Geriatric group. The number in the parentheses in the left column indicate the mean scores of the variables under investigation. The number in the parentheses in the remaining cells indicates frequencies of subthemes in the other cells.

8.12 Conclusions

Overall, the results of Study 3 highlight the reasons for which the participants reported extreme high personal meaning despite their poor or fairly poor mental and physical condition. The findings suggest that a sense of meaning is a source of motivation and life satisfaction that transcends mental and physical constraints. The participants in Study 3 reported to mainly find meaning in life through various sources such a s religion, helping others, reminiscing, and living in the "here and now" (see section 9. 4 for the general discussion of findings).

The following chapter, presents and discusses the overall findings of the present research along with its methodological limitations. It presents its clinical relevance and further directions for future research in the area of the complex relationship between meaning in life and psychological well-being in older adults.

Chapter 9

General Discussion

9.1 Outline

Chapter 9 presents a resume of the findings, discusses the methodological limitations of the present research, clarifies its relevant standing to current research and discusses clinical relevance and implications of the findings. Finally, Chapter 9 proposes further directions for future research in the relationship between meaning in life and psychological well-being in older adults.

The present investigation aimed to examine further the association, established through theory and empirical research, between meaning in life and psychological well-being in a group that has been claimed to be in danger of losing meaning in life - the one of older adults. Three studies were conducted in order to look closely at the relationship and three different functioning groups of older adults were recruited: a community comparison group, a psychiatric outpatients' group and a geriatric outpatients' group. Initially, Chapter 9 outlines the findings of each study and discusses each study's methodological limitations.

9.2 Findings and methodological issues of Study 1

One of the aims of Study 1 was to examine differences between two groups of older adults in purpose in life and well-being. The two groups were:
a) a well functioning group of older adults named the community comparison group and b) a non-well functioning group of older adults named the outpatients' comparison group (see also section 4.1).

It was established that the two groups of older adults, although different in terms of sample size, were comparable in terms of biographical variables. The groups were analogous in terms age, sex, estimated socio-economic status, marital status, living arrangements and co-residence. The well-functioning older adults were more independent and able to self-care than the non-well functioning older adults. The absence of significant differences in the biographical variables ensured that inferences about the variables of interest (purpose in life and well-being) were not drawn spuriously because of the potential effect of biographical factors.

Significant differences between the two groups were found in purpose in life, mental health and well-being. Well-functioning older adults were found to score significantly better that the non-well functioning older adults on these variables. The differences in purpose in life discovered between the community comparison group and the outpatients group support previous findings in which purpose in life scores differ significantly in normal and outpatients groups. For example, Sheffield and Pearson (1974) obtained purpose in life scores from a sample of British psychiatric outpatients and from five outpatients' groups. The purpose in life scores for non psychiatric participants was significantly better than the purpose in life scores for outpatients. The community comparison group was also found to score significantly better than the outpatients' group in the variables of physical functioning, social functioning, energy/fatigue and general health.

Significant differences in depression, as this was measured by the Zung self-rating depression scale, between the two groups were not found (see Table 5.3). Three possible methodological reasons are speculated on why differences in depression were not found: a) the psychiatric group at the time of recruitment was already receiving medical and psychotherapeutic treatment; this may had already

treated clinical symptoms in the outpatient sample, b) the Zung self-rating depression scale (Zung, 1971) did not discriminate successfully between the two groups in terms of their levels of depression and c) given the heterogeneous size of the samples, it is feasible, that there might have been some overlap between the two populations.

Significant differences were found between the two groups in terms of anxiety with the community group scoring better than the outpatients group. However it might have been anxiety that led the outpatient participants to seek medical and psychotherapeutic treatment in the first place and probably this justifies the significant differences found in anxiety. Finally, the Purpose in Life test was found to successfully discriminate the degree of purpose in life between well-functioning and non-well functioning older adults.

Study 1, was also conducted to look more closely the patterns of associations between purpose in life and well-being. The relationship between the two constructs was examined for each comparison group individually and across groups. A positive association between purpose in life and well-being was found to characterise the community comparison ($r=.42$, $p<.001$) and the outpatients' ($r.=40$, $p<.001$) groups. It is very interesting that the psychiatric group retained the positive association between purpose in life and well-being. An overall positive association between purpose in life and well-being was found across the groups ($r=.69$, $p<.001$); that is the relationship retained its consistency regardless of group membership.

The relationship between purpose in life and well-being was investigated further with the use of a scattergram in the combined samples (see Figure 5.1). The graph indicated that participants who scored better on the purpose in life and well-being (including mental health) belonged to the comparison community

group whilst those participants who scored low on both purpose in life and well-being (including mental health) belonged to the outpatients' group.

In brief, high scores in purpose in life were associated with high scores in well-being (and mental health) and these associations characterised participants from the community comparison group. On the other hand, low scores in purpose in life were associated with low scores in well-being (and mental health) and these associations characterised participants from the outpatients' group. These associations of purpose in life and well-being between the two groups were found to be significantly different. The presence of a consistent relationship between purpose in life and well-being supports previous findings (Ryff, 1991; Zika and Chamberlain, 1992).

Finally, stepwise multiple regression analyses indicated that mental health was the best predictor of purpose in life for each group individually and that well-being was the best predictor of purpose in life across groups. In both analyses, mental health and well-being were found to explain almost half of the PIL's variance. Psychiatric group membership was also found to be one of the significant predictors of purpose in life (see Tables 5.5 and 5.6) in the combined sample.

9.2.1 Methodological issues and criticisms

The community comparison group was comprised of older adults who attended the Tea Party annual event at Leeds University (see section 4.2.1). The participants comprised a pragmatic group; that is older adults who were physically well functioning, socially active and actively involved in community work or in helping others. The fact that these older adults were attending such an event may point to bias in sampling. A sample of older adults who were not

involved actively in community work might have eliminated such bias in sampling. Such a sample could have been recruited from community services.

The outpatients comparison group was comprised of older adults recruited from a psychiatric day hospital (see section 4.2.1). This outpatients group was comprised of older adults who were suffering from a wide variety of mental health problems of mixed diagnoses as opposed to a particular one (i.e. clinical depression). Furthermore, the outpatient group was receiving medical, psychotherapeutic and occupational treatment at the time of recruitment and was expected to improve in terms of mental health. An ideal sample would have been consisting of older adults who are on similar stages of their treatment and of similar categories of mental illness. Future research can concentrate on investigating the relationship between purpose in life and well-being in outpatients or inpatients who suffer exclusively from distinct categories of mental illness (such as clinical depression) based again on given criteria (e.g.: DSM-IV or ICD-10) and/or are in the same stage of their treatment.

In terms of the questionnaire measures used the SF-36 discriminated differences between the two groups of older adults on most of its variables (see Table 5.2). The self rating depression scale (Zung, 1965), which measures depression as a clinical entity, was not found to differentiate between levels of depression in the two groups. It is possible that the depression scale might not have detected differences between the two groups due to the nature of the scale's items: fifteen out of twenty items measure somatic symptoms. The method of Study 1 could have been benefited if a shorter and more recent measure of depression (such as the HAD scale) was used with less somatic symptoms.

9.2.2 Conclusions from Study 1

Study 1 mainly aimed to explore the relationship between purpose in life and psychological well-being in adults above the age of 65. It was found that a positive, significant and consistent relationship takes place between these two constructs. Although, the present research did not, by any means, attempt to address a causal relationship between purpose and well-being, it attempted to address a direction of effects relationship between purpose in life and psychological well-being in Study 2.

An important question not addressed in Study 1, was the direction of the purpose/health outcome relationship. Does a strong sense of meaning and purpose lead to a higher level of well-being, or does a high level of well-being influences one's sense of meaning and purpose in life? Study 2 was conducted in order to address a direction of effects between purpose in life and well-being in older adults. The rationale of Study 2 is briefly summarised in the following section (see section 9.3).

The findings from Study 1, support previous findings (Zika and Chamberlain, 1992; Ryff, 1991) which demonstrated a consistent relationship between psychological well-being and meaning in life and establish further the significant association between the two variables. The directions of effects between purpose in life and well-being could not be ascertained from Study 1. Hence, in an attempt to address the direction of effects issue between personal meaning and well-being in older adults Study 2 was conducted using different methodological procedures than the ones employed for Study 1 (for example three groups of older adults were recruited instead of two that were followed over a period of three months).

9.3 Findings and methodological issues of Study 2

On the basis of the Study 1 findings, and in order to explore further the relationship between purpose in life and psychological well-being in older adults, Study 2 was designed. The focus of Study 2 continued to be on purpose in life[1] and its patterns of association with psychological well-being as in Study 1. Study 2, in an attempt to address the direction of effects between meaning and well-being looked on what is happening to purpose in life when a special effort is made through mental health care services to change the psychological well-being or mental health status of a group of older adults. Therefore a psychiatric outpatients group was recruited which was receiving treatment through mental health care services. Study 2 explored the patterns of associations between changes in personal meaning and changes in psychological well-being in three samples of older adults who were recruited and followed over a time period of three months. The groups of older adults recruited were: a) a community comparison group which was comprised of well-functioning older adults, b) a psychiatric outpatients group with which a special effort was made to improve mental health through mainly medical treatment and c) a geriatric outpatients group which was comprised of older adults experiencing limitations in life due to physical problems and who were not targeted to change its mental health status over time. Two new measures were used in Study 2. The Hospital Depression and Anxiety (Zigmond and Snaith, 1983) and the Life Attitude Profile-Revised (Reker, 1992). The LAP-R, as the PIL, was constructed based on Frankl's logotherapeutic concepts (Reker, 1989).

Study 2 was designed in order a) to establish differences between three samples of older adults on personal meaning and psychological well-being, b) to explore the relationships between personal meaning and well-being in three samples of

[1] In Study 2 purpose in life was also termed meaning in life or personal meaning.

older adults over time, and c) to predict changes of personal meaning from changes in well-being.

No significant deviations appeared in the biographical details among the participants of the three groups. The three comparison groups were found analogous in terms of sex, religious activity, marital status, co-habitation and life events. Significant differences were found in age, socio-economic status, independence-self care and activities. The community comparison group participants were found to be more independent and able to self care than the psychiatric and geriatric participants who were more involved in home-oriented activities than the community group participants.

9.3.1 Community comparison group

The community comparison scored significantly better than the psychiatric and geriatric groups on mental health, well-being, personal meaning and life attitude at times 1 and 2. It is reminded at this point that mental health is a component of well-being (see Table 4.1) and that personal meaning and life attitude are both composite scales (see Table. 6.1) of the LAP-R (Reker, 1992). The intercorrelations between the variables of SF-36, HAD and LAP-R measurement instruments were replicated across time for the community comparison group. Mental health was significantly and positively correlated with personal meaning and well-being was significantly and positively correlated with life attitude at both times. At time 1, the best predictor of personal meaning was mental health whilst at time 2 energy/fatigue was found to be the best predictor of personal meaning. It is reminded that energy/fatigue is a component of the well-being scale, as is mental health (see also Table 4.1). The best predictor of life attitude at times 1 and 2 was found to be well-being. No associations were noted between changes in personal meaning and changes in mental health or changes in well-being and changes

in life attitude. Furthermore, no variables predicted changes in personal meaning or changes in life attitude in the community group. This supports Zika and Chamberlain's (1992) speculation that personal meaning will not undergo significant changes over time in a well-functioning group of older adults although a measure of purpose in life was not used over time in their study. In the community group, where neither physical health or mental health were being targeted for intervention, no significant pattern of correlations appeared with changes in personal meaning or changes in life attitude with other variables.

9.3.2 Psychiatric comparison group

Of particular interest in Study 2 was the relationship between well-being, mental health and personal meaning in the psychiatric group.

At time 1 the psychiatric group scored significantly the lowest than the community and geriatric groups on mental health, well-being, personal meaning and life attitude. At time 2 a number of these differences (see section 9.6.2) disappeared. The significant differences in mental health and personal meaning that were noted between the psychiatric and geriatric comparison groups at time 1 were not present at time 2. In other words, the psychiatric group was found more closely (i.e.: its mean difference from the community group was decreased) to the community comparison group at time 2 in terms of personal meaning and well-being (see Figures 7.2 and 7.3). Overall, the psychiatric group at time 2 had improved on anxiety, depression, locus of control, personal meaning and life attitude.

What stands out is that the psychiatric group has improved significantly on both mental health and personal meaning at time 2 when compared to time 1.

This was expected since the psychiatric group was targeted with treatment through the mental health care services in order to improve its mental health status.

The above results testify that in terms of differential improvement, the psychiatric group has improved significantly over time in well-being, mental health, personal meaning and life attitude when compared to the community comparison group. The psychiatric group was also improved in terms of coherence and death acceptance over the community group.

Differential improvement of the psychiatric group was also observed in personal meaning and life attitude when compared to the geriatric group. The psychiatric group was also improved in the variables of coherence and goal seeking over the geriatric group.

Of particular note is that changes in mental health, well-being and personal meaning in the psychiatric group were significantly greater than changes in the community and geriatric group (see also Tables 7.10 and 7.11). With reference to the psychiatric group, the results have shown significant improvements in personal meaning, life attitude, mental health and well-being. In addition, changes in personal meaning were found to be best predicted from changes in mental health. The conclusion is that the psychiatric group has showed significant improvement on mental health and personal meaning over time which suggests that an intervention which improves mental health also improves personal meaning and life attitude. Therefore a direction of effect between personal meaning and well-being is speculated (see also section 9.2.4).

Notable by their absence are patterns of relationships with depression. When predicting personal meaning for the psychiatric comparison group the best predictor at times 1 and 2 were changes in mental health (or when predicting life attitude balance the best predictor was well-being). More specifically, for the psychiatric group the best predictors at time 1 were mental health, role limitations attributed to emotional problems and pain whilst at time 2 the best predictor of personal meaning was solely mental health explaining 35 percent of the variance in personal meaning.

Predictors of change in personal meaning initially included changes in physical functioning as the best predictor and then changes in mental health (see Table 7.20). Changes in mental health did not appear as the best predictor of changes in personal meaning due to the presence of an outlier score in the physical functioning change scores. When the outlier score was separated from the data, change in mental health appeared to be the best predictor of change in personal meaning. In summary, in regards to the psychiatric group: a) mental health is found to be a consistent predictor of personal meaning, b) well-being is found to be a consistent predictor of life attitude and c) changes in mental health are found to predict changes in personal meaning. Again, these results suggest that an intervention which improves mental health, and well-being, also improves personal meaning and life attitude (see also section 9.2.4).

9.3.3 Geriatric comparison group

In general, the geriatric group has shown a significant improvement in general health status over time. The geriatric comparison group was found to score significantly worse than the community group and significantly better than the psychiatric group in terms of anxiety, mental health, well-being personal meaning and life attitude at times 1 and 2. At time 2 the differences

in anxiety, personal meaning and life attitude disappeared when compared with the psychiatric group. The positive associations between personal meaning and well-being in the geriatric group at times 1 and 2 was found to be moderate (see Figure 7.3).

In the geriatric group changes in personal meaning were found to be significantly associated with changes in role limitations attributed to physical problems. Changes in life attitude were associated with changes in general health status. Interestingly, changes in general health status were negatively associated with changes in anxiety.

The best predictors of personal meaning at time 1 were energy/fatigue and mental health (both components of well-being) whilst at time 2 the best predictors of personal meaning were energy/fatigue and physical functioning. The best predictors of life attitude were found to be well-being and functional status at both times. Finally, the best predictor of changes in personal meaning in the geriatric group were changes in the role limitations attributed to physical problems. In the geriatric group, overall, it appears that at an individual level, changes in life attitude were significantly associated with changes in general health status which in turn was negatively associated with changes in anxiety.

Is this improving personal meaning indirectly by reducing a source of anxiety? It appears, and this is only speculative, that improvements or deteriorations in general health are associated with changes in anxiety, while improvements or deteriorations in role limitations attributed to physical problems are then associated with changes in personal meaning and life attitude. Indeed, changes in personal meaning for the geriatric group were best predicted from changes in role limitations attributed to physical

problems. Interestingly, change in role limitations attributed to physical problems is not associated with change in physical functioning, perhaps due to improvements which may result e.g. from better management of symptoms.

9.3.4 Methodological criticisms and conclusions from Study 2

The psychiatric and geriatric group participants entered the study at different points in their treatment. An ideal and potential method of recruitment could have involved choosing patients from similar diagnostic groups and from similar points of treatment (e.g.: first consultation, end of intervention). Further, only a subgroup of older people with psychiatric conditions visit psychiatrists (Kimmel, 1996). It may be that the psychiatric patients are primarily anxious or that the combination of anxiety with depression or other conditions contributes to their referral to specialist services.

Considering the purpose and meaning in life measure, it was felt that the Life Attitude Profile is particularly long and time-consuming. Although the completion of 48 items, by itself, does not impose a serious time demand, there are often situations for which a shorter scale would be more desirable particularly with older adults and in situations requiring multiple measurements. It would have been ideal to use a shorter form of the LAP-R or a number of its subscales as for example the purpose (7 items) and coherence (7 items) subscales (see Table 6.1) that comprise the personal meaning composite scale (PMI).

Zika and Chamberlain (1992) reported a consistent association between meaning in life and psychological well-being. Comparing the overall conclusions of the two studies to those of Zika and Chamberlain (1992), who examined the associations between meaning in life and psychological well-being in a sample of well-functioning older adults, it was demonstrated that a consistent

relationship exists between psychological well-being and meaning in life over a range of well-being dimensions and meaning measures. The well-functioning elderly participants from Zika and Chamberlain's (1992) study were located through a variety of community based organisations for senior citizens. Similar results were found inspite possible cultural differences, but the sampling (i.e.: active older adults, well-functioned, involved in community work) was similar for comparison.

Well-being measures were collected at all three times at Zika and Chamberlain's study (1992) but, meaning measures were collected on one occasion only because the authors believed that stability was expected in these particular measures. In other words, the well-functioning group was not expected to change its purpose in life meaning status. This was demonstrated empirically in Study 2 where participants from the community group showed stability over a range of meaning and well-being measures over a period of three months. In Study 2 the LAP-R measure was administered twice to all participants from all three groups. It was demonstrated that the community group did not change in terms of personal meaning and well-being over time, as was expected, but the psychiatric group, which was targeted with therapy to change its mental health status did change in terms of mental health and personal meaning. The geriatric group on the other hand, which was not targeted to change its mental health status has changed not in terms of mental health but, in terms of physical functioning and energy/fatigue.

Also, Zika and Chamberlain (1992) reported that the relations between the life meaning and well-being measures were significantly associated with each other. Similarly, the relations between the meaning in life variables and well-being measures in the present study indicated that meaning in life and well-being were significantly associated to each other at low to high levels in all three groups. Highly similar correlations were obtained on the second occasion indicating that

the relationship between personal meaning and well-being is consistent and that the pattern repeated itself in all three groups and in both occasions. Overall, the lowest associations between personal meaning and mental health indicated membership to the psychiatric group, the highest associations indicated membership to the community group and the moderate associations to the geriatric group. Personal meaning was also found to be the most consistent predictor of mental health. These findings have important implications for understanding the foundations of psychological health and well-being since personal meaning appears to be one of the critical factors in developing and maintaining a strong sense of well-being in older adults.

The relationships between personal meaning and depression were of particular interest. Although depression has been identified as the closest construct to personal meaning (Crumbaugh, 1968), no significant correlations between the two were found. This suggests that the participants of the psychiatric group (or the clinically depressed group) might not experience high levels of depression due to the treatment they were receiving at the time of recruitment or that the HAD was not picking up levels of depression.

Elaborating further on the possible explanations for this phenomenon it may be speculated that improvements in mental health in the psychiatric group - attributed to the pharmaceutical and therapeutic treatment the group was receiving at that time - facilitated improvements in personal meaning. Overall, personal meaning appears to be a significant component of mental health, psychological well-being and general health status. It has to be noted here that due to the correlational nature of the findings it cannot be speculated that improvements in mental health or well-being cause a sense of meaning in life. What is hypothesised is that these variables are interdependent or that they operate interactively.

The appearance of an outlier score at Study 2 (see also Figure 7.4), encouraged the employment and application of idiographic research methods (in this case in the form of semi-structured interviews) in order to study qualitatively the connection between personal meaning and well-being in a) individual cases who were not troubled by psychological dysfunction but who lacked personal meaning (Ryff, 1992, 1996) and b) in individual cases who were troubled by psychological dysfunction but did not lack personal meaning. The first category has been identified (Ryff, 1992, 1996) as a neglected category of people in terms of research. What makes individuals who are troubled from mental and even physical dysfunction to have meaning and purpose in their lives? There is also another category of individuals who are not troubled from mental (or physical dysfunction) but do not experience personal meaning. What makes these individuals, who are not troubled from mental and even physical dysfunction, not to have meaning and purpose in their lives? In order to address these questions, Study 3 was designed. The broad aim of Study 3 was to investigate using qualitative possible sources of meaning in 6 participants (two from each comparison group); their selection based on extreme high or low scores (i.e.: outliers) on personal meaning and life attitude.

The strength and weaknesses of a combined quantitative and qualitative research approach deserves some discussion. Contemporary researchers tend to show a growing preference for using a methodology which integrates both quantitative and qualitative research approaches (Silverstein, 1988). A combined approach avoids the one-sideness of traditional positivists which is mainly concerned with internal validity and sometimes lacks the authenticity and subjective meaning of external reality. Analysing data in a numerical-mathematical way on one hand (Debats, 1996) and comprehending more the personal experiences of the subjects on the other allows results to be derived

both in a hypothetical-deductive way and inductively (Debats, 1996) providing a more holistic picture of the area under investigation.

9.4 Findings and methodological issues of Study 3

The results of Study 3 suggested reasons why a number of participants, despite their poor or fairly poor mental and physical health (i.e.: well-being) reported extreme scores of personal meaning or life attitude. Study 3 explored how meaning in life is associated with physical limitations, physical change or deterioration in mental and physical state. The findings suggested that a sense of meaning is a source of motivation and life satisfaction that "transcends" both mental and physical constraints. The participants mainly reported to find meaning in life through various sources such a s religion, helping others, reminiscing, and living in the "here and now".

The theoretical importance of some individual sources of meaning and how these arise have been suggested in the past by Wong (1989). Wong (1989) identified four possible meaning-enhancing strategies relevant to the elderly; reminiscence, commitment, optimism and religiosity. Reker's (1989) definition of personal meaning also suggests that both belief and value systems give rise to meaning in life. Study 3 has thrown light on the kind of meaning in life sources older adults experience even under unfavourable conditions of mental and physical health suffering.

Sources of meaning included the belief in a higher order such as God. Three out of six interviewees did not regard religious belief or other beliefs to be prime sources of meaning in their lives although they did not underestimate the value of religious belief as a source of hope and of meaning in life. Such religious beliefs or beliefs in higher orders seem to make death more approachable because a life after death is anticipated. It appears then, that death seems to prompt the quest for

meaning in life through religious beliefs. This supports Frankl (1971) and Yalom (1980) who theorised that the prospect of death motivates individuals to respond to opportunities and assume personal responsibilities. It appears that one can reduce existential despair by transforming ... "*a given reality into a possibility for accomplishing something. An apparent obstacle or a limitation in life may become a source of personal meaning and self-realisation. Thus, for Frankl, death is not the end but rather the beginning or the birth of meaning in human life*" (Kovacs, 1982, p. 202).

Previous empirical evidence supports the present findings by finding religious beliefs to relate to death acceptance. Persons who reported a high purpose and meaning in life tended to have less fear of death and a more positive and accepting attitude towards dying than persons who reported less meaning and purpose in their life (Blazer, 1973). Another study (Chamberlain and Zika, 1988), examined religiosity as a predictor of different components of well-being in a sample of women and demonstrated a variable but consistently positive relationship between religion and well-being. Gesser, Wong and Reker (1988) explored the relationship between death attitudes across the life-span and reported that the fear of death and dying was relatively high among the young, peaked during middle age, and fell to its lowest point among the elderly.

It has been theorised that when several sources of meaning have been accomplished at old age, then God becomes a way to resist meaninglessness and despair (Fowler, 1981). There is some evidence that religious beliefs are related to meaning in life and that individuals who are intrinsically motivated, committed and true believers had significantly higher purpose in life than those who are not intrinsically motivated, committed and true believers (Soderstorm and Wright, 1977). Yalom (1980) has also suggested that

involvement in a meaningful group or cause increases one's sense of meaning. A few studies have examined this concept and have demonstrated that a high Purpose in Life (PIL) score is correlated with involvement in organised groups either religious, ethnic, political or community service (Doerries, 1970) and involvement in sports or hobbies. The evidence for the association between death acceptance and meaning in life in older adults serves as a basis for the further exploration of the relation between religious beliefs and meaning in life in older adults since religion appears to be a major source of meaning.

Two out of three individuals who reported high levels of psychological well-being and low levels in personal meaning did not believe in a higher order or God. In addition, making the best of the present moment seems to be a very important factor of self-satisfaction and a source of meaning in life and seems to be a distinct feature in both self-satisfaction and meaning in life. Death seems to prompt not only the quest for meaning in life through religious beliefs but also through life review and remembering the past. The theoretical importance of reminiscence in the elderly has been identified for some time now (Birren, 1964; Butler, 1963) and has been considered as a process triggered by the realisation of death. According to the life accounts of the interviewees from the psychiatric group, it appears that reviewing life and death with peace of mind provides a sense of fulfilment that comes from a resolution of personal conflicts (either by confronting a conflict or keeping a journal that provides opportunities for self-reflection and self-evaluation). It appears that psychological well-being can be promoted through reminiscence and the review of life and death.

Generally, what stands out from the present findings is that although the interviewees might be limited in their everyday life roles due to emotional or physical problems they are able to find meaning in their lives. This is the hard

core of existential philosophy: to make the best of the world in which an individual is "thrown" (Sartre, 1946, p. 16). As Sartre wrote (1946, p. 32) *"Man is nothing but what he makes for himself. Such is the first principle of existentialism"*. It follows that it is very important to encourage older adults even more during treatment to find meaning and purpose in their lives by setting goals and targets.

Five out of six participants reported finding meaning attempting to make the most of their everyday lives within the limitations of their life situation. The anticipation of simple events (i.e. the visit of a family member, going to church or bingo) provide motivation and enable the experience of having meaning and purpose in life and of viewing life with optimism. In the presence of pessimism older adults may give up hope and become depressed due to the presence of everyday role limitations attributed to emotional and physical problems, illness or disability. It is important that a sense of hope and optimism are restored when not present in order to promote a sense of purpose and meaning in life.

Vitality of body appeared to be a factor connected with wellness and meaning in life. Financial security was also viewed as an important factor in maintaining meaning in life and psychological well-being in life. These connections between well-being, vitality of the body and financial security seem a vital link for enhancing meaning in life and it is worth while to think of further investigating this link in older adults.

Interestingly, one participant pointed out that he had never thought about the meaning or purpose in life before. He found such a matter "speculative" and therefore not worth thinking about or time-wasting. The life attitude balance score of the particular individual is extremely high but his mental health score

appears to be comparatively low although no previous mental health illness or problem have been reported. It would be of empirical interest to see if this case (or similar cases) will present future fluctuations of well-being and mental health. On the other hand it is possible that this individual chooses not to think about the meaning in life in order to prevent the existential anxiety that might arise when confronting the existential conflict of whether or not life has any meaning.

Helping others appears to be another source that gives life satisfaction. Helping others or contributing to the community seems to provide the giver with feelings of self-worth, self-esteem and meaning in life. Commitment to activities, social cause or helping others has been pointed out to provide meaning to an individual regardless of age (Yalom, 1980). Frankl (1963) and Maddi (1970), have emphasised the importance of commitment to a task as an important route to personal meaning. Commitment implies a dedication to a task of personal significance and absence of alienation. It also implies personal choice and includes the additional meaning of investing time and energy to a task (Wong, 1989).

Taking into consideration the above it appeared that sources of meaning for these individuals may play an important role in attaining life-satisfaction and psychological well-being even under unfavourable mental and physical conditions. Participants who suffer from mental or physical problems appear to be finding meaning in the anticipation of simple events (i.e.: play bingo, watch the trees) and everyday activities (i.e.: DIY). Copying and adjusting successfully to the already given life-situation seems to play a beneficial role in the attainment of psychological well-being and finding meaning in life in older adults. In conclusion, commitment in activities which provide meaning and purpose in life appear to play a significant role towards the overall well-being (physical, mental and spiritual) of the older adult individual even under unfavourable

mental and physical conditions. The findings imply the importance of the inclusion of even more therapeutic strategies and methods that enhance meaning and purpose in life in the health care of older adults. The data of Study 3 could have been enriched by recruiting a larger number of participants from each group and investigate whether or not significantly different categories of meaning in life themes appear in each group.

9.5 Current status of the present research and clinical relevance

The overall results of the present research lead to the conclusion that there is a substantial and consistent relation between meaning and psychological well-being in older adults. In accordance with earlier investigations this study shows that meaning in life correlates significantly with aspects of well-being (Reker, Peacock and Wong; 1987; Zika and Chamberlain, 1992) in different functioning groups of older adults. This supports theorists such as Frankl (1963), Yalom (1980) and Maddi (1973) who postulated that meaningfulness relates to positive well-being outcomes, whereas meaninglessness relates to pathological ones. According to Frankl (1963, 1967) when a person fails to find meaning in life and a state of vacuum of perceived meaning in personal existence is present, the individual might be confronted with existential frustration which is characterised by the feeling of boredom (Crumbaugh, 1968, Crumbaugh and Maholick, 1964). Although the occurrence of existential vacuum does not necessarily lead to existential neuroses (Frankl, 1976), it has been contended that existential vacuum is an aetiological factor of psychopathology and that when there is a vacuum in existence, mental problems fill in the vacuum (Dyck, 1987; Frankl, 1967). In summary, the existentialists' proposals that absence of meaning in life is related to psychopathology is plausible and that presence of meaning in life is related to psychological well-being are important ones when clinical implications are concerned.

The participants of the psychiatric group were not receiving existential psychotherapy per se, therefore it cannot be claimed that the change in personal meaning which was observed in the period of three months is due to any particular existential therapy intervention. It would be interesting though to focus research efforts on older adults who do receive existential therapy intervention and/or to older adults who quest for meaning and purpose in life while are treated for mental or physical problems. The Purpose in Life test (Crumbaugh and Maholick, 1968) for example can be a useful tool to assess the degree of meaning in life in combination with other screening measures in psychiatric or clinical practice. The Purpose in Life has been recently used in a study (Debats, 1996) which examined the clinical relevance of the meaning in life construct by evaluating its ability to predict patients' general and psychological well-being and their post treatment functioning. Evidence was obtained for the notion that meaning in life: a) would affect both positive and negative aspects of well-being, b) that it would be related to improvement during psychotherapy, and c) that it would predict the outcome of psychotherapy, independently of the patients' pre-treatment levels of well-being.

Study 3 demonstrated that sources of meaning (such as areas of work and play, education, personal development, relationships, community work) are important in the process of discovering and maintaining a sense of personal meaning. It becomes evident that the area of meaning in life can be a legitimate concern of health carers and a patient's loss or potential loss of a sense of meaning in life is a potential focus for therapeutic intervention. To intervene effectively in this mode, the health carer needs some knowledge about how meaning in life is experienced from the older adult. If a generic form of such an experience in an older adult could be identified, the structure could be used as a starting point for planning health care that could further assist individuals to foster and maintain or regain a sense that life is indeed

meaningful. In order to promote, maintain and restore mental health in older adults, who are at risk of meaning loss, it is important that meaning in life is fostered through the engaging of meaningful subjective experiences from the part of the patients or client. This process can be fostered by employing and applying existential of humanistic types of therapy (i.e. logotherapy, existential psychotherapy, client-centred therapy) to clients or patients who overtly express their quest for purpose or meaning in life.

Today a large number of ageing individuals live 20-30 years beyond retirement (Kimmel, 1996). It is important that we explore further ways to extend meaningful involvement at a societal level and to reduce the risk of loss of meaning in life for adults as they age. Ideally what is needed are efforts to increase the options available to older adults in the areas of work and play, education, personal development, relationships, community work (i.e., sources of meaning).

9.5.1 On existential psychotherapy and meaning in life

Psychotherapeutic treatment can aim to support and guide older individuals in a search for meaningful values and purposive goals in life. It has been suggested (Debats, 1996) that generally, regular psychotherapy fails to be effective in patients with low initial levels of meaning in life. Providing treatment and prolonging life without facilitating a struggle for meaning may not be the only answer to the challenges of growing old (Wong, 1989). Components of existential psychotherapy is one method of fostering meaning in life strategies and enriching the whole spirituality of the individual (Trice, 1990).

Behavioural and psychoanalytic techniques may benefit from a consideration of the concepts used within existential psychotherapy. Part of the difficulty in distinguishing between existential therapy and other types of therapy lies in the

fact that existential therapy has been resistant to systematisation and the development of one particular set of techniques and applications (Hoeller, 1990). Rollo May (1960) in "Existential Psychology" (p. 18-19) wrote:

> *"In psychology and psychiatry, the term existential demarcates an attitude, an approach to human beings, rather than a special school or group. It is doubtful whether it makes sense to speak of "an existential psychologist or psychotherapist" in contradistinction to other schools; it is not a system of therapy, but an attitude towards therapy, not a set of new techniques but a concern with the understanding of the structure of the human being and his experience that must underlie all techniques. This is why it makes sense, if I may say so without being misunderstood, to say that every psychotherapist is existential to the extent that he is a good therapist".*

Existential psychotherapy is influenced by both psychoanalytic and behaviourist approaches to treatment but in certain aspects disagrees with both. Generally, it views behaviourism as underestimating the complicated personality of the individual and psychoanalysis as taking a relatively pessimistic view of the human potential for development (Lowenstein, 1993). Existential therapy though is open to possible contributions from other schools of thought including psychoanalysis, Ellis's (1977) rational-emotive therapy and Roger's (1951) non-directive or client-centred therapy. It mainly focuses on the person in the "here-and-now" and compared with other therapies less, but not least, attention is given to past experiences, past events and unresolved conflicts (Correnti, 1965; Havens, 1976; Jones, 1990). Existential psychotherapy with its awareness of concerns of profound importance to each individual may provide guidance to therapists and other carers (Baird, 1985) concerned with finding out what might be meaningful for older patients, including perhaps, their own death (Yalom, 1980).

Clinicians are encouraged by the present study's results to consider the health-fostering aspects of the meaning in life dimension more in their diagnoses and treatments. Certainly, a number of clinicians have probably more than once been confronted by a patient asking: "What is the meaning of life?, "Why does this happen to me?". Expressions of this kind reveal a basic human need to question and comprehend one's personal existence and these questions need to be taken into further consideration and respected even more, even when definite answers cannot be given or found. Such questions convey an absence of meaning as well as a need for meaning in patients' life. Yalom (1980), very interestingly stated that such issues are generally circumvented in regular psychotherapy, because the clinicians themselves feel inadequate (Debats, 1996) to handle them (including issues on meaning in life and death). "*Such therapists are reminded of their personal incomplete quest for meaning in life. How is it possible, the therapist wonders, for one to solve something for someone else one cannot solve for oneself? The therapist may well conclude that the problem is insoluble, and find ways to circumvent it in therapy*". Yalom, 1989, p. 461). It should be remembered however that the anxiety of meaninglessness is not in itself an abnormal condition, although people often respond to it in psycho-pathological ways, through drug or alcohol use etc. (Ruffin, 1984).

In general the study and treatment of severe psychological disorders and research on abnormality are relatively uninfluenced by the existential model. With regard to recent efforts to integrate theories, many existential ideas are not considered sufficient causes of psychopathology and are typically not given prominence in integrative models. This needs to be investigated further, given the accumulated strong evidence that meaning in life and mental health are significantly linked. Another way to establish the links between meaning

in life and well-being is to investigate the ways in which meaning in life strategies are enhanced during humanistic and existential types of psychotherapeutic treatment.

9.6 Proposals for further research

A number of potential directions for future research can be identified from recent studies and the current research. Future research on the relationship between personal meaning and the activities in which older adults are involved will be useful in order to identify other activities and sources of meaning that potentially equip older adults with a sense of purpose and meaning in life. Future research can focus on how exactly sources of meaning, such as activities, have an impact on mental and physical health. How does commitment to a task or helping others and contributing to the community benefit the mental health status of an individual? How do these sources of meaning contribute to the attainment of a meaningful life and in turn to psychological and general well-being? Reminiscence, life review and death review appear to have a therapeutic effect on health and to be meaning producing processes. How does reminiscence affect meaning in life and subsequently psychological well-being? It would be interesting to see how therapeutic treatment enhances meaning in life strategies. How do therapies, if any, affect the development of purpose and meaning in life strategies in older adults? What are particular type of therapies or methods (i.e. existential psychotherapy, client-centred therapy) that affect the creation and development of personal sources of meaning and how? What is the role of anxiety as a banner in the appearance of existential conflicts[2]? Also, further research into meaning in life could investigate how people explain their experiences of meaning, what language they use, and how their accounts are personally and socially constructed.

[2] Confrontation with the givens of human existence (i.e.: meaning in life) can give rise to existential anxiety (Yalom, 1980).

The biographical data collected in the present research were used to make sure that no significant biographical deviations existed between the groups. Future research may focus on the relationship between meaning in life, age, sex, occupational status, involvement in activities. Life events may confirm, invalidate or restore sources of meaning in life and therefore can be been considered as mediators of well-being and personal meaning. There is ground for future studies to explore further the relationships of life events to changes in levels of meaning in life, cognitions and affects. Hunter (1981) for example reported that those individuals who reported low self-esteem had also reported poorer health and higher scores on depression and anxiety - factors that can affect one's meaning in life. Self-worth, self-value and self-esteem have also been considered inseparable aspects of loss of meaning (Becker, 1985). Self-esteem has been claimed to be a prerequisite of meaning in life (Battista and Almond, 1973) and further research can focus on their relationship between these two factors.

9.7 Conclusion

Meaninglessness has been recognised as a modern malaise that, if left unresolved, may lead to symptoms of anxiety, depression or physical decline. On the other hand, the presence of meaning in life has been recognised to be linked with psychological well-being and to be an important element of mental health. The broad aim of the present research was to explore further this relationship between meaning in life and psychological well-being in older adults. It has been shown that meaning in life is consistently associated with mental health and well-being and that changes in mental health are predicted from changes in personal meaning in a group of non well-functioning adults targeted to change their mental health status. The overall results of this investigation lead strongly to the conclusion that there is a substantial and consistent relation between meaning in life and psychological well-being in

older adults. The present research has only begun to address some of the areas of the important theoretical issues in the area of meaning in life within the older adults population.

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APPENDICES

APPENDIX 1

Telephone enquiries, please contact
Ann Prothero 429
Ext:

Our Ref: AP/LSD *Your Ref:*

Date: 26 April 1993

Leeds
HEALTHCARE

For the good of *your* health

Ms G Koutsopoulou,
Research Student in Psychology,
Psychology Department,
University of Leeds,
Leeds LS2 9JT.

Dear Ms Koutsopoulou,

Project no 1589: The clinical applications of adult developmental psychology

The Clinical Research (Ethics) Committee has accepted your project but would like you to amend the letter to potential participants to make it clear that they are being invited to participate with no obligation to do so and to give more information about the nature of the questions and the time involved to complete the questionnaire.

Yours sincerely,

Ann Prothero

pp P R F DEAR
Chairman
Leeds Healthcare/St James's University Hospital NHS Trust
Clinical Research (Ethics) Committee

Leeds Health Authority
St. Mary's House, St. Mary's Road, LEEDS LS7 3JX
Telephone 0532 781341. Fax 0532 620246

APPENDIX 2

My name is Gina Zografo Koutsopoulou and I am a research student in Psychology at the University of Leeds. This study's aim is to contribute to the improvement of the quality of life of elderly people in our society. The focus will be on the emotional problems that many people face.

By filling in this questionnaire you will help a lot in this field of research. You are invited to participate in this study with no obligation to do so and you are free to withdraw from it any time and without giving a reason for withdrawal.

The questions in general ask your views about your health and how you feel. It will take approximately 20-30 minutes to fill in the questionnaire.

The information you will provide will be treated confidentially and your right for anonymity will be strictly according to the Clinical Research Ethics Committee.

Then you very much for your help.

APPENDIX 3

My name is Gina Zografo Koutsopoulou and I am a research student in Psychology at the University of Leeds. This study's aim is to contribute to the improvement of the quality of life of elderly people in our society. The focus will be on the emotional problems that many people face.

By filling in this questionnaire you will help a lot in this field of research. You are invited to participate in this study with no obligation to do so and you are free to withdraw from it any time and without giving a reason for withdrawal. In addition, if you decide to withdraw your future care will not be affected.

The questions in general ask your views about your health and how you feel. It will take approximately 20-30 minutes to fill in the questionnaire.

The information you will provide will be treated confidentially and your right for anonymity will be strictly according to the Clinical Research Ethics Committee.

Then you very much for your help.

APPENDIX 4

PARTICIPANT'S CONSENT FORM

TITLE OF PROJECT: _____

_____

Have you read the participant's information sheet? ____ *YES/NO*

Have you had the opportunity to ask questions and and discuss this study? _____ *YES/NO*

Have you received enough information about this study? _____ *YES/NO*

Who have you spoken to? _____

Do you understand that you are free to withdraw from the study:
* *at any time?*
* *without having to give a reason for withdrawing?*

_____ *YES/NO*

Do you agree to take part in this study? _____ *YES/NO*

Signed (optional): _____

Date: _____

Name in block letters (optional): _____

APPENDIX 5

QUESTIONNAIRE No: (___)

Please provide the following information:

SEX: Male/Female

*DATE OF BIRTH:*_____

PREVIOUS OCCUPATION, (if applicable): _____

CURRENT OCCUPATION, (if any): _____

*MARITAL STATUS:*_____

*RELIGION:*_____

*ACTIVELY RELIGIOUS:*_____ *YES/NO*

LIVING ARRANGEMENTS: -Alone_____ *YES/NO*

-With spouse_____ *YES/NO*

-With family_____ *YES/NO*

-Other, (please specify): _____

*ACTIVITIES:*_____

_____

LEVEL OF INDEPENDENCE: -Going out alone_____ *YES/NO*

-Self care_____ *YES/NO*

APPENDIX 6

SF-36 HEALTH STATUS QUESTIONNAIRE

ABOUT THESE QUESTIONS

These questions ask for your views about your health, how you feel and how well you are able to do your usual activities. We would like you to think carefully about each question and to answer it as honestly as you can.

If you are unsure about how to answer any questions, please give the best answer you can and write your comments beside the question.

Your name and address does not appear anywhere on this booklet. The information that you give will not be used in any way that could identify you personally.

GENERAL HEALTH For questions 1 and 2, please circle the number that best describes your health.

1. In general, would you say your health is:

Excellent	Very good	Good	Fair	Poor
1	2	3	4	5

2. Compared to one year ago, how would you rate your health in general now?

Much better	Somewhat better	About the same	Somewhat worse	Much worse
1	2	3	4	5

HEALTH AND DAILY ACTIVITIES

3. The following questions are about activities you might do in a typical day. Does your health limit you in these activities? If so, how much? Please circle one number on each line.

	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 a mile.	1	2	3
h. Walking half a mile.	1	2	3
i. Walking 100 yards.	1	2	3
j. Bathing or dressing yourself.	1	2	3

4. During the past 4 weeks, have you had any of the following problems with your work or other daily activities as a result of your physical health? Please circle 1 for Yes or 2 for No on each line.

	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 have liked.	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 daily activities as a result of any emotional problems (such as feeling depressed or anxious). Please circle 1 for Yes or 2 for No on each line.

	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 have liked.	1	2
c. Did not do work or other activities as carefully as usual.	1	2

For questions 6,7 and 8, please circle the number that best describes you and your health.

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?

Not at all	Slightly	Moderately	Quite a bit	Extremely
1	2	3	4	5

7. How much bodily pain have you had over the past 4 weeks?

None	Very mild	Mild	Moderate	Severe	Very severe
1	2	3	4	5	6

8. During the past 4 weeks, how much did pain interfere with your normal work (including both work outside the home and housework)?

Not	A little bit	Moderately	Quite a bit	Extremely
1	2	3	4	5

YOUR FEELINGS

9. The following questions are about how you feel and how things have been with you during the last month. For each question, please circle the number that best describes the way you have been feeling. Make sure that you circle one number on each line.

How much time during the past month:	All of the time	Most of the time	A good bit of time	Some of the 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 downhearted and low?	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
j. Has you health limited your social activities (like visiting friends or close relatives)?	1	2	3	4	5	6

HEALTH IN GENERAL

10. Please choose the answer that best describes how true or false each of the following statements is for you. Please circle one number on each line.

	Definitely true	Mostly true	Not sure	Mostly false	Definitely false
a. I seem to get ill more easily than other people.	1	2	3	4	5
b. I am as healthy as anyone 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

APPENDIX 7

Please, for each of the items below tick the appropriate box next to it, according to how often the statement occurs to you.

Date _____	SAS index			
	None or a little of the time	Some of the time	Good part of the time	Most or all of the time
1. I FEEL MORE NERVOUS AND ANXIOUS THAN USUAL				
2. I FEEL AFRAID FOR NO REASON AT ALL				
3. I GET UPSET EASILY OR FEEL PANICKY				
4. I FEEL LIKE I'M FALLING APART AND GOING TO PIECES				
5. I FEEL THAT EVERYTHING IS ALL RIGHT AND NOTHING BAD WILL HAPPEN				
6. MY ARMS AND LEGS SHAKE AND TREMBLE				
7. I AM BOTHERED BY HEADACHES, NECK AND BACK PAINS				
8. I FEEL WEAK AND GET TIRED EASILY				
9. I FEEL CALM AND CAN SIT STILL EASILY				
10. I CAN FEEL MY HEART BEATING FAST				
11. I AM BOTHERED BY DIZZY SPELLS				
12. I HAVE FAINTING SPELLS OR FEEL LIKE IT				
13. I CAN BREATHE IN AND OUT EASILY				
14. I GET FEELINGS OF NUMBNESS AND TINGLING IN MY FINGERS, TOES				
15. I AM BOTHERED BY STOMACH ACHES OR INDIGESTION				
16. I HAVE TO EMPTY MY BLADDER OFTEN				
17. MY HANDS ARE USUALLY DRY AND WARM				
18. MY FACE GETS HOT AND BLUSHES				
19. I FALL ASLEEP EASILY AND GET A GOOD NIGHT'S REST				
20. I HAVE NIGHTMARES				

APPENDIX 8

Please, for each of the items below tick the appropriate box next to it, according to how often the statement occurs to you.

Age _____ Sex _____ Date _____

	None OR a Little of the Time	Some of the Time	Good Part of the Time	Most OR All of the Time	
1. I FEEL DOWN-HEARTED, BLUE AND SAD					
2. MORNING IS WHEN I FEEL THE BEST					
3. I HAVE CRYING SPELLS OR FEEL LIKE IT					
4. I HAVE TROUBLE SLEEPING THROUGH THE NIGHT					
5. I EAT AS MUCH AS I USED TO					
6. I ENJOY LOOKING AT, TALKING TO AND BEING WITH ATTRACTIVE WOMEN/MEN					
7. I NOTICE THAT I AM LOSING WEIGHT					
8. I HAVE TROUBLE WITH CONSTIPATION					
9. MY HEART BEATS FASTER THAN USUAL					
10. I GET TIRED FOR NO REASON					
11. MY MIND IS AS CLEAR AS IT USED TO BE					
12. I FIND IT EASY TO DO THE THINGS I USED TO					
13. I AM RESTLESS AND CAN'T KEEP STILL					
14. I FEEL HOPEFUL ABOUT THE FUTURE					
15. I AM MORE IRRITABLE THAN USUAL					
16. I FIND IT EASY TO MAKE DECISIONS					
17. I FEEL THAT I AM USEFUL AND NEEDED					
18. MY LIFE IS PRETTY FULL					
19. I FEEL THAT OTHERS WOULD BE BETTER OFF IF I WERE DEAD					
20. I STILL ENJOY THE THINGS I USED TO DO					
				Sds raw score	
				Sds index	

APPENDIX 9

For each of the following statements, circle the number that would be most nearly true to you. Note that the nunbers always extend from one extreme feeling to its opposite kind of feeling. "Neutral" implies no judgement either way. Try to use this rating as little as possible.

I am usually:

1	2	3	4	5	6	7
completely bored			(neutral)			exuberant

Life to me seems:

7	6	5	4	3	2	1
always exciting			(neutral)			completely routine

In life I have:

1	2	3	4	5	6	7
no goals or aims at all			(neutral)			very clear goals and aims

---

My personal existence is:

1	2	3	4	5	6	7
utterly meaningless without purpose			(neutral)			very purposeful and meaningful

---

Every day is:

7	6	5	4	3	2	1
constantly new and different			(neutral)			exactly the same

If I could choose I would:

1	2	3	4	5	6	7
prefer never to have been born			(neutral)			like nine more lives just like this one

---

After retiring, I would:

7	6	5	4	3	2	1
do some of the exciting things I have always wanted to			(neutral)			loaf completely the rest of my life

---

In achieving life goals I have:

1	2	3	4	5	6	7
made no progress whatever			(neutral)			progressed to complete fulfillment

---

My life is:

1	2	3	4	5	6	7
empty, filled only with despair			(neutral)			running over with exciting good things

---

If I should die today, I would feel that my life has been:

7	6	5	4	3	2	1
very worthwhile			(neutral)			completely worthless

In thinking of my life, I:

1	2	3	4	5	6	7
often wonder why I exist			(neutral)			always see a reason for my being here

---

As I view the world in relation to my life, the world:

1	2	3	4	5	6	7
completely confuses me			(neutral)			fits meaningfully with my life

I am a:

1	2	3	4	5	6	7
very irresponsible person			(neutral)			very responsible person

Concerning people's freedom to make their own choices, I believe people are:

7	6	5	4	3	2	1
absolutely free to make all life choices			(neutral)			completely bound by limitations of heredity and environment

With regard to death I am:

7	6	5	4	3	2	1
prepared and unafraid			(neutral)			unprepared and frightended

With regard to suicide, I have:

1	2	3	4	5	6	7
thought of it seriously as a way out			(neutral)			never given it a second thought

I regard my ability to find a meaning, purpose, or mission in life as:

7	6	5	4	3	2	1
very great			(neutral)			practically none

My life is:

7	6	5	4	3	2	1
in my hands and I am in control			*(neutral)*			*out of my hands and controlled by external factors*

Facing my daily tasks is:

7	6	5	4	3	2	1
a source of pleasure and satisfaction			*(neutral)*			*a painful and boring experience*

I have discovered:

1	2	3	4	5	6	7
no mission or purpose in life			*(neutral)*			*clear cut goals and a satisfying life purpose*

APPENDIX 10

Telephone enquiries, please contact
Ann Prothero 429
Ext:
Our Ref: AP/LSD *Your Ref:*
Date: 24 February 1994

Leeds
HEALTHCARE

For the good of *your* health

Ms G Koutsopoulou,
Psychology Department,
University of Leeds,
Leeds LS2 9JT.

Dear Ms Koutsopoulou,

Project no 1589 (Resubmission): Meaning in life and psychological well-being of the elderly

The Ethics Committee has no objection to the study in principle but we do feel that it would help if the language was simplified. For example, in the first paragraph of the patient information sheet terms such as 'perceptive' and 'perception' are not particularly clear. Also, we would like to draw your attention to the following points which need correction:

1. Patient information sheet - paragraph four should be moved to become the second paragraph.

2. Consent form, paragraph six - for 'conduct' we suggest the word 'contact' is used.

3. Questionnaire No 1, section explaining the questions, line 2 - 'you' omitted after 'like'.

4. Questionnaire No 2, introduction - last sentence does not read well.

5. Questionnaire No 3, - errors in paragraphs 1 and 2 of the introduction and in questions 9, 19, 30, 40 and 43.

Although these are proof reading errors, we feel that they require correction before submitting the questionnaires to elderly people who may otherwise be confused and therefore unco-operative.

Cont/....

We would be very interested to receive a report of your findings at some future date.

Yours sincerely,

Lilian Dalton

pp P R F DEAR
Chairman
Leeds Healthcare/St James's University Hospital NHS Trust
Clinical Research (Ethics) Committee

APPENDIX 11

A STUDY ON PURPOSE AND MEANING IN LIFE

INFORMATION SHEET

My name is Gina Z. Koutsopoulou and I work at the Department of Psychology, University of Leeds, LS2 9JT. I am interested in studying how elderly people view purpose and meaning in life and how those views are related to their well-being.

Please, it is very important to notice that you are invited to participate in this study with ***NO obligation*** to do so and you are free to withdraw from it at any time and without giving a reason for withdrawal. This will not affect your present and future medical care.

By filling in the following questionnaires you will help a lot in this particular field of research. The questions ask your views about your health and how you feel. All you have to do is to read and think ***carefully*** about each question and circle or tick the most appropriate answer for you. Please try to be as ***honest*** as possible when answering the questions and please try to answer **all** of them. It will take approximately 30 - 45 minutes to fill in the questionnaires.

After three months I would like to give you the same set of questionnaires.

The information you will provide will be treated ***strictly confidentially*** and your right for anonymity will be strictly respected. Consent has been obtained from the Leeds Eastern Health Authority Clinical Research (Ethics) Committee for this study to take place.

If you are interested I will be glad to send you the results of this study when it will be completed.

Thank you very much for your time and valuable help.

APPENDIX 12

A STUDY ON PURPOSE AND MEANING IN LIFE

INFORMATION SHEET

My name is Gina Z. Koutsopoulou and I work at the Department of Psychology, University of Leeds, LS2 9JT. I am interested in studying how elderly people view purpose and meaning in life and how those views are related to their well-being.

Please, it is very important to notice that you are invited to participate in this study with ***NO obligation*** to do so and you are free to withdraw from it at any time and without giving a reason for withdrawal.

By filling in the following questionnaires you will help a lot in this particular field of research. The questions ask your views about your health and how you feel. All you have to do is to read and think ***carefully*** about each question and circle or tick the most appropriate answer for you. Please try to be as ***honest*** as possible when answering the questions and please try to answer **all** of them. It will take approximately 30 - 45 minutes to fill in the questionnaires.

The information you will provide will be treated ***strictly confidentially*** and your right for anonymity will be strictly respected. Consent has been obtained from the Leeds Eastern Health Authority Clinical Research (Ethics) Committee for this study to take place.

If you are interested I will be glad to send you the results of this study when it will be completed.

Thank you very much for your time and valuable help.

APPENDIX 13

PARTICIPANT'S CONSENT FORM

I have been informed that the present study is on the elderly's views of purpose and meaning in life and how those views are related to well-being.

I have been informed about the nature of the questions asked.

I have been informed that the information I will provide will be treated strictly confidentially and that my right for anonymity will be strictly respected.

I have been informed that the investigator will answer any questions regarding the outcome of the study when this will be completed.

I have been informed that I am free not to participate in the study and withdraw from it at any time without giving any reason for withdrawal.

I have been informed that the investigator would wish to contact me again after a period of three months by sending me the same questionnaire at my residence in a self - addressed envelope which I'll send back to her after completion.

I agree to participate in this study.

Concerns about any aspects of this study may be referred to the Department of Psychology, University of Leeds, LS2 9JT.

_____ _____

(Investigator) (Participant)

Date:_____

APPENDIX 14

PARTICIPANT'S CONSENT FORM

I have been informed that the present study is on the elderly's views of purpose and meaning in life and how those views are related to well-being.

I have been informed about the nature of the questions asked.

I have been informed that the information I will provide will be treated strictly confidentially and that my right for anonymity will be strictly respected.

I have been informed that the investigator will answer any questions regarding the outcome of the study when this will be completed.

I have been informed that I am free not to participate in the study and withdraw from it at any time without giving any reason for withdrawal.

I agree to participate in this study.

Concerns about any aspects of this study may be referred to the Department of Psychology, University of Leeds, LS2 9JT.

_____ _____

(Investigator) (Participant)

Date:_____

APPENDIX 15

Questionnaire NO (_____).

Please provide accurately the following information:

* **Your name:**_____

* **Home address or address of contact:**_____

_____

* **Sex:** Female / Male

* **Date of birth:**_____

* **Are you currently retired?**.....Yes / No
If **NO** what is your current occupation?_____

* What was your **main** previous occupation? (Please be as specific as possible)

_____

* Are you **actively** religious? (Please circle).....Yes / No

* What is your **current** marital status? (Please circle).

Married.....	Yes / No
Single.....	Yes / No
Divorced.....	Yes / No
Separated.....	Yes / No
Remarried.....	Yes / No
Widow/er.....	Yes / No

* **Do you live:** (Please circle the correct answer each time)

Alone.....	Yes / No
With spouse.....	Yes / No
With friend.....	Yes / No
With tenant.....	Yes / No
With partner.....	Yes / No

* Are you able to go out by **yourself?**.....Yes/No

* Are you able to **take care of** yourself without other people's help?...Yes/No

* How would **YOU** characterize your **MAIN** activities? (Please indicate only **ONE** category)

Physical (ie: playing sports, swimming,golf).....Yes / No

Social (ie: going out with friends, visiting friends, going to pub)...Yes / No

Home - Oriented (ie: watching TV, knitting, jigsaws).....Yes / No

Intellectual (ie: painting, drawing, writing).....Yes / No

Voluntary - Community work (ie:charity shops,active member).... Yes / No

* Please specify **two** of your **main** activities:

1._____

2._____

* Has any **significant life event** taken place in your life during the last **three** months?.....Yes / No

Please specify:_____

* Are you currently suffering from any serious physical or psychological illness?.....Yes / No

Please specify:_____

ABOUT THESE QUESTIONS

These questions ask for your views about your health, how you feel and how well you are able to do your usual activities. Please, think ***carefully*** about each question and to answer it as ***honestly*** as you can and please try to answer **all** questions.

If you are unsure about how to answer any questions, please give the best answer you can and write your comments beside the question.

The information that you give will not be used in any way that could identify you personally.

For questions 1 and 2, please *circle* or *tick* the box that best describes your health.

1. *In general*, would you say your health is:

Excellent	Very Good	Good	Fair	Poor

2. *Compared to one year ago*, how would you rate your health in general now?

Much better	Somewhat better	About the same	Somewhat worse	Much worse

3. The following questions are about *activities* you might do in a *typical day*. *Does your health limit you in these activities*? If so, how much? Please circle or *tick* the appropriate box.

a. *Vigorous activities*, such as running, lifting heavy objects, participating in strenuous sports.

Yes, limited a lot	Yes, limited a little	No, not limited at all

b. *Moderate activities*, such as moving a table, pushing a vacuum cleaner, bowling or playing golf.

Yes, limited a lot	Yes, limited a little	No, not limited at all

c. Lifting or carrying groceries.

Yes, limited a lot	Yes, limited a little	No, not limited at all

d. Climbing *several* flights of stairs.

Yes, limited a lot	Yes, limited a little	No, not limited at all

e. Climbing *one* flight of stairs.

Yes, limited a lot	Yes, limited a little	No, not limited at all

f. Bending, kneeling or stooping.

Yes, limited a lot	Yes, limited a little	No, not limited at all

g. Walking *more than a mile*.

Yes, limited a lot	Yes, limited a little	No, not limited at all

h. Walking *half a mile*.

Yes, limited a lot	Yes, limited a little	No, not limited at all

i. Walking *100 yards*.

Yes, limited a lot	Yes, limited a little	No, not limited at all

j. Bathing or dressing yourself.

Yes, limited a lot	Yes, limited a little	No, not limited at all

4. During the *past 4 weeks*, have you had any of the following problems with your work or other daily activities as a result of your *physical health* ? Please *circle* or *tick* the appropriate box.

a. During the past 4 weeks have you cut down the *amount of time* you spent on work or other activities as a result of your physical health?

YES	NO

b. *During the past 4 weeks have you accomplished* less than you would have liked as a result of your physical health?

YES	NO

c. During the past 4 weeks were work or other daily activities limited in the *kind* of work or other activities as a result of your physical health?

YES	NO

d. During the past 4 weeks have you had *difficulty* performing the work or other activities (for example, it took extra effort) as a result of your physical health?

YES	NO

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). Please *circle* or *tick* the appropriate box.

a. During the past 4 weeks have you cut down on the *amount of time* you spent on work or other activities as a result of any emotional problems?

YES	NO

b. During the past 4 weeks have you *accomplished* less than you would have liked as a result of any emotional problems?

YES	NO

c. During the past 4 weeks have you not done work or other activities as *carefully* as usual as a result of any emotional problems?

YES	NO

For questions 6, 7, and 8, please *circle* or *tick* the box that best describes *you* and *your health*.

6. During the *past 4 weeks*, to what extend has your physical health or emotional problems interfered with your normal social activities with family, friends, neighbours or groups ?

Not at all	Slightly	Moderately	Quite a bit	Extremely

7. How much bodily pain have you had over the *past 4 weeks* ?

None	Very mild	Mild	Moderate	Severe	Very severe

8. During the *past 4 weeks*, how much did pain interfere with your normal work(including both work outside the home and housework) ?

Not	A little bit	Moderately	Quite a bit	Extremely

9. The following questions are about how you feel and how things have been with you *during the last month*. For each question, please *circle* or *tick* the box that best describes the way you have been feeling. Please make sure you circle or tick only one box each time.

a. How much time during *the past month* did you feel full of life ?

All of the time	Most of the time	A good bit of time	Some of the time	A little of the time	None of the time

b. How much time during *the past month* have you been a very nervous person ?

All of the time	Most of the time	A good bit of time	Some of the time	A little of the time	None of the time

c. How much time during *the past month* have you felt so down in the dumps that nothing could cheer you up ?

All of the time	Most of the time	A good bit of time	Some of the time	A little of the time	None of the time

d. How much time during *the past month* have you felt calm and peaceful ?

All of the time	Most of the time	A good bit of time	Some of the time	A little of the time	None of the time

e. How much time during *the* past month did you have lot of energy?

All of the time	Most of the time	A good bit of time	Some of the time	A little of the time	None of the time

f. How much time during *the past month* have you felt downhearted and low?

All of the time	Most of the time	A good bit of time	Some of the time	A little of the time	None of the time

g. How much time during *the past month* did you feel worn out?

All of the time	Most of the time	A good bit of time	Some of the time	A little of the time	None of the time

h. How much time during *the past month* have you been a happy person?

All of the time	Most of the time	A good bit of time	Some of the time	A little of the time	None of the time

i. How much time during *the past month* did you feel tired?

All of the time	Most of the time	A good bit of time	Some of the time	A little of the time	None of the time

j. How much time during *the past month* has your health limited your social activities (like visiting friends or close relatives)?

All of the time	Most of the time	A good bit of time	Some of the time	A little of the time	None of the time

10. Please choose the answer that best describes how *true* or *false* each of the following statements is for you. Please circle or tick the appropriate box.

a. I seem to get ill more easily than other people.

Definitely true	Mostly true	Not sure	Mostly false	Definitely false

b. I am as healthy as anyone I know.

Definitely true	Mostly true	Not sure	Mostly false	Definitely false

c. I expect my health to get worse.

Definitely true	Mostly true	Not sure	Mostly false	Definitely false

d. My health is excellent.

Definitely true	Mostly true	Not sure	Mostly false	Definitely false

APPENDIX 17

ABOUT THESE QUESTIONS

Please read each item and place a firm **tick** in the box opposite the reply which comes closest to how you have been feeling in the ***past week***.

Don't take too long over your replies: your immediate reaction to each item will probably be more accurate than a long thought-out response.

I feel tense or "wound up":

Most of the time	
From time to time but not too often	
Time to time, Occasionally	
Not at all	

I still enjoy the things I used to enjoy:

Definitely as much	
Not quite as much	
Only a little	
Not at all	

I get a sort of frightened feeling as if something awful is about to happen:

Yes, definitely and quite badly	
Yes, but not too badly	
A little but it doesn't worry me	
Not at all	

I can laugh and see the funny side of things:

As much as I always could	
Not quite so much now	
Definitely not so much now	
Not at all	

Worrying thoughts go through my mind:

A great deal of the time	
A lot of the time	
From time to time but not too often	
Only occasionally	

I feel cheerful:

Not at all	
Not often	
Sometimes	
Most of the time	

I can sit at ease and feel relaxed:

Definitely	
Usually	
Not often	
Not at all	

I feel as if I am slowed down:

Nearly all the time	
Very often	
Sometimes	
Not at all	

I get a sort of frightened feeling like "butterflies" in the stomach:

Not at all	
Occasionally	
Quite often	
Very often	

I have lost interest in my appearance:

Definitely	
I don't take so much care as I should	
I may not take quite as much care	
I take just as much care as ever	

I feel restless as if I have to be on the move:

Very much indeed	
Quite a lot	
Not very much	
Not at all	

I look forward with enjoyment to things:

As much as ever I did	
Rather less than I used to	
Definitely less than I used to	
Hardly at all	

I get sudden feelings of panic:

Very often indeed	
Quite often	
Not very often	
Not at all	

I can enjoy a good book or radio or TV programme:

Often	
Sometimes	
Not often	
Very seldom	

ABOUT THESE QUESTIONS

The following questionnaire contains a number of statements related to opinions and feelings about yourself and life in general.

Please read each statement ***carefully***. Then indicate the extent to which you agree or disagree by *circling* or *ticking* ***only one*** of the alternative categories provided.

Please try to be as ***honest*** as possible when circling or ticking the alternative categories and please try to answer ***all*** of the questions. It is very important to note that there are ***NO*** right or wrong answers.

Finally, please try to use the ***undecided*** category as ***little as possible***.
Thank you.

1. My past achievements have given my life meaning and purpose.

Strongly agree	Agree	Moderately agree	Undecided	Moderately disagree	Disagree	Strongly disagree

2. In my life I have clear goals and aims.

Strongly agree	Agree	Moderately agree	Undecided	Moderately disagree	Disagree	Strongly disagree

3. I regard the opportunity to direct my life as very important.

Strongly agree	Agree	Moderately agree	Undecided	Moderately disagree	Disagree	Strongly disagree

4. I seem to change my main objectives in life.

Strongly agree	Agree	Moderately agree	Undecided	Moderately disagree	Disagree	Strongly disagree

5. I have discovered a satisfying life purpose.

Strongly agree	Agree	Moderately agree	Undecided	Moderately disagree	Disagree	Strongly disagree

6. I feel that some element which I can't quite define is missing from my life.

Strongly agree	Agree	Moderately agree	Undecided	Moderately disagree	Disagree	Strongly disagree

7. The meaning of life is evident in the world around me.

Strongly agree	Agree	Moderately agree	Undecided	Moderately disagree	Disagree	Strongly disagree

8. I think I am generally much less concerned about death than those around me.

Strongly agree	Agree	Moderately agree	Undecided	Moderately disagree	Disagree	Strongly disagree

9. I feel the lack of and a need to find real meaning and purpose in my life.

Strongly agree	Agree	Moderately agree	Undecided	Moderately disagree	Disagree	Strongly disagree

10. New and different things appeal to me.

Strongly agree	Agree	Moderately agree	Undecided	Moderately disagree	Disagree	Strongly disagree

11. My accomplishments in life are largely determined by my own efforts.

Strongly agree	Agree	Moderately agree	Undecided	Moderately disagree	Disagree	Strongly disagree

12. I have been aware of an all powerful and consuming purpose towards which my life has been directed.

Strongly agree	Agree	Moderately agree	Undecided	Moderately disagree	Disagree	Strongly disagree

13. I try new activities or areas of interest and then these soon lose their attractiveness.

Strongly agree	Agree	Moderately agree	Undecided	Moderately disagree	Disagree	Strongly disagree

14. I would enjoy breaking loose from the routine of life.

Strongly agree	Agree	Moderately agree	Undecided	Moderately disagree	Disagree	Strongly disagree

15. Death makes little difference to me one way or another.

Strongly agree	Agree	Moderately agree	Undecided	Moderately disagree	Disagree	Strongly disagree

16. I have a philosophy of life that gives my existence significance.

Strongly agree	Agree	Moderately agree	Undecided	Moderately disagree	Disagree	Strongly disagree

17. I determine what happens in my life.

Strongly agree	Agree	Moderately agree	Undecided	Moderately disagree	Disagree	Strongly disagree

18. Basically, I am living the kind of life I want to live.

Strongly agree	Agree	Moderately agree	Undecided	Moderately disagree	Disagree	Strongly disagree

19. Concerning my freedom to make my choice, I believe I am absolutely free to make all life choices.

Strongly agree	Agree	Moderately agree	Undecided	Moderately disagree	Disagree	Strongly disagree

20. I have experienced the feeling that while I am destined to accomplish something important, I cannot put my finger on just what it is.

Strongly agree	Agree	Moderately agree	Undecided	Moderately disagree	Disagree	Strongly disagree

21. I am restless.

Strongly agree	Agree	Moderately agree	Undecided	Moderately disagree	Disagree	Strongly disagree

22. Even though death awaits me, I am not concerned about it.

Strongly agree	Agree	Moderately agree	Undecided	Moderately disagree	Disagree	Strongly disagree

23. It is possible for me to live my life in terms of what I want to do.

Strongly agree	Agree	Moderately agree	Undecided	Moderately disagree	Disagree	Strongly disagree

24. I feel the need for adventure and "new worlds to conquer".

Strongly agree	Agree	Moderately agree	Undecided	Moderately disagree	Disagree	Strongly disagree

25. I would neither fear death nor welcome it.

Strongly agree	Agree	Moderately agree	Undecided	Moderately disagree	Disagree	Strongly disagree

26. I know where my life is going in the future.

Strongly agree	Agree	Moderately agree	Undecided	Moderately disagree	Disagree	Strongly disagree

27. In thinking of my life, I see a reason for my being here.

Strongly agree	Agree	Moderately agree	Undecided	Moderately disagree	Disagree	Strongly disagree

28. Since death is a natural aspect of life, there is no sense worrying about it.

Strongly agree	Agree	Moderately agree	Undecided	Moderately disagree	Disagree	Strongly disagree

29. I have a framework that allows me to understand or make sense of my life.

Strongly agree	Agree	Moderately agree	Undecided	Moderately disagree	Disagree	Strongly disagree

30. My life is in my hands and I am in control of it.

Strongly agree	Agree	Moderately agree	Undecided	Moderately disagree	Disagree	Strongly disagree

31. In achieving life's goals, I have felt completely fulfilled.

Strongly agree	Agree	Moderately agree	Undecided	Moderately disagree	Disagree	Strongly disagree

32. Some people are very frightened of death, but I am not.

Strongly agree	Agree	Moderately agree	Undecided	Moderately disagree	Disagree	Strongly disagree

33. I daydream of finding a new place for my life and a new identity.

Strongly agree	Agree	Moderately agree	Undecided	Moderately disagree	Disagree	Strongly disagree

34. A new challenge in my life would appeal to me now.

Strongly agree	Agree	Moderately agree	Undecided	Moderately disagree	Disagree	Strongly disagree

35. I have the sense that parts of my life fit together into a unified pattern.

Strongly agree	Agree	Moderately agree	Undecided	Moderately disagree	Disagree	Strongly disagree

36. I hope for something exciting in the future.

Strongly agree	Agree	Moderately agree	Undecided	Moderately disagree	Disagree	Strongly disagree

37. I have a mission in life that gives me a sense of direction.

Strongly agree	Agree	Moderately agree	Undecided	Moderately disagree	Disagree	Strongly disagree

38. I have a clear understanding of the ultimate meaning of life.

Strongly agree	Agree	Moderately agree	Undecided	Moderately disagree	Disagree	Strongly disagree

39. When it comes to important life matters, I make my own decisions.

Strongly agree	Agree	Moderately agree	Undecided	Moderately disagree	Disagree	Strongly disagree

40. I find myself withdrawing from life with an "I don't care attitude".

Strongly agree	Agree	Moderately agree	Undecided	Moderately disagree	Disagree	Strongly disagree

41. I am eager to get more out of life than I have so far.

Strongly agree	Agree	Moderately agree	Undecided	Moderately disagree	Disagree	Strongly disagree

42. Life to me seems boring and uneventful.

Strongly agree	Agree	Moderately agree	Undecided	Moderately disagree	Disagree	Strongly disagree

43. I am determined to achieve new goals in the future.

Strongly agree	Agree	Moderately agree	Undecided	Moderately disagree	Disagree	Strongly disagree

44. The thought of death seldom enters my mind.

Strongly agree	Agree	Moderately agree	Undecided	Moderately disagree	Disagree	Strongly disagree

45. I accept personal responsibility for the choices I have made in my life.

Strongly agree	Agree	Moderately agree	Undecided	Moderately disagree	Disagree	Strongly disagree

46. My personal existence is orderly and coherent.

Strongly agree	Agree	Moderately agree	Undecided	Moderately disagree	Disagree	Strongly disagree

47. I accept death as another life experience.

Strongly agree	Agree	Moderately agree	Undecided	Moderately disagree	Disagree	Strongly disagree

48. My life is running over with exciting good things.

Strongly agree	Agree	Moderately agree	Undecided	Moderately disagree	Disagree	Strongly disagree

APPENDIX 19

From the Department of Psychology

University of Leeds
Leeds LS2 9JT UK

Telex 556473 UNILDS G
Fax 0113 233 5749
Telephone +44 (0)113 243 1751
Direct line

Date_____

Mr. XX
Address
Leeds

Dear Mr./Mrs. XX,

I hope you remember me. My name is Gina Z. Koutsopoulou and we have met at the Tea Party at Leeds when you are very kindly accepted to fill in a questionnaire for the study on "Purpose and Meaning in Life". Thank you for accepting to fill in the questionnaire. Your help was much appreciated.

Since almost three months have passed since I received the filled in questionnaire I am sending to you the same questionnaire again.

I will appreciate it very much if you can please fill it in and send it back to me in the enclosed self - addressed envelope. Your help is essential and will contribute to this research which aims to investigate how elderly people view purpose and meaning in life and how those views are related to their well-being.

I would like to thank you very much again for your time and your help.

With best regards,

Gina Zografo Koutsopoulou
Ph.D Researcher in Health Psychology

Table 1. Correlation matrix for age, sex SF-36, HAD and LAP-R variables for the community comparison group at Time 1 (N=50)

	AGE	SEX	FUNS	PHYSF	SOCF	RLATP	RLATE	WBEING	MENT	ENER	PAIN	GENH	CHAN
AGE		-.2560	-.4589	-.4090	-.3427	-.3664	-.1717	-.3462	-.2377	-.3757	-.1706	-.3666	-.1698
SEX	-.2560		.3503	.4667	.1589	.1066	-.1076	.2062	.1726	.2219	-.0514	.4490	.1857
FUNS	-.4589	.3503		.8724	.8013	.7107	.5219	.6657	.6136	.6137	.0290	.4808	.3295
PHYSF	-.4090	.4667	.8724		.4968	.3541	.1649	.4309	.3052	.4745	.1313	.4380	.2517
SOCF	-.3427	.1589	.8013	.4968		.6561	.5610	.6119	.6541	.5179	-.2239	.3077	.3498
RLATPP	-.3664	.1066	.7107	.3541	.6561		.5951	.6103	.6272	.4915	.0274	.4002	.2750
RLATEP	-.1717	-.1076	.5219	.1649	.5610	.5951		.6751	.7787	.4656	-.0420	.2019	.1079
WBEING	-.3462	.2062	.6657	.4309	.6119	.6103	.6751		.9079	.9103	.1700	.5688	.2369
MENT	-.2377	.1726	.6136	.3052	.6541	.6272	.7787	.9079		.6717	-.0261	.4175	.2353
ENER	-.3757	.2219	.6137	.4745	.5179	.4915	.4656	.9103	.6717		.1482	.6287	.1940
PAIN	-.1706	-.0514	.0290	.1313	-.2239	.0274	-.0420	.1700	-.0261	.1482		.0852	.0382
GENH	-.3666	.4490	.4808	.4380	.3077	.4002	.2019	.5688	.4175	.6287	.0852		.2969
CHANGE	-.1698	.1857	.3295	.2517	.3498	.2750	.1079	.2369	.2353	.1940	.0382	.2969	
ANXI	.2447	-.2903	-.4262	-.3353	-.4006	-.2569	-.3707	-.5666	-.5696	-.4752	-.0014	-.2354	-.2663
DEPRES	.1253	.1412	.1198	.1168	.2408	-.0251	-.0712	-.0115	.0278	-.0381	-.0701	.0246	.0379
PU	-.1267	.0267	.4013	.2468	.3882	.3738	.4162	.5027	.5217	.3529	.2402	.1872	.0605
CO	.1916	-.3216	.0021	-.0601	.0909	-.0095	.1521	.1181	.1005	.0714	.2264	-.1416	-.1249
LC	-.2578	-.0801	.2195	.1641	.2437	.1349	.1565	.3487	.3190	.2647	.2971	.1939	.0538
DA	-.0418	.2940	.0502	.0502	.0141	.0261	.0623	.2131	.1634	.2157	.0901	.0563	.0868
EV	.3297	-.1990	-.5418	-.2924	-.6265	-.5119	-.5606	-.6251	-.7241	-.4608	.1956	-.3878	-.3441
GS	-.2394	-.1181	.0893	.1439	.0115	.0805	-.1898	-.0462	-.2676	.1162	.4160	.0231	-.3196
PMI	.0504	-.1809	.2053	.0895	.2516	.1845	.3026	.3265	.3257	.2223	.2570	.0111	-.0432
LABI	-.0974	.0843	.3545	.1679	.4318	.3031	.4917	.5792	.6651	.3853	.0431	.2085	.2471

	ANX	DEPRES	PU	CO	LC	DA	EV	GS	PMI	LABI
AGE	.2447	.1253	-.1267	.1916	-.2578	-.0418	.3297	-.2394	.0504	-.0974
SEX	-.2903	.1412	.0267	-.3216	-.0801	.2940	-.1990	-.1181	-.1809	.0843
FUNS	-.4262	.1198	.4013	.0021	.2195	.0502	-.5418	.0893	.2053	.3545
PHYSF	-.3353	.1168	.2468	-.0601	.1641	.0502	-.2924	.1439	.0895	.1679
SOCF	-.4006	.2408	.3882	.0909	.2437	.0141	-.6265	.0115	.2516	.4318
RLATPP	-.2569	-.0251	.3738	-.0095	.1349	.0261	-.5119	.0805	.1845	.3031
RLATEP	-.3707	-.0712	.4162	.1521	.1565	.0623	-.5606	-.1898	.3026	.4917
WBEING	-.5666	-.0115	.5027	.1181	.3487	.2131	-.6251	-.0462	.3265	.5792
MENTAL	-.5696	.0278	.5217	.1005	.3190	.1634	-.7241	-.2676	.3257	.6651
ENERGY	-.4752	-.0381	.3529	.0714	.2647	.2157	-.4608	.1162	.2223	.3853
PAIN	-.0014	-.0701	.2402	.2264	.2971	.0901	.1956	.4160	.2570	.0431
GENH	-.2354	.0246	.1872	-.1416	.1939	.0563	-.3878	.0231	.0111	.2085
CHANGE	-.2663	.0379	.0605	-.1249	.0538	.0868	-.3441	-.3196	-.0432	.2471
ANX		-.1506	-.2856	.0571	-.2517	-.2511	.5446	.2419	-.1122	-.4810
DEPRES	-.1506		-.0172	.1337	-.0708	-.1423	-.1307	.0276	.0704	.0183
PU	-.2856	-.0172		.6355	.6180	.2012	-.3028	.0879	.8884	.7935
CO	.0571	.1337	.6355		.3986	.2438	.0992	.2839	.9190	.5523
LC	-.2517	-.0708	.6180	.3986		.0985	-.1104	.2652	.5524	.5620
DA	-.2511	-.1423	.2012	.2438	.0985		.0132	-.0415	.2475	.4709
EV	.5446	-.1307	-.3028	.0992	-.1104	.0132		.4046	-.0959	-.5696
GS	.2419	.0276	.0879	.2839	.2652	-.0415	.4046		.2137	-.3020
PMI	-.1122	.0704	.8884	.9190	.5524	.2475	-.0959	.2137		.7335
LABI	-.4810	.0183	.7935	.5523	.5620	.4709	-.5696	-.3020	.7335	

Table 2. Correlation matrix for age, sex, SF-36, HAD and LAP-R variables for the psychiatric outpatients' group at Time 1 (N=50)

	AGE	SEX	FUNS	PHYSF	SOCF	RLATP	RLATE	WBEING	MENT	ENER	PAIN	GENH	CHAN
AGE		-.3210	-.3875	-.4056	-.3293	-.1053	-.1658	-.3324	-.2053	-.4080	-.0039	-.0920	.0602
SEX	-.3210		.4196	.4623	.2648	.2166	.0516	.4292	.2486	.5148	.1484	.1081	.0556
FUNS	-.3875	.4196		.9702	.7403	.7242	.3292	.6404	.4796	.7156	-.0899	.5915	.3817
PHYSF	-.4056	.4623	.9702		.6163	.6705	.2623	.5936	.4076	.6957	-.0467	.4962	.3176
SOCF	-.3293	.2648	.7403	.6163		.2842	.1470	.6943	.6422	.6426	-.0883	.6701	.4138
RLATPP	-.1053	.2166	.7242	.6705	.2842		.2084	.1809	.0607	.3026	-.1218	.3334	.2564
RLATEP	-.1658	.0516	.3292	.2623	.1470	.2084		.3757	.3519	.3650	-.1541	.2821	.1604
WBEING	-.3324	.4292	.6404	.5936	.6943	.1809	.3757		.8973	.9028	.1259	.6218	.4353
MENT	-.2053	.2486	.4796	.4076	.6422	.0607	.3519	.8973		.6388	-.0733	.5549	.3578
ENER	-.4080	.5148	.7156	.6957	.6426	.3026	.3650	.9028	.6388		.1105	.5810	.4021
PAIN	-.0039	.1484	-.0899	-.0467	-.0883	-.1218	-.1541	.1259	-.0733	.1105		.0002	.1809
GENH	-.0920	.1081	.5915	.4962	.6701	.3334	.2821	.6218	.5549	.5810	.0002		.5977
CHANGE	.0602	.0556	.3817	.3176	.4138	.2564	.1604	.4353	.3578	.4021	.1809	.5977	
ANXI	.2849	-.0817	-.2661	-.2323	-.3254	-.0219	-.2803	-.2748	-.2995	-.2717	.3550	-.2662	-.1318
DEPRES	.1734	-.0964	-.2839	-.2214	-.3842	-.1573	-.0599	-.1782	-.2604	-.1148	.2777	-.0933	-.1216
PU	.0084	.0586	.3708	.2974	.4772	.0779	.4113	.6467	.6215	.5237	.1578	.5893	.3656
CO	-.0041	.0650	.4617	.3714	.5453	.1761	.4764	.7023	.7119	.5451	.0924	.6400	.4466
LC	-.1067	.0502	.4121	.2752	.6918	.1041	.3143	.6613	.6725	.4919	.1795	.6307	.4324
DA	.1502	.0462	-.1267	-.1613	.0788	-.2851	.1579	.0829	.2119	-.0781	.0342	-.0439	.1953
EV	-.1223	.0310	-.0748	.0273	-.2736	-.0473	-.1179	-.1834	-.2967	-.0515	.1127	-.3236	-.2681
GS	-.3621	.1365	.4786	.4900	.5156	-.0454	.3520	.6859	.6733	.5868	-.0583	.3716	.1519
PMI	.0020	.0638	.4307	.3460	.5284	.1326	.4588	.6965	.6891	.5515	.1280	.6340	.4201
LABI	.1385	.0235	.2189	.0938	.4572	.0370	.3394	.4809	.5509	.2928	.1221	.5091	.4490

	ANX	DEPRES	PU	CO	LC	DA	EV	GS	PMI	LABI
AGE	.2849	.1734	.0084	-.0041	-.1067	.1502	-.1223	-.3621	.0020	.1385
SEX	-.0817	-.0964	.0586	.0650	.0502	.0462	.0310	.1365	.0638	.0235
FUNS	-.2661	-.2839	.3708	.4617	.4121	-.1267	-.0748	.4786	.4307	.2189
PHYSF	-.2323	-.2214	.2974	.3714	.2752	-.1613	.0273	.4900	.3460	.0938
SOCF	-.3254	-.3842	.4772	.5453	.6918	.0788	-.2736	.5156	.5284	.4572
RLATPP	-.0219	-.1573	.0779	.1761	.1041	-.2851	-.0473	-.0454	.1326	.0370
RLATEP	-.2803	-.0599	.4113	.4764	.3143	.1579	-.1179	.3520	.4588	.3394
WBEING	-.2748	-.1782	.6467	.7023	.6613	.0829	-.1834	.6859	.6965	.4809
MENTAL	-.2995	-.2604	.6215	.7119	.6725	.2119	-.2967	.6733	.6891	.5509
ENERGY	-.2717	-.1148	.5237	.5451	.4919	-.0781	-.0515	.5868	.5515	.2928
PAIN	.3550	.2777	.1578	.0924	.1795	.0342	.1127	-.0583	.1280	.1221
GENH	-.2662	-.0933	.5893	.6400	.6307	-.0439	-.3236	.3716	.6340	.5091
CHANGE	-.1318	-.1216	.3656	.4466	.4324	.1953	-.2681	.1519	.4201	.4490
ANX		-.0647	-.2355	-.2701	-.2348	-.3468	.1442	-.2335	-.2613	-.3007
DEPRES	-.0647		-.0937	-.1249	-.2570	-.0098	.1657	-.1302	-.1133	-.1473
PU	-.2355	-.0937		.8799	.7037	.1769	-.4055	.4005	.9676	.8011
CO	-.2701	-.1249	.8799		.7550	.2427	-.4167	.4915	.9714	.8185
LC	-.2348	-.2570	.7037	.7550		.2934	-.3656	.3877	.7531	.7943
DA	-.3468	-.0098	.1769	.2427	.2934		-.1833	-.0123	.2175	.5706
EV	.1442	.1657	-.4055	-.4167	-.3656	-.1833		-.0357	-.4242	-.6326
GS	-.2335	-.1302	.4005	.4915	.3877	-.0123	-.0357		.4615	.1255
PMI	-.2613	-.1133	.9676	.9714	.7531	.2175	-.4242	.4615		.8355
LABI	-.3007	-.1473	.8011	.8185	.7943	.5706	-.6326	.1255	.8355	

APPENDIX 22

Table 3. Correlation matrix for age, sex, SF-36, HAD and LAP-R variables for the geriatric outpatients' group at Time 1 (N=50)

	AGE	SEX	FUNS	PHYSF	SOCF	RLATP	RLATE	WBEING	MENT	ENER	PAIN	GENH	CHAN
AGE		-.0493	-.1861	-.2162	.0187	-.0490	-.1324	.0045	.0638	-.0859	.0070	.0885	-.1499
SEX	-.0493		-.2111	-.1230	-.1946	-.2275	-.1578	-.1118	-.0840	-.1421	.0753	-.2097	-.0822
FUNS	-.1861	-.2111		.8889	.6843	.4915	.2929	.4706	.3360	.4975	.1500	.4493	.3508
PHYSF	-.2162	-.1230	.8889		.3407	.2485	-.0307	.1904	.0381	.2916	.2589	.2433	.2109
SOCF	.0187	-.1946	.6843	.3407		.3988	.3617	.5596	.4933	.5699	-.2505	.6244	.3504
RLATPP	-.0490	-.2275	.4915	.2485	.3988		.2558	.3677	.3362	.2902	.0805	.1359	.2836
RLATEP	-.1324	-.1578	.2929	-.0307	.3617	.2558		.6075	.6386	.3577	.1309	.3119	.2602
WBEING	.0045	-.1118	.4706	.1904	.5596	.3677	.6075		.9200	.8431	-.0102	.6048	.3674
MENT	.0638	-.0840	.3360	.0381	.4933	.3362	.6386	.9200		.5895	-.1562	.5260	.3112
ENER	-.0859	-.1421	.4975	.2916	.5699	.2902	.3577	.8431	.5895		-.0637	.5974	.2777
PAIN	.0070	.0753	.1500	.2589	-.2505	.0805	.1309	-.0102	-.1562	-.0637		-.1635	.2603
GENH	.0885	-.2097	.4493	.2433	.6244	.1359	.3119	.6048	.5260	.5974	-.1635		.4422
CHANGE	-.1499	-.0822	.3508	.2109	.3504	.2836	.2602	.3674	.3112	.2777	.2603	.4422	
ANXI	-.0895	-.0533	-.3439	-.1417	-.4656	-.1367	-.4349	-.5370	-.5329	-.4270	.1212	-.4471	-.2951
DEPRES	-.1652	-.1957	.0953	.1369	-.0317	.1013	-.0706	-.1725	-.1421	-.1940	.0914	-.2450	-.0596
PU	.0818	-.0911	.1468	-.0067	.2586	.0919	.3484	.6656	.6315	.5961	-.2396	.4627	.1787
CO	.2353	-.1962	-.0695	-.1707	.1307	.0471	.0711	.4574	.4022	.4535	-.1535	.3466	.1826
LC	.0067	-.0504	.0621	-.0761	.1632	.1320	.3004	.3949	.3187	.3904	.0267	.3371	.2445
DA	.1661	-.0020	-.1435	-.1443	-.1452	-.0370	.0932	.1290	.2138	-.0565	.0917	.0706	.0086
EV	-.3450	-.0679	.0489	.2370	-.3767	-.0423	-.0383	-.2954	-.3561	-.2508	.4664	-.3399	-.0442
GS	.0320	-.0580	-.1240	-.0576	-.1224	-.0471	-.2136	.0066	-.0328	.0753	-.0466	.0953	.0773
PMI	.1633	-.1490	.0473	-.0891	.2099	.0749	.2302	.6006	.5539	.5598	-.2106	.4318	.1911
LABI	.2456	-.0680	.0174	-.1754	.2664	.0944	.3185	.5941	.6006	.4775	-.2129	.4486	.1775

	ANX	DEPRES	PU	CO	LC	DA	EV	GS	PMI	LABI
AGE	-.0895	-.1652	.0818	.2353	.0067	.1661	-.3450	.0320	.1633	.2456
SEX	-.0533	-.1957	-.0911	-.1962	-.0504	-.0020	-.0679	-.0580	-.1490	-.0680
FUNS	-.3439	.0953	.1468	-.0695	.0621	-.1435	.0489	-.1240	.0473	.0174
PHYSF	-.1417	.1369	-.0067	-.1707	-.0761	-.1443	.2370	-.0576	-.0891	-.1754
SOCF	-.4656	-.0317	.2586	.1307	.1632	-.1452	-.3767	-.1224	.2099	.2664
RLATPP	-.1367	.1013	.0919	.0471	.1320	-.0370	-.0423	-.0471	.0749	.0944
RLATEP	-.4349	-.0706	.3484	.0711	.3004	.0932	-.0383	-.2136	.2302	.3185
WBEING	-.5370	-.1725	.6656	.4574	.3949	.1290	-.2954	.0066	.6006	.5941
MENTAL	-.5329	-.1421	.6315	.4022	.3187	.2138	-.3561	-.0328	.5539	.6006
ENERGY	-.4270	-.1940	.5961	.4535	.3904	-.0565	-.2508	.0753	.5598	.4775
PAIN	.1212	.0914	-.2396	-.1535	.0267	.0917	.4664	-.0466	-.2106	-.2129
GENH	-.4471	-.2450	.4627	.3466	.3371	.0706	-.3399	.0953	.4318	.4486
CHANGE	-.2951	-.0596	.1787	.1826	.2445	.0086	-.0442	.0773	.1911	.1775
ANX		.1775	-.3565	-.1092	-.2096	-.1500	.3452	.2213	-.2538	-.4177
DEPRES	.1775		-.1774	-.1339	-.0972	.1592	.3282	-.2239	-.1661	-.1121
PU	-.3565	-.1774		.7839	.5302	.2443	-.3383	.3142	.9506	.8087
CO	-.1092	-.1339	.7839		.6147	.4147	-.1888	.4921	.9379	.7891
LC	-.2096	-.0972	.5302	.6147		.2993	-.1599	.4030	.6035	.6765
DA	-.1500	.1592	.2443	.4147	.2993		.0791	-.0082	.3438	.5899
EV	.3452	.3282	-.3383	-.1888	-.1599	.0791		.0081	-.2834	-.4839
GS	.2213	-.2239	.3142	.4921	.4030	-.0082	.0081		.4216	.0951
PMI	-.2538	-.1661	.9506	.9379	.6035	.3438	-.2834	.4216		.8463
LABI	-.4177	-.1121	.8087	.7891	.6765	.5899	-.4839	.0951	.8463	

APPENDIX 23

Table 4. Correlation matrix for age, sex SF-36, HAD and LAP-R variables for the community comparison group at Time 2 (N=50)

	AGE	SEX	FUNS	PHYSF	SOCF	RLATP	RLATE	WBEING	MENT	ENER	PAIN	GENH	CHAN
AGE		-.2560	-.4988	-.4843	-.4339	-.1802	-.2087	-.3184	-.2633	-.3721	.1638	-.3279	-.2786
SEX	-.2560		.4440	.4883	.2107	.2464	-.0692	.3200	.2878	.2690	.1562	.4496	.3037
FUNS	-.4988	.4440		.9459	.7111	.6538	.3149	.7624	.5641	.7946	.3029	.6696	.3816
PHYSF	-.4843	.4883	.9459		.5168	.4579	.1958	.6640	.4678	.7188	.2625	.5967	.3210
SOCF	-.4339	.2107	.7111	.5168		.4685	.2742	.6668	.5889	.6108	.1693	.5499	.3897
RLATPP	-.1802	.2464	.6538	.4579	.4685		.1487	.5078	.3256	.5466	.3610	.5088	.3193
RLATEP	-.2087	-.0692	.3149	.1958	.2742	.1487		.3869	.3667	.3471	.0139	.2173	-.0189
WBEING	-.3184	.3200	.7624	.6640	.6668	.5078	.3869		.8972	.9089	.2195	.6903	.3203
MENT	-.2633	.2878	.5641	.4678	.5889	.3256	.3667	.8972		.6541	-.0395	.5046	.2500
ENER	-.3721	.2690	.7946	.7188	.6108	.5466	.3471	.9089	.6541		.2314	.7113	.3312
PAIN	.1638	.1562	.3029	.2625	.1693	.3610	.0139	.2195	-.0395	.2314		.4499	.0786
GENH	-.3279	.4496	.6696	.5967	.5499	.5088	.2173	.6903	.5046	.7113	.4499		.3445
CHANGE	-.2786	.3037	.3816	.3210	.3897	.3193	-.0189	.3203	.2500	.3312	.0786	.3445	
ANXI	.1767	-.0518	-.1316	-.0635	-.2987	-.0043	-.2400	-.4071	-.3816	-.3744	.0035	-.2508	-.1384
DEPRES	-.0903	-.0359	.0504	.0756	.0639	.0590	-.3665	-.0300	.0561	-.1055	-.0681	-.1346	.1200
PU	.0514	-.0058	.3042	.2343	.2955	.2856	.1339	.4976	.4445	.4800	.0058	.3156	.1821
CO	.1280	-.1990	.1550	.1203	.1371	.1298	.1359	.3092	.2331	.3108	.1500	.1693	-.0695
LC	-.1393	.0262	.3785	.3459	.3882	.1956	.0436	.5433	.5236	.4798	.0108	.2412	.2700
DA	.0336	.1100	.1605	.0633	.2982	.2221	.0419	.3428	.3616	.2768	-.0309	.2275	.1859
EV	.2735	-.2857	-.3185	-.2879	-.3122	-.1758	-.0734	-.5423	-.5726	-.4461	.0851	-.4312	-.2433
GS	-.0623	-.2164	.1357	.1313	.0135	.1330	.1230	-.0580	-.2114	.0764	.1914	.0275	-.1810
PMI	.1024	-.1252	.2347	.1813	.2197	.2107	.1449	.4182	.3470	.4111	.0950	.2461	.0405
LABI	-.0311	.1167	.2867	.2209	.3516	.2133	.0750	.5754	.5943	.4757	-.0388	.3487	.2467

	ANX	DEPRES	PU	CO	LC	DA	EV	GS	PMI	LABI
AGE	.1767	-.0903	.0514	.1280	-.1393	.0336	.2735	-.0623	.1024	-.0311
SEX	-.0518	-.0359	-.0058	-.1990	.0262	.1100	-.2857	-.2164	-.1252	.1167
FUNS	-.1316	.0504	.3042	.1550	.3785	.1605	-.3185	.1357	.2347	.2867
PHYSF	-.0635	.0756	.2343	.1203	.3459	.0633	-.2879	.1313	.1813	.2209
SOCF	-.2987	.0639	.2955	.1371	.3882	.2982	-.3122	.0135	.2197	.3516
RLATPP	-.0043	.0590	.2856	.1298	.1956	.2221	-.1758	.1330	.2107	.2133
RLATEP	-.2400	-.3665	.1339	.1359	.0436	.0419	-.0734	.1230	.1449	.0750
WBEING	-.4071	-.0300	.4976	.3092	.5433	.3428	-.5423	-.0580	.4182	.5754
MENTAL	-.3816	.0561	.4445	.2331	.5236	.3616	-.5726	-.2114	.3470	.5943
ENERGY	-.3744	-.1055	.4800	.3108	.4798	.2768	-.4461	.0764	.4111	.4757
PAIN	.0035	-.0681	.0058	.1500	.0108	-.0309	.0851	.1914	.0950	-.0388
GENH	-.2508	-.1346	.3156	.1693	.2412	.2275	-.4312	.0275	.2461	.3487
CHANGE	-.1384	.1200	.1821	-.0695	.2700	.1859	-.2433	-.1810	.0405	.2467
ANX		.2790	-.3721	-.2032	-.2786	-.3522	.3375	.2470	-.2955	-.4589
DEPRES	.2790	.	-.1124	.0276	.0360	-.0765	.0668	-.0284	-.0344	-.0396
PU	-.3721	-.1124		.7297	.7158	.6683	-.2919	-.1044	.9071	.8755
CO	-.2032	.0276	.7297		.4890	.5984	.0507	.3009	.9498	.6178
LC	-.2786	.0360	.7158	.4890		.6525	-.3075	-.0135	.6288	.7798
DA	-.3522	-.0765	.6683	.5984	.6525		-.1012	.0775	.6743	.7365
EV	.3375	.0668	-.2919	.0507	-.3075	-.1012		.5671	-.1024	-.5808
GS	.2470	-.0284	-.1044	.3009	-.0135	.0775	.5671		.1375	-.3574
PMI	-.2955	-.0344	.9071	.9498	.6288	.6743	-.1024	.1375		.7812
LABI	-.4589	-.0396	.8755	.6178	.7798	.7365	-.5808	-.3574	.7812	

APPENDIX 24

Table 5. Correlation matrix for age, sex, SF-36, HAD and LAP-R variables for the psychiatric outpatients' group at Time 2 (N=50)

	AGE	SEX	FUNS	PHYSF	SOCF	RLATP	RLATE	WBEING	MENT	ENER	PAIN	GENH	CHAN
AGE		-.3989	-.4748	-.4631	-.3713	-.3488	-.1531	-.3743	-.3132	-.3532	.0184	-.0894	.0797
SEX	-.3989		.3789	.4252	.2568	.2809	-.1487	.1725	.0182	.2687	.1836	.1349	-.0587
FUNS	-.4748	.3789		.9562	.7818	.7922	.3567	.6734	.5586	.6390	-.0225	.6736	.3446
PHYSF	-.4631	.4252	.9562		.6079	.6793	.2068	.5212	.4055	.5140	.0394	.5910	.2690
SOCF	-.3713	.2568	.7818	.6079		.6346	.3399	.7916	.6981	.7285	-.1547	.6923	.3830
RLATPP	-.3488	.2809	.7922	.6793	.6346		.1775	.5275	.3684	.5745	.0034	.5117	.2349
RLATEP	-.1531	-.1487	.3567	.2068	.3399	.1775		.4784	.5844	.2665	-.1425	.3763	.3276
WBEING	-.3743	.1725	.6734	.5212	.7916	.5275	.4784		.9093	.8831	-.1615	.6198	.3157
MENT	-.3132	.0182	.5586	.4055	.6981	.3684	.5844	.9093		.6231	-.2266	.5128	.3806
ENER	-.3532	.2687	.6390	.5140	.7285	.5745	.2665	.8831	.6231		-.2360	.6197	.2132
PAIN	.0184	.1836	-.0225	.0394	-.1547	.0034	-.1425	-.1615	-.2266	-.2360		-.2029	-.2626
GENH	-.0894	.1349	.6736	.5910	.6923	.5117	.3763	.6198	.5128	.6197	-.2029		.5292
CHANGE	.0797	-.0587	.3446	.2690	.3830	.2349	.3276	.3157	.3806	.2132	-.2626	.5292	
ANXI	.1422	.0198	-.2935	-.2523	-.2483	-.1693	-.3385	-.3936	-.4292	-.3410	.4554	-.2174	-.1605
DEPRES	-.0068	-.1147	-.3984	-.3381	-.4249	-.2909	-.2167	-.2816	-.3970	-.1075	.1376	-.2431	-.1440
PU	-.0395	-.0595	.3435	.2578	.4206	.1716	.4072	.6048	.6415	.4213	-.0456	.4325	.3158
CO	-.0097	.0311	.2976	.2082	.4466	.1460	.2851	.5125	.5201	.3931	-.0901	.4395	.2891
LC	-.1692	.0093	.3970	.2822	.4687	.2299	.5562	.5590	.5979	.3817	-.0315	.4244	.3783
DA	.1562	-.1266	-.4250	-.4276	-.3229	-.3850	.0348	-.3163	-.1571	-.4383	.1146	-.3709	.0034
EV	.0383	-.0122	-.1773	-.0796	-.3379	.0947	-.5762	-.3755	-.4735	-.2271	.2960	-.3789	-.2438
GS	-.1942	.1146	.3353	.2441	.4706	.3100	.1080	.4973	.4127	.4869	-.0981	.2766	.1915
PMI	-.0253	-.0137	.3341	.2426	.4531	.1655	.3598	.5821	.6048	.4247	-.0714	.4533	.3154
LABI	.0160	-.0671	.1485	.0539	.2843	-.0595	.5296	.3897	.5133	.1684	-.0799	.3139	.3196

	ANX	DEPRES	PU	CO	LC	DA	EV	GS	PMI	LABI
AGE	.1422	-.0068	-.0395	-.0097	-.1692	.1562	.0383	-.1942	-.0253	.0160
SEX	.0198	-.1147	-.0595	.0311	.0093	-.1266	-.0122	.1146	-.0137	-.0671
FUNS	-.2935	-.3984	.3435	.2976	.3970	-.4250	-.1773	.3353	.3341	.1485
PHYSF	-.2523	-.3381	.2578	.2082	.2822	-.4276	-.0796	.2441	.2426	.0539
SOCF	-.2483	-.4249	.4206	.4466	.4687	-.3229	-.3379	.4706	.4531	.2843
RLATPP	-.1693	-.2909	.1716	.1460	.2299	-.3850	.0947	.3100	.1655	-.0595
RLATEP	-.3385	-.2167	.4072	.2851	.5562	.0348	-.5762	.1080	.3598	.5296
WBEING	-.3936	-.2816	.6048	.5125	.5590	-.3163	-.3755	.4973	.5821	.3897
MENTAL	-.4292	-.3970	.6415	.5201	.5979	-.1571	-.4735	.4127	.6048	.5133
ENERGY	-.3410	-.1075	.4213	.3931	.3817	-.4383	-.2271	.4869	.4247	.1684
PAIN	.4554	.1376	-.0456	-.0901	-.0315	.1146	.2960	-.0981	-.0714	-.0799
GENH	-.2174	-.2431	.4325	.4395	.4244	-.3709	-.3789	.2766	.4533	.3139
CHANGE	-.1605	-.1440	.3158	.2891	.3783	.0034	-.2438	.1915	.3154	.3196
ANX		.0462	-.2590	-.2259	-.1900	.0168	.3894	-.1337	-.2527	-.2783
DEPRES	.0462		-.3209	-.2543	-.3060	.2407	.2244	-.1834	-.2994	-.2085
PU	-.2590	-.3209		.8347	.7738	.0346	-.4381	.2896	.9556	.8364
CO	-.2259	-.2543	.8347		.7090	.0963	-.4387	.5615	.9599	.7740
LC	-.1900	-.3060	.7738	.7090		.0438	-.4176	.3378	.7732	.7933
DA	.0168	.2407	.0346	.0963	.0438		-.0698	-.0249	.0691	.3889
EV	.3894	.2244	-.4381	-.4387	-.4176	-.0698		-.0966	-.4577	-.6819
GS	-.1337	-.1834	.2896	.5615	.3378	-.0249	-.0966		.4478	.1354
PMI	-.2527	-.2994	.9556	.9599	.7732	.0691	-.4577	.4478		.8399
LABI	-.2783	-.2085	.8364	.7740	.7933	.3889	-.6819	.1354	.8399	

APPENDIX 25

Table 6. Correlation matrix for age, sex, SF-36, HAD and LAP-R variables for the geriatric outpatients' group at Time 2 (N=50)

	AGE	SEX	FUNS	PHYSF	SOCF	RLATP	RLATE	WBEING	MENT	ENER	PAIN	GENH	CHAN
AGE		-.0773	-.1868	-.2259	-.0595	.0056	-.0682	.0913	.1815	-.1077	.0885	-.0034	-.0355
SEX	-.0773		-.0338	.0077	-.0371	-.1031	-.0605	-.0553	-.0289	-.0642	-.0594	-.1378	-.0695
FUNS	-.1868	-.0338		.8864	.7606	.5502	.3413	.4743	.3799	.4924	-.1028	.3710	.0352
PHYSF	-.2259	.0077	.8864		.4520	.2666	.0258	.1722	.0864	.2727	-.0795	.1149	-.1323
SOCF	-.0595	-.0371	.7606	.4520		.4939	.3743	.6262	.5025	.6504	-.1431	.5601	.2831
RLATPP	.0056	-.1031	.5502	.2666	.4939		.2525	.3923	.3366	.3650	-.0612	.3544	.0859
RLATEP	-.0682	-.0605	.3413	.0258	.3743	.2525		.5970	.6671	.2734	.0339	.3781	.1781
WBEING	.0913	-.0553	.4743	.1722	.6262	.3923	.5970		.9207	.7844	.0214	.7342	.4567
MENT	.1815	-.0289	.3799	.0864	.5025	.3366	.6671	.9207		.5002	-.0733	.6249	.3513
ENER	-.1077	-.0642	.4924	.2727	.6504	.3650	.2734	.7844	.5002		-.0875	.6793	.5249
PAIN	.0885	-.0594	-.1028	-.0795	-.1431	-.0612	.0339	.0214	-.0733	-.0875		-.0674	-.2063
GENH	-.0034	-.1378	.3710	.1149	.5601	.3544	.3781	.7342	.6249	.6793	-.0674		.5557
CHANGE	-.0355	-.0695	.0352	-.1323	.2831	.0859	.1781	.4567	.3513	.5249	-.2063	.5557	
ANXI	.1013	-.0149	-.4573	-.2137	-.5402	-.4249	-.4394	-.6499	-.5920	-.5268	.0128	-.5807	-.2970
DEPRES	-.2372	-.1779	.1200	.1175	.1293	-.1151	.1164	-.0338	-.0793	.0689	-.0699	-.0617	-.1026
PU	.1621	-.0339	.1577	.0018	.2951	.1147	.2945	.7008	.5574	.6806	.0577	.5532	.5885
CO	.3219	-.1132	-.0549	-.1912	.1354	.1473	.0825	.5024	.3298	.5572	.2119	.4360	.4473
LC	.0739	-.1502	.0481	-.1036	.1291	.1757	.3019	.4420	.3341	.4248	.1843	.3737	.3135
DA	.1397	-.0045	-.1622	-.1595	-.1487	-.0679	.0318	.1934	.1154	.1984	.2179	.1600	.0807
EV	-.3121	-.0780	-.1754	.0479	-.3921	-.4652	-.0744	-.4154	-.4323	-.2776	.1177	-.5445	-.2456
GS	-.1080	.1584	-.0445	.0212	-.0511	-.0451	-.2158	.0100	-.0964	.1545	.0941	.1531	.2770
PMI	.2477	-.0741	.0624	-.0917	.2324	.1362	.2064	.6395	.4748	.6547	.1354	.5239	.5493
LABI	.3071	-.0940	.0514	-.1427	.2252	.2279	.2609	.6245	.5139	.5647	.1364	.5363	.4066

	ANX	DEPRES	PU	CO	LC	DA	EV	GS	PMI	LABI
AGE	.1013	-.2372	.1621	.3219	.0739	.1397	-.3121	-.1080	.2477	.3071
SEX	-.0149	-.1779	-.0339	-.1132	-.1502	-.0045	-.0780	.1584	-.0741	-.0940
FUNS	-.4573	.1200	.1577	-.0549	.0481	-.1622	-.1754	-.0445	.0624	.0514
PHYSF	-.2137	.1175	.0018	-.1912	-.1036	-.1595	.0479	.0212	-.0917	-.1427
SOCF	-.5402	.1293	.2951	.1354	.1291	-.1487	-.3921	-.0511	.2324	.2252
RLATPP	-.4249	-.1151	.1147	.1473	.1757	-.0679	-.4652	-.0451	.1362	.2279
RLATEP	-.4394	.1164	.2945	.0825	.3019	.0318	-.0744	-.2158	.2064	.2609
WBEING	-.6499	-.0338	.7008	.5024	.4420	.1934	-.4154	.0100	.6395	.6245
MENTAL	-.5920	-.0793	.5574	.3298	.3341	.1154	-.4323	-.0964	.4748	.5139
ENERGY	-.5268	.0689	.6806	.5572	.4248	.1984	-.2776	.1545	.6547	.5647
PAIN	.0128	-.0699	.0577	.2119	.1843	.2179	.1177	.0941	.1354	.1364
GENH	-.5807	-.0617	.5532	.4360	.3737	.1600	-.5445	.1531	.5239	.5363
CHANGE	-.2970	-.1026	.5885	.4473	.3135	.0807	-.2456	.2770	.5493	.4066
ANX		-.0834	-.2573	-.1130	-.1511	-.0698	.2882	.0332	-.2001	-.2507
DEPRES	-.0834		-.0435	-.0868	.0927	-.0436	.2592	.0010	-.0667	-.0980
PU	-.2573	-.0435		.8137	.6245	.4374	-.1925	.1699	.9595	.8281
CO	-.1130	-.0868	.8137		.6705	.4994	-.2609	.2241	.9446	.8556
LC	-.1511	.0927	.6245	.6705		.4054	-.1900	.2419	.6778	.7314
DA	-.0698	-.0436	.4374	.4994	.4054		.0507	-.0757	.4893	.6861
EV	.2882	.2592	-.1925	-.2609	-.1900	.0507		-.0207	-.2353	-.4166
GS	.0332	.0010	.1699	.2241	.2419	-.0757	-.0207		.2046	-.0712
PMI	-.2001	-.0667	.9595	.9446	.6778	.4893	-.2353	.2046		.8825
LABI	-.2507	-.0980	.8281	.8556	.7314	.6861	-.4166	-.0712	.8825	

Table 7. Correlation matrix for age, sex, condition, SF-36, HAD and LAP-R variables for the combined groups at Time 1 (N=150)

	AGE	SEX	ADUM	BDUM	FUNS	PHYSF	SOCF	RLATP	RLATE	WBEING	MENT	ENER	PAIN
AGE		-.1749	.2598	-.2541	-.2731	-.3177	-.1527	-.2399	.0578	-.0804	.0179	-.1892	-.0593
SEX	-.1749		.1140	-.0285	.2043	.2560	.1116	.0744	.0228	.2035	.1521	.2335	.0592
ADUM	.2598	.1140		-.5000	.2637	.1328	.3242	-.0253	.6961	.5403	.5906	.4064	-.0315
BDUM	-.2541	-.0285	-.5000		.3503	.3309	.2936	.5136	-.2105	.1123	.0319	.1980	.0315
FUNS	-.2731	.2043	.2637	.3503		.9257	.8335	.7387	.4672	.7241	.6253	.7542	.0175
PHYSF	-.3177	.2560	.1328	.3309	.9257		.6248	.5882	.2286	.5366	.4050	.6209	.0987
SOCF	-.1527	.1116	.3242	.2936	.8335	.6248		.5587	.4961	.7606	.7194	.7378	-.1414
RLATPP	-.2399	.0744	-.0253	.5136	.7387	.5882	.5587		.2675	.4524	.3793	.4895	-.0067
RLATEP	.0578	.0228	.6961	-.2105	.4672	.2286	.4961	.2675		.7194	.7663	.5626	-.0141
WBEING	-.0804	.2035	.5403	.1123	.7241	.5366	.7606	.4524	.7194		.9483	.9237	.0551
MENT	.0179	.1521	.5906	.0319	.6253	.4050	.7194	.3793	.7663	.9483		.7659	-.0787
ENER	-.1892	.2335	.4064	.1980	.7542	.6209	.7378	.4895	.5626	.9237	.7659		.0463
PAIN	-.0593	.0592	-.0315	.0315	.0175	.0987	-.1414	-.0067	-.0141	.0551	-.0787	.0463	
GENH	-.1208	.1631	.2875	.3578	.7045	.5688	.7155	.5306	.4251	.7347	.6547	.7435	-.0120
CHANGE	-.1041	.0606	.0443	.3294	.4963	.4072	.4997	.4268	.2071	.4414	.3813	.4324	.1632
ANXI	.0277	-.1804	-.4961	.0066	-.5031	-.3582	-.5610	-.2368	-.6021	-.6556	-.6688	-.5762	.1485
DEPRES	-.0343	-.0985	-.2766	.1463	-.1187	-.0490	-.1819	-.0289	-.2348	-.2398	-.2638	-.1997	.1340
PU	.0513	.0437	.3723	.0639	.4698	.3166	.5336	.2802	.5359	.7181	.7076	.6309	.0152
CO	.2104	-.0717	.4460	-.1166	.3098	.1793	.4122	.1180	.4551	.5838	.5830	.5005	.0314
LC	-.0288	.0314	.3982	-.0276	.3968	.2484	.5192	.1908	.4651	.6171	.5992	.5338	.1334
DA	.1488	.1396	.3393	-.0293	.1176	.0355	.1865	-.0079	.3259	.3428	.3934	.2195	.0556
EV	-.0565	-.1300	-.3822	-.1261	-.4340	-.2234	-.5879	-.3669	-.4679	-.5910	-.6355	-.4924	.2244
GS	-.1476	.0102	.2129	-.0206	.2489	.2516	.2428	.0573	.1223	.3218	.2561	.3491	.0911
PMI	.1400	-.0179	.4301	-.0304	.4076	.2583	.4957	.2065	.5199	.6834	.6775	.5935	.0234
LABI	.1610	.0707	.4849	.0082	.4167	.2145	.5605	.2471	.5927	.7120	.7467	.5728	-.0238

	GENH	CHAN	ANX	DEPRES	PU	CO	LC	DA	EV	GS	PMI	LABI
AGE	-.1208	-.1041	.0277	-.0343	.0513	.2104	-.0288	.1488	-.0565	-.1476	.1400	.1610
SEX	.1631	.0606	-.1804	-.0985	.0437	-.0717	.0314	.1396	-.1300	.0102	-.0179	.0707
ADUM	.2875	.0443	-.4961	-.2766	.3723	.4460	.3982	.3393	-.3822	.2129	.4301	.4849
BDUM	.3578	.3294	.0066	.1463	.0639	-.1166	-.0276	-.0293	-.1261	-.0206	-.0304	.0082
FUNS	.7045	.4963	-.5031	-.1187	.4698	.3098	.3968	.1176	-.4340	.2489	.4076	.4167
PHYSF	.5688	.4072	-.3582	-.0490	.3166	.1793	.2484	.0355	-.2234	.2516	.2583	.2145
SOCF	.7155	.4997	-.5610	-.1819	.5336	.4122	.5192	.1865	-.5879	.2428	.4957	.5605
RLATPP	.5306	.4268	-.2368	-.0289	.2802	.1180	.1908	-.0079	-.3669	.0573	.2065	.2471
RLATEP	.4251	.2071	-.6021	-.2348	.5359	.4551	.4651	.3259	-.4679	.1223	.5199	.5927
WBEING	.7347	.4414	-.6556	-.2398	.7181	.5838	.6171	.3428	-.5910	.3218	.6834	.7120
MENTAL	.6547	.3813	-.6688	-.2638	.7076	.5830	.5992	.3934	-.6355	.2561	.6775	.7467
ENERGY	.7435	.4324	-.5762	-.1997	.6309	.5005	.5338	.2195	-.4924	.3491	.5935	.5728
PAIN	-.0120	.1632	.1485	.1340	.0152	.0314	.1334	.0556	.2244	.0911	.0234	-.0238
GENH		.5648	-.4935	-.1535	.5507	.3860	.5009	.2058	-.5497	.2341	.4907	.5490
CHANGE	.5648		-.2971	-.0691	.3206	.2484	.3291	.1765	-.3323	.0399	.2983	.3786
ANX	-.4935	-.2971		.1381	-.4781	-.3392	-.4227	-.4052	.5395	-.0709	-.4284	-.5877
DEPRES	-.1535	-.0691	.1381		-.1964	-.1763	-.2442	-.0744	.2104	-.1626	-.1977	-.2120
PU	.5507	.3206	-.4781	-.1964		.8071	.6950	.3407	-.5050	.3341	.9494	.8462
CO	.3860	.2484	-.3392	-.1763	.8071		.6834	.4130	-.3340	.4640	.9517	.7845
LC	.5009	.3291	-.4227	-.2442	.6950	.6834		.3678	-.3843	.4060	.7246	.7614
DA	.2058	.1765	-.4052	-.0744	.3407	.4130	.3678		-.2152	.0698	.3961	.6302
EV	-.5497	-.3323	.5395	.2104	-.5050	-.3340	-.3843	-.2152		.0142	-.4396	-.6819
GS	.2341	.0399	-.0709	-.1626	.3341	.4640	.4060	.0698	.0142		.4197	.1039
PMI	.4907	.2983	-.4284	-.1977	.9494	.9517	.7246	.3961	-.4396	.4197		.8574
LABI	.5490	.3786	-.5877	-.2120	.8462	.7845	.7614	.6302	-.6819	.1039	.8574	

APPENDIX 27

Table 8. Correlation matrix for age, sex, condition, SF-36, HAD and LAP-R variables for the combined groups at Time 2 (N=150)

	AGE	SEX	ADUM	BDUM	FUNS	PHYSF	SOCF	RLATP	RLATE	WBEING	MENT	ENER	PAIN
AGE		-.1749	.2598	-.2541	-.3442	-.3909	-.2117	-.2522	.0317	-.0959	-.0206	-.1919	.0884
SEX	-.1749		.1140	-.0285	.2669	.3102	.1625	.1329	.0301	.1779	.1397	.1820	.0849
ADUM	.2598	.1140		-.5000	.2139	.0868	.3401	-.0638	.6401	.5166	.5332	.4133	-.0220
BDUM	-.2541	-.0285	-.5000		.3533	.3197	.2769	.5353	-.1319	.1081	.0289	.1921	-.0042
FUNS	-.3442	.2669	.2139	.3533		.9362	.8271	.7517	.4401	.7189	.6009	.7434	.0370
PHYSF	-.3909	.3102	.0868	.3197	.9362		.6223	.6131	.2281	.5305	.4049	.5911	.0649
SOCF	-.2117	.1625	.3401	.2769	.8271	.6223		.6154	.5134	.7981	.7138	.7837	-.0594
RLATPP	-.2522	.1329	-.0638	.5353	.7517	.6131	.6154		.1807	.4944	.3645	.5622	.0891
RLATEP	.0317	.0301	.6401	-.1319	.4401	.2281	.5134	.1807		.6826	.7347	.5105	-.0452
WBEING	-.0959	.1779	.5166	.1081	.7189	.5305	.7981	.4944	.6826		.9402	.9098	.0012
MENT	-.0206	.1397	.5332	.0289	.6009	.4049	.7138	.3645	.7347	.9402		.7264	-.1063
ENER	-.1919	.1820	.4133	.1921	.7434	.5911	.7837	.5622	.5105	.9098	.7264		-.0408
PAIN	.0884	.0849	-.0220	-.0042	.0370	.0649	-.0594	.0891	-.0452	.0012	-.1063	-.0408	
GENH	-.1449	.1908	.2815	.3561	.7372	.6064	.7422	.6003	.4705	.7657	.6573	.7731	.0201
CHANGE	-.1027	.0789	.0814	.2529	.3993	.2945	.4536	.3567	.2486	.4287	.3911	.4273	-.1222
ANXI	.0787	-.0688	-.3749	-.1688	-.4866	-.3360	-.5629	-.3289	-.5378	-.6545	-.6381	-.5941	.1541
DEPRES	-.1296	-.1575	-.1910	-.0134	-.2020	-.1436	-.2089	-.1599	-.2177	-.2384	-.2618	-.1703	.0082
PU	.0640	.0189	.2656	.1923	.4367	.3022	.5078	.3236	.4360	.6874	.6425	.6309	-.0038
CO	.1781	-.0686	.3029	-.0212	.2537	.1435	.3525	.1650	.3318	.5170	.4641	.4839	.0821
LC	-.0445	.0218	.3395	.1199	.4594	.3248	.5139	.3077	.5077	.6503	.6209	.5774	.0258
DA	.1204	.0128	.1338	.0046	-.0654	-.1263	.0149	-.0281	.1249	.1513	.1733	.0819	.0892
EV	.0100	-.1822	-.3291	-.1997	-.4315	-.2829	-.5410	-.3086	-.4483	-.6170	-.6277	-.5276	.1509
GS	-.1035	-.0191	.1201	.1263	.2575	.2163	.2527	.2262	.1131	.2385	.1379	.3136	.0769
PMI	.1287	-.0267	.3012	.0897	.3648	.2353	.4548	.2581	.4061	.6369	.5852	.5896	.0418
LABI	.1067	.0538	.3416	.1057	.3485	.1991	.4615	.2378	.4710	.6493	.6493	.5455	-.0108

	GENH	CHAN	ANX	DEPRES	PU	CO	LC	DA	EV	GS	PMI	LABI
AGE	-.1449	-.1027	.0787	-.1296	.0640	.1781	-.0445	.1204	.0100	-.1035	.1287	.1067
SEX	.1908	.0789	-.0688	-.1575	.0189	-.0686	.0218	.0128	-.1822	-.0191	-.0267	.0538
ADUM	.2815	.0814	-.3749	-.1910	.2656	.3029	.3395	.1338	-.3291	.1201	.3012	.3416
BDUM	.3561	.2529	-.1688	-.0134	.1923	-.0212	.1199	.0046	-.1997	.1263	.0897	.1057
FUNS	.7372	.3993	-.4866	-.2020	.4367	.2537	.4594	-.0654	-.4315	.2575	.3648	.3485
PHYSF	.6064	.2945	-.3360	-.1436	.3022	.1435	.3248	-.1263	-.2829	.2163	.2353	.1991
SOCF	.7422	.4536	-.5629	-.2089	.5078	.3525	.5139	.0149	-.5410	.2527	.4548	.4615
RLATPP	.6003	.3567	-.3289	-.1599	.3236	.1650	.3077	-.0281	-.3086	.2262	.2581	.2378
RLATEP	.4705	.2486	-.5378	-.2177	.4360	.3318	.5077	.1249	-.4483	.1131	.4061	.4710
WBEING	.7657	.4287	-.6545	-.2384	.6874	.5170	.6503	.1513	-.6170	.2385	.6369	.6493
MENTAL	.6573	.3911	-.6381	-.2618	.6425	.4641	.6209	.1733	-.6277	.1379	.5852	.6493
ENERGY	.7731	.4273	-.5941	-.1703	.6309	.4839	.5774	.0819	-.5276	.3136	.5896	.5455
PAIN	.0201	-.1222	.1541	.0082	-.0038	.0821	.0258	.0892	.1509	.0769	.0418	-.0108
GENH		.5565	-.5485	-.2288	.5807	.4004	.5108	.1037	-.6181	.2358	.5177	.5451
CHANGE	.5565		-.3155	-.1029	.4501	.2410	.4019	.1209	-.3543	.1253	.3650	.3916
ANX	-.5485	-.3155		.1610	-.4549	-.3075	-.4000	-.1820	.5199	-.0773	-.4030	-.4859
DEPRES	-.2288	-.1029	.1610		-.2241	-.1660	-.1693	.0037	.2608	-.1066	-.2063	-.1968
PU	.5807	.4501	-.4549	-.2241		.7838	.7529	.4101	-.4579	.1823	.9435	.8654
CO	.4004	.2410	-.3075	-.1660	.7838		.6530	.4441	-.2980	.3810	.9453	.7573
LC	.5108	.4019	-.4000	-.1693	.7529	.6530		.3846	-.4752	.2431	.7436	.8105
DA	.1037	.1209	-.1820	.0037	.4101	.4441	.3846		-.1115	.0366	.4524	.6158
EV	-.6181	-.3543	.5199	.2608	-.4579	-.2980	-.4752	-.1115		.0743	-.3996	-.6597
GS	.2358	.1253	-.0773	-.1066	.1823	.3810	.2431	.0366	.0743		.2990	-.0318
PMI	.5177	.3650	-.4030	-.2063	.9435	.9453	.7436	.4524	-.3996	.2990		.8584
LABI	.5451	.3916	-.4859	-.1968	.8654	.7573	.8105	.6158	-.6597	-.0318	.8584	

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Table 9. Correlation matrix for age, sex SF-36, HAD and LAP-R variables of difference scores for the community comparison group (N=50)

	FUNS	PHYSF	SOCF	RLATP	RLATE	WBEING	MENT	ENER	PAIN	GENH	CHAN
FUNS		.5233	.6138	.6472	.4813	.0960	.2714	-.2533	.1717	-.1480	.1666
PHYSF	.5233		-.0774	-.1695	.0601	.2583	.3825	-.0230	.1041	-.1383	-.0485
SOCF	.6138	-.0774		.4814	.1064	-.3602	-.2032	-.4198	-.1183	-.0874	.4371
RLATPP	.6472	-.1695	.4814		.3304	.0043	.0432	-.1828	.2430	.0541	.1255
RLATEP	.4813	.0601	.1064	.3304		.3291	.3943	.0776	.1617	-.2211	-.1677
WBEING	.0960	.2583	-.3602	.0043	.3291		.8561	.7589	.3646	.2424	.0105
MENT	.2714	.3825	-.2032	.0432	.3943	.8561		.4135	.1006	.1263	.0409
ENER	-.2533	-.0230	-.4198	-.1828	.0776	.7589	.4135		.0758	.2458	-.0168
PAIN	.1717	.1041	-.1183	.2430	.1617	.3646	.1006	.0758		.1851	-.0276
GENH	-.1480	-.1383	-.0874	.0541	-.2211	.2424	.1263	.2458	.1851		.2979
CHANGE	.1666	-.0485	.4371	.1255	-.1677	.0105	.0409	-.0168	-.0276	.2979	
ANXI	.2965	.1331	-.1065	.4565	.1632	.1900	.1568	.1396	.0914	.0904	-.0829
DEPRES	.0990	-.0370	.3712	-.0379	-.0450	-.2316	-.1839	-.1733	-.1234	-.2048	-.0471
PU	-.0415	-.1285	-.1305	.2164	-.0484	-.0454	-.1709	-.0175	.2679	.1610	-.0428
CO	-.0475	-.0885	.0158	.0703	-.1334	-.1710	-.1978	-.1379	.0752	.1528	.1082
LC	-.0959	.0764	-.1971	-.0813	-.1002	.2919	.2269	.1991	.2020	.2962	.2413
DA	-.2180	.0015	-.1442	-.1645	-.3367	.1867	.1861	.1942	-.0891	.3319	.2128
EV	-.3723	-.1296	-.4214	-.1564	-.1889	.0282	-.0495	.0750	.0893	.3997	-.1317
GS	-.0702	-.3009	-.0538	.2356	.1079	-.0035	-.1320	.0872	.1445	.2615	-.2330
PMI	-.0516	-.1244	-.0586	.1557	-.1019	-.1285	-.2104	-.0929	.1846	.1801	.0421
LABI	.0011	.1055	.0017	-.0386	-.1919	.0981	.1011	.0412	.0546	.0983	.3113

	ANX	DEPRES	PU	CO	LC	DA	EV	GS	PMI	LABI
FUNS	.2965	.0990	-.0415	-.0475	-.0959	-.2180	-.3723	-.0702	-.0516	.0011
PHYSF	.1331	-.0370	-.1285	-.0885	.0764	.0015	-.1296	-.3009	-.1244	.1055
SOCF	-.1065	.3712	-.1305	.0158	-.1971	-.1442	-.4214	-.0538	-.0586	.0017
RLATPP	.4565	-.0379	.2164	.0703	-.0813	-.1645	-.1564	.2356	.1557	-.0386
RLATEP	.1632	-.0450	-.0484	-.1334	-.1002	-.3367	-.1889	.1079	-.1019	-.1919
WBEING	.1900	-.2316	-.0454	-.1710	.2919	.1867	.0282	-.0035	-.1285	.0981
MENTAL	.1568	-.1839	-.1709	-.1978	.2269	.1861	-.0495	-.1320	-.2104	.1011
ENERGY	.1396	-.1733	-.0175	-.1379	.1991	.1942	.0750	.0872	-.0929	.0412
PAIN	.0914	-.1234	.2679	.0752	.2020	-.0891	.0893	.1445	.1846	.0546
GENH	.0904	-.2048	.1610	.1528	.2962	.3319	.3997	.2615	.1801	.0983
CHANGE	-.0829	-.0471	-.0428	.1082	.2413	.2128	-.1317	-.2330	.0421	.3113
ANX		-.2637	-.0865	.0043	-.0185	.0555	.1132	.2153	-.0402	-.1158
DEPRES	-.2637		-.1753	-.1038	-.2496	-.3202	-.1960	-.0890	-.1530	-.1963
PU	-.0865	-.1753		.6217	.4446	.0901	.0518	.3015	.8874	.5366
CO	.0043	-.1038	.6217		.2758	.2701	.0167	.1238	.9128	.6270
LC	-.0185	-.2496	.4446	.2758		.3214	.1545	.1232	.3900	.5843
DA	.0555	-.3202	.0901	.2701	.3214		.1793	-.1126	.1970	.5797
EV	.1132	-.1960	.0518	.0167	.1545	.1793		.4195	.0345	-.3318
GS	.2153	-.0890	.3015	.1238	.1232	-.1126	.4195		.2267	-.3619
PMI	-.0402	-.1530	.8874	.9128	.3900	.1970	.0345	.2267		.6489
LABI	-.1158	-.1963	.5366	.6270	.5843	.5797	-.3318	-.3619	.6489	

Table 10. Correlation matrix for age, sex, SF-36, HAD and LAP-R variables of difference scores for the psychiatric outpatients' group (N=50)

	FUNS	PHYSF	SOCF	RLATP	RLATE	WBEING	MENT	ENER	PAIN	GENH	CHAN
FUNS		.8834	.2963	.5154	.4277	.2959	.2522	.2806	.0540	.2518	.2040
PHYSF	.8834		.0550	.1850	.1871	.1208	.1220	.0742	.0812	.2810	.1042
SOCF	.2963	.0550		.1101	-.1237	.4235	.3599	.4482	-.1071	.3493	.2468
RLATPP	.5154	.1850	.1101		.3020	.0450	-.0510	.1573	.0328	-.1209	.0244
RLATEP	.4277	.1871	-.1237	.3020		.3604	.3502	.2901	.0390	.1272	.2351
WBEING	.2959	.1208	.4235	.0450	.3604		.9284	.8844	.0230	.2629	.5030
MENT	.2522	.1220	.3599	-.0510	.3502	.9284		.6695	-.1214	.2566	.3436
ENER	.2806	.0742	.4482	.1573	.2901	.8844	.6695		-.0328	.2561	.6050
PAIN	.0540	.0812	-.1071	.0328	.0390	.0230	-.1214	-.0328		-.1466	.0390
GENH	.2518	.2810	.3493	-.1209	.1272	.2629	.2566	.2561	-.1466		.2879
CHANGE	.2040	.1042	.2468	.0244	.2351	.5030	.3436	.6050	.0390	.2879	
ANXI	-.3817	-.2939	-.2162	-.1378	-.2662	-.3775	-.2616	-.4929	.1496	-.4111	-.4517
DEPRES	-.2002	-.2741	-.0324	-.0084	.0989	-.0733	-.0907	-.0623	.1125	.0882	.0030
PU	-.0365	-.1788	.3279	-.0291	.1193	.3532	.3845	.2565	-.0752	.1925	.2068
CO	-.3768	-.4865	.0987	-.1291	.0482	.0923	.1232	.0563	-.1005	-.0073	-.0200
LC	-.0368	-.1713	.2220	-.0385	.2192	.0700	.1402	.0056	-.1834	-.0714	.1726
DA	-.1669	-.2214	.0951	-.0597	-.0121	.0082	.0060	-.0084	.0725	-.1396	-.0608
EV	.0269	.0766	-.1865	.0268	.0306	-.2711	-.3233	-.1808	.1469	-.1470	.0687
GS	.1082	.1967	.0507	-.2212	.0156	.2412	.1391	.3206	.0355	.0472	.1732
PMI	-.2135	-.3521	.2404	-.0827	.0938	.2519	.2858	.1774	-.0949	.1132	.1097
LABI	-.2073	-.3685	.2627	-.0307	.0898	.1851	.2605	.0769	-.1303	.0316	.0225

	ANX	DEPRES	PU	CO	LC	DA	EV	GS	PMI	LABI
FUNS	-.3817	-.2002	-.0365	-.3768	-.0368	-.1669	.0269	.1082	-.2135	-.2073
PHYSF	-.2939	-.2741	-.1788	-.4865	-.1713	-.2214	.0766	.1967	-.3521	-.3685
SOCF	-.2162	-.0324	.3279	.0987	.2220	.0951	-.1865	.0507	.2404	.2627
RLATPP	-.1378	-.0084	-.0291	-.1291	-.0385	-.0597	.0268	-.2212	-.0827	-.0307
RLATEP	-.2662	.0989	.1193	.0482	.2192	-.0121	.0306	.0156	.0938	.0898
WBEING	-.3775	-.0733	.3532	.0923	.0700	.0082	-.2711	.2412	.2519	.1851
MENTAL	-.2616	-.0907	.3845	.1232	.1402	.0060	-.3233	.1391	.2858	.2605
ENERGY	-.4929	-.0623	.2565	.0563	.0056	-.0084	-.1808	.3206	.1774	.0769
PAIN	.1496	.1125	-.0752	-.1005	-.1834	.0725	.1469	.0355	-.0949	-.1303
GENH	-.4111	.0882	.1925	-.0073	-.0714	-.1396	-.1470	.0472	.1132	.0316
CHANGE	-.4517	.0030	.2068	-.0200	.1726	-.0608	.0687	.1732	.1097	.0225
ANX		-.0368	-.0684	.0781	-.0734	-.1312	.1796	-.2514	.0002	-.0610
DEPRES	-.0368		.0114	.0427	.1836	.1387	-.0814	-.0716	.0284	.1493
PU	-.0684	.0114		.6812	.3742	.2794	-.4096	.2008	.9275	.7582
CO	.0781	.0427	.6812		.4684	.5264	-.3462	.2012	.9055	.8289
LC	-.0734	.1836	.3742	.4684		.3393	.0151	.1253	.4561	.5763
DA	-.1312	.1387	.2794	.5264	.3393	.	-.1123	.1432	.4308	.6335
EV	.1796	-.0814	-.4096	-.3462	.0151	-.1123		.0462	-.4142	-.5791
GS	-.2514	-.0716	.2008	.2012	.1253	.1432	.0462		.2191	-.0488
PMI	.0002	.0284	.9275	.9055	.4561	.4308	-.4142	.2191		.8628
LABI	-.0610	.1493	.7582	.8289	.5763	.6335	-.5791	-.0488	.8628	

Table 11. Correlation matrix for age, sex, SF-36, HAD and LAP-R variables of difference scores for the geriatric outpatients' group (N=50)

	FUNS	PHYSF	SOCF	RLATP	RLATE	WBEING	MENT	ENER	PAIN	GENH	CHAN
FUNS		.8585	.6222	.3417	.2259	.2469	.1137	.3294	-.1581	.1395	.0286
PHYSF	.8585		.2239	.0985	.0452	.2021	-.0387	.3584	-.0372	.1480	.0600
SOCF	.6222	.2239		.2214	.0351	.1069	.1350	.1512	-.2882	-.0476	-.0119
RLATPP	.3417	.0985	.2214		-.1046	.0561	.1543	.0217	-.2062	.2273	-.0492
RLATEP	.2259	.0452	.0351	-.1046		.2156	.2847	-.0055	.1381	.0197	-.0055
WBEING	.2469	.2021	.1069	.0561	.2156		.6776	.7371	.2948	.0836	.1042
MENT	.1137	-.0387	.1350	.1543	.2847	.6776		.0835	-.0538	.1330	.0722
ENER	.3294	.3584	.1512	.0217	-.0055	.7371	.0835		.0830	.0223	.0010
PAIN	-.1581	-.0372	-.2882	-.2062	.1381	.2948	-.0538	.0830		-.0580	.2099
GENH	.1395	.1480	-.0476	.2273	.0197	.0836	.1330	.0223	-.0580		.1513
CHANGE	.0286	.0600	-.0119	-.0492	-.0055	.1042	.0722	.0010	.2099	.1513	
ANXI	-.1877	-.0070	-.2197	-.3800	-.0879	-.2680	-.2621	-.1437	-.0220	-.4295	.1541
DEPRES	.0831	.0728	.1743	-.0556	-.1518	.0166	.1270	-.0043	-.2241	.0390	-.0314
PU	.0850	-.0115	.1637	.1852	-.0498	.2440	.1262	.2739	-.0640	.1976	.0649
CO	-.0167	-.2774	.3006	.3901	-.0583	-.0965	.1189	-.1282	-.3189	.2714	.0708
LC	.2329	.2919	.1178	-.1239	-.0342	.2451	-.0787	.4927	-.1168	.1400	-.1424
DA	-.0193	-.0887	.0664	.1225	-.0261	-.0644	-.0507	-.0618	.0319	.4848	.0778
EV	.0199	.1378	-.1516	-.1031	.0009	-.0282	-.3009	.1881	.1427	-.1255	.2241
GS	-.0633	-.1247	.0199	.1625	-.0589	-.0649	-.1012	-.0063	.0136	.0486	-.2290
PMI	.0425	-.1609	.2663	.3291	-.0626	.0949	.1428	.0956	-.2159	.2708	.0788
LABI	.1026	-.0241	.2404	.1490	-.0291	.1354	.1749	.1049	-.1979	.3874	.0295

	ANX	DEPRES	PU	CO	LC	DA	EV	GS	PMI	LABI
AGE	-.2335	.0337	-.0859	-.0476	.0089	.1650	-.0126	.1894	-.0786	-.0403
SEX	-.0650	-.2318	-.0769	-.1066	.0953	-.1030	-.0886	-.2284	-.1060	.0575
FUNS	-.1877	.0831	.0850	-.0167	.2329	-.0193	.0199	-.0633	.0425	.1026
PHYSF	-.0070	.0728	-.0115	-.2774	.2919	-.0887	.1378	-.1247	-.1609	-.0241
SOCF	-.2197	.1743	.1637	.3006	.1178	.0664	-.1516	.0199	.2663	.2404
RLATPP	-.3800	-.0556	.1852	.3901	-.1239	.1225	-.1031	.1625	.3291	.1490
RLATEP	-.0879	-.1518	-.0498	-.0583	-.0342	-.0261	.0009	-.0589	-.0626	-.0291
WBEING	-.2680	.0166	.2440	-.0965	.2451	-.0644	-.0282	-.0649	.0949	.1354
MENTAL	-.2621	.1270	.1262	.1189	-.0787	-.0507	-.3009	-.1012	.1428	.1749
ENERGY	-.1437	-.0043	.2739	-.1282	.4927	-.0618	.1881	-.0063	.0956	.1049
PAIN	-.0220	-.2241	-.0640	-.3189	-.1168	.0319	.1427	.0136	-.2159	-.1979
GENH	-.4295	.0390	.1976	.2714	.1400	.4848	-.1255	.0486	.2708	.3874
CHANGE	.1541	-.0314	.0649	.0708	-.1424	.0778	.2241	-.2290	.0788	.0295
ANX		.2089	-.1614	-.2368	-.1776	-.2552	.3966	-.1036	-.2296	-.3720
DEPRES	.2089		-.1535	-.1083	-.1309	-.1930	.0377	.1229	-.1535	-.2537
PU	-.1614	-.1535		.4770	.4342	.5196	-.2586	.3044	.8731	.7525
CO	-.2368	-.1083	.4770		-.0468	.4493	-.3450	.3041	.8450	.5881
LC	-.1776	-.1309	.4342	-.0468		-.0392	-.1540	.2753	.2388	.3590
DA	-.2552	-.1930	.5196	.4493	-.0392		-.1577	.0981	.5654	.6644
EV	.3966	.0377	-.2586	-.3450	-.1540	-.1577		-.0219	-.3488	-.6587
GS	-.1036	.1229	.3044	.3041	.2753	.0981	-.0219		.3539	-.0793
PMI	-.2296	-.1535	.8731	.8450	.2388	.5654	-.3488	.3539		.7900
LABI	-.3720	-.2537	.7525	.5881	.3590	.6644	-.6587	-.0793	.7900	

Table 12. Correlation matrix for age, sex, condition, SF-36, HAD and LAP-R variables of difference scores for the combined groups (N=150)

	ADUM	BDUM	FUNS	PHYSF	SOCF	RLATP	RLATE	WBEING	MENT	ENER	PAIN
ADUM		-.5000	.1232	.0543	.1107	.0748	.1047	.1773	.2236	.0681	.0050
BDUM	-.5000		.0625	.0866	.0693	.0008	-.1038	.0375	.0277	.0384	.0050
FUNS	.1232	.0625		.8071	.4738	.5210	.4020	.2696	.2691	.1832	.0409
PHYSF	.0543	.0866	.8071		.0810	.0667	.1313	.1827	.1721	.1282	.0523
SOCF	.1107	.0693	.4738	.0810		.2896	-.0125	.1420	.1700	.1279	-.1593
RLATPP	.0748	.0008	.5210	.0667	.2896		.2640	.0478	.0279	.0231	.1007
RLATEP	.1047	-.1038	.4020	.1313	-.0125	.2640		.3310	.3507	.1800	.0995
WBEING	.1773	.0375	.2696	.1827	.1420	.0478	.3310		.8809	.8169	.1921
MENT	.2236	.0277	.2691	.1721	.1700	.0279	.3507	.8809		.4987	-.0178
ENER	.0681	.0384	.1832	.1282	.1279	.0231	.1800	.8169	.4987		.0370
PAIN	.0050	.0050	.0409	.0523	-.1593	.1007	.0995	.1921	-.0178	.0370	
GENH	.0839	.0173	.0917	.0849	.0951	.0116	.0009	.2384	.2070	.2086	.0210
CHANGE	.0020	.0706	.1531	.0623	.2408	.0564	.0502	.2604	.1899	.2584	.0652
ANXI	-.1575	.1677	-.1597	-.1168	-.1791	.0401	-.1280	-.2041	-.1599	-.2335	.0690
DEPRES	-.0791	.1038	-.0336	-.0994	.1632	-.0291	-.0214	-.0860	-.0562	-.0660	-.0952
PU	.1819	-.1310	.0025	-.1247	.1432	.1020	.0637	.2405	.2105	.1939	.0580
CO	.2709	-.1489	-.1600	-.2980	.1340	.0422	.0017	.0222	.0738	-.0249	-.0688
LC	.1354	-.1928	-.0037	-.0125	.0228	-.0639	.0808	.1623	.1254	.1632	.0085
DA	.2583	-.0063	-.0890	-.0891	.0434	-.0526	-.0943	.1103	.1246	.0650	-.0067
EV	-.0828	.0812	-.0864	.0411	-.2544	-.0695	-.0509	-.1399	-.2375	-.0205	.1187
GS	.1771	-.2175	.0052	-.0384	-.0008	.0654	.0560	.0868	.0080	.1381	.0745
PMI	.2549	-.1521	-.0863	-.2342	.1551	.0809	.0373	.1472	.1592	.0947	-.0058
LABI	.2400	-.0982	-.0513	-.1591	.1866	.0063	.0096	.1845	.2400	.0857	-.0665

	GENH	CHAN	ANX	DEPRES	PU	CO	LC	DA	EV	GS	PMI	LABI
ADUM	.0839	.0020	-.1575	-.0791	.1819	.2709	.1354	.2583	-.0828	.1771	.2549	.2400
BDUM	.0173	.0706	.1677	.1038	-.1310	-.1489	-.1928	-.0063	.0812	-.2175	-.1521	-.0982
FUNS	.0917	.1531	-.1597	-.0336	.0025	-.1600	-.0037	-.0890	-.0864	.0052	-.0863	-.0513
PHYSF	.0849	.0623	-.1168	-.0994	-.1247	-.2980	-.0125	-.0891	.0411	-.0384	-.2342	-.1591
SOCF	.0951	.2408	-.1791	.1632	.1432	.1340	.0228	.0434	-.2544	-.0008	.1551	.1866
RLATPP	.0116	.0564	.0401	-.0291	.1020	.0422	-.0639	-.0526	-.0695	.0654	.0809	.0063
RLATEP	.0009	.0502	-.1280	-.0214	.0637	.0017	.0808	-.0943	-.0509	.0560	.0373	.0096
WBEING	.2384	.2604	-.2041	-.0860	.2405	.0222	.1623	.1103	-.1399	.0868	.1472	.1845
MENTAL	.2070	.1899	-.1599	-.0562	.2105	.0738	.1254	.1246	-.2375	.0080	.1592	.2400
ENERGY	.2086	.2584	-.2335	-.0660	.1939	-.0249	.1632	.0650	-.0205	.1381	.0947	.0857
PAIN	.0210	.0652	.0690	-.0952	.0580	-.0688	.0085	-.0067	.1187	.0745	-.0058	-.0665
GENH		.2575	-.2262	-.0356	.1880	.1330	.1344	.1994	.0677	.1406	.1810	.1394
CHANGE	.2575		-.1318	-.0185	.0839	.0460	.0990	.0843	.0504	-.1177	.0725	.1172
ANX	-.2262	-.1318		.0219	-.1284	-.0704	-.1135	-.1264	.2356	-.0883	-.1098	-.1861
DEPRES	-.0356	-.0185	.0219		-.1069	-.0711	-.0814	-.1237	-.0614	-.0266	-.0985	-.0915
PU	.1880	.0839	-.1284	-.1069		.6316	.4220	.2925	-.2453	.2855	.9046	.6982
CO	.1330	.0460	-.0704	-.0711	.6316		.3058	.4415	-.2282	.2312	.9018	.7251
LC	.1344	.0990	-.1135	-.0814	.4220	.3058		.2453	.0070	.2012	.4020	.5336
DA	.1994	.0843	-.1264	-.1237	.2925	.4415	.2453		-.0336	.0505	.4051	.6384
EV	.0677	.0504	.2356	-.0614	-.2453	-.2282	.0070	-.0336		.1348	-.2636	-.5175
GS	.1406	-.1177	-.0883	-.0266	.2855	.2312	.2012	.0505	.1348		.2852	-.1217
PMI	.1810	.0725	-.1098	-.0985	.9046	.9018	.4020	.4051	-.2636	.2852		.7888
LABI	.1394	.1172	-.1861	-.0915	.6982	.7251	.5336	.6384	-.5175	-.1217	.7888	

APPENDIX 32

From the School of Psychology

University of Leeds
Leeds LS2 9JT UK

Telex 556473 UNILDS G
Fax 0113 233 5749
Telephone +44 (0)113 243 1751
Direct line

Dear Mr./Mrs. XXX,

My name is Gina Z. Koutsopoulou. I am 28 years old, and I work at the School of Psychology at the University of Leeds. Currently I am finishing a PhD research on "Meaning in life and Psychological Well-Being in Older Adults". I am interested in finding out more about the relationship between the meaning in life and well being in older adults.

We have met in the past and most specifically two years ago. I have asked you to complete a questionnaire on your perceptions on meaning in life and your health. You have filled in that questionnaire and very kindly you have sent it back to me. Lately, I have been looking through that questionnaire and I would like to meet you personally in order to ask you a few more questions.

To be more specific, I would like to ask you some more questions on how you view meaning in life. I shall be asking you questions like "Do you have a philosophy in life that gives you significance in your life?" or "Have you discovered a satisfying life purpose?".

In order for this interview to take place I shall need your approval. If you do not mind and you give me your approval to do the interview then I can come and visit you at home on a day and time that it is convenient to you and have this chat over a cup of tea! The interview will not last more that 30 minutes.

I am sending you an already written letter (see next page) on which I am asking you to fill in some details. When you have filled in the gaps you can send me the letter back in the self-addressed and self-stamped envelope provided.

If you have any kind of concern please do not hesitate to contact the School of Psychology, University of Leeds, LS2 9JT (telephone: 0113-2335724) and even my supervisor, Dr. Jenny Hewison at the same address (telephone: 0113- 2335725).

Please do not hesitate to ring me too if you like to talk to me personally. I shall be glad to hear you. My telephone number at work is: 0113-2336690.

I am looking forward to hear from you and see you again. Thank you for your time and consideration. Your help is valuable.

With Best Regards,

Gina Z. Koutsopoulou
Ph.D Researcher in Health Psychology
Teaching Fellow in Psychology

APPENDIX 33

To: Gina Z. Koutsopoulou
School of Psychology
University of Leeds
LS2 9JT

Your name: _____

Your telephone number: _____

Gina,

Yes, I would you like you to visit me on the following date and time:

Date: _____

Time: _____

Address: _____

or

Gina,

I would prefer if you DO NOT visit me. ☐ Please tick the box

Signature:

APPENDIX 34

Interview 1

(1,4) Well, the meaning of the life certainly is an enormous question. It's the one that ought to be at the front of everybody's mind and something that everybody ought to be considering in every way. But I think it's something that very few people consider at all largely because they're frightened of the subject. They're afraid to consider it. People are afraid, afraid of the subject because they don't like confronting it because the meaning of life also includes death and most people are very afraid of death and I think that they don't like to face up to it. They like to take each day as it comes and try to get the maximum enjoyment out of their life on a day to day basis. I suppose that they give thought to the future by saving for old age and insuring against this and that but I don't think they like to become down to anything so... positive as they think why are we here or what happens to you when you die.. I think that was something that most people feared and they don't talk about it because they don't like to think about it.

(2,2) And whatever reason you think the reason for your life is, it can't be proved one way or the other, because it will always remain a theory. I think it depends very vastly whether you're an atheist, agnostic or whether you adhere to some kind of religious group and if you'd use some kind of religious belief then, then life, the meaning of life is an experience for the mortal part of us to learn something. That's the simplistic way I can put it.

(2,4,6) The world is such a vast and complex thing and to say it has no purpose to me is unbelievable. I think it's just not acceptable that it has no purpose. I mean the universe gets bigger and asrtonomers realise that the appears to go on and on and on. The universe is so vast, to say that great construction have no origins and no purpose. To my mind is, is so fantastic to be utterly unbelievable. There has to some, a reason for such a vast creation.

(2,4,8) And then man himself is unique, not because he's got perhaps more know how than other forms of mammal, but because he can create things of exquisite beauty that no other animal has the power of original thought and capable of creating

art. They made, build nests, their burrows and things like that but they've no conception of art. They've no conception of beauty except the natural beauty that nature has been given them. And reality has found out that the only really ugly things in the world are man made. You think that if it's natural there's no beauty to it. (3,1,4) Admittedly diseases are not beautiful and they are physical things but they come under a different category. I think one of the things with critics of religious belief is why are people allowed, if there is a living God why are people, to from terrible? Why are children abused and sometimes tortured to death? Particularly you the third world countries: if there's a loving God why isn't he there?. And of course that doesn't wash any more than it does when people have lost their child in a disaster. I've seen a mother come on and say don't give me any of that rubbish about a really loving God when a child has been killed at a really early age. If you think that er there's no God because a child is killed it doesn't have to be your child does it? That doesn't make sense.

God doesn't even intervene to stop his own son dying from crucifiction. If one believes in the (3,1,24) Christian faith, then suffering is part of the education of your inner being. I think people's response to suffering is probably more edifying than the most pleasurable experiences there are. A time of suffering teaches you more than all the pleasure in the world. Suffering teaches you endurance how to keep faculties alive and in order under great duress and it teaches you patience. I think it does have a use and it can't be dismissed as the fact that whoever created the universe (assuming one believes there is a creator) doesn't care what happens to us. Most people don't think things through do they? (4,1) They give a gut reaction.

(5,2) I miss work great lots. I'd still go back to work tomorrow if I could.

(5,6) (Sigh) Well I, I suppose religious belief is some people's, the greatest meaning in their life because (as I've already intonated) I can't see any point in life if God doesn't exist. Maybe not in the exact form that we have been brought up to believe what it is (we've been brought up to belief that God was a big man up in the sky somewhere) but I would think that he's obviously a powerful creative force in the world otherwise where did it come from and and what's the point of it all.

(6,4,3) You do lose (train of thought). That's one of the most irritating things about getting old; is you don't feel any different inside. You feel just the same as you did when you were young. It isn't until you try to do things that you realise that you've got strong limitations (bad back). You think I'll do a DIY in a couple of hours and you find it's gonna take you more than a day to it. It's the same with thought;: you suddenly realise you can't either think as fast and you can't recall things. You can recall the past far more more vividly than you can recall what happened yesterday. It's one of the strange things, the past becomes more vivid and day to day things become more away.

(7,3) I think that when you get older you get greater perception. You get a greater inward growth of things.

(12,1,3) I think, that people who have no religious belief when they get old do fear death very much more than people who have strong religious belief. That is a fact of life.

(13,1,2) But everybody don't particularly welcome it (=death). Okay, they don't go around terrified of it, particularly those who have fairly strong religious belief. I have a fairly strong religious belief but I wouldn't say I fear of no fear of death. But I wouldn't throw my hat in the air if somebody says you're gonna die tomorrow. I wouldn't go about clicking my heels together and dancing with joy which I ought to do really if I believed it as much as I say I do but,that's one of the strangest things about it.

(13,2,6) But if you were to ask me what do I think the purpose of life is, then I can only give an opinion on that. I would say to put it very, very concisely and perhaps too simplistic it is to love. And when I say that I mean it in it's broader sense of the word. Not just love from man to women, or parents for their child but love in every sense of the word. I'm afraid but I nevertheless would hope to prove myself. I would think the purpose of life is love, is to learn through experience.

(13,2) You learn love not only through loving relationships, and also love of the arts and things like that, but you learn about love through pain and suffering. (14,1) The

only thing I can say about my own personal belief of what the meaning of life is life is, is to learn the true meaning of love.

(14,1,22) A tough adage to live is that if you really love somebody you put their well being and happiness in front of your own every time. If you really love somebody they come first, you come second.

Interview 2

(1,1,1) Yeah well I'm an old person, I'm 73 years of age and it's very interesting growing old, absolutely fascinating you know. You're determined to keep the years at bay and follow your own strong interests that you can pursue, these are very important to me, but physical health you have to conserve your vitality. You're like a glass of water which is full at the beginning of the day you know, so you let it go gently. And when you're older you get tired more quickly than when you were younger. And various aches and pains creep up on you. And you wonder what card you're gonna pick out when it comes to your end, you know. Erm .. and I think with older people that they become preoccupied with physical health and financial security and these dominate them. And when you're a talking about a purpose in life they - it depends on their education to a certain extent, obviously if you've been blessed with the philosophical outlook it is a joy to grow older 'cos you can read and er pursue your favourite paths and life becomes richer altogether. And nowadays the mystery of the psychic studies, you should take an active interest in er what happens after you die. This is very, very important indeed because the soul is imprisoned in the body, during life, and with the dissolution of the body you're expanding consciousness, you move onto far richer grounds altogether so everybody should be looking forward to dying as I am you know.

(3,7) It's very important for people to realise that there is a higher order and you see if you take the word psychology it literally means psyche is a soul of course.

Is there any meaning? Or is there a purpose? (4,2) Yeah, you are down here. You are down here to begin with before you come down here we belong to a group soul.

(7,3) And you pick out a script like an actor going on to the stage. And there's a line down the middle, there's the times you are born and you can't do much about and there's free will which is sovereign. And you come down here to develop your talents and contribute to the harmony of mankind.

(5,2) And that is a big thing. Given that human beings have good and evil overlapping all the way through, they can be the most deadly creatures on the planet human beings. You've got greed, lust, hate, fear, all the sins if you like, so you've got to try and cultivate at an inner level repose, integrity and benevolence, there are very important. If you can get these coming out, the world is a better place isn't it?

(6,1) What do other old people say then the purpose in life is? Are they preoccupied with the physical and the financial? (6,4) Yeah, well health and finance are the two big ones. I mean when you get old people.

(6,5) And when you are physically ill, when you're very tired or whatever you don't have a meaning in life, you're just there from one day to another. And also you see because people haven't really done much in the way of studying the post life se, you know, when you're dead, you haven't got much to look forward to. Wonderful to die.

(10,2,4) You have social constructions of reality, equally a person constructs reality of this sort of thing you know, but the whole thing as you are saying you know if people believe that you're down here for a purpose you know and that the level of the interacting diad when I am talking of I hold your soul in your hand, I am responsible for how you feel, so it's up to me to give you warmth and encouragement.

(10, 8) I believe in higher orders.

(11,1) But I certainly believe in fairies and angels 'cos I've studied the subject in depth and I know that there is a whole mass of evidence.

(11,5) Well understandably so because there are not (the old) very pleasant to look at for a start and they're a bit dull and they talk about the past and they're ill. And when you are in presence of somebody who is ill, the old are parasitic upon the young, have you noticed that? Old women with oh babies and things like that. And they will

seek - I'm feeding off you, am I not? I'm feeding off your vitality (laugh). The old are parasitic upon the young. And it's not good for the young to mix with the old. (From where do you get meaning in life?) (14, 6) External stimuli. You see some people say psychic studies is concerned with out there. But psychic studies is concerned with here and now. The intersection of infinity and finality. This present moment. Aright? Here and now.

(14,10) My biggest fans are between twenty and thirty, do you know that? These are the ones I work most closely with, young people, 'cos they are fed up with the old, they are fed up with stuffy academics, they're fed up with the Church of England, fed up politicians. Politics and religion are obsolete. Science and spirituality and on the way in. But if you take this present moment, any time, you can live in psychic luxury any time at all. I like to just walk along, very quietly, I can't always do it, and look at the clouds and I talk to the clouds and I talk to the trees and leaves, every leaf on that tree is different, think of that.

(15,2) And also I have music. I've a beautiful son and a beautiful daughter. I am divorced from my wife, who lives on Jersey and is in banking.

(15,3,4) I am confident that psychic studies is going to come in with a rush and change the whole world within the next five years.

(16,5) Not committee meetings or you know the informal interacting diad and that is important. And that is a matter of interpersonal relations. nd these cannot be taught, you can't teach interpersonal relations. These are innate, do you not think so? People are either empathic or they're not. (16,5,8) And I'm a missionary for psychic studies. But meaning in life depends on to what extent you can live with the intersection of here and now. It's to what extent you can appreciate here and now. And get pleasure from the sunsets and get aesthetic pleasure from beauty and truth and goodness. And if people concentrated on the present moment they would be happier would they not? And get more meaning from life wouldn't they?

(17,10) Because here and now is the most important thing of all and reminiscing - never know me yesterday. (18,1,5) And old people will reminisce often in that case.

And often they're self centred you know. They won't ask you how you feel. And poor things, sometimes - you see I'm an active elderly alright?

(18,2) And that is a big gap between the active elderly and the ones who are grey shaped in bed, they give weak little smiles you know, they have a hard time, those are the ones I'm sorry for.

(18,5) I'm a missionary for psychic studies. I inflict my believes to them.

(28,3) But you're into meta physics here you see when you're talking about the meaning of life.

(28,5) Meaning in life, it's at the very centre of physical existence. A body is the claw of the soul. You see what you really want to do, what you really feel, this will determine how you act or what you do or what you don't do. So it's at an ordinary, everyday level that inner meanings have the greatest force. It's attitudes isn't it?

(28,5,12). Because I believe that the body is made by the soul.

(28,6) So what is important to me is to feel good, to have a clear conscience as far as possible, to be light of heart and to be - or whatever, you know what I mean. But physical fatigue is a big thing.

(29,2,2) But vitality and the preservation of vitality this is all important 'cos as you grow older it assumes more and more importance. So that the meaning of life for old people is they go from day to day often if they're not very well, but when they feel well will they have enough money is very important. And I'm fortunate I'm not rich and I'm not poor. And also I mean I write, I have.

(29,5,9) So if you're looking for the meaning of life in old people as I said it's very crude to say bowels and bank balance, how their bodies are and how much money they've got. And when they haven't any money it is crucially important to them you know. And that's what makes life for them. If they've got that they can then - Maslow's hierarchy, do you know what I mean.

(will other peoplethink about meaning or not?) (30,1) Well this is an individual matter and an education matter you know. If you take somebody with no education, modest education, they will be more preoccupied with the physical level you know. They will talk their physical condition. If you engaged them in interviews they will

rattle on about their health and so forth. And their relatives and this sort of thing. So life is restricted, the meaning of life is restricted to health and family matters and health, family and financial you know. It's within this rather small area. And then when you go out to the middle classes who are perhaps more philosophical in terms of what are we doing down here, where have we come from and where are we going to. And then you enter psychic studies 'cos you're talking about the non physical aren't you? The meta physical.

(31,5,4) But at 73 you know this is the best time of my life. And then what I want to do of course is write musicals you know, write some songs and so forth. (3,5,7) Strong interests that you can pursue, that gives meaning to life. Strong interests. (3,2,1,7) The signs of the Zodiac are very, very important indeed to me.

Interview 3

(1,2) (The meaning of life) it's like up to you. It's what you make out of life isn't it? (1,3) It's what you make out of your life I used - if you want to get on you put yourself out and get on. It's really hard to get out what I'm trying to say. But you've no need to have a lot of money to be happy.

(1,4) You know what I mean? It's up to you. Nobody is going to do it for you. No way. (1,4,2) *When my son died*, I went right down. I felt oh well life is not worth livingAnd then I studied oh well that's stupid, you've got to go on you know so .. a couple of bad weeks - well a few bad weeks, I've had a few but, he hasn't been dead that long. But I just made my mind up I was gonna get myself right and carry on and get myself right you know better than I was. And I think I'm doing it - I'm coming out of it now. But it's all up to you. You can't expect people to do things for you. I haven't. You want things you'll work for it. Don't expect anything given. You've to work for it. When you can't work - tough, do the best you can or forget about it what you want. But it's your life, it's up to you. But you know there's a lot of things you think oh it's not worth going on and you sit, sit down after and think oh well I've no money, I'm only working class, I've never had a load of money. I just make the best of what I've got. Make it as nice as I can, and I don't envy anybody who's got a

big house - I don't envy them. What's the good, do the best what you can. But don't sit down and expect people to do things for you. Do what you can do, and what you can't get do without. Don't you think so?

(2,1) I just carry on. I like to go out. I can't go out much now because I can't walk for long but it doesn't stop me going out. I walk to the door and the taxi comes to the door for me, I get a taxi. I only go to the club for a game of bingo. It's does me. I have a drink, I go twice a week, I'm happy. You just try to help other people. (2,1,6) You just make - be happy with what you've got. If you don't like it try and better it. If you can't, give it up as a bad job. And you can stop in all the time and be miserable. But I like to be happy. (2,1,11) You should take life as it comes and don't let it get you down. That's my bet at it anyway.

(Is there a purpose in life?) (2,2) Well I'm getting a bit old now you know for purpose. I mean the purpose. I think you're just sent here to do the best you can. I think if you, like I've said, you make yourself happy and if you see anybody else that you can help them - help them. If you help other people you get a bit of happiness yourself. I don't see any to that, no you're all born aren't you, you don't ask to be born, you're just here, you make the best of it. Some's lucky, they have a good upbringing. I've never known it (ha) so I don't have to worry over it. No, and I carry on. Anything else? I've got you beat now, have I?

Other people have found their purpose and meaning in life by believing in a higher order, or God....(2,3) A load of crap. Life is what you make it. It's what you make your life isn't it? You don't have to depend on God above. There might be one and I don't know I believe in it, if there is one - good luck to it, I don't know. I like to see things in black and white. I'm not bothered. Life is here today, not what's to bloody come. I don't believe in - well you can't do ought when you're six foot under can you? It's up to you if you want to get on, making the most of your life. And I say be happy. I don't worry about what's gonna happen in ten years time or twenty - I know I won't be here. And I won't nothing about it. Has anybody ever come and told you what it's like? Have they?

Why do you think other people believe in God? (3,4) I think they're crackers. Well believe in it aren't they, some do, they're religious. They like that sort of thing let them do it. Not costing me nothing. But some get by on that don't they? I'm not saying I don't believe in God. I am a Christian. I've been christened I know that. And I've been confirmed. But I'm not tied to the church. It doesn't rule my life. If some want to make it their life, they've nothing else to do. It's all these with plenty of money, nothing else to do. I haven't patience with it. Live life today. Not what has gone and what's gonna happen. No. I believe in living for today. You might be dead tomorrow. And then you won't know nothing about.

(3,5) Well you have to do the best of what you can. You've got to make the best of what you've got. You've no need to have a load of money to be happy. I haven't got a load of money. I'm working class, I've always been working class. But there's nothing wrong with this place is there? It's clean, it's tidy.

(4,2,8) No debt, no worry over you. That's the main thing of life. When you're getting older you don't want worry, you don't want anything on your shoulders. Don't get what you can't afford.

(5,3,2) You can't make a God out of money, no way. You don't have to be bloody rich to be happy, and a meaning in life, you don't have to have a load of money. Do what you want and what makes you happy. I do.

(6,1,18) I think life is what you make it. I don't believe in this here after and God knows what. It's what you make it. You make your own life. You have the say. You're in control. It's up to you to do the best and not expect people to help you.

(7,5,3) It's up to you what you do with your life. Isn't it? If you want to be bloody miserable and sit in the chair all the time and mope about it, you'll get no where.

(8,1,14) It's up to you what you make of life. If you want to go on and be miserable, sit in a chair and mope about it, well carry on and do it. If you're happy that way. Some get happiness out of moaning so I've heard but I don't like it. (8,1,18) Takes me ages to get ready but I do it in my own time. (8,1,20) If you want to make it miserable you'll be miserable. That's how -some people are like that. Got loads of money and they just sit and moan about some'at.

(10,4,2) I go to a day centre once a week, you know, I stopped going when my son was ill and when I lost him you know I said I wouldn't go any more, couldn't be bothered. And then I .. I sat one night I thought what the hell am I doing? And I realised it were all me. It were me.(11,4,12) I like going to the day centre on a Wednesday, you know it's a day out from here, I'm in a bit of company, I aren't bothered any way, others do. Said they've missed me. "Oh" she said "It's been awful without you". I said "Well what are you sat there with long faces for?" It's their own fault isn't it? No I believe in making the most of what you've got. If you can help anybody, help them, definitely help them. There's no need to - you don't need money, there's other ways you can do it. That's my motto in life any way. I'll stick to it. Once I can go out and get a couple of pints that'll do me. And I can't go out could I at Jimmy's if they put me in there (laugh).

(11,6) I've always believed in it. Always believed in it. Make the best of what you've got. Don't moan and expect other people to come running and doing things for you. (12,1,4) I don't get no more than I'm entitled to. I make the most of it. Like I, you see I can't walk about a lot but er I can go round with a duster. I can't vacuum. I can't use a vac. But I go round with a duster, it looks tidy. And I make sure I don't make nothing on the floor 'cos I can't vacuum. Home help comes next week so I make sure it's kept clean.

Interview 4

(1,2) Accept, I've accepted the limitations, my limitations now. *I mean I've never been absolutely 100% but I mean I've er I've worked, and when erm David's dad died he was only 49 and I had three other children besides David and I used to go and do different jobs you know. I'd go cleaning, I'd work in shops, I did all sorts to keep going.*

(1,3) Analysing my depressive symptome was helpful because when you've written it all down and then it's very distressing, what I write down is very distressing and then I sort of think about it. (1,3,16) It's like talking to a psychiatrist only you're sorting it out yourself, he's not sorting it out for you. Right, so that's that then.

(1,4,2) And I get sensitive over you know lots. You get sensitive, you get worried, you know, about different things that you possibly wouldn't worry about normally you know, things that's possibly nothing to do with me but I can take anybody's problems on and you know such as my own health, I worry about that sometimes.
Where do you find meaning? (1, 4, 4).My meaning of life er ... I sort of - my life means... living and being able to help my family erm my life revolves round my family and friends erm .. you see the trouble is I'm down you see, so I haven't got a great value on my life, you know what I mean G.? Erm .. I .. don't value my life very much at all. It's only 'cos .. for my family that I want to live, it isn't for me. And yet I do like. I do like you know going to church. I'm religious. I get a lot out of my beliefs. If I didn't have those I don't think it would be very good.
(5,2) My life revolves around my family. You see I don't go out much or anything like that now 'cos I'm not well enough to do it now. But I'm happy if I can achieve er - I like to write you see. I write poetry - I have done poetry. And I like to write letters so that I can read - you know that's a way of communicating. I like to write letters and receive letters. I like to read, you know, I love to read and (2,6,9) I'm just trying to think - you see I can't see any meaning of life because it doesn't mean, unfortunately the way I am with the depression it doesn't mean a right lot to me, except for the children.
(3,1) I wouldn't have any meaning, no, without God.
(3,4) That has got my meaning - that is my meaning in life, yes, you know, the belief in God.
(4,5) When life finishes I know there's another place to go to, so there's something to look forward to, that it's just not going to be the end and that I'm - I know I've got to do everything I can in this life now to sort of make it right for when something you know when I do, when I die. But I'm talking about death now. But you've got to look at that logically because I'm over 70 now and er that's it. It's the most surest thing there is, that.
Did you use to find meaning? (3,6) Well when my husband, when I had a husband er it was a looking forward. We were looking forward to a holiday, we was

companionable, you've got someone to .. that's your companion, someone to talk to, er someone to share your life with. But when you're on your own - well me personally erm I'm not unduly unhappy but I .. I just - I don't think I can put any meaning much on life expect with you know what means a lot and that is God and my religion and my family you know. So before, yeah, well you've a different outlook when you've got a partner and a husband. You've got your husband, you live for each other.

(3,6,9) When you're on your own I think it's just a day to day - for me it's just a day to day .. existence really isn't it? But I'm not miserable all the time, I can still - I go out. That's something to look forward to.

(4,1,6) If I was physically fit I would love to have a meaning in life by helping, by going and sitting with somebody who was poorly in hospital. Being able to give - this is what I mean. I miss not being able to do something. (4,1,13) I'm not well enough physically now to do things like that. If I was you'd being hearing a different story from me now because I'd have a meaning. That would be my meaning to be able to do things, you know, go to - there's such a lot of people that I could help and this is what I miss in my life. Not being able to. I've got to receive now.

(4,1,4) And er so do you understand what I mean that I'd love to be able to be useful and when you're not .. when you're not it's a bit you know off putting. 'Cos you've always done something, always done, so it's a matter of adjusting to do what you can do, what you're able to do such as the reading and the bit of writing and the talking on the phone and the writing of the letters. It's a totally different adjustment as you get older that the meaning of life. And as I say my children, you know 'cos my children they mean a lot to me.

(6,1,5) I've got heart failure or something, and then angina. And all the discs in the bottom of my back are going. That doesn't do you any good as you're getting older because you like to feel, you like to feel fit and be able to go here, there and everywhere, I mean you know do things. You've got, it's a matter of adjusting to what you can do. And accepting the fact. (6,1,13) So erm it's a matter of accepting

and living your life accordingly to how you can, you know, how you can cope. Is there anything else I can talk about?

(10,2,5) I must not lose my independence". I don't want to lose my independence completely. Like the other Sunday, David doesn't come over on a Sunday and I thought there's a little bit of ironing in there and it took me ages to do it because I get out of breath .(10,2,10) I just think it's a matter of accepting that you can't er .. you can't do these things any more.

(18,1) I do like my own company. I'm happy in my own company. And I'm not particularly a lonely person. And if I am lonely I've only to go out and into the day room, they play bingo at night and things like that. But I don't go because I'm alright here. I use the phone a lot you know.

(19,7,4) Yeah, it is, that somebody bothers to find out these things. But I was a bit . just mystified, you know and I'm thinking well I'm very low in self esteem and I think when you said and I thought well I won't be able to help her at all (laugh) because I'm you know I'm no good me sort of thing, you know, and I am very low in self esteem which you shouldn't be- I shouldn't be. I think I'm better than what I was you know but I don't think that I'm able to ... be much use in the community but I'm getting better, think better of myself a little bit now, you know than I was.

(20,7,2) I am at peace. But I know physically there's nothing - it's just a matter of wear and tear, it's just wear and tear, just I'm winding down you know but luckily it's not showing that much on me you know so er .. it's got that it's ... it's a process of age.

Interview 5

(1,1,1) I've never thought about a meaning in life is the answer. I'm too busy to do other things to start theorising, speculating what meaning of life means. So if perhaps you put some ideas into my head perhaps I ought to think about the meaning in life. Have you got a fixed target or thoughts and do that according to some inner meaning I'm sure.

(2,3) Yes perhaps it's got some striving for some purpose or some ideal or some target maybe. (2,4) Yes I think because when you see some of these tycoons perhaps their purpose in life is to make lots of money or to be in charge of powerful, powerful corporations. (2,5) So perhaps it's, it is mixed up with ambition.

(2,6) No, I don't think (*that I had purpose in life*) so, no, I didn't always - I think people give themselves ulcers worrying about oh how are they going to move up the next step or ladder or that somebody is getting an advantage over them.

(*Where have you found purpose or meaning?*) (4,3) I think enjoying the job because er finding it interesting and as I say not having to worry about something or worrying about losing it perhaps or, but - no if .. that can happen if, if, you hear people have a very nasty boss, continually pushing, and pushing and pushing, mainly to increase their own status, get more out of it, and to take the credit.

(6,7,4) I've very sceptical about people who regard religion as their purpose in life.

(6,8) Because er they use it for wrong purposes. I mean I'm not saying that I don't want to be - I don't want to generalise too much about that, I'm sure there are lots of people who genuinely feel about it and er don't want to hurt anybody and so forth. But it's sort of being used an awful lot for an excuse for not very nice things.

(8,3,2) Well if I've had a problem with a computer somewhere - to solve that. Or if somebody else gives me a problem to solve that, I suppose that's short term satisfaction. That something that didn't work makes me - yes, something generally if something doesn't work or something has broken and I can mend it, that does give satisfaction. Even - yes, even to the extent that well it would be much quicker to buy a new one, whatever it happens to be, but some how it seems, it seems to be more satisfaction to recover something. Maybe because years ago when I couldn't afford very much and had to do it that way and I had to throw away perhaps that's a reoccurrence of that, harps back to those days.

(9,7) Oh yes actually yes. Because I hadn't sort of, I haven't thought, I haven't sort of sat down and thought about the meaning in life before. So I'll give it a few minutes of thought.

Interview 6

'Cos to start off we came from a very wealthy family and then to it go to nothing in the workhouse and then to be built up and my family was wealthy, then we went to nothing, and now it's coming back again, and I think families do that. You know they can be poor and then they come back and then they lose it and then - I think it's a way that things come.'

(1,2) Oh I don't know what you really mean by the meaning of life. What's the meaning of .. well do you mean like in helping others or your personal wealth?

(1,3) Well I believe that if you help people and do whatever you can they will in return help you. I think whatever you give you always get back erm that's my opinion.

(1,5) Well the meaning in my life was when, when my husband left me and the children were little I mean I worked hard and my meaning in life was to see they got a better life than what I did and I wanted them to, yeah, not work as hard as I've had to do to bring them up, yeah.

(1,8) Well erm I mean I've always believed in religion and I always think there's someone much greater than what we are erm but I mean I didn't - the kids all went to church.

What is the purpose of life? (2,2) To help everybody else, yeah. Just you .. just you lead a good honest life and help everybody and that's it, yeah.

(2,3) Well I've had a lot of satisfaction in bringing (the children)them up because they've all done so very well. (2,4) I think when you, when you live on your own you've got to be strong haven't you? You can't be just lay back and be weak (laugh), (4,2) I can't give you a definite answer really. I'm just .. just happy But erm . as I say you see we were a very, very wealthy family and lived at Harrogate.

APPENDIX 35

Abstracts

Koutsopoulou, G.K., Hewison, J. and Martin. C. (1995). Meaning in life and Psychological Well-Being in the Elderly. *Proceedings of the British Psychological Society,* February.

Conference presentations

Koutsopoulou, G.K., Hewison, J. and Martin. C. (1994). Meaning in life and Psychological Well-Being in the Elderly. *The Psychology Postgraduate Affairs Group 1994 Annual Conference,* University of Sheffield, 7th and 8th of July 1994.

Koutsopoulou, G.K., Hewison, J. and Martin. C. (1995). Meaning in life and Psychological Well-Being in Older Adults. *First Dutch Conference on Psychology and Health,* Rolduc, Kerkrade, The Netherlands, 5th and 6th of November.