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The Holy Trinity: Religion, Well-being, and Purpose in Life

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Abstract

Almost exclusively, literature that concerns itself with the psychology of religion and health holds the orthodox position of the existence of a positive (albeit small) relationship between religion and psychological well-being. Put simply, the literature supports the hypothesis that individuals who are religious have a greater level of well-being than those who are not. Methodologically, there are a number of issues with this research. The most important of which are the failure to include a sample of non-religious individuals in the studies and the attribution, to religion, of effects on well-being that occur via indirect secular pathways. This study explores the hypothesis that because religious beliefs are only special, unique and peculiar in relation to their central tenet, the belief in supernatural agency, and that because any behaviours associated with them are also available to non-religious individuals in some secular form or other, there is no rationale for any empirical relationship, no matter how small, between an individual's religiosity and their well-being. Rather, as suggested elsewhere in the literature, well-being is better explained by other factors that individuals, including those who are religious, may be able to access. The factors of particular interest to this study are the presence of meaning in a person's life, and a theorised facet of meaning – purpose. Accordingly, the design of this research is that of 'value

added' as opposed to the 'web of causality' approach generally exemplified within the literature. It utilises a large general health survey, the New Zealand Longitudinal Study of Ageing, which emphasises older adults, includes a significant number of non-religious individuals and enables the exploration of the relationship between religiosity and well-being as well as the manner in which religious belief and practice are changing in an increasingly ageing and secular society.

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Chapter 1 – Introduction

Religion remains a uniquely human endeavour. It is a pursuit that has been, and still is, associated with a great range of state, community and individual functions and outcomes. These include: theocracies, infrastructure within secular societies, life cycle benchmarks, belief systems, and frameworks for living. In the context of psychology, one of the more important outcomes associated with religion has been psychological well-being.

A substantial majority of the literature at the nexus of psychology, religion and health research reports a small, but positive, relationship between religion and psychological well-being (Childs, 2010; Ellison & Levin, 1998; Green & Elliott, 2010; Yonker, Schnabelrauch, & DeHaan, 2012). This same body of literature details other important characteristics in relation to religion and its distribution in the general population. These include the greater level of religious occurrence in older adults and females (Okulicz-Kozaryn, 2010; Wink, 2002).

The existence of an empirical research base supporting a religion and well-being relationship as well as notable religious demographics is in turn, juxtaposed with noteworthy, contemporaneous, and relevant social developments. These include; the longevity revolution, progress towards establishing universal human rights, and an increase in material security

(Barber, 2013; Bruce & Glendinning, 2010; McLennan, 2010). Developments that, *ceteris paribus*, would have been unlikely to significantly impact the 'religious body' of a country. However, all things do not remain equal.

The *status quo* of religious distribution within the population has had to contest with another contiguous development: secularism. Religion within most Western liberal democracies is in decline (Barber, 2013), and the existing cohort of traditionally more religious older adults are now being joined by a generationally different cohort; the 'baby-boomers'. 'Baby-boomers' do not display the same religious characteristics of previous older aged cohorts. They are increasingly secular with no religion, quasi-religiosity and spiritualism featuring strongly within the cohort and they increasingly look for existential meaning outside of traditional, organised religion (Barber, 2013; Homan & Boyatzis, 2010; Wink, 2002).

If the relationship between religion and well-being holds true, then the secular development should be of import to the psychology profession for a considerable range of reasons. Not the least of which includes, an overall reduction in the aggregated level of well-being in the population in general but also the older aged and female specifically.

These concerns, along with any other possible outcomes or theorised developments, are predicated on the veracity of the religion and well-being relationship. The central concern of this thesis is the existence of such a relationship. If

the thesis of this study is correct and there is no relationship between religion and well-being, then might there be other explanatory mechanisms or constructs that better explain the well-being outcomes evidenced in the literature? In addition, might not those mechanisms offer opportunities to individuals to access and increase their well-being regardless of whether they are religious or not? Two such possible constructs that are theorised to have a direct relationship with well-being that will be examined by this thesis are meaning and a theorised facet of meaning, which is purpose in life. Accordingly, the primary psychological variables of interest to this study are religion, psychological well-being, meaning and purpose in life.

Because of the theoretical framework utilised by this study, which is that religious cognitions are not unique, peculiar or special, the study design developed to address the hypotheses overtly rejects the 'web of causality' approach that is used in most religion and well-being research (Flannelly, Ellison, & Strock, 2004). This 'web of causality' is an indirect behavioural study design that occurs throughout the research literature and can be critiqued as attributing a component of well-being to religion that is achieved via secular pathways. Examples of these secular pathways commonly identified within the literature include social support and coping (Pargament, Koenig, & Perez, 2000). Social support and coping represent behaviours that are already known to contribute to well-being outside of any religious context. Therefore in the context of religious practice, social support and coping, do not add any value to our understanding of either predicting well-being or explaining any variance in well-being that is derived from an individual's religiosity. This study does not propose that these

known secular mechanisms moderate the relationship in any way, rather that they have been inappropriately co-opted in previous study designs. At best they only measure the ways in which some individuals, who happen to be religious, behave in some instances.

Religion is not best defined or understood as an aggregate of behaviours, that indirectly may have some well-being benefit. This is the rationale for not pursuing a mechanistic 'web of causality approach'. Therefore, the design of this study is one of 'value-added'. That is, does religion in its own right explain any degree of variation in the level of an individual's well-being?

As a result of such an approach religion needs to be delimited and defined. However a definition is problematic as the literature does not provide a consensus on the definition of religion. As an outcome of shaping an appropriate theoretical framework informed by the literature, the definition utilised in this paper is that of religion as 'the belief in supernatural agency' (Guthrie, 1993). This definition is considered appropriate because it identifies what is unique about religion, that is, supernatural agency. It also provides a clear outline of those individuals who are religious and those who are not. As such it avoids becoming embroiled in questions that are once removed from the central tenet under consideration, which is supernatural agency. These questions commonly take the form in the literature of how religious an individual is. Issues such as how religious an individual is are important to both address theoretically and methodologically and avoid empirically. The questions

are important to avoid because as noted above they very often only measure secular behaviours. They are important to address because their consideration and introduction can very often 'muddy the waters'. For example, in the literature the religious are most often grouped into how religious they are on a continuum that ranges from lowly to highly religious (Ellison & Levin, 1998). Whilst the non-religious are not similarly grouped, they remain an amorphous category (Hwang, Hammer, & Cragun, 2011). It is arguably a poor methodological choice to compare groups that have been evaluated differently. Such an approach should also therefore be avoided.

The proposed importance of this piece of research goes beyond its challenge of the existing orthodoxy. There is expectancy that it will also identify a gap within the literature and methodology of previous studies with a view to aiding the understanding of a much researched topic from another angle.

If religion is a uniquely human endeavour then, it naturally follows to ask; why are humans capable of being religious? Chapter 2 of this thesis will outline the theory of religion. That is, why humans have the capacity to develop, hold and transmit religious beliefs and the diverse nature of those beliefs. This thesis will then cover the literature at the nexus of the religion and well-being relationship before moving to a discussion of meaning and purpose. Chapter 3 provides an outline of the theoretical framework employed by this study and concludes the first part of this thesis.

The second part of this thesis will outline the research study. Chapter 4 outlines the research aims and hypotheses. Chapter 5 describes the methodology used in this

study. Chapter 6 presents the results from this study. Chapter 7 provides a discussion of this study including limitations, and possible future research. The study ends with a brief conclusion at Chapter 8.

Chapter 2 - Literature Review

The approach and structure of this literature review is to first enquire and theoretically frame why human beings have the capacity to generate, maintain and transmit religious belief, and why those beliefs take the form that they do. Such a theoretical foundation is necessary in order to facilitate an understanding and discussion of the many issues raised within the literature. The review then moves onto an analysis of the central issues contained within that literature: the religion and well-being relationship and the role, if any, of meaning and purpose in life in this regard.

The Psychology of Religion

The psychology of religion literature, for most of its history, has lacked a body of work capable of providing a unified theory that satisfactorily explains a range of significant issues that have troubled the sub-discipline from the outset. The more important of these include; the psychological uniqueness or otherwise of religious cognition, and the ability to nest the common ground of a group of competing theories within a framework that suffices the principle of parsimony. This lack of a unified theory has influenced most areas associated with the psychological study of religion, including the one under consideration by this thesis: the relationship between religion and well-being. That is, a large body of the literature is open to a charge of being atheoretical (Levin, Chatters, & Taylor, 2011). However, this has not stopped the literature and associated research from developing a degree of sophistication, particularly in the context of methodology and measurement. As a result it has

accumulated a significant volume of research similar to a range of other psychological sub-disciplines (Flannelly et al., 2004; Hall, Meador, & Koenig, 2008; Levin & Chatters, 2008; Levin et al., 2011). Comparatively recently however, a body of work has emerged within the literature that presents a unified theoretical approach and offers researchers the ability to adequately address many of the previously noted challenges. This body of work is founded on Darwinian evolutionary mechanisms and emphasises evolved cognitive and cultural processes.

The Theoretical Basis for Religious Belief

There are a range of theories as to why humans possess the capacity to generate, maintain and transmit religious beliefs, particularly those relating to the central tenet of religion: supernatural agency. In general, these theories posit that religious belief results from universal aspects of the human mind (psychological architecture) and near universal aspects of the human condition (social and cultural structures). These theories occur broadly throughout the literature, often under a range of differing names. However they can usefully be grouped into three schools. Firstly, Social Utilitarian - religion as a product and function of social interaction and organisation. Secondly, Mortality Salience - religion as a product of an individual's dissonance in comprehending or accepting their mortality, of which perhaps the earliest occurrence in the literature was Freud's observation of religion as a "psychotic fantasy" (Freud, [1927]/2012). Thirdly, Cognitive Science - religion as a result of evolved cognitive functions.

These theories have in common two distinct features that can be broadly

categorised as the rejection of the existence of religion as a result of anything supernatural, and the acceptance that religion results from humanism (Guthrie, 2007). The mechanism operating within the humanist approach is widely acknowledged as Darwinian evolution (Barrett, 2011; Collicutt, 2011; Henrich, Boyd, & Richerson, 2008; Norenzayan & Gervais, 2013) and the culturally universal and individually pervasive spread of religious belief suggests for some researchers, particularly cognitive scientists, that it is a natural feature of evolved psychological functioning (Banerjee & Bloom, 2013; Sjöblom, 2007).

Accordingly, a theoretical approach centring on evolved cognitive functions has emerged within the literature that arguably coalesced with *Faces in the Clouds: A New Theory of Religion* by Stewart Guthrie (1993). Theoretically, evolved cognition posits religion as an outcome of the basic processes an individual's mind performs in order to comprehend and interpret the external environment. Associated beliefs, such as supernatural agency, are the result of these aggregated cognitive processes and can occur as either by-products, adaptations or errors (Atran & Norenzayan, 2004a; Bulbulia, 2004; Sjöblom, 2007).

Using an evolutionary mechanism to develop a theoretical platform to understand religious belief has grown in appeal largely because of its explanatory power when compared with the other theoretical approaches noted above. Those theories have been critiqued within the literature in a range of ways. These critiques include the inability of Social Utility theory to explain the very many instances where religion operates contrary to any greater social good (Guthrie, 2007), and the inability of

Mortality Saliency theories to adequately explain those aspects of religious belief that are contradictory to the reassurance, or reduction in dissonance, belief is assumed to impart e.g. a Heaven and a Hell, a loving yet vengeful God (Vail et al., 2010).

However, the literature that agrees on religion resulting from evolved cognitive functions is not in agreement in all areas or on all issues. Significant debate occurs and theoretical schisms exist. There is dynamism in the theoretical base, with the emergence of dominant positions and dissenting voices as well as a lack of clarity in certain important areas. For cognitive science and the psychology of religion, the theoretical waters as ever are muddied.

One of the more important theoretical cleavages that exists regards whether religious belief has arisen as a result of discrete and distinct cognitive processes or not. That is, the question under discussion is whether there are separate cognitive religious modules or not. A very small number of researchers (Newberg & Newberg, 2008; Sinnott, 1994) have sought to explain what is specifically different about religion in comparison to other mundane human cognitive pursuits e.g. perception and interpretive bias. This small number of researchers theorise religious cognition as distinctive and separate. However, the overwhelming majority of researchers (Banerjee & Bloom, 2013; Barrett, 2011; Bulbulia, 2004; Gervais, Willard, Norenzayan, & Henrich, 2011; Norenzayan & Gervais, 2013; Sjöblom, 2007) instead prefer to focus on the 'sameness' of religious cognition and believe it is more readily and appropriately explained as an outcome of aggregated normal cognitive processes. These processes include mental representation, agency detection, bias, motivation, fear and creative

insight (Banerjee & Bloom, 2013), the tendency of humans to anthropomorphise and infer animism and the resulting effect this has on perception and interpretation (Guthrie, 2007) and memory (Whitehouse, 2002). Consequently, amongst cognitive scientists agreement predominantly converges on the human ability to have religious belief as an aggregate of evolved normal cognitive function. However, the literature then proceeds to diverge significantly on whether such an aggregation is an adaptation or a by-product of those same naturally evolved cognitive systems (Boyer & Bergstrom, 2008).

Proponents of the cognitive adaptation school (Alcorta & Sosis, 2005; Wilson, 2005) propose an attractive argument in that their position facilitates a further understanding of sequenced issues that need to be successfully addressed in order for any theory of religious belief to withstand a high degree of scrutiny. These include the transmission of particular beliefs. The adaptation thesis proposes that belief in supernatural agency may make individuals more susceptible to prevailing social mores, or that it may promote group cohesion, a result of which is more favourable outcomes for groups that believe compared with any who do not. In this regard it is able to appropriately 'nest', incorporate or account for other theories and leverage their explanatory power. These other theories include Multi-dimensional Disengagement Theory (Jong, Halberstadt, & Bluemke, 2012) and Uncertainty Theory (Levin et al., 2011) and both theories have tended to dominate, in terms of quantity, the research into the religion and well-being relationship. These two theories are primarily focused on identifying and describing the empirical base without reference to any over-arching

or unifying theory, such as Cognitive Science. They have tended to address the 'what' in the relationship between religion and well-being, rather than the 'why'.

Those researchers who favour religious belief as a cognitive by-product (Atran & Norenzayan, 2004b; Banerjee & Bloom, 2013) argue that because we possess a wide array of highly evolved cognitive functions designed for negotiating our external environment, it is these very functions that make religious concepts conceivable, perceptible, and accessible. This by-product school is currently dominant in the contemporary research to the extent that it is known as the Standard Model (Powell & Clarke, 2012).

In the context of explaining the origin of religious ideas, evolved cognition again has two competing schools of thought. The first proposes that religious ideas arise regularly and are intuitive (Guthrie, 2007; Kelemen, 2004), the second advances the position that they are random and occasional (Barrett, 2000; Pyysiäinen & Hauser, 2010).

Proponents of the regular and intuitive school argue that supernatural agents are an evolved outcome of constant environmental scanning for important features and agents in a complex and ambiguous world. This view is a combined outcome largely attributable to agency detection and the human propensity to anthropomorphise and animate those agents. Anthropomorphism is counted as attributing human facets to non-human subjects, and animism as attributing life to the lifeless (Guthrie, 1993). Agency detection, like all cognitive processes, is subject to strict or partial error i.e. perceiving something totally or partially incorrectly. Hence the human capacity to

perceive and interpret a naturally occurring agent as a supernatural agent, in part or total, is a probabilistic occurrence. Keleman (2004) has given empirical weight to the theory in relation to cognitive bias via experiments that support the thesis that humans are biased to finding design and purpose in the world and that this bias can readily take the form of religious belief. It is this cognitive process or a similar generic mechanism that has evolved and survived in the modern *homo sapiens* brain and retains the ability to be expressed unconsciously (Guthrie, 2007). The second school of thought holds that ideas regarding supernatural agency have the ability to arise randomly if only occasionally and have become universally spread because they are unusual and memorable and are therefore easily transmitted as a function of novelty (Barrett, 2004, 2011; Boyer & Bergstrom, 2008; Pyysiäinen & Hauser, 2010).

There are, as outlined above, important differences between cognitive scientists and how they believe religious ideas have come to be generated, or as to how individuals are predisposed to acquiring such supernatural agency concepts. There are also important similarities, particularly in regards to an individual's capacity to be receptive of religious ideas. Arguably the cognitive science of religion literature provides a strong theoretical base for why normal cognitive processes are sufficient to explain religious belief. Those beliefs are not better explained by extraordinary, abnormal or infrequent brain or belief states that would otherwise give rise to generating and accepting supernatural agency. If the literature has appropriately addressed why individuals believe in supernatural agency, the next challenge is to address why individuals and groups believe what they believe.

Why Individuals and Groups Believe What they Believe

If it is possible to theorise that an individual's ability to generate religious belief is an outcome of evolved cognition, then it is also possible to theorise that what particular beliefs individuals hold and transmit is an aggregate of individual and social phenomena also governed by evolutionary processes (Barrett, 2000). The theoretical foundations for this aspect of religious belief are encapsulated in cultural evolution and learning (Gervais et al., 2011).

The cultural transmission of religion is proposed as a mechanism that is able to explain the persistence of both a particular religious belief and religious beliefs in general. Researchers who propose such a mechanism (Gervais et al., 2011; Henrich et al., 2008; Van Vugt & Schaller, 2008) argue that pairing the cognitive science of religion with a framework of cultural evolution appropriately emphasises that behaviours and beliefs are powerfully shaped by genetic and cultural inheritance. The mechanism that theorists from the cultural transmission of religion perspective propose operates via two opposing concepts, similarities and differences. These concepts are employed to develop and give weight to the theory that evolved cultural processes contribute significantly to the psychology of religion.

Firstly with regard to similarities, the culturally evolved theory posits that religious differences between cultures which *prima facie* can appear significant are upon closer inspection largely superficial, conventional or appear as a facsimile e.g. the variation in afterlife, and the duality of good and evil (Bulbulia, 2005). Boyer (2003) has similarly argued that the human mind has evolved with adaptive predispositions and restrictions

that limit religious variation. Bulbulia (2005) argues that from a cognitive perspective, religion presents as a singular human endeavour with minor but culturally important variations in its expression across both cultures and time. Pan-human psychological architecture reliably reproduces similar beliefs, rituals and doctrines regardless of overriding cultural conventions and labels. Within the literature a significant amount of evolutionary cognitive and cultural research supports the thesis that religious variance operates within the constraints of a universally common psychological design (Barrett, 2000; Boyer & Bergstrom, 2008; Saroglou, 2011; Wilson, 2005). The transmission of religious concepts is dependent on cognitive functions, particularly cognitive biases, which act to constrain religious content and result in cultural religious similarities.

The second part of the mechanism concerns religious differences in that variation is a result of cultural circumstance and process. Individuals have traditionally adopted the particular religious account provided to them culturally. Differing religious concepts depend on cultural biases that direct individuals to interpret and acquire those concepts and associated practices, including religious commitment, from the culture they have been born into. The arguments for this are generally adaptive in nature with conformist learning bias (Kendal, Giraldeau, & Laland, 2009; Morgan, Rendell, Ehn, Hoppitt, & Laland, 2012) and prestige based learning bias (Chudek, Heller, Birch, & Henrich, 2012) suggested as modes for the cultural transmission of religious belief. In the former, individuals place a degree of weight on the prevalence of a belief or behaviour in anticipation of a benefit. In the latter individuals imitate skilled, prestigious and more successful individuals. Other cognitive biases are theorised to

influence the cultural evolution of religious belief and include; content bias, which makes religious belief memorable and spreadable, and context bias, which sufficiently explains why groups come only to believe and endorse a particular subset of supernatural agency concepts (Kendal et al., 2009). This similarities-differences dualism is a strong theoretical position advocated by a significant number of researchers in the psychology of religion field and is proposed as an appropriate mechanism to account for both cultural variations and similarities in religious belief including the belief of supernatural agency (Atran & Norenzayan, 2004b; Barrett, 2000; Bulbulia, 2005; Gervais et al., 2011; Henrich, 2009).

The evolved cognitive and cultural model of religion has also been used to provide a degree of explanatory power to several problematic issues regarding religious belief. One particularly important issue concerns supernatural beliefs that are mentally represented by individuals but regarded as fictional e.g. the god(s) of other religions and cultures, and those that are mentally represented and regarded as real e.g. the god(s) of one's own culture (Gervais et al., 2011). The differentiation between being able to mentally represent supernatural agents and committing to those beliefs takes on a degree of importance when we come to attempt an explanation for the existence of non-belief. That is, an individual's ability to mentally represent a supernatural agent but disbelieve or non-commit to that cognition is evidence of differentiation.

Variation in the Level of Religious Belief

Individuals have the capacity to mentally represent supernatural agents and commit to those provided to them culturally. However, the degree to which a person is

committed to the belief in supernatural agents, generally referred to as faith, is also subject to a wide range of variance. Within the literature this variance occurs in two ways: how religious an individual is specifically and the distribution of religion across the population generally.

The level of religiosity that an individual identifies with comprises a range from lowly religious to highly religious. Such a concept is in opposition to the theoretical definition of religion adopted by this study, which is a dichotomous and categorical one. Nevertheless, the description and research of levels of religiosity is the dominant study design that occurs throughout the literature (Emmons & Paloutzian, 2003; Yonker et al., 2012). In that regard, the degree to which a person claims religious adherence or identifies in some manner with religious beliefs, within liberal Western democracies, displays an age related bimodal distribution. Rates are higher in the younger and older aged as compared to middle aged cohorts. Other variances within the general population are also notable, particularly as females assess themselves as more religious than males (Okulicz-Kozaryn, 2010; Wink, 2002).

In relation to older adults, there are a competing range of theories that seek to explain this increased degree of religious belief. Some researchers explain this variance from the perspective of life course development (Ingersoll-Dayton, Krause, & Morgan, 2002). That is, it is a function of the social and psychological forces that have operated and continue to operate throughout the course of older adults' lives. Discounting cohort effects, such a position can be critiqued for an inability to sufficiently explain or identify the developmental processes as to why belief has dropped away in middle age

and then risen again in older age. Other theories proposed within the literature to account for this increased belief in older age include those most associated with the mortality saliency school including, Terror Management Theory (Vail iii, Arndt, & Abdollahi, 2012; Vail et al., 2010) and Uncertainty Theory (Jong et al., 2012). Multidimensional Disengagement Theory (Mindel & Vaughan, 1978) has also been posited as a mechanism that can explain this higher rate of belief. Multidimensional Disengagement Theory argues that as individuals age they disengage from other forms of social interaction and increasingly turn to religious beliefs, often via existing societal structures and other cultural frameworks. If we contextualise such a theory within a literature review, then it is arguably better conceived of as a prototype of the mortality saliency paradigm that was in its infancy at the time.

Theories that attempt an explanation of the greater level of religiosity of older adults generally exist in isolation from one another, and little or no attempt is made within the literature to link the bimodal peaks in the population. They certainly do not present in any unified manner that might from any perspective, including cognitive, provide a clear or powerful explanation of the culturally evolved importance of older adults in the maintenance and transmission of religious beliefs. Hence such a theory appears to be lacking in the literature. If there are theoretical gaps within the literature regarding the variance of religiosity within the population, the same cannot be said regarding the issue of why religious belief has declined in the population generally.

The Post-modern Decline of Religious Belief

Theoretically an evolutionary analysis of religion, whether cognitive or cultural,

needs to attempt an explanation of the religious decline experienced in liberal Western societies. That proposed within the literature by a range of researchers is based on both post-modern and post-secular developments (Barber, 2013; Inglehart, 2006; McLennan, 2007, 2010; Powell & Clarke, 2012). Theorists from the post-modern school of thought argue that if cognition and culture predispose individuals to be receptive to, acquire, and transmit religious belief, then the reduction of receptivity, acquisition, and transmission presents in a much more mundane fashion. That which is largely associated with economic development and the accompanying material and hence existential security.

The decline in religiosity is facilitated in a post-modern sense by the rise in individualism, increased fluidity of social relations that incorporates a reduction in deference to societal structures, and an increase in the average level of educational attainment (Bruce & Glendinning, 2010). Other notable correlates include an increased level of economic development, equitable levels of income distribution and a well-developed welfare state operating in a period that runs parallel with the secularisation of a society (Inglehart, 2006). On aggregate, these conditions represent a significant increase in the level of existential security which, in turn, is inversely related to levels of religiosity (Barber, 2013; Marger, 2013). Such an argument supports theories such as the Uncertainty Hypothesis which proposes that one of the functions of religion is to enable individuals to better cope with uncertainty in their day-to-day lives (Barber, 2011). The very recent decline, in a historical sense, of levels of religious belief in most Western liberal democracies can be reasonably understood as a culturally adaptive

response to a significant increase in existential security.

Some researchers note that support for secularisation as a theory has declined of late (Bruce & Glendinning, 2010), arguing that the loosening of religion's grip on society is identifiable from much earlier in the twentieth century than the theory proposes. These researchers further suggest that the decline in religious belief is most likely attributable to a failure of religious institutions to culturally compete at previous levels, particularly in response to the rise of the Voluntary Model of religious identification associated with defecting branches of mainstream Christendom (Bruce & Glendinning, 2010).

The empirical base for holding such a position is well established, and the theoretical base is situated on the failure of adults to culturally transmit, as effectively as prior generations, religious belief to children, youth and young adults at the time individuals are thought to be highly receptive to such ideas (McLennan, 2010). The trials and tribulations of the first half of the twentieth century are proposed as appropriate events that interfered with normal religious transmission. These events go some way to explaining the differing levels of belief in those countries with a geographical experience of them e.g. those located within Europe and those without, such as the United States of America (Bruce & Glendinning, 2010). This particular debate within the literature is therefore largely concerned with when the decline in religious belief began. Arguably this is a less taxing concern than how, why or whether it has declined.

Contemporary Older Adults in the Context of Religious Belief and Secularisation

The study design of this thesis utilises the New Zealand Longitudinal Study of Ageing (NZLSA) which comprises a large sample of older adults. As noted above older adults report higher levels of religion than the middle aged. Older adults also present as a complex cohort in view of that previously established higher rate of religious belief when juxtaposed with the general decline in religious belief throughout the entire population. Individuals who were born during the initial period of the decline of religious belief are now entering older age and are predisposed to displaying either less religious belief or differing beliefs (Barber, 2013). This younger older aged cohort can be thought of as the leading edge of the 'baby-boom' generation. Secularisation, post-secularisation, post-modernism and the resultant significant increases in levels of material and existential security have most likely combined to influence culturally the religious beliefs held by the most recent cohort to reach the age normally delineated as old age, which is 65 years of age.

In summary, the existing cohort of traditionally more religious older adults are now being joined by a generationally different cohort, who on average could be expected not to display the same religious characteristics. There is not a simple relationship between the decline in belief and the rise in disbelief. The relationship as detailed in the literature does have various belief intermediaries and although marked by increasing secularism, older adults also adhere to quasi-religiosity and spiritualism and they increasingly look for existential meaning outside of traditional, organised religion (Barber, 2013; Homan & Boyatzis, 2010; Wink, 2002).

The Forms of Belief

Within the literature the approach to religious belief presents as a discrete exercise that attempts to define, separate and measure beliefs, phenomena and practices as a means to better understanding them. This measurement approach manifests itself in the nature of study designs investigating the religion and well-being relationship, which most often adopt a 'web of causality' approach suited to the measurement of the indirect effects of belief. For most of its history the psychology of religion has been well and truly entrenched within this measurement paradigm (Gorsuch, 1984). Whilst viewed as essential in regards to the initial development of the field it has been eventually challenged. A recent paradigmatic shift has occurred and the sub-discipline now finds itself in what is generally termed a multilevel interdisciplinary paradigm (Emmons & Paloutzian, 2003).

The multilevel interdisciplinary paradigm is a recent attempt to integrate not just the measurement paradigm, but a range of other themes in the psychology of religion into a framework that might better assist future academic enquiry. The consideration of several issues resulted in this paradigmatic shift; these issues included the continuous and fruitless search for a conceptually pure measure of religion, the acceptance that other psychology fields have developed and matured without arriving at such a measure and the failure to consistently and appropriately apply existing instruments that had been developed to a range of relevant religious domains (Hill & Pargament, 2003). The general consensus within the literature is that for too long the emphasis on measurement reinforced an almost exclusive interest in measurement

itself, and not the phenomena being measured (Hill & Pargament, 2003; Hill et al., 2000). In essence, the psychology of religion had been measuring but not explaining religious belief as it relates to the real world; hence, its ability to identify a religion and well-being relationship but inability to attempt, for a significant period of time, to explain it satisfactorily.

In an attempt to move beyond the measurement paradigm parts of the literature now conceptualises religion as a broad term that can, and does, incorporate spirituality. That is, religious belief can be viewed as a multi-dimensional construct (Emmons & Paloutzian, 2003; Hill et al., 2000; Hyman & Handal, 2006; McSherry & Cash, 2004; Park, 2012; Zinnbauer et al., 1997). For lay users the terms religion and spirituality are often used interchangeably (la Cour & Götke, 2012; Schlehofer, Omoto, & Adelman, 2008); however, researchers increasingly understand these terms to represent two different constructs existing within a single spectrum (Hill & Pargament, 2003; Hill et al., 2000; Nadel, 2005; Zinnbauer et al., 1997). If a significant amount of research and number of researchers appear to have settled on religion and spirituality being separate constructs, the same researchers have not reached agreement on whether they are completely or partially separate. Or if partially separate, what degree of overlap occurs between the two phenomena, or even if one is superordinate in that a factorial structure exists (Hall, Meador, et al., 2008; Ivtzan, Chan, Gardner, & Prashar, 2011; Kashdan & Nezlek, 2012). These issues as yet remain unresolved, largely due to an inability within the literature to converge on agreed definitions of religion and spirituality.

The separation, partial or otherwise, of religion and spirituality has enabled the development, research and investigation of other concepts that might appropriately be considered alongside religion and spirituality, even if they contain none of their central tenets. Although not widely represented in the literature these concepts extend to include spiritual secularism and non-belief. Having identified a range of belief forms in the literature, this review moves to discuss them more fully below.

Religion as a Psychological Construct and Variable

Within the literature, approaches to defining religion have commonly utilised substantive and functional perspectives (Hill et al., 2000; Paloutzian & Park, 2005a). Substantive approaches define religion by the important ways and means that individuals engage in and relate to the divine (Zinnbauer & Pargament, 2005). In a theistic sense, the substantive approach understands the divine, or any aspect of divinity, to represent a supernatural agent – a deity. Because the substantive component of religion also includes behaviours and relationships in the context of a deity, deities are conceptualised and personified. This anthropomorphism results in religious individuals perceiving supernatural agents as having will, intent and purpose, which in turn they perceive as being expressed in the human social world (Norenzayan & Gervais, 2013). To some extent, this approximates the personal interventionist God observed in some types of spiritual belief and is an example of the construct overlap, discussed above, that can occur between religion and spirituality. Throughout the literature the substantive components of religion, from the point of view of a multi-dimensional construct, can be reduced to facets or domains that have a demonstrable

and significant cultural tradition. These include denomination, affiliation and organisation, adherence and observance of belief, doctrine, dogma and prescribed practice and ritual (Gall, Malette, & Guirguis-Younger, 2011).

Functional approaches within the literature examine the purposes that religion serves for individuals, including cognitive purposes such as meaning making, purpose and coping (Hill et al., 2000; Park, 2012). For many individuals this extends to religion providing ethical and moral prescriptions about life and the choices an individual is required to make in a complex social environment. That is, they utilise some of the substantive components. As a result, the substantive and functional approaches to defining religion within the literature are not mutually exclusive and arguably at times appear theoretically muddled.

To a certain extent, the functional paradigm fits well with the extrinsic religious orientation of an individual as described in the seminal study by Allport and Ross (1967). Their original concept of a construct duality expressed as an aggregate of personality traits resulting in an individual's intrinsic or extrinsic orientation towards religion has been largely superseded by the substantive and functional concepts. However the thesis proposed by Allport and Ross (1967) still maintains a degree of utility. The connection between the two paradigms is that the extrinsic form of religiosity as outlined by Allport and Ross (1967) serves the individual for their own ends as it is a utilitarian form of belief that is adapted to external social conditions e.g. attendance at religious service. The extrinsic form of religiosity can afford an individual psychological comfort and coping amongst other things, and arguably is representative

of the evolved cultural adaptation processes that enable the continued transmission of religious belief.

Religion and a person's religiosity understandably serve a function in the face of a range of existential threats, such as suffering, uncertainty and social isolation (Norenzayan & Gervais, 2013). Clearly, the function of religious belief for some individuals is to alleviate these threats with a range of constructs that can include meaning, purpose in life, and community. Arguably, this is another conceptually latent link between the functional purpose of religion and associated rituals and the extrinsic practice of religion by some individuals. It is all the more striking in that we might have assumed that the functional components of religion noted above, particularly meaning and purpose, would be more closely associated to the intrinsic expression of religious belief conceptualised by Allport and Ross (1967). Intrinsic religious belief is generally associated with spirituality, individualism and the internalisation of religious behaviours in this regard (Auhagen, 2000). This 'fuzziness', or lack of discrete boundaries across a range of religious concepts, has bedevilled the field since its inception, continues to limit progress and serves to demonstrate the lack of consensus that exists in the field.

Regardless, attempts at a succinct yet comprehensive definition of religion within the literature have largely revolved around the substantive and functional facets noted above. The facets include institutional, doctrinal, organised and social aspects of religion (Park, 2012; Schlehofer et al., 2008). There are also a number of other important issues to note when attempting a working definition that include shared

beliefs, doctrine, practices, and reverence of a particular supernatural agent (Gall et al., 2011). Initial attempts to posit a definition of religion were made by contrasting it to spirituality in specific areas. Religion is often viewed as a social entity and can be characterised by non-spiritual concerns and objectives that can include the cultural, economic and political (Miller & Thoresen, 2003). Similarly, whilst individuals can be described as being religious and as having a level of religiosity which derives from their adherence to beliefs and practices, religion remains a social and hence cultural phenomenon whilst spirituality remains an individual one.

Despite these attempts there is no single agreed definition of religion within the literature, nor is there likely to be one. Many researchers not only have acknowledged this, they, have actively discontinued attempts to unify the research field around a specific definition of the concept of religion (Paloutzian & Park, 2005b). Several strands of research and groups of researchers within the field have instead acknowledged that a universal consensus is not required, and instead have argued, for a minimum of consensus regarding the meaning of core constructs and the measurement of them (Emmons & Paloutzian, 2003; Zinnbauer et al., 1997). These researchers tend to agree that achieving a degree of definitional clarity is desirable, though not essential, for progress and the establishment of a knowledge base. Accordingly, without an agreed universal definition and despite a degree of consensus that one is not required, measurement via definition remains an issue within the discipline despite the psychology of religion operating in what it considers to be a post-measurement paradigm.

Regardless, a working definition of religion is present in all theology oriented research. Early attempts to arrive at an appropriately inclusive definition such as “a system of beliefs in a divine or superhuman power, and practices of worship or other ritual directed towards such a power” (Argyle & Beit-Hallahmi, 1975, p. 1) presage the definition preferred by cognitive scientists: the belief in supernatural agency.

Spirituality as a Psychological Construct and Variable

The identification, separation and at times conceptual schism between religion and spirituality is a latter development in the psychological study of religion (Emmons & Paloutzian, 2003; Hill & Pargament, 2003; Hill et al., 2000). Spirituality has less of a consistent or lengthy research history in psychology when compared with religion, but tends to dominate recent research (Campbell, Yoon, & Johnstone, 2010; Chiu, Emblen, Van Hofwegen, Sawatzky, & Meyerhoff, 2004; Miller & Thoresen, 2003; Schlehofer et al., 2008; Zinnbauer et al., 1997). The rise in spirituality and the associated increase in research is posited by Bruce and Glendenning (2010) as resulting from the religious Voluntary Association Model. This model has spread from dissenting sects into the established Christian mainstream churches. The model proposes that practitioners are at odds with a range of previously orthodox behaviours. The Voluntary Association Model also outlines the pursuit of newer goals by religious individuals that include encouraging individuals to be responsible for their relationship with their god, pursuing religious knowledge and actively undertaking a prescribed life as per scripture. Arguably the model has a reasonable degree of explanatory power in the context of heightened levels of spirituality in North America in comparison to other Western

democracies, given the Christian sects which initially settled there were dissenters from mainstream Christianity.

The conceptual dynamism and tension between religious and spiritual constructs noted earlier naturally tends to reoccur when discussing and attempting to define and measure spirituality. However, as the literature has developed, nuanced differences are increasingly notable. In the initial research the two constructs were viewed as distinctly separate, and as this particular strand of research progressed, the separateness of the two constructs became polarised. Religion was viewed as institutional and spirituality was viewed as individual (Zinnbauer et al., 1997). The more recent research generally tends to caution against viewing the two constructs as completely separate, incompatible or representative of any kind of dichotomy that might exist for religious belief. The apparent fluidity of the constructs is an appropriate fit for inclusion within a belief spectrum (Egan et al., 2011; McSherry & Cash, 2004).

Empirically, the literature now supports findings that individuals who believe in supernatural agency most often describe themselves as both religious and spiritual (Miller & Thoresen, 2003). This has led some to claim that the recent development, emphasis and rise in spirituality represents an expansion of the concept of religious belief as opposed to a post-modern replacement of it (Hill et al., 2000). Regardless, spirituality is able to be delineated from religion as a function of cultural development. Paradoxically it is secular post-modern developments noted earlier that have enabled the right to choose all, or none, or some belief in supernatural agency that may, or may not, include a God.

Some proponents argue that spirituality as a psychological phenomenon is increasingly important because it demonstrates that belief is not a monolithic construct (Gall et al., 2011). Such an argument, in turn, has enabled the identification and rise of non-belief, leaving us with a tripartite of theists, spiritualists and non-theists (Ivtzan et al., 2011). Such developments naturally stand in contrast to the positions adopted by Hill et. al. (2000) above. However, we can attempt to bridge the conceptual lacunae within the literature by noting how it is important to delineate spirituality from religion because a one dimensional conceptualisation of religion and spirituality has been one of the main critiques of research on the linkages between religiosity and well-being (Greenfield, Vaillant, & Marks, 2009; Idler et al., 2009). That same area of research also shows that spirituality like religiosity is positively associated with well-being (Lawler-Row & Elliott, 2009; Rogers, Skidmore, Montgomery, Reidhead, & Reidhead, 2012).

Like religion, a diversity of definitions and measurement is also a problem facing the construct of spirituality. Researchers including Chui, Emblen, Van Howegen, Sawatzky and Meyerhoff (2004), McSherry and Cash (2004) and Gall et. al. (2011) have provided an analysis of research definitions that settle on four major lexical components that comprise spirituality with a view to effectively delineating it from religion. These are existential meaning, transcendence, connectedness/wholeness and a unifying force that includes a higher power or a god. One end of this taxonomy links spirituality more closely to a theistic position e.g. transcendence and a unifying force, whilst the other is more closely linked to a humanistic stance with an emphasis that

includes existential meaning. Understanding the range of definitions of spirituality as a type of continuum with the ability to connect with religiosity at one end and touch on secular ideas at the other is reinforced by la Cour and Gotke (2012) who also found a range of factors for spirituality. These factors include spirituality as a positive dimension in human health and well-being with no connection to religion, spirituality as new age ideology, and spirituality as an established part of religious life and tradition. However, any taxonomy that encompasses such a wide spectrum of spiritual personal religious expression and secular, humanistic and existential elements is generally criticised for placing existential questions, such as those relating to meaning and purpose within a spiritual discourse where they do not belong (de Jager Meezenbroek et al., 2011). Essentially, constructs such as meaning and purpose are not solely limited to the spiritual realm or to a set of beliefs prescribed within a religion.

Regardless, the range of available definitions, or lexical facets, speaks somewhat to the theorised multi-dimensional nature of the spiritual construct that occurs throughout the literature. Nasel (2005) has researched one of these dimensions, new age ideology, and suggests that it differs from religion in a number of important and real ways. These include a depowering of intellectual, moral and religious doctrine, encouragement of personal freedom, holism rather than goodness, and self-defined subjective truth and morality. New Age ideology as spirituality is less well understood and researched than traditional spirituality within the literature. New Age ideology is generally conceived of as a spiritual mentality that has become popularised in Western society amongst a group who seek an alternative to traditional institutionalised

religion, particularly as espoused by the culture in which they were inculcated (la Cour & Hvidt, 2010; McSherry & Cash, 2004). New age ideology is generally considered a non-affiliated individual approach to contemporary spiritualism with characteristics that de-emphasise religious and moral doctrine and encourage individuality (Nasel, 2005). Importantly, New Age ideology may exclude the central tenet of religion and spirituality, that is, an identifiable supernatural agent. If so this would indicate another position on the belief spectrum that is better represented by secular spiritualism. It is possible to view facets of spirituality, such as new age ideology, within the literature as an aside; however, they are important in their ability to highlight the unsettled, non-agreed theoretical landscape that is characteristic of the belief continuum.

In essence, the definitional issue for spirituality has been reduced in the literature to the status of a general understanding of a shared concept which can then be utilised for the discussion of spirituality, regardless of where it may sit on the continuum and somewhat independent of the context of discourse e.g. theistic or non-theistic (Egan et al., 2011). However, real issues still remain, in particular the objections raised by secularists concerning the ability of numerous researchers in the field to conflate the spiritual with the existential. This point is exemplified above in a spiritual taxonomy that extends to primarily secular concepts not solely, or even significantly connected to the realm of religious discourse (Brennan, 2006).

Clearly the literature advocates spirituality as involving a less structured practice and a more personal expression that moves away from traditional religious beliefs towards a more direct experience of the supernatural (Hill et al., 2000). Spirituality is

also representative of the decline of religious tradition in that non-religious people can claim to be spiritual. The non-religious spiritualist can hold non-theistic constructs sacred in a manner that does not invoke supernatural agency. Individuals who are secular and hold such beliefs are increasingly labelled secular spiritualists (la Cour & Hvidt, 2010).

Secular Spirituality as a Psychological Construct and Variable

Secular spiritualism is both a recent and limited development in the literature regarding the psychology of religion. It is a Western and post-modern development and like non-belief, is a complex and nuanced construct devoid of the structure of religion and references a spiritual component lacking a deity or theology (Egan et al., 2011). There is little semantic agreement on a definition within the literature for this concept, and it contains a degree of contradiction which does nothing to aid its definition or measurement. However, the issues do not present as insurmountable. The construct excludes any notion of supernatural agency as well as structured religious practice but includes other aspects of spiritual beliefs, particularly those tending towards the collectivist aspects of humanism (McSherry & Cash, 2004; Webster, 2004). La Cour and Gotke (2012) have referred to such a concept as an 'existential feel-good factor' that does not involve a God or a transcendent dimension. It is spirituality from a secular position of representing the positive dimensions in human existence and well-being compared to spirituality as new age ideology that is proposed by theorists as still being attached to a spiritual paradigm that encompasses supernatural agency (Nasel, 2005).

The concept of secular spiritualism is increasingly important to a reader of the psychology of religion in a variety of ways: it crystallises an important critique by making real the conflation of existential and spiritual realms noted by Brennan (2006), and it informs us of the dynamic nature of the belief spectrum that is represented in the literature. The range of constructs is growing, the numbers adhering to them continues to vary and their degrees of importance are changing in a manner and timeframe that effectively impacts previous research.

Non-belief as a Psychological Construct and Variable

Following in the footsteps of religion and spirituality, the construct of non-belief is nuanced and complex and defies an over simplified definition. Although at the opposite end of the belief spectrum compared to religion and spirituality, it is at least similar in one respect, as it too is a multi-dimensional construct (Whitley, 2010). Non-belief is influenced by a wide range of belief certainty that includes non-belief and disbelief, and extends to subgroups that include anti-theists and the strongly and weakly atheist. Those categorized as weakly atheist have an implicit absence of belief, whilst those strongly atheist tend towards an explicit absence (Whitley, 2010). Hence, there is also arguably a need for a non-belief taxonomy with initial research forays being attempted by la Cour and Hvidt (2010). The objective of these forays is to more accurately determine atheist positions over and above not believing in supernatural agency.

Like secular spiritualism and relative to religion and spirituality, non-belief is poorly served within the literature in a wide range of contexts and relationships that includes

demographics, health and well-being. Non-belief can be considered, in essence, a neglected variable. Perhaps that is understandable given the psychology of religion's overt concern with measurement combined with an apparent inability to engage with the concept of non-belief. Regardless, what can be understood from the literature about non-belief falls into three broad categories; inferences about non-belief from research into religion and spirituality; whether or not it should be considered unnatural in the context of evolved cognition; and non-belief's general relationship with well-being.

What can be inferred about non-belief from the existing research into religion and spirituality largely concerns demographics. A reading of the literature tells us that the number of non-believing or non-religious individuals is increasing in a rapid manner and that over representation occurs for males, the middle aged, and those ethnically European (Weber, Pargament, Kunik, Lomax li, & Stanley, 2012).

There is a significant amount of research that supports the ability of individuals to generate religious beliefs and that this generation occurs naturally and effortlessly from the cognitive biases of the evolved human mind (Barrett, 2004; Guthrie, 1993; Kelemen, 2004; Pyysiäinen & Hauser, 2010). Boyer and Bergstrom (2008) propose that religious cognition can present as a 'path of least resistance' in human cognition, whereas non-belief is more effortful and unnatural. However, there are also strong arguments against such a hypothesis. For example, if the hypothesis is correct, then non-believers are only able to maintain their lack of belief via ongoing cognitive effort. Zuckerman (2007) argues that non-belief is not necessarily cognitively effortful

amongst those individuals who were never exposed to religious contextual bias regarding the adoption of religious belief as commonly observed in Northern European countries. These arguments tend to support the culturally evolved component of acquiring religion. That is, if an individual develops around religious models they are likely to acquire a degree of religiosity. If they develop around non-religious models they are unlikely to develop religious beliefs over and above the ability to mentally represent supernatural agency (Gervais et al., 2011). Theoretically, such proposals and positions increase the probability that all the differing variables on the belief spectrum mechanistically utilise the same pathways, or a combination thereof. These include cognitive, cultural, social and behavioural systems that are characteristically evolution centric and hence do not support any hypothesis that purports the development of non-belief to be unnatural (Norenzayan & Gervais, 2013).

If the literature of the psychology of religion converges on accepting that there is an established positive relationship between belief and well-being, then we might naturally assume that non-belief is either negatively or not correlated with well-being (Morgan, 2013). Such an assumption is induced in a reader of the literature because not only is non-belief little studied, but its relationship with well-being is studied even less so. As an essentially neglected variable, non-belief's relationship with well-being is one that is implied as a function of the established religion and well-being relationship. If any degree of belief is determined to be preferable for well-being, then non-belief can be assumed to be either negatively or not at all correlated with well-being. This at least is the implied relationship that lies latent throughout the literature regarding the

psychology of religion (Morgan, 2013).

If a theoretically neutral or negative relationship between non-belief and well-being is implied by the existing literature then a strong methodological critique of that same literature can be made. Generally, the literature has not sampled non-belief appropriately or allowed for relevant responses and/or measures when investigating the belief spectrum (Weber et al., 2012).

Forms of Belief Summary

The representation of the forms of religious belief in the most recent literature as a continuum that runs from highly religious to non-religious individuals is in stark contrast to the initial forays in the field which were only capable of representing belief as a monolithic construct. This increased delineation of belief is essentially a function of the evolved cultural component of religious cognition; specifically it is the reflection of the range of what people believe in the post-secular/post-modern period. There are strong theoretical critiques of the range of belief constructs and definitions that occur throughout the literature. Theoretically these constructs often present as either confused or blurred, and they display a great capacity for contradiction. Cognitive scientists would argue that very many of these definitions simply describe behaviours as opposed to any central tenets or unique factors pertaining to belief. However, the greater delineation and measurement of belief is also important in that previously overlooked or neglected variables are now beginning to receive a small degree of attention in the context of well-being.

Well-being

The Religion and Well-being Relationship

Within the literature, there is wide ranging empirical support for a consistent and positive, albeit small, relationship between religious belief and psychological well-being. This relationship is supported by some of the initial early research in the field (Comstock & Tonascia, 1977; Levin & Chatters, 1998) and continues to be supported by some of the latest, including field research and meta-analyses (Childs, 2010; Diener, Tay, & Myers, 2011; Green & Elliott, 2010; Homan & Boyatzis, 2010; Levin & Chatters, 2008; Yonker et al., 2012). This positive relationship is supported in the context of older adults also (Oman & Reed, 1998). Importantly, given the effort put into delineating spirituality from religion, studies have also determined spirituality as being similarly positively associated with psychological well-being (Gall et al., 2005; Greenfield et al., 2009). As noted above, there is little research regarding the existence of a well-being relationship in the context of other belief constructs; namely, secular spiritualism and non-belief.

Yet many researchers still wonder what actually occurs within the 'black box' between religious belief and well-being. Over and above the impact of behaviours and observances which are not uniquely religious and therefore provide an indirect effect, theoretically the explanation for the religion and well-being relationship lacks clarity and analytical insight. This is unusual given that we would expect more of such an extensively researched field in general and topic in particular, especially given the length of time it has been under investigation (Childs, 2010; Idler et al., 2009). When

presented with this state of affairs numerous contemporary researchers have attempted to explicate this relationship. As such there now exists within the literature an emerging body of research that attempts to establish both a theoretical and empirical foundation that explains the positive relationship between religion and psychological well-being (Krause & Hayward, 2012; Okulicz-Kozaryn, 2010; Schuurmans-Stekhoven, 2011).

Researchers have utilised an early model posited by Reker, Peacock and Wong (1987) that theorises the existence of two possible mechanisms which might explain the relationship between religion and well-being. Religion can operate as a cognitive schema that provides meaning in life. This meaning in turn influences well-being indirectly or it can operate in a similarly indirect way via doctrine and ritual to direct an individual towards a healthy lifestyle and/or restrain unhealthy behaviours. Clearly the second of these mechanisms approximates a behaviourally indirect linkage but the first mechanism is important as it highlights possible cognitive links. Several other models or theories are proposed within the literature that serve to demonstrate that there is no simple, clear or agreed understanding of how or why the religion and well-being relationship functions. Robbins and Kliewer (2000a) note that within process-participation models of well-being, behavioural and social variables are linked with cognitive variables. To this extent people have the ability to contribute to their own well-being by participating in activities that they personally value. Perhaps therefore, such a theoretical model begins to resemble a bridging mechanism between cognitions, behaviours and well-being.

Cantor and Sanderson (2003) attempt to explicate the relationship and any associated mechanism via Life Task Participation Theory. In this theory components of either hedonic or eudaimonic well-being, including meaning and purpose are theorised to benefit or be realised from goal setting, pursuit and achievement. Goals and any goal related properties remain highly relevant to the construct of well-being, particularly via their ability to impart a sense of agency, structure and purpose to individuals. Others theorise that religion may impart meaning to daily events which, in turn, can positively influence the affect component of well-being (Silberman, 2005). The existence within the literature of a range of theories that propose various mechanisms which operate at the individual or social level and connect to a wide range of psychological concepts and processes, including meaning, purpose, goals and agency goes some way towards demonstrating the theoretically complex 'waters' that exist between religious belief and well-being.

Literature critical of the positive religion and well-being relationship has grown and now presents some significant critiques and challenges, theoretically and methodologically, to what has previously been the prevailing accepted orthodoxy. Early criticism of the relationship includes that which does not support a solely positive relationship. Batson and Ventis (1982) whilst reviewing earlier studies have sought to explain these differing results via the concepts the field was organised around at the time of their analysis: intrinsic and extrinsic religiosity. This differentiation accounted for the positive association only when people identified with an intrinsic religious motivation. Batson and Ventis (1982) theorised that well-being is determined by the

level of internal conviction an individual has regarding their beliefs. This theoretical theme was developed somewhat later by Galen and Kloet (2011) who identified a non-linear relationship between religion and well-being mediated by belief certainty. Accordingly Galen and Kloet (2011) were particularly critical of the failure of earlier studies to differentiate between strongly and weakly religious individuals and any associated well-being effect.

Other critiques of the relationship include methodological issues. These critiques include a significant amount of research contributing to establishing the relationship has relied solely on bivariate, as opposed to multivariate, research design (Schuurmans-Stekhoven, 2011). A lack of theoretical clarity concerning which type of religious belief (extrinsic/intrinsic, religious/spiritual) or amount is correlated to which determinant of well-being is also part of the critiques offered. Aggregated, these reasoned critiques of the religion and well-being relationship effectively introduce a greater degree of complexity into what was acknowledged as a previously simple relationship.

Standing alone as perhaps the most substantial criticism of the religion and well-being relationship is the failure to adequately account for non-belief. Most study designs have failed to adequately acknowledge, measure or sample non-belief (Hall, Koenig, & Meador, 2008), and in essence, many studies lack a control or reference sample. They mistake within group comparison for between group comparisons. To fully understand the relationship between religion and well-being a complete view of the belief spectrum is required. This includes an adequate examination of non-belief

using the same theoretical approach adopted for religion, which is an approach that has not been observed in the overwhelming majority of research. An understanding of well-being is also required to adequately inform the theoretical and empirical base prior to determining the state of any relationship between religion and well-being.

Well-being as a Psychological Construct and Variable

There are two broad theoretical paradigms regarding well-being that present as established, accepted and supported within the literature. These are the hedonic and eudaimonic paradigms (Lent, 2004; Ryan & Deci, 2001; Ryff & Keyes, 1995). Generally speaking, the hedonic well-being paradigm can be characterised as emphasising happiness and affect (particularly the balance between positive and negative affect), whilst the eudaimonic is concerned with the presence of meaning and the extent to which an individual is fully functioning.

The theoretical strands underlying the construct of well-being are more readily identifiable in various psychology sub-disciplines that include developmental, clinical and positive psychology (Ryff & Keyes, 1995). The hedonic construct, although arguably not as theoretically discrete, clearly references the positive functioning aspects of happiness. The eudaimonic construct similarly draws on clinical psychology with theoretically recognisable strands that include Maslow's (1968) conception of self-actualisation (particularly as related to environmental mastery and its influence on well-being), Allport's (1952) formulation of maturity (with particular reference to self-perception and self-esteem) and Roger's (1965) idea of the fully functioning person (where the dimensions of socialisation and self-enhancing relate strongly to the

personal growth component) (Ryff & Keyes, 1995).

Hedonic Well-being

The predominant view among hedonic psychology literature is that well-being consists of subjective happiness. As such the hedonic paradigm utilises the concept of subjective well-being (SWB) as its preferred measure (Biswas-Diener, Diener, & Tamir, 2004). Within the literature the hedonic paradigm proposes SWB as comprising three facets: life satisfaction, the presence of positive mood and the absence of negative affect. Theoretically, there have also been arguments proposed against the emphasis, or over-emphasis, of happiness in measuring SWB with Ryff and Singer (1998b) arguing that happiness is not the objective of well-being but rather a by-product of well-being.

Eudaimonic Well-being

The eudaimonic paradigm theorises alternative forms of, and routes to, well-being over and above the hedonic emphasis on happiness (Lent, 2004). Not all outcomes pursued by individuals are viewed as either contributing equally, or even at all, to well-being. The logic of this argument centres around the ability of some outcome, that is highly valued by an individual, actually being contraindicated with well-being (Ryan & Deci, 2001). The two strands of this argument include comprehending that not everything that contributes to well-being is easily or pleasurably attained, and similarly, that certain things that are able to provide a degree of instant gratification and perhaps contribute a certain amount to well-being in the short term may be detrimental to well-being in the long term (Lent, 2004). The ability to establish such an outcome fallacy has seen proponents of the eudaimonic paradigm reject subjective

happiness as equivalent to well-being and stands as a significant critique of the subjective well-being construct proposed by the hedonic paradigm (Ryan & Deci, 2001; Ryff & Keyes, 1995).

The alternative routes and mechanisms proposed by eudaimonic theorists are much more diverse than subjective happiness. They generally present as humanistic forms attempting to capture such concepts as 'fully-functioning' and 'self-actualisation' as proposed by seminal theorists in the field of psychology, particularly Maslow (1968) and Rogers (1965). Therefore, eudaimonic well-being centres on personal effort, challenge and developmental response (Waterman, 2008). Theoretically the approach to defining eudaimonic well-being is multidimensional in nature and leading proponents have posited a factorial derived model that includes personal goals leading to psychological growth, meaning and purpose in life, existential vitality, autonomy and self-acceptance (Ryff & Keyes, 1995; Ryff & Singer, 1998a). Because of the theorised multidimensional nature of eudaimonic well-being there is far less consensus of how it should be appropriately measured compared to hedonic well-being. This state of affairs effectively explains the greater availability of hedonic psychometric instruments over eudaimonic measures and in turn, the utilisation of hedonic measures when investigating the religion and well-being relationship.

The multidimensional nature of well-being has been developed further via empirical means to encapsulate hedonic and eudaimonic facets. Compton et. al. (1996) proposed that of the significant range of well-being facets identified in theory, two factors resulted that were moderately correlated. One of these two factors has an

emphasis on happiness and appeared to represent SWB, whilst the other with its emphasis on personal growth, seemingly reflected psychological well-being (PWB). Other researchers have arrived at a degree of support for such a two-factor model of well-being (King & Napa, 1998; McGregor & Little, 1998) and accordingly as a result well-being is also currently conceived as a multidimensional phenomenon that includes facets of both Hedonic/SWB and Eudaimonic/PWB. In essence, contemporary literature demonstrates the existence of a 'third way' in the context of well-being as a psychological construct. The facets underlying these two factors which have resulted in well-being's acknowledgement as a meta-construct (Greenfield et al., 2009) incorporate positive and negative affect, self-perception and acceptance, meaning and purpose, motivation, social relations, life satisfaction, personal growth, environmental mastery and autonomy (Greenfield et al., 2009; Lawler-Row & Elliott, 2009; Levin & Chatters, 1998; Ryff & Keyes, 1995; Yonker et al., 2012). Although a noteworthy development, instruments representing a third way in regards to well-being research are not represented in the religion and well-being relationship research despite their apparent ability to address a range of noted critiques and schisms on specific issues between the two well-being paradigms.

Correlates and Antecedents of Well-being

The development of a multi-dimensional understanding of the religious construct has enabled researches to identify a range of religious characteristics, manifestations, expressions and functions that exert, or are correlated with, well-being. These varying types of religious characteristics and expression and their association with well-being

outcomes are thought by many researchers to be moderated by a range of psychosocial constructs. Theorised pathways via which these constructs may affect the relationship can be grouped according to their material e.g. regulation of lifestyle or immaterial e.g. provision of social and coping resources (Ellison & Levin, 1998). These characteristics, expressions and functions are very much identified with the indirect behavioural effects model noted earlier and are subject to the same range of critiques e.g. they are not uniquely religious.

Other common antecedents, correlates and pre-determinants of well-being are noted in the literature and can generally be grouped under the umbrella of demographics. They include classic demographic indicators such as socioeconomic status and age (Ryan & Deci, 2001). Rather than directly influencing well-being and any associated outcomes, it seems likely that most demographic variables operate through intervening psychological processes. For example, the extent to which material resources are available will most likely influence the type and pursuit of various well-being components, such as the pursuit and attainment of valued goals (Diener, Sapyta, & Suh, 1998).

The well-being literature remains diversified, with only recent movement in the development and acceptance of a 'third way' compared with the prevailing two paradigms. Over and above researchers determining which well-being measurement instrument to deploy when researching its relationship with religion, a reading of the literature emphasises the importance of accounting for the correlates of well-being when progressing with a closer inspection of the relationship. It is in this context that

this literature reviews segues to a discussion of meaning and purpose in life.

Meaning and Purpose in Life

Research has indicated support for meaning as a factor that is related to both religion and well-being. Theoretically this occurs via the ability of religion to operate as a meaning framework for some individuals and its relationship, as a factorial component, with the eudaimonic well-being paradigm. This research finding has held consistently across a significant time period and includes some of the seminal works in the field (Battista & Almond, 1973), exploratory mid-period research (Chamberlain & Zika, 1992) and a range of more recent studies (Steger, Oishi, & Kashdan, 2009; Steger & Frazier, 2005). Further investigation of the role of meaning alludes to the possibility that it is the execution, action or effecting of meaning in the lives of individuals, as opposed to searching for meaning, that contributes the most to the role meaning plays in the religion well-being relationship (Steger et al., 2009). Countervailing positions do exist, with an increasing number of studies concluding that the religious have levels of well-being no greater than the non-religious (Horning, Davis, Stirrat, & Cornwell, 2011). That is, it is the presence of meaning within their life as indicated by an individual, that correlates with well-being regardless of religiosity (Fry, 2000; Krause, 2003, 2009). Meaning is theorised as a construct comprised of two factors: comprehension and purpose. It is this theorised factorial model that necessitates an examination of the literature concerned with meaning before moving onto a discussion of purpose in life.

Meaning as a Psychological Construct and Variable

A significant amount of the 'heavy lifting' in regards to developing an understanding of the psychological construct of meaning was undertaken by Frankl (1955, 1963), who posited the thesis that the human ability to perceive meaning is innate. Frankl's initial perspective was functional, insofar as meaning reduced despair by imparting personal meaning into a distressing event. This functionalist theme is echoed in the significant amount of literature related to religious coping (Park, 2005). However, Frankl's thesis soon developed into a more nuanced consideration of every individual's struggle to find and develop existential meaning. In relation to purpose, Frankl (1963) argued that it is essentially a product or result of the 'will to meaning', that is, an existential motivation to make our lives meaningful.

Theoretically the psychology profession's understanding of meaning has developed despite the lack of agreement on definition or conceptual frameworks which, similar to religion and well-being, have otherwise tended to hinder research progress. Accordingly, a range of models have been developed with a view to providing a greater degree of explanatory power to hypotheses that concern meaning. These include the Meaning Maintenance Model (Heine, Proulx, & Vohs, 2006) which proposes that psychological phenomena (including religious beliefs) can be explained by a tendency for individuals to engage in compensatory actions to remedy violations of their understandings of the world. In general people seek to construct meaning in their lives, preserve that level of meaning and repair any damage it receives (Steger, 2012). This model builds on the work of Festinger's (1962) Theory of Cognitive Dissonance and

arguably looks to connect religion as a meaning framework which can influence well-being indirectly via the reductive approach of experiencing less cognitive dissonance. In this regard there are perhaps as yet un-researched links between some theoretical models of meaning and Mortality Saliency models of religion.

Meaning and its Relation to the Belief Spectrum

Some researchers propose that belief in supernatural agency and deriving meaning from those beliefs is the default cognitive setting for the evolved human mind (Guthrie, 2007; Kelemen, 2004). Most individuals are capable of drawing on their belief systems as a cognitive mechanistic aid to understanding their life and place in the world. It is in this context that religion for many individuals has the capacity to function as a global meaning system. Park and Gutierrez (2013) propose that such a meaning system not only consists of beliefs, goals and an individuals own subjective sense of meaningfulness, but can also facilitate greater receptiveness of prescribed beliefs that might occur via religious doctrine. In this regard the operation of such a meaning system extends to complex functions of everyday life and aggregates to a set of core schemas through which religious individuals interpret the external world (Silberman, 2005).

Such meaning systems are generally considered global rather than situational. They can extend to orienting systems that in turn can form the core schema through which people interpret their world. Global meaning is assumed to be constructed early in life and modified on the basis of personal experience (Park, 2010). Such a hypothesis goes

someway to dovetailing with cultural evolutionary theories regarding both the transmissibility of religious ideas and why the young also have higher rates of religiosity.

Religious belief is a meaning framework (Steger, 2012) through which people interpret and make sense of their experiences and their existence (Emmons & Paloutzian, 2003; Silberman, 2005). The uniqueness of religious belief as a meaning framework is that it references supernatural agency. Extensive reliance on religion as a meaning system, compared to secular meaning systems is largely explained by the manner in which religion is typically more comprehensible, satisfactory and immune from being challenged and disproved (Park, 2010).

Religion is a system of information offering individuals knowledge and resources that they might utilise to derive purpose and meaning in the lives. A function of a religious belief system and the world view it imparts to an individual, in part, is to provide an outline of what could be considered a life objective. The degree of alignment of these different variables may have a relationship with well-being. Religion also has the ability to operate as a cognitive lens that provides people with answers, or at least knowledge, about the meaning of their lives and hence contributes to their beliefs about themselves and the world, the relation between the two, and how to act in order to obtain what they want from that world (and possibly the next) (Silberman, 2005). Because religion can be understood in this manner, attention has been paid to the relationship between religious variables and meaning in life. Meaning in the

context of an individual's life refers to the sense that they feel their lives have purpose and that they are able to comprehend their life experiences (Steger, 2009). The idea that religion provides people with meaning has been tested more directly following suggestions that meaning might be a promising mediator of the relation between religiosity and well-being (Homan & Boyatzis, 2010; Steger & Frazier, 2005).

Meaning: Comprehension and Purpose in Life

There is support within the literature for meaning to be appropriately conceptualised as a superordinate term that, as a factorial, is comprised of two facets – comprehension and purpose in life (Kashdan & Nezlek, 2012; Steger, 2012). If we accept that meaning has two components then it is reasonable to propose that a set of beliefs e.g. religion, are relevant to comprehension in that they make the world understandable (Hedberg, Gustafson, & Brulin, 2010) and that acting on those beliefs, whether as internal or external behaviours, is relevant to purpose in life.

Comprehension, often described as the cognitive ability of an individual to understand their existence both within and without the external world, is also theorised as a connected network of schemas designed to make a meaning framework (Steger, 2012; Steger & Frazier, 2005). Although we might expect such a facet to contribute significantly to any variance in well-being, research largely outlines comprehension's contribution as nominal. Instead the majority of variance is attributed to the other facet of meaning, which is purpose in life (Krause, 2009).

There are a range of definitions regarding the psychological construct of purpose. McKnight and Kasdan (2009) refer to it as a 'self-organising life aim' with the ability to influence an individual's behaviours and goals and contributing to a sense of meaning. Hedberg et al. (2010) have a slightly more expansive construct regarding purpose in life as intent centred on the achievement of some aim, or global objective. As always, we are concerning ourselves with a complicated psychological construct and any discernible agreement within the literature tends to settle on a range of broad commonalities. These include: purpose in life concerns global goals and the contribution of daily decisions towards them by guiding the use of limited personal (cognitive) resources, as well as how purpose in life influences behaviours by offering direction (Boyle, Barnes, Buchman, & Bennett, 2009; Hedberg, Brulin, Aléx, & Gustafson, 2011; Hedberg et al., 2010).

The pursuit of purpose in life has the ability to provide a source of meaning via goal pursuit and attainment. In a religious context it has the ability to impart both hedonic and eudaimonic benefits because individuals are pursuing or achieving a desirable or valued objective. Purpose in life, in a secular context, is conceptually just as able to induce an act or influence an individual in the same manner and via the same mechanisms (McKnight & Kashdan, 2009). In this context the literature that has researched meaning and purpose in life's relationship with religion and well-being can also be critiqued for failing to apply it equally to secular tasks, objectives and goals.

Literature Review Summary

The volume of literature concerning the religion and well-being relationship and what contribution, if any, purpose as a facet of meaning plays is extensive. For a significant period of time researchers were in agreement on a wide range of important issues, excluding those of measurement. That long held orthodoxy is now being challenged in numerous ways and is resulting in a more complex and nuanced understanding of the relationship and how it might operate, if at all.

The development of a testable, falsifiable and parsimonious theoretical foundation on which the religion and well-being relationship might be based has eluded the research field until the recent development of the cognitive science of religion. In this regard a significant degree of convergence exists within the contemporary research literature. A reader of this literature can reasonably arrive at a range of conclusions regarding the origin of religious belief, the culturally evolved expression of that belief as well as the theorised mechanism that might be at play in the religion and well-being relationship particularly in the context of cognitive processes such as purpose and meaning.

Convergence within the literature aside, there is also enough disagreement, contradiction, tentative forays and theoretical and empirical gaps to enable an investigation of the field further. These various gaps are mostly, but not exclusively, centred on the largest gap within the literature, that concerning the non-religious. By identifying and including a large sample of non-religious individuals within the

population being researched, important issues, concerns and gaps will be able to be more properly investigated. In particular these issues include determining whether the older aged are still more religious than the wider population and what, if any, variance occurs within that population. Is any significant variance within that population attributable to the latest cohort to enter older age? Is the religion and well-being relationship still valid for this population or is it similarly comparable across beliefs states? If so, is purpose as a facet of meaning an important contributor to an individual's level of well-being?

Chapter 3 - Theoretical Framework

The theoretical framework for this thesis has been informed by the literature review and utilises the definition of religion as the belief in supernatural agency. It is a framework that references cognitive science and emphasises Darwinian evolutionary mechanisms in relation to cognitive and cultural processes.

These cognitive processes are posited as a foundation for the human capability to conceptualise, develop, transmit, and be receptive to supernatural agency concepts as proposed by theorists such as Guthrie (1993), Barrett (2011), and Norenzayan and Gervais (2013). Belief form, and variance in that form, although a function of evolved culture, is also theoretically bound within the constraints of a common psychological architecture. For this reason there are theoretical limits to religious cognitions that are exemplified in both the similarities and differences approach proposed by researchers such as Boyer and Bergstrom (2008) and Saroglou (2011).

Accordingly, the theoretical framework of this thesis rests on two foundational features. Firstly, the rejection of the supernatural as any means of explaining the origin of religious cognition, and secondly the acceptance that religion is a humanistic function - the origin of which is wholly understandable in secular and naturalistic terms. Theoretically, it is this most important aspect that informs the central assertion contained within this thesis: that religious cognition is not unique, extraordinary or abnormal. Hence it is not logical or rational to infer a relationship with psychological well-being at a level greater than a vast range of other human endeavours that are

themselves the result of cognitively or culturally evolved functions. It is this central tenet of the theoretical framework that is directly referenced when asserting, in contrast to a significant volume of existing research, that an individual's religiosity will not be related to their psychological well-being.

If religious cognition is not unique there may well be other cognitions or psychological constructs that individuals, religious or otherwise, are able to access that contribute to psychological well-being. Theoretically relevant models which reference such cognitions and constructs include those which fall within the process participation model of well-being (Robbins & Kliewer, 2000b). These models link behavioural and social variables to cognitive variables and schema via which individuals who participate in activities that they personally value have the ability to contribute to their own level of psychological well-being. To this end, Life Task Participation theory (Cantor & Sanderson, 1999) where components of well-being, that include meaning and purpose, are theorised to benefit or be realised from goal setting, pursuit, and achievement becomes relevant to the theoretical framework of this thesis.

The theoretical framework of this study seeks to address a range of noted methodological concerns by informing the study design with the primary objective of identifying and testing a range of hypotheses in relation to a population that contains individuals who believe in supernatural agency and individuals who do not.

Chapter 4 - Research Aims and Hypotheses

This chapter outlines the aims, research questions and hypotheses that are the focus of this study and includes a discussion of controlled variables.

Research Overview

There are four aims of this research: (1) to ascertain whether a New Zealand population of older adults has religious characteristics that supports previously established findings. Specifically, whether older adults represent one peak in the bimodal distribution of religion, have identifiably higher rates of religiosity attributable to females and whether 'baby-boomers' have lower levels of religiosity compared to older aged cohorts; (2) to explore the relationship between religion and well-being in a population that includes a sample of non-religious individuals; (3) to explore what role, if any, purpose in life has in contributing to, or explaining well-being outcomes, and (4) to examine whether in the two-factor model of meaning, purpose in life is the sole significant contributor to well-being.

Research Questions

The literature review has highlighted that there are several established and accepted patterns regarding the distribution of religion throughout the older adult population. This study seeks to identify, explicate, and support or otherwise these patterns within the chosen population represented by the New Zealand Longitudinal Study of Ageing (NZLSA). The importance of determining the existence of these

patterns relates to the appropriateness of the population for further hypotheses testing.

The research questions for this study are:

1. Are older aged adults more religious? That is, does this study empirically support previous findings that older adults represent one peak in the bimodal distribution of religious belief?
2. What is the distribution of religion among older adults on a generational or cohort basis? More specifically, are individuals who are able to be classified as 'baby-boomers' less religious than cohorts aged older than themselves?
3. Does the distribution of religion in older adults follow the general population trend of females self-reporting as more religious than males?

Research Hypotheses

The hypotheses for this study are:

1. Levels of well-being will not be significantly different between those who identify as religious and those who identify as non-religious.
2. A proportion of well-being will be attributable to meaning, and the expression of meaning via purpose, regardless of whether individuals are religious or not.
3. Purpose in life, as theorised by the two factor model of meaning will be the sole contributor to well-being.

Control Variables

This study takes into account a number of different variables that are related to both the independent variable (religion) and the dependent variable (well-being) and proposes statistical control of these when undertaking multivariate analysis. The rationale for controlling these variables when undertaking statistical analyses of the NZLSA dataset draws largely on the demography of religious belief in the population as established by previous research regarding the psychology of religion (Okulicz-Kozaryn, 2010; Wink, 2002) and correlates of well-being that have similarly been established via research (Ellison & Levin, 1998; Ryan & Deci, 2001). The individual level variables that will be statistically controlled are age, gender, physical health, socio-economic status, ethnicity, employment status, and quality of life.

- Age: in general mental health, including well-being, increases with age and significant increases are particularly noted in older age. This relationship between age and well-being would necessarily confound the religion and well-being relationship unless controlled for, given that the sample is comprised of older adults who also report higher levels of religiosity (Blanchflower & Oswald, 2008; Glenn, 2009).
- Gender: males generally self-report greater levels of mental health, and hence mental well-being, than females. Stephens and Noone (2008) note support for this in the Health, Work and Retirement Study (HART) where males report statistically significant ($p < .05$) better well-being than females when measured via the SF-36, particularly in the subscales of vitality, role emotional

and mental health. A large sample of the HART population is also included within the NZLSA sample. Females also tend to be more religious than males (Wink, 2002) and the ability of gender to confound a relationship between religion and well-being necessitates control.

- Physical health: the dependent variable well-being is measured via the Mental Component Summary (MCS) of the SF12v2. This SF12v2 is itself comprised of two scales, which are the MCS and the Physical Component Summary (PCS) measuring physical health. The PCS is included as a contributor to well-being.

- Socio Economic Status (SES): some research regarding SES and well-being highlights significantly different outcomes for well-being dependent on different levels of SES (Chandola, Ferrie, Sacker, & Marmot, 2007). Levels of religiosity also appear to be related to SES, with some research indicating higher levels of religiosity at lower levels of SES (Barber, 2013). Educational attainment is theorised as a significant contributor to an individual's level of SES and has been noted earlier as one of the contributors to existential security, which in turn has given rise to secularism and associated non-religious beliefs (Barber, 2013). However, education as a component of SES is not noted as the sole contributor, but rather only a significant contributor. Hence, this study chooses to control entirely for SES in order to avoid potential confounding of the religion and well-being relationship.

- Ethnicity: this variable has also been implicated as a factor in well-being outcomes, including mental well-being (Dulin, Stephens, Alpass, Hill, & Stevenson, 2011). In the New Zealand context, those within the national population who identify as Māori or Pasifika demonstrate poorer mental well-being on average than those who identify as New Zealand Europeans, yet they have greater levels of religiosity or spirituality (Stephens & Noone, 2008; Statistics New Zealand, 2006). Individuals who select a particular ethnicity that is associated with both lower levels of well-being and higher levels of religiosity have the capacity to confound the religion and well-being relationship and are accordingly statistically controlled.

- Employment status: there is evidence that indicates a relationship between employment status and well-being. In the context of ageing this centres on an individual's retired or non-retired status (Stephens & Noone, 2008). Mental well-being as measured by the Mental Component Scale of the SF12v2 supports a statistically significant interaction between retirement status and well-being, where older adults who remain in employment experience greater levels of well-being than those who either fully or partially retired.

- Quality of Life (QoL): QoL has been theorised as influencing the religion and well-being relationship via the indirect effects model. The observance of behavioural proscription by religious individuals has the ability to impact positively on QoL and in turn well-being. Because this outcome is not a direct

result of religious belief, but rather the result of a secular mechanism it is appropriate that it is statistically controlled (Nicholson, Rose, & Bobak, 2009).

Chapter Five - Method

This chapter describes the method utilised to investigate the research questions and hypotheses advanced in Chapter 4.

Research Design

For answers to be determined regarding the above research questions and to also enable the above hypotheses to be tested, a number of issues regarding the design of the research needed to be considered. These issues are sample selection, previous research methods used in studying the relationships in question, and the availability of the variables of interest, which are religion, well-being, meaning, and purpose in life.

In order to be considered appropriate for this study, the sample needed to address certain aspects of age that were under consideration. Firstly, that it was partly comprised of older aged adults and that this composition of older adults also included a cohort of 'baby-boomers'. Secondly, the study also needed to address one of the strongest critiques levelled against previous religion and well-being research, that the majority of studies have not included a sample of non-religious individuals. A third consideration was the necessity of the study to combine the previous two issues with the appropriate variables under consideration. Accordingly, this research proposes that a secondary analysis of the New Zealand Longitudinal Study of Ageing (NZLSA) dataset is an appropriate study that is able to adequately address these research design issues and concerns.

The NZLSA is a large scale, longitudinal study of adults who were initially recruited between the ages of 50 and 85 years of age. The NZLSA has been designed to identify the influences on physical and mental health of middle to older aged adults. The NZLSA was constituted in 2009 with participants themselves comprised of a range of populations. These populations include, those initially recruited for a previous study, the Health, Work and Retirement Longitudinal Study (HWR) who indicated their consent to participate in further longitudinal research. Participants were also drawn from a contiguous retirement planning study at Massey University. Participants who undertook a pilot study of the NZLSA, and newly recruited participants randomly selected from the New Zealand Electoral Roll with the objective of increasing the number of survey respondents in both the younger and older age groups (Tower et al., 2009). The data for the NZLSA is generated via biennial postal surveys to all participants and a limited number of qualitative interviews with a randomly selected sub-sample of the population (Tower et al., 2009). The NZLSA has thus far collected data in two waves, with these being 2010 and 2012. The research design of this study comprises a secondary analysis of data collected for the NZLSA in 2012.

Analytically this research design approaches religion from a 'value-added' as opposed to a 'web of causality' perspective (Flannelly et al., 2004). The interest of this study is to identify which variables are able to explain a unique variance in well-being. Within the literature, religion is acknowledged as influencing well-being via a range of indirect pathways that include coping, social support and behavioural proscriptions amongst others. The 'value-added' approach of this study design assigns little interest

to these indirect effects in the religion and well-being relationship because research has already established these factors as predictors of well-being, and they are not solely available to the religious nor are they inherently religious factors. Coping and social support, for example, are secular behaviours that can be adopted and performed by religious people. The same approach is applicable for virtues e.g. forgiveness, compassion, that might also be theorised as having an association with well-being. The only religious factors or influences of interest are those that cannot be attributed to known secular mechanisms.

Study Sample

The sample for this study is taken from the second wave of the NZLSA which took place in 2012. The total number of participants in wave 2 was 2983. However, the final study sample of 2777 was arrived at via the exclusion of 206 participants who had missing system data. The characteristics of the sample are detailed in Table 1.

Table 1

Study sample descriptive statistics at NZLSA 2012.

<i>Variable</i>	<i>N</i>	<i>Percentage</i>	<i>Mean</i>	<i>SD</i>
Participants	2777			
Age			66.55	7.87
≤67	1554	55.9		
≥68	1223	44.1		
Total	2777			
Gender				
Male	1237	44.6		
Female	1536	55.3		
Total	2773			
Missing	4	0.1		
Ethnicity				
NZEuropean	2299	65.9		
Māori	769	29.0		
Pasifika	21	0.8		
Asian	13	0.5		
Other	103	3.9		
Total	2656			
Missing	51	1.8		

Cohorts

The delineation of cohorts is important for this study. The age variance within the study sample is noteworthy, not solely in range, but also in generational differences. The two identifiable generations within the study sample are the 'baby-boomers' (1946-64) and the 'pre-boomers' (1930-45), who are also sometimes referred to as the silent generation (1925-42). The generational grouping of these individuals is an aggregation of people about the same age who, in a given period of time, have shared common social experiences that may result in common distinctive effects. Rosow (1978) has provided a more considered definition of cohorts as: 1) consisting of people who share a given life experience; 2) this experience is socially or historically structured; 3) it occurs in a common generational framework; 4) its effects distinguish one generation from another, and 5) these effects are relatively stable over the life course. Clearly this is useful in parsing the two generations that occur within the study. However, it is still important to note that wide age ranges still occur within each generation. That is, the young old and older old and that 'baby-boomers' also straddle the generally accepted start of older age, which is 65 years. The oldest of the 'baby-boomers' are now 67 years of age.

Method Considerations

During participant selection for the NZLSA, individuals of Māori descent were over sampled to maximise participant recruitment, thereby addressing the historically poor participation rate of Māori as an ethnic group in general health surveys (Tower et al., 2009). Accordingly, a post-stratified weighting variable was calculated to account for

known discrepancies between the sample and the population and is applied in all statistical analysis.

Ethics

The treatment of participants and associated data in this study is bound by the ethical obligations and considerations agreed and adhered to by the New Zealand Longitudinal Study of Ageing as per the ethics statement.

Measurement

The questionnaire used in wave two of the NZLSA and from which the data for this study was sourced has been reproduced in Appendix A. All the measures included in the NZLSA were self-reported. The four variables of interest in this study that were measured by the NZLSA were religion, well-being, meaning and purpose. The measurement of two of these variables, well-being and purpose, are derived from psychometric instruments that have widely accepted validity and reliability. The third variable, meaning, is also from a psychometrically valid and reliable scale, but for this study it is measured as a single item within this scale. The fourth variable, religion, is not represented in the NZLSA by an existing psychometric scale: rather, it is measured via two standalone items.

Within the research literature the psychometric properties of single item measures and dual item measures that do not comprise a scale has been widely canvassed. Using well-being as a test construct, test stability for single items is generally acknowledged to range from good (.7 to .8) for a brief test-retest period to average (.4) for a

significantly longer test-retest period (McDowell, 2010). Similarly, validity results generally show high levels of correlation between single item measures and multi-item scales. Correlations often indicate that a significant amount of the variance which occurs within larger multi-item scales can be captured by a single item (McDowell, 2010). Specific to religion, some single item measures have been found to generate evidence of a better and stronger association with both physical and mental health than a range of multi-item scales (Hall, Meador, et al., 2008). Accordingly this study develops an argument, outlined below, that the two measures contained within the NZLSA effectively measure the religious construct as it is conceptualised within a significant amount of the literature. This in turn enables the definition of religion, as determined in this study's theoretical framework, to be applied to participants.

Religion.

Psychometrically speaking, existing measurement instruments do not measure an individual's religion: rather, they measure the ways in which a person is religious. These include a person's religious beliefs, commitment and expression i.e. their religiosity. There are two items that concern religion in Wave two of the NZLSA. Neither of these two items comprises a recognised psychometric scale of religion. Rather they represent standalone items that investigate an individual's religiosity and that are very often included in psychometric scales. For this reason, this study argues that these two measures are at least as valid as a range of religious scales, such as the Duke University Religious Index (DUREL) and the Brief Multidimensional Measurement of Religion/Spirituality (BMMRS).

It can be argued within a general health survey, between two and four items is an appropriate number with which to measure religiosity. Brief measurement scales do exist e.g. the BMMRS, the DUREL and the Santa Clara Strength of Religious Faith Questionnaire (SCSORF) but these average more than eight items which seems inappropriate for a general health survey design. Consequently, the number of religious items within the NZLSA seems a reasonable balance between pragmatism and the ideal survey design.

Although not yet fully established within the literature, a standard is slowly emerging for the measurement of religiosity. This emerging standard adopts a multi-dimensional approach that prescribes the following domains to the religious construct: belief and practice, organisational religiosity, non-organisational religiosity, commitment, orientation, coping, experience and support (Hall, Koenig, et al., 2008; Hall, Meador, et al., 2008). Although there is not a consensus on either the definition or number of these domains, it is generally accepted that an aggregation of all or some can be utilised to determine an individual's 'religiousness in general' (Hall, Meador, et al., 2008) or religiosity. That is, is the respondent religious? This study proposes that the items included in the NZLSA measure a significant number of these domains, specifically; belief and practice, organisational and non-organisational religiosity, commitment, and orientation.

The items included in the 2010 NZLSA survey and the rationales of what they measure are:

- ‘How important is faith to you?’ Where respondents are provided with the following options: ‘Not important at all, a little important, reasonably important or very important’. Via its wording this item effectively measures the domains of belief, commitment and religious orientation. Items concerning ‘faith’ regularly occur in psychometric scales that measure religious orientation, specifically intrinsic orientation and spirituality e.g. the Intrinsic/Extrinsic Motivation Scale (Allport & Ross, 1967), the Modified Intrinsic Scales (Hoge, 1972), and the Santa Clara Strength of Religious Faith (SCSORF) (Plante & Boccaccini, 1997). Similarly the item seeks to measure the strength of an individual’s faith and hence has the ability to operate as an effective measure of their commitment.

- ‘How often do you practice religion, attend services or otherwise participate in religious activities?’ Respondents are provided the options of: ‘daily, several times a week, once a week, once a month, seldom or never and not practicing’. This item effectively measures the domains of organised religion and non-organised religion. In turn these domains have the ability to include practices as varied as attendance, participation, membership, religious social activity other than attendance, wider congregational involvement, financial support of religious institutions, ritual participation, doctrinal observance, belief, and private prayer (Abeles et al., 2003; Hall, Meador, et al., 2008; Koenig, 2006; Larson, 1998). This study proposes that this item approximates a global self-assessment of religiosity. That is, this item can act as a significant

contributor to the differentiation between the religious and non-religious. Arguably it is able to do this not simply as a result of the domains it covers but also as a function of the 6 point Likert scale it offers. Not only does this measure offer options regarding the occurrence of an individual's religiousness, but one end of the scale importantly offers the options of 'seldom or never' and 'I do not practice a religion'. The items ability to discriminate between the religious and non-religious arguably occurs between these two points. Those who seldom or never practice a religion but who might still consider themselves religious in some way will have the ability to indicate their position, whilst those who do not consider themselves religious to any degree also have an appropriate option to select. Via its wording, this measure incorporates the most commonly used measures of religiosity: self-reported attendance at religious services, organisational religiousness and non-organisational and private religiousness. Other important aspects of the item wording include its ability to address religious beliefs and practices outside of the predominant Trinitarian Christian tradition of the New Zealand population, and as such offers a degree of cultural utilitarianism.

The inherent subjectivity of global self-assessments that these items represent is the main criticism levelled against them (Hall, Meador, et al., 2008). The constraints associated with item phrasing in postal surveys, such as the NZLSA, is also a noted critique. However, the pragmatic challenges posed by employing objective measures in large general health surveys aside, this item goes a significant way to alleviating these

criticisms by its wide inclusion of what individuals could realistically comprehend as the components that comprise their religiosity.

In summary, the rationale for determining that the religious items used in this study are appropriate measures of an individual's religiosity is as follows. They cover a significant number of the domains or dimensions of religion that are generally covered by religious scales; specifically, organised and non-organised religion, belief, commitment and orientation. Furthermore, in the context of gerontological research, these two measures represent the most important perspectives that need to be included in any attempt to research religion: faith and practice (Atchley, 2005).

Also noteworthy is that via the range and type of Likert items offered by the measures, this study is also able to avoid specific methodological issues such as a 'floor effect' which is common in religious and spiritual research (Flannelly et al., 2004; Hwang et al., 2011). Floor effects occur in a range of religious scales including the DUREL where the lowest possible measurement for private practice is framed as rarely or never, as opposed to a clear option of not practicing a religion. Similarly, the SCSORF, which utilises a four point Likert scale ranging from strongly agree to strongly disagree, does not enable participants to indicate a position of non-belief. The System Belief Inventory 15 (SBI-15) also presents with similar issues. Selecting the least religious options in relation to these questions simply results in an individual being measured as weakly religious or spiritual, and artificially introduces a lower limit to

religious belief that excludes non-belief. The removal of any 'floor effect' enables this study to identify those who are non-religious.

Well-being.

In comparison to religion and in the context of measurement, the psychological construct of well-being is much more conventionally positioned within this study. The concept of well-being is widely used in psychological research, including that involving older adults and a significant discourse exists that functions to clarify the construct and identify and measure its various constituents (Ryan & Deci, 2001; Ryff & Keyes, 1995). The hedonic paradigm dominates these instruments. There are numerous psychometric instruments available for the measurement of well-being and the LSA utilises a shortened version of the 36-item short form health survey metric (SF-36v2). This shortened version, the SF12v2, measures functional physical health and mental well-being from an individual's perspective. The SF12v2 is subjective in keeping with the hedonic tradition and it contains eight subscales as per the original 36 item measure. That is, the SF12v2 covers the same health domains as the SF-32v2 but simply offers fewer items per domain. Those domains are physical functioning (PF) 2 items, role limitations due to physical problems (RP) 2 items, bodily pain (BP) 1 item, general health perceptions (GH) 1 item, vitality (VT) 1 item, social functioning (SF) 1 item, role limitations due to emotional problems (RE) 2 items and mental health (MH) 2 items. The SF12v2 is itself comprised of two aggregated sub-scales: the Physical Component Summary (PCS) which is comprised of the PF, RP, BP and GH items and the Mental Component Summary (MCS) which is comprised of the VT, SF, RE and MH items. All

items are assessed on a five point Likert scale except for the physical functioning subscale. This subscale has a three point Likert scale.

The 12 items of the SF12v2 were selected in a manner to ensure that the SF12v2 component scores have the ability to explain $\geq 90\%$ of the variability in the physical component summary (PCS) and mental component summary (MCS) scores of the SF36v2 . The SF36v2 was used as a criterion for validation of the SF12v2. The component scores of the SF12v2 are transformed to have a mean of 50 and a standard deviation of 10 in the population in which they were generated e.g. the general U.S. population. Scores range between 0 and 100. Relevant to this study the NZLSA utilises norms developed within the New Zealand population.

The psychometric properties and factor structure of the SF12v2 have been examined in several studies, including Cheak-Zamora, Wyrwich and McBride (2009), Montazeri et al. (1950) and Gandhi et al. (1983). Gandhi et al. (2001) confirmed the 2 component structure of the SF12v2 as represented by the physical and mental components. Cheak-Zamora et al. (2009) utilising the 2003-2004 Medical Expenditure Panel Survey (MEPS) to test the internal consistency, test-retest reliability and construct, discriminate, predictive and concurrent validity of the SF12v2. The Mental Component Summary was shown to have high internal consistency ($\alpha > .8$) , moderate test-retest reliability ($.60$) and moderate convergent validity ($r > .38$). Cheak-Zamora et al. (2009) concluded that both component scores showed adequate reliability and validity. Montazeri et al. (2011) tested the psychometric properties of the SF12v2 within a random sample of the general population aged 18 years and over of Iran.

Internal consistency for the Mental Component Summary was high ($\alpha > .82$) and confirmatory factor analysis supported the two factor model of mental and physical components that comprise the SF12v2. In general, the overall results indicate the SF12v2 to be an instrument that is a valid and reliable measure which is also able to be used with a range of population groups.

In summary, the rationale for utilising the SF12v2 as an appropriate measure of well-being is twofold: its widespread acceptance and use in a significant number of general health surveys and its subjective nature. The SF12v2 as a subjective measure of well-being is important in that it possesses fewer tendencies to blur important differences within population subgroups e.g. those factors associated with ethnicity, gender, SES etc. (Diener et al., 1998).

Meaning and purpose in life.

The specific measurement of meaning occurs via a single item in the CASP-12 scale which is included in the NZLSA questionnaire. The CASP-12 is a shortened 12 item scale of the CASP-19 quality of life scale. The CASP-19 is a self-reported aggregated index that comprises 19 Likert scale items that measure four life domains: control, autonomy, self-realisation and pleasure. The CASP-12 was developed to increase the CASP-19 measurement properties. By effectively combining, and hence reducing items in two of the domains; control and autonomy, the CASP-12 was able to achieve an increase in internal consistency ($\alpha = .67$) as compared to their measurement as separate domains ($\alpha = .61$ for control and $\alpha = .51$ for autonomy) (Wiggins, Netuveli, Hyde, Higgs, & Blane, 2008).

The single item that measures meaning in the CASP-12 is part of the pleasure domain and is worded as: “I feel that my life has meaning”. It is reverse scored on a four point Likert scale and offers the options of ‘Often, sometimes, not often, and never’. Presented in this way, the item can be classified as a summary self-rating question.

The CASP-19 has been used in a range of studies, particularly those that have a focus on ageing e.g. the English Longitudinal Study of Ageing and the British Household Panel Survey where respondents are aged 55 years or older. Therefore, although there are many quality of life scales, the brief version of the CASP-19, the CASP-12 is included for its relevance to the context of the study of an older adult population.

The Life Engagement Test (LET) was used to assess purpose in the lives of the individuals in the study. This six item, five point Likert scored scale offers participants responses that range from strongly disagree to strongly agree and has the specific intent of providing a purpose in life index by accurately assessing the degree to which an individual considers their activities both valuable and important (Scheier et al., 2006).

The six items that comprise the LET are:

1. There is not enough purpose in my life
2. To me the things I do are all worthwhile
3. Most of what I do seems trivial and unimportant to me
4. I value my activities a lot
5. I don't care very much about the things I do
6. I have lots of reasons for living

Scheier et al. (2006) developed the scale and offer the following assessment of the psychometric competency of the LET. Eight different samples, adequately covering gender, ethnicity and age were used to establish the psychometric properties of the LET. Factor analyses revealed a single factor solution accounting for between 43% and 62% of the variance among the 6 scale items. Internal consistency across all eight population samples was high, averaging .80. Test-retest reliability of the LET proved moderately stable, ranging between .61 and .76. Scheier et al. (2006) also tested for convergent validity and discriminate predictive validity and concluded the LET as psychometrically appropriate in both respects. In concluding the evaluation of their scale, Scheier et al. (2006) determined that the LET is psychometrically sound and appropriate for use within general health surveys.

There are two main reasons for utilising the LET as an appropriate measure of purpose in this study. Firstly, other scales tend to be time insensitive they investigate whether a person's life has had purpose as opposed to whether it currently has purpose. Secondly, a large number of other purpose scales contain items that measures constructs separate from purpose, such as life satisfaction, hence introducing the possibility of confounds (Scheier et al., 2006).

Data Coding

The measurement and coding of well-being, meaning and purpose in life is performed according to the manuals that have accompanied the development and implementation of these psychometric instruments.

The measurement and coding of religion requires a greater degree of consideration. The hypothesis that the 'levels of well-being will not be significantly different between those who identify as religious and those who identify as non-religious.' requires that individuals are able to be categorised as either religious or non-religious. This study proposes to operationalise this measurement using the following logic. Individuals who indicate to any degree that they practice a religion, do not expressly indicate they do not practice a religion (that is, selected seldom or never), as well as indicating faith as being at all important to them e.g. a little, reasonably or very, were scored between 1 and 8 and coded as religious. Those who indicated that they do not practice a religion, as well as faith being of no importance to them were scored as 0 and coded as non-religious. The NZLSA dataset was re-coded according to these rules as indicated in Table 2 with individuals coded in a dichotomous categorical manner; religious or non-religious.

The countervailing argument is to use the measurement instruments in the NZLSA to determine religion as an ordinal measure. One that has differing levels of religiosity, ranging from non-religious, low religiosity to high religiosity. In keeping with the theoretical framework and study design the argument against an ordinal measurement of religion is twofold. Firstly, the definition of religion utilised by this study as the 'belief in supernatural agency' lends itself only to a categorical measurement. An individual either believes in supernatural agents or they do not. The position of believing in them slightly or a lot is not rational, as an individual either believes that supernatural agents exist or they do not. Secondly, if we classify an individual as high in

religiosity we might assume that they are more predisposed to behaving in a range of ways that are prescribed via doctrine and very likely to affect well-being predictors such as physical health. However, as discussed previously in this study, these behaviours are not solely available to the religious, primarily because we know they predict well-being outside of any religious context. Such a concept of low, moderate or high religion runs the risk of defining it in relation to the quantity of a certain behaviour that an individual undertakes. The two religion items in the NZLSA are useful in identifying a range of religious domains, including beliefs and behaviours that indicate an individual's belief in supernatural agency either in their own right or as an aggregate. Accordingly, as detailed in Table 2 below, an ordinal measure is used as an intermediary in relation to a final categorical classification. Regardless of where an individual is coded as a result, those that score between 1 and 8 are simply considered religious, whilst those who score 0 are simply considered non-religious.

Table 2

Data coding of individuals as religious or non-religious.

Is faith important to you?	Do you practice, attend or participate in religious activities?	Score	Category
No	Do not practice	0	Non-religious
A little		1	Religious
Reasonably		2	Religious
Very		3	Religious
	Seldom/Never	1	Religious
	Once per month	2	Religious
	Once per week	3	Religious
	Several times a week	4	Religious
	Daily	5	Religious

Chapter 6 - Results

This chapter provides quantitatively derived results to the research questions and hypotheses that were posited in Chapter 4. For the sake of clarity and fluidity, sections within this chapter restate the research question or hypothesis prior to detailing the results.

Data Analysis

SPSS Version 20 was used to perform all statistical analyses. Three stages of data analyses were undertaken on the original NZLSA 2012 dataset. Firstly, data was screened for entry accuracy, missing data and overall fit with a range of standard multivariate analysis assumptions, including normality and extreme values. Descriptive statistics of the sample were calculated. Secondly, bivariate relationships utilising Pearson's r correlations between key variables were evaluated and presented. Chi squared tests were used to test for differences between groups. Thirdly, multivariate analyses were used to investigate the relationship between study variables based on the hypotheses outlined in Chapter 4. Alpha values were set at .05 unless otherwise stated. Two tailed test were used for all analyses.

Data Screening

Several issues need consideration prior to subjecting the NZLSA dataset to statistical analysis. The dataset was screened according to the requirements necessary to determine the normality of the data, the presence of outliers and the occurrence of

missing data in regards to both individual cases and variables (Hair, Black, Babin, Anderson, & Tatham, 2005; Tabachnick & Fidell, 2013).

Data Normality

The initial consideration pertains to the normality or non-normality of the individual variables theorised to be involved in the religion and well-being relationship. These variables are the two components of the SF12v2 (the mental component scale of well-being referred to hereafter as well-being and the physical health component scale of well-being referred to hereafter as physical health), age, gender, WHOQoL8 (the World Health Organisation quality of life measure referred to hereafter as QoL), ELSI (the economic living standards index measure of socio-economic status referred to hereafter as SES), ethnicity, religiosity, work status, CASPh (the meaning item contained within the CASP scale and referred to hereafter as meaning) and the Life Engagement Test (hereafter referred to as purpose in life). To determine normality or non-normality, individual variables were plotted as histograms and overlaid with a normal distribution curve.

Those variables with an initial non-normally distributed appearance were well-being, physical health, SES, QoL and purpose in life. This non-normality is somewhat a function of the summed scale and an examination of exploratory descriptive statistics for each variable reveals that none have more than half a standard deviation between their mean and median and accordingly the level of skewness within these variables is acceptable (Coolican, 2009). The same variables also displayed positive kurtosis.

Tabachnick and Fidell (2013) propose that in the context of sample sizes greater than 100 the impact of kurtotic variance on statistical analysis is likely to be negligible as the sample size of this study is in excess of 2000 cases. Accordingly, the variables were all considered within the bounds of normal distribution for further analysis and no transformations were considered necessary. With a view to further supporting the assumption of normality, this study proposes further investigating the regression residuals that result from the multivariate data analysis stage (Tabachnick & Fidell, 2013), and this is detailed under multivariate analysis below.

Outliers

The variables were examined graphically from de-trended normal probability and box plots on a univariate basis to determine the presence of any extreme values in the data. Values that appeared unattached to the rest of the distribution were considered outliers. Those variables that contained extreme values (number of cases in brackets) were well-being (2), physical health (23), SES (19), QoL (14) and purpose in life (9). Once identified, these outliers were considered in the following context are they the result of incorrect data entry, are any single cases disproportionately responsible for a number of outliers, and might they be considered as appropriately representative of the variance of measurement within the entire sample (Hair et al., 2005). None of the cases was considered to be the result of incorrect data entry, as all of the scores fell within the relevant measurement range. All of the extreme cases were the result of summed scales and could be considered as appropriately representative of a normally

distributed sample. Accordingly all the identified outlying values were retained to ensure the maximum ability to generalise from the dataset (Tabachnick & Fidell, 2013).

Missing Data

Missing data relates to individuals' responses to a variable or variables that were, for one reason or another, not included in the final survey results. The missing data for the variables noted above were explored and evaluated and considered as being missing completely at random. There were no variables collected that had missing rates above 10%, thus enabling the option of ignoring the missing data (Hair et al., 2005). There were only three variables with missing data greater than 5%: psychological well-being (9.3%), physical well-being (9.7%) and SES (9.5%). An assumption was made that these variables, given the sensitive topic on which they were enquiring returned higher missing values due to a common reason given by individuals when responding to general health surveys – individuals simply decide not to provide an answer (Korkeila et al., 2001). No structural relationship in the context of missing data was identified with the other variables. A range of imputation methods were considered for the missing data and in the context of the large sample size and the low levels of missing data, complete data via listwise deletion was considered the most appropriate when undertaking further analysis (Hair et al., 2005).

Multivariate Considerations

A further range of considerations also need to be addressed for the proposed multivariate analysis that will be utilised to investigate a range of hypothesised

relationships between the variables. These considerations also include a repetition of ensuring the normality of the individual metric variables used, the ratio of cases, homoscedasticity, linearity and multicollinearity.

The normality of the individual variables was discussed above; however, in order to re-confirm their normality, plots of the regression residuals were viewed and analysed to validate the assumption of normal distribution. Plots of the regression residuals of the multivariate models that were developed to predict well-being displayed a normal distribution.

The ratios of cases to independent variables, for all the multiple regressions developed, were considerably above the minimum requirements for testing individual predictors in multiple regression (Tabachnick & Fidell, 2013).

Residual plots of individual variables were examined for violation of homoscedasticity and linearity assumptions. The variables theorised to be involved in the well-being relationship which are age, gender, physical health, QoL, SES, ethnicity, religiosity, work status, meaning, and purpose in life, were determined not to violate either assumption.

The degree to which multicollinearity was present was determined by an examination of the correlation matrix of the independent variables. No very high levels of co-linearity were present. Variable tolerance statistics were examined and for no variable was the variance inflation factor (VIF) near the recommended cut-off for

tolerance and hence elimination (Hair et al., 2005). Similarly models were examined for suppressor variables with none being found (Tabachnick & Fidell, 2013).

Descriptive Statistics

Descriptive statistics for the sample and correlations between study variables are provided in Tables 3 and 4.

Table 3

Descriptive statistics for NZLSA 2012 variables after listwise deletion.

<i>Variable</i>	<i>N</i>	<i>Mean</i>	<i>SD</i>
Well-being	2122	49.83	7.40
Age	2122	65.79	7.62
QoL	2122	33.43	4.85
SES	2122	24.78	5.68
Physical health	2122	50.44	10.63
Purpose	2122	25.61	3.71
Meaning	2122	1.29	.61
Gender			
Male	954		
Female	1168		
Total	2122		
Ethnicity			
NZ European	1789		
Maori	181		
Pasifika	13		
Asian	16		
Other	123		
Total	2122		
Work status			
Working	1068		
Retired	945		
Unemployed	22		
Other	87		
Total	2122		
Religion			
Religious	1609		
Non-religious	513		
Total	2122		

Bivariate Correlations

Table 4

Bivariate correlations of theorised well-being predictors (Pearson's r).

	Well-being	PH	Age	Gender	QoL	SES	Ethnicity	Religion	Work status
Well-being	1								
PH	.01	1							
Age	.12**	-.28**	1						
Gender	-.01	-.03	-.04	1					
QoL	.53**	.54**	-.04	.00	1				
SES	.31**	.29**	.10**	-.07**	.56**	1			
Ethnicity	-.03	-.01	.01	.12	-.06**	-.07**	1		
Religion	.04	-.06**	.14**	.13**	.05*	-.06**	.01	1	
Work status	-.75**	-.29**	.37**	.07**	.01**	-.16**	-.03	.10**	1
Purpose	.43**	.18**	-.06*	.04	.52**	.27**	.01	.13**	-.16**
Meaning	-.33**	-.09**	-.05*	.00	-.37**	-.19**	-.01	-.15**	.05*

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

Research Question 1 and 2

What is the distribution of religiosity among older adults on a generational or cohort basis? More specifically, are individuals who are able to be classified as 'baby-boomers' and have therefore only recently entered older age, less religious than previous older aged cohorts?

The relationship between these variables was significant ($\chi^2(1, N=2777) = 23.83, p < .05$). More 'baby-boomers' (N=446) self-reported as non-religious than older adults (N=252) older than 67 years of age. The effect size was small (Cramer's $V = .09$). These results support the hypothesis that baby-boomers report lower levels of religiosity than previous older adult cohorts and that older adults are more religious and represent a peak in the bimodal distribution of religion.

Research Question 3

Does the distribution of religiosity in older adults follow the general population trend of females self-reporting themselves as more religious than males?

The relationship between these variables was significant ($\chi^2(1, N=2773) = 54.12, p < .05$). More females (N=1234) self-reported as religious than males (N=843). The effect size was small (Cramer's $V = .14$). These results support the hypothesis that older adult females report higher levels of religiosity than older adult males, a result that has been found previously in the general population.

Hypotheses 1 and 2

Levels of well-being will not be significantly different between those who identify as religious and those who identify as non-religious.

A proportion of well-being will be attributable to meaning, and the expression of meaning via purpose, regardless of whether individuals are religious or not.

A multiple regression analysis was conducted to ascertain the contribution that a range of variables which were theoretically implicated made to well-being. These variables were divided into two conceptually distinct sets. The first set comprises the variables of age, gender, QoL, SES, ethnicity, work status, physical health and religion. The second set comprised the variables of meaning and purpose in life. Well-being remained the dependent variable in each analysis. Table 5 below outlines the results of the regression analysis.

Table 5.
Regression models for well-being and theorised correlates.

	Model 1	Model 2
	<i>B</i>	<i>B</i>
Gender	-.010	-.013
Age	.069**	.078**
SES	-.010	-.007
Ethnicity	.011	.002
QoL	.739**	.625**
Religion	-.005	-.015
Physical health	-.384**	-.350**
Work status	-.071**	-.065**
Meaning		-.061*
Purpose in life		.141**
<i>R</i> ²	.40	.42
Adjusted <i>R</i> ²	.39	.42
<i>F</i>	178.072	155.556
<i>R</i> ² change		.02
<i>F</i> change		39.669

Note: **p*<.01, ***p*<.001

The results of the first analysis indicate the model accounts for a considerable amount of well-being variability. The following demographic variables made significant statistical contributions to the model: quality of life, age, physical health and work status. A second model was developed to evaluate whether purpose in life and meaning were associated with well-being. Meaning and purpose in life accounted for a significant proportion of the variation in well-being after controlling for the effects of all the previously modelled independent variables. The results support the hypothesis

that religious individuals do not have greater levels of well-being than non-religious individuals. The model does not indicate religion as associated with greater levels of well-being. The results also support the hypothesis that meaning and purpose in life are significant contributors to well-being.

Hypothesis 3

Purpose in life, as theorised by the two factor model of meaning will be the sole contributor to well-being.

To test this hypothesis a mediation analysis was performed. A mediation analysis was determined appropriate as the variables and their relationships satisfied the primary condition outlined by Barron and Kenny (1986) and illustrated in Figure 1 below; the existence of paths between the three variables. Meaning is the independent variable, purpose in life the mediating variable and well-being the dependent variable. Their significant bivariate relationships are noted in Table 4.

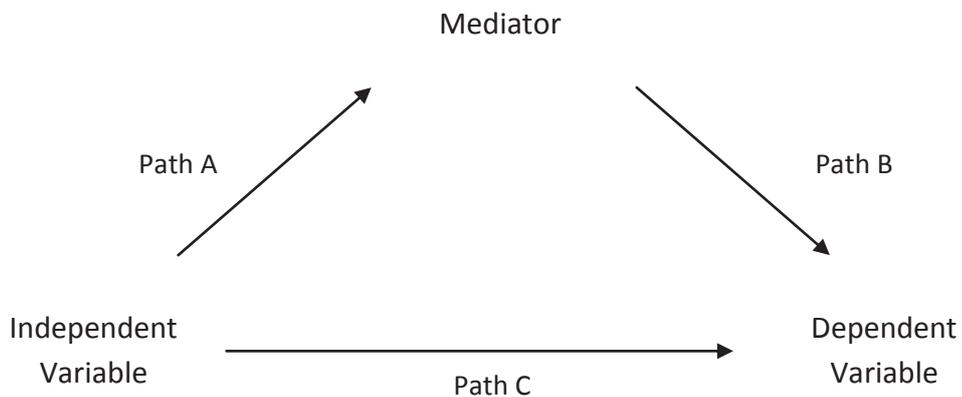


Figure 1. Mediation path model developed by Baron and Kenny (1986).

The two factor model of meaning hypothesis proposes the total, as opposed to partial mediation of meaning by purpose in life. That is, when paths A and B are controlled the relationship represented by path C will be reduced to a level not significantly different from zero. If the relationship is reduced but remains significant, then partial mediation is in operation (Barron & Kenny, 1986).

Table 6
Mediation analysis.

	Model 1	Model 2
	<i>B</i>	<i>B</i>
Meaning	-.315**	-.148**
Purpose in life		.366**
R^2	.01	.21
Adjusted R^2	.01	.20
F	265.736	312.091
R^2 change		.15
F change		322.989

Note:** $p < .001$

Table 6 details two regression models developed to test the mediation hypothesis. The dependent variable, well-being, was regressed on the independent variable, meaning, with a corresponding *Beta*-.315. Well-being was then regressed on meaning and purpose in life. *Beta* for meaning was reduced in magnitude but remained significant (-.148). The two factor model hypothesis of meaning was not supported. Mediation was partial, not total.

Chapter 7 - Discussion

This thesis posits a number of research questions and hypotheses, the majority of which concern themselves with a single central issue; the relationship between religion and well-being. The research questions are an exercise in determining whether or not the population utilised for this study displays characteristics similar to other populations that have been studied in the context of religion and well-being. The research question findings, arguably, increase the appropriateness of progressing with the research to the hypotheses stage because they are comparable with, and support, the results of previously researched populations. Furthermore, whilst containing a comparative component, the research question concerning generational cohorts is also designed to ascertain the level of religious dynamism within the older adult population, and how religion is changing in the context of an ageing secular society.

The results of the hypotheses tests, unlike the research questions, are not an exercise in comparison but rather one of contrast. Concerning religion and well-being they contrast in both expectancy and result in relation to the existing orthodoxy contained within the literature. They achieve this by determining the lack of support for any relationship before investigating other factors that might better explain variance in levels of well-being. These research questions and hypotheses are discussed in turn below, followed by an examination of the limitations of this research as well as possible future directions.

Religion and Gender

Older adult females self-reported as being religious at a level higher than older adult males. More older aged females are religious in comparison to older aged males. This is consistent with many other studies that outline females of all ages as reporting greater levels of religiosity than males (Francis & Wilcox, 1998; Maselko & Kubzansky, 2006; Okulicz-Kozaryn, 2010; Wink, 2002). The range of theories that exists to explain this difference generally falls into two groups. The first consists of gender role socialisation and structural location theories that emphasise the contextual factors and influences that shape responses to religion between men and women. The second group emphasises personal differences and individual psychological characteristics that differentiate amongst men and women and include depth psychology, personality and gender orientation theories (Francis & Wilcox, 1998).

Given that the heritability of individual psychological characteristics and associated traits is likely to persist at approximately the same level of distribution for the foreseeable future, it is reasonable to utilise the first group of theories whilst attempting to better understand what might happen to this gap in the level of religiosity between females and males. *Prima facie*, this group of theories seems well aligned with Secularisation Theory. In a structural sense women have not yet benefited as fully as men in important areas that are associated with the decline of religious belief e.g. education and workforce participation. When parity is achieved in all the areas noted within Secularisation Theory the religious gender gap may be further affected. Given that the noted effect size is small, it is possible that in combination with

the generational decrease in religiosity discussed in research question 2 below, the gender gap in religiosity may decrease to a statistically non-significant level. Such a development would in turn contribute to the more homogeneous spread of religion within the population.

Religion and Generational Cohorts

'Baby-boomers' self-report levels of religiosity lower than their immediate previous generation. More 'baby-boomers' are non-religious than the previous generation.

There are two aspects to the results of this research question. The first concerns the distribution of religion in this study's population and how it supports that noted in many other studies. In those studies older adults aged greater than 67 years of age are more religious and they effectively represent one peak in the bimodal distribution of religion according to age (Ellison & Levin, 1998; Koenig, 2006; Levin & Chatters, 2008).

The second issue concerns where exactly the boundary for this effect might occur.

Although generational cohorts are well-defined the determination of where that boundary lies is somewhat arbitrary. Sixty seven year olds represent the leading edge of the 'baby-boom' generation. However those aged 68 or even those in their early 70's will still share some of the common events and experiences that generally contribute towards defining that generation. Some of these events are likely to fall under the timeframe posited by Secularisation Theory and other drivers of the decline in religion e.g. growth in material security and educational achievement (Barber, 2013).

For that reason it is possible that this boundary and the associated effect of a lowered

occurrence of being religious in those now entering old age could occur later than the cut-off point of 67.

The determination of where the cut-off point for differing levels of religiosity occurs in old age introduces a new element into the discussion: is this difference a cohort effect or an ageing effect? This part of the discussion section argues for the former. The possibility that the self-reporting of greater levels of religiosity that occurs in older adults is an effect of ageing is canvassed more fully in the limitations section of this discussion chapter. The likelihood of this differing level of religiosity being a cohort effect has certain implications for the distribution of religion in both older adults and the general population. If the developments outlined by Secularisation Theory are the main drivers behind these changes, then the effect is not likely to be transient or limited to a single generational cohort. As a result of such a development, the previous bimodal distribution of religion in the population which is comprised of more religious younger and older individuals is likely to be affected. The first effect might simply result in religiosity peaking in the young. However it is difficult to envisage this eventuation given the young are not responsible for, or control, the cultural instruments utilised in the transmission of religion. A more realistic expectation is the likelihood that the distribution of religion will tend towards a uniform distribution in the population without generationally based peaks. Furthermore, in combination with possible developments canvassed in the previous research question, religiosity may settle at a uniformly lower level than has previously existed without either significant gender or age differences.

Religion and Well-being

In this study religion was found not to be associated with well-being. If there is not a relationship then rationally there could not be any expectancy that it would be able to influence well-being and hence affect a difference in the well-being mean of religious individuals. In this regard this study contrasts with the majority of research in the area of religion and well-being including meta-analysis (Yonker et al., 2012), research reviews (Ellison & Levin, 1998), general health surveys (Childs, 2010; Green & Elliott, 2010) and field studies (Fiorito & Ryan, 2007). The results do align with and contribute to a small but growing body of research that is typically generated outside of North America, particularly Northern Europe (la Cour & Hvidt, 2010; Schuurmans-Stekhoven, 2011). However, it would be remiss not to note that some recent and notable exceptions do exist within the North American literature (Hwang et al., 2011; Morgan, 2013).

Theoretically, this result aligns with the cognitively evolved origin of religion in that there is nothing special or distinctive about religious cognitions that would contribute to an explanation of variance in well-being (Banerjee & Bloom, 2013; Bulbulia, 2004; Sjöblom, 2007). Functionally, this result is likely to be the outcome of a combination of two study design factors purposely introduced to address methodological critique of previous research. Firstly, the use of a measurement instrument that effectively removes any possibility of a floor effect. Hence allowing between group comparison

rather than within group comparison. Scales that measure religious domains generally range from less religious to more religious and tend to exclude an individual's ability to self-select as non-religious e.g. the Brief Multidimensional Measurement of Religion and Spirituality (Abeles et al., 2003), the Duke Religion Index (Koenig & Büssing, 2010) and the Santa Clara Strength of Religious Faith Questionnaire (Sherman et al., 2001). The measurement instrument in combination with the definition of religion used for this study allowed for the clear identification of non-religious individuals. Secondly, the study sample was from a culture that has a large non-religious population. In combination these two factors have resulted in this study's ability to overcome one of the strongest methodological critiques of previous research in the field, which is effectively in experimental terms, the absence of a control or reference group. It is also in this manner that this piece of research contributes to addressing identified lacunae within the relevant body of literature.

The literature which has previously found a statistical difference in the well-being means of religious and non-religious individuals has also stated, both explicitly and implicitly, that because of this difference a structural relationship must exist. Otherwise the difference must be attributable to some other factor(s) (Galen & Kloet, 2011; Gall et al., 2005; Miller & Thoresen, 2003). The results of this study include bivariate correlations between religion and well-being that are small and in a strict statistical sense trivial. However, simple bivariate correlations very often do not tell the complete picture and a more sophisticated form of statistical analysis, largely missing from previous research, that includes statistical control to ascertain the influence or

otherwise of a range of variables is the most appropriate means of determining the continued existence of a relationship (Flannelly et al., 2004). It also offers the opportunity to reinforce the study design as one of 'value added' versus 'web of causality'. Religion along with a range of other variables theorised as related to well-being, such as gender, SES and ethnicity does not contribute any statistically significant amount to our understanding of the variance in well-being in this sample. Rather, the theorised predictive factors that make any significant contribution are quality of life, physical health, age, work status, purpose in life and meaning.

An important issue that arises for discussion from the above is the general applicability of these results; can they be generalised to a population or culture where the identification of non-religious individuals is either problematic or not feasible? Such an environment is possible if there is an over-riding religious cultural narrative, or if religion is explicitly linked to nationhood. If a clear non-religious population is not identifiable then it is unlikely these results can be generalised to such a population. Rather, any attempt to ascertain a relationship between religion and well-being will likely resort to the levels measurement paradigm and conflate religious belief with secular behaviours. That is, the comparison will be within group rather than between groups. If a discernable non-religious population is identifiable then this thesis argues for the general nature of the results. Because of this dichotomy in the general applicability of the results it is reasonable to assume that they are culturally bound or limited in some regard.

The effective de-coupling of religion from well-being that this study highlights and the manner in which it has been achieved has the capacity to inform future research. Such research should no longer be heavily focused on the indirect behavioural manner in which religion has been observed to affect well-being given we know three things: these indirect pathways are secular, we know they add value outside of any religious context, and that religious cognitions are not unique. Rather, research should focus on other factors theoretically related to well-being that occur irrespective of religiosity such as: meaning and purpose in life.

Well-being, Meaning and Purpose in Life

The other area of enquiry of this thesis was the relationship between well-being, meaning, and purpose in life. Whilst not considered the central tenet of this thesis, it is still important in that it enables an understanding of the wide range of psychological constructs and cognitions that are related to well-being.

QoL, physical health, age and work status were the only factors of those initially theorised as contributing to an individual's psychological well-being that actually made any significant contribution to the explanation of well-being. However, the results of the second regression model support the idea derived from associated theory that meaning and an important facet of meaning – purpose in life, make a contribution towards levels of well-being.

Meaning and purpose in life are central human pursuits identified by a range of theories and theorists and discussed within the literature (Frankl, 1955; Park, 2007;

Steger, 2012; Steger & Frazier, 2005). From the theoretical position of evolved cognition it is understandable that an individual would find it extremely difficult to both orient themselves to, and progress in, an environment they could neither comprehend or which held no purpose for them (Martin, 2007). It was in this context that Frankl (1963) initially began to outline the relationship between meaning and well-being as well as the possibility that cognitively, meaning is innate to humans.

In some regards this result departs from the central topic of religion and instead concerns itself with the bigger well-being picture by exploring what other factors are better able to explain the variance in well-being. However, religion does not completely exit the picture; rather, it is by placing an individual's religiosity within a meaning framework that we can further explore any nuanced association (rather than direct relationship) it has with well-being. Religion for an individual has the capacity to operate as a meaning framework through which they are able to interpret and make sense of their experiences and derive purpose for their existence (Emmons & Paloutzian, 2003). Other theorists posit that the objective of the framework that religion comprises is to establish and maintain meaning, which it does by imposing order and by addressing apparent threats and breakdowns in that order, or that it operates in some behavioural manner by identifying and enabling the pursuit of valued goals (Scheier et al., 2006; Steger, 2012). In essence, similar to a range of secular pursuits, religion has the ability to act as a global meaning framework. It offers mechanistic and behavioural aids that enable individuals to have meaning in their lives,

comprehend their world and engage in the pursuit of purpose and hence access well-being.

It is in this context that we might derive a greater understanding of one of the earliest research strands in religion, that of substantive and functional approaches and their relationship with the extrinsic and intrinsic orientations theorised by Allport and Ross (1967). Although this strand of research is somewhat out of fashion, previous research found the intrinsic/substantive approach to religion was related more to well-being than the extrinsic/functional approach. Perhaps unknowingly these researchers discovered that the intrinsic/substantive approach is an effective way for religious individuals to incorporate components of meaning and purpose at levels greater than that associated with the extrinsic/functional approach. This would more accurately account for a range of previous research results (Allport & Ross, 1967; Auhagen, 2000; Homan & Boyatzis, 2010).

The inter-relatedness of religion with meaning and purpose, and meaning and purpose with well-being, has been raised within this thesis. Despite arguing against the traditional 'web of causality' approach of previous research that utilises indirect behavioural pathways when accounting for any religion and well-being relationship, we need to consider whether such a pathway exists in relation to psychological constructs. Can we accept the indirect pathways argument if the behaviours are not physical? Does religion's ability to act as a meaning framework, from which some people derive purpose and indirectly increase well-being explain or clarify the relationship as it

currently stands in the literature? In regards to meaning and purpose in life, the objective of this thesis was to simply indicate the contribution they made to well-being and highlight their relationship with both religion and well-being. The possibility of future research in this regard is discussed below.

The mediation analysis of purpose in life, meaning and well-being also informs the theoretical base that this study has utilised. The two factor model of meaning comprises purpose in life and comprehension. The theory proposes that purpose in life accounts for the overall contribution of meaning to well-being, whilst the amount attributed to comprehension is trivial (Krause, 2009). The finding of this study, via mediation analysis, does not support this theory. Rather it supports the theory that purpose in life partially mediates the relationship between meaning and well-being. If, after mediation analysis, the relationship between meaning and well-being still remains significant then it is possible to theorise the other component of meaning, comprehension is non-trivial. Such an assertion stands in contrast to a range of theoretical and empirical findings. Clear challenges remain to such a proposition, not the least of which is whether meaning, as measured in this study is an effective proxy, in part or total, for comprehension. Regardless, the result suggests the possibility that contrary to assertion by the two-factor model of meaning, the contribution of comprehension to well-being is not trivial.

Research Contribution to the Existing Field

This study contributes to the small but increasing volume of research that finds no support for the relationship between whether an individual is religious or not and their level of psychological well-being. It also outlines possible future developments for older adult demographics in the context of religion, as well as what that may mean for the continuation of a gender gap and a bimodal distribution of religion in the population in general. More importantly, it helps refocus a field that over its history has been preoccupied with esoteric issues and has failed to make progress in identifying and emphasising how individuals can increase their level of well-being in old age. Such a finding has something to contribute in the context of an ageing secular society where the range of available sources of meaning and purpose may decrease at particular developmental stages. Significant emphasis should be placed on the relationship between meaning, purpose, and well-being regardless of whether the pursuit undertaken by the individual is religious or secular.

Limitations

The measurement of religion, as derived from the theoretical definition used in this study, is likely to polarise readers of this thesis. Therefore this is a limitation to which a reader of this research might arrive. In strict measurement terms it is an issue of an ordinal versus a categorical measure. This study has detailed at length the theory and rationale for employing a method, the result of which is categorical. However, ordinal measures still remain very common in research, and, arguably offer more information

to a researcher. In this context a reader might consider the measurement and limitation as one of *reductio ad absurdum*.

We might consider the definition of religion as used in this study similarly given measurement is often derived from definition. Does the probability of finding a relationship between religion and well-being depend solely on a single definition; namely, that of religion? Does a large volume of research and the importance of any relationship it identifies turn on the defensibility of a particular definition? Psychology is no stranger to ontological debate and perhaps this study is a continuing example of the challenges the discipline faces in this regard.

Meaning and purpose suffer from a similar measurement conundrum. Whilst it is appropriate to utilise a single item as a construct measurement, as occurred for meaning in this study, it is not ideal. In that context studies such as this thesis that utilise general health surveys are limited by the data contained within such surveys. These are the trade-offs that exist and must be made between pure experimental design and general health surveys. Similarly secondary analyses, such as this study, are limited by the data that has already been collected. Although this study is informed by the notion that progress should be attempted regardless of the existence of pure measures so that, at the least, partial inferences can be made, this study is also conscious of the limits associated with such measures. In the context of meaning and purpose a less limiting measure might comprise a scale that incorporates both factors of the theorised two factor model. Arguably this would enable a more detailed

examination and accurate determination of each factor, and the total predictive value of meaning to well-being.

Another important limitation of this study is its inability to clearly determine, at this point in time, whether the difference in religiosity between older adults and others is a function of a cohort effect or a pure effect of ageing. It is highly unlikely that older adults who are currently non-religious, upon further ageing and increasingly facing their own mortality suddenly become religious in enough numbers to give rise to this effect on a continuing basis. However, as proposed by a range of mortality saliency theories, it is not completely beyond of the bounds of reason.

Further Research

The last limitation noted above is effectively the first piece of further research that can be undertaken following those individuals who currently identify as non-religious into older age to determine the existence and/or significance of any ageing effect. This could similarly be done for the gender gap in relation to females aged less than 65 years of age to determine whether it also is reducing as secular females enter late old age.

Other significant opportunities for research are, the development of appropriate measures for religiosity that either remove the existence of floor effects and hence enable a more appropriate sampling of non-religious individuals, or the much more difficult task of developing an instrument that is capable of measuring atheism and including it in a religious scale.

The most significant piece of possible further research relates to the religion, meaning and purpose in life relationship. This study does not support previous empirical findings of religious individuals having greater levels of well-being than non-religious individuals. However, might they have greater levels of meaning and purpose in their lives and if so, why might that be?

Chapter 8 - Conclusion

If, as argued within this thesis, the most accurate definition of religion is the belief in supernatural agency, then this study contributes to the growing volume of research that posits there is no general or structural relationship between religion and psychological well-being.

The relationship that is noted in the existing body of literature can be critiqued in terms of theory, method and study design. The three most troublesome issues to the established relationship within the literature are: the atheoretical nature of a large volume of research that identifies such a relationship, the failure to identify and sample non-religious individuals, and the conflation of religion with secular behaviours and constructs. The first point is important because findings without a theoretical foundation can be misleading. The second point is important because, experimentally, previous research has failed to establish a reference group. The third point is important because these behaviours and constructs have already been demonstrated as being related to well-being, and they are available to both non-religious and religious individuals.

Why the current orthodoxy exists within the literature is perhaps one of the more important questions to consider. Seeking to answer it provides the opportunity to speak qualitatively in the context of a piece of quantitative research. Religion, in a qualitative sense, is privileged. It holds a position of privilege that is not attributable to evolved cognitive capacity but rather it is attributable to evolved cultural processes.

That position of privilege accounts for the emergence and application of methodologies, the short-comings of which as noted above are significant critiques of the orthodoxy that exists in the established literature.

Past, current and future secular developments are very likely to continue to remove the position of privilege that culturally is afforded to religion. It is probable that the established relationship within the literature between religion and well-being will be increasingly challenged and troubled by future research and that the existing orthodoxy, whilst currently the *status quo*, is unlikely to remain so.

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Appendices

Appendix A. NZLSA Questionnaire 2012.

YOUR HEALTH, WELL-BEING, & QUALITY OF LIFE

1) In general, would you say your health is: (Please tick ONE circle)

Excellent	Very good	Good	Fair	Poor
<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

2) The following questions are about activities you might do during a typical day. Does your health now limit you in these activities? If so how much?

(Tick ONE circle on each line)

	Yes, limited a lot	Yes, limited a little	No, not limited at all
<u>Moderate activities</u> , such as moving a table, pushing a vacuum cleaner, bowling, or playing golf	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3
Climbing <u>several</u> flights of stairs	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3
Climbing <u>one</u> flight of stairs	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3
Walking one block	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3
Bathing or dressing yourself	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3

3) During the past 4 weeks, how much of the time have you had any of the following problems with your work or other regular daily activities as a result of your physical health?

(Tick ONE circle on each line)

	All of the time	Most of the time	Some of the time	A little of the time	None of the time
<u>Accomplished less</u> than you would like	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
Were limited in the <u>kind</u> of work or other activities	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

4) During the past 4 weeks, how much of the time 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)?

(Tick ONE circle on each line)

	All of the time	Most of the time	Some of the time	A little of the time	None of the time
<u>Accomplished less</u> than you would like	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
Did work or activities <u>less carefully than usual</u>	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

5) These questions are about how you feel and how things have been with you during the past 4 weeks. For each question, please give the one answer that comes closest to the way you have been feeling. How much time during the past 4 weeks...

(Tick ONE circle on each line)

	All of the time	Most of the time	Some of the time	A little of the time	None of the time
Have you felt calm and peaceful?	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
Did you have a lot of energy?	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
Have you felt downhearted and depressed?	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

6) During the past 4 weeks, how much did pain interfere with your normal work (including both work outside the home and housework)? (Please tick ONE circle)

Not at all A little bit Moderately Quite a bit Extremely

1 2 3 4 5

7) During the past 4 weeks, how much of the time has your physical health or emotional problems interfered with your social activities (like visiting friends, relatives, etc.)? (Please tick ONE circle)

All of the time Most of the time Some of the time A little of the time None of the time

1 2 3 4 5

8) Below is a list of some of the ways you may have felt or behaved. Please indicate how often you have felt this way during the past week.

(Tick ONE circle on each line)

Occasionally
or a
moderate
amount of
time

Rarely or
none of the
time Some or a
little of the
time Occasionally
or a
moderate
amount of
time All of
the time

I was bothered by things that usually don't bother me	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4
I had trouble keeping my mind on what I was doing	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4
I felt depressed	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4
I felt that everything I did was an effort	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4
I felt hopeful about the future	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4
I felt fearful	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4
My sleep was restless	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4
I was happy	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4
I felt lonely	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4
I could not "get going"	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4

9) For each of the following statements and/or questions, please tick the box that you feel is most appropriate in describing you. (Please tick one circle on each line)

Not a very happy
person

A very happy person

In general I consider myself: 1 2 3 4 5 6 7

Less Happy

More Happy

Compared to most of my peers, I consider myself: 1 2 3 4 5 6 7

10) This question contains statements that could describe your quality of life in the five different areas set out below (a, b, c, d and e). For each area there are four statements.

Please select one statement from each area that you think is most true for you and place a tick in the circle beside each of them. Please place a tick in only ONE circle for each of the five groups below

(a) Feeling settled and secure

- I am able to feel settled and secure in **all** areas of my life
- I am able to feel settled and secure in **many** areas of my life
- I am able to feel settled and secure in **a few** areas of my life
- I am **unable** to feel settled and secure in **any** areas of my life

(b) Love, friendship and support

- I can have **a lot** of love
- I can have **quite a lot** of love
- I can have **a little** love
- I **cannot** have **any** love

(c) Being independent

- I am able to be **completely** independent
- I am able to be independent in **many** things
- I am able to be independent in **a few** things
- I am **unable** to be at all independent

(d) Achievement and progress

- I can achieve and progress in **all** aspects of my life
- I can achieve and progress in **many** aspects of my life
- I can achieve and progress in **a few** aspects of my life
- I **cannot** achieve and progress in **any** aspects of my life

(e) Enjoyment and pleasure

- I can have **a lot** of enjoyment and pleasure
- I can have **quite a lot** of enjoyment and pleasure
- I can have **a little** enjoyment and pleasure
- I **cannot** have **any** enjoyment and pleasure



11) (a) How often do you have a drink containing alcohol? (Please tick ONE circle)

Never 1 Monthly or less 2 Two to four times per month 3 Two to three times per week 4 Four or more times a week 5

If you ticked here then go straight to (c)

(b) Have you ever drunk alcohol in the past? (Please tick ONE circle)

Yes 1 No 2 (If you ticked 'No' please go to Q.12)

(c) How many drinks containing alcohol do you have on a typical day when drinking? (Please tick ONE circle)

1 or 2 1 3 or 4 2 5 or 6 3 7 to 9 4 10 or more 5

(d) How often do you have six or more drinks on one occasion? (Please tick ONE circle)

Never 1 Less than monthly 2 Monthly 3 Weekly 4 Daily or almost daily 5

12) (a) Have you, at any stage of your life, ever been a regular smoker?

Yes 1 No 2 (If you ticked 'No' please go to Q.13)

(b) If you currently consider yourself a regular smoker, how many do you think you would smoke on an average day? (Please tick ONE circle)

1 to 10 a day 1 11 to 20 a day 2 21 to 30 a day 3 31 or more a day 4 OR Not a regular smoker 5

13) In the last 12 months, how many times have you seen a doctor or been visited by a doctor about your own health? By 'doctor' we mean any GP or family doctor, but not a specialist. (Please tick one box)

Never 1 1 time 2 2 times 3 3-5 times 4 6-11 times 5 12 times or more 6

14) In the last 12 months, how many times have you yourself:

(Tick ONE circle on each line)

	never	1 or 2 times	3 or 4 times	5 or more times
(a) used a service at, or been admitted to, a hospital	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4
(b) been admitted to hospital for <u>one night</u> or longer?	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4
(c) gone to a hospital <i>emergency</i> department as a patient?	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4

15) In your opinion, how often do doctors or other health providers:

(Tick ONE circle on each line)

never sometimes usually always

	never	sometimes	usually	always
listen carefully to you	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
explain things in a way you can understand	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
show respect for what you have to say	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
spend enough time with you	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

16) Please tick 'Yes' to indicate if a health professional has told you that you have any of the following conditions. If possible, please also indicate your age when this condition was diagnosed or recognised.

	Yes	Your Approximate age
Arthritis or rheumatism?	<input type="radio"/>	
Disorder of the neck or back (e.g. lumbago, sciatica, chronic back or neck pain, vertebrae or disc problems)	<input type="radio"/>	
Diabetes?	<input type="radio"/>	
Disability?	<input type="radio"/>	
Hearing impairment?	<input type="radio"/>	
Heart trouble (e.g., angina or heart attack)?	<input type="radio"/>	
High blood pressure or hypertension?	<input type="radio"/>	
Mental illness?	<input type="radio"/>	
Respiratory condition (e.g., bronchitis, asthma)?	<input type="radio"/>	
Sight impairment (that cannot be corrected by glasses)?	<input type="radio"/>	
Sleep disorder?	<input type="radio"/>	
Stroke?	<input type="radio"/>	
Other? Please specify below:	<input type="radio"/>	

Cancer? Please specify type (e.g. lung, leukaemia, melanoma):	<input type="radio"/>	

If you have been diagnosed with cancer since 2010, what is your current treatment status?

Currently being treated Finished treatment

17) Do you have personal health insurance? Yes No

18) Can you see ordinary newsprint, with glasses or contact lenses if you usually wear them?

Easily With difficulty Not at all

19) Can you hear what is said in a conversation with one other person?

Easily With difficulty Not at all

20) How often do you take part in sports or activities that are...

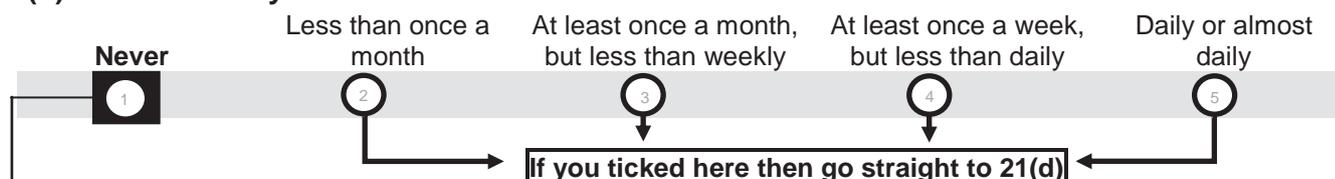
(Tick ONE circle on each line)

	More than once a week	Once a week	One to three times a month	Hardly ever or never
...vigorous (e.g., running or jogging, swimming, aerobics)	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4
...moderately energetic (e.g., gardening, brisk walking)	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4
...mildly energetic (e.g., vacuuming, laundry/washing)	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4

21) (a) Do you have a current drivers license?

Yes No

(b) How often do you drive?



(c) If you ticked NEVER above, how long ago did you stop?

Years Months OR Tick here if you have NEVER driven

(d) If you CURRENTLY DRIVE, have you ever considered reducing the amount that you drive OR stopping altogether?

Yes No

(e) If you have considered stopping driving altogether OR you have stopped driving OR you have never driven: What was the MAIN reason for this?

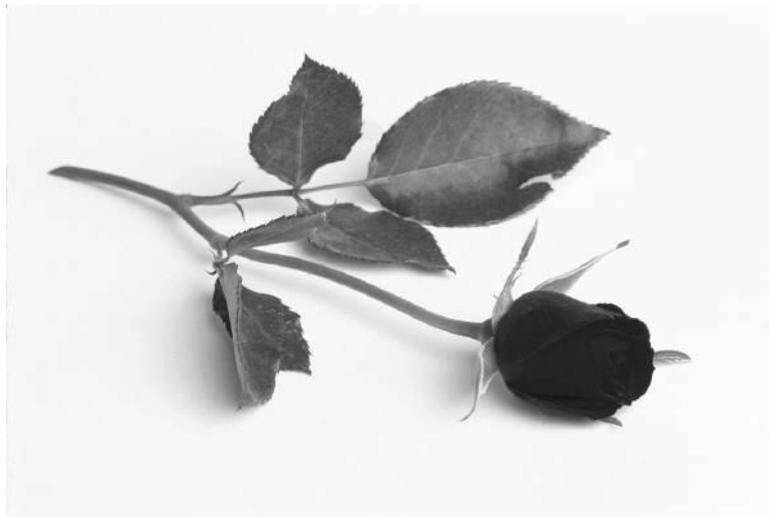
- Family/friends recommended that I stop 1
- Licensing or license renewal problems 2
- Changes due to ageing 3
- I don't need a car 4
- Friends drive me if needed 5
- Health reasons make driving difficult 6
- My GP/doctor recommended that I stop 7
- Driving is unpleasant 8
- I feel anxious when driving 9
- My spouse/partner drives me if needed 10
- Driving is expensive/car costs a lot 11
- Other reason (please specify): 12



22) Here is a list of statements that people have used to describe their lives or how they feel. We would like to know how often, if at all, you think this applies to you.

(Tick ONE circle on each line)

	Often	Sometimes	Not often	Never
My age prevents me from doing the things I would like to	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4
I feel that what happens to me is out of my control	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4
I feel left out of things	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4
I can do the things that I want to do	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4
I feel that I can please myself what I do	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4
Shortage of money stops me from doing things I want to do	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4
I look forward to each day	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4
I feel that my life has meaning	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4
I enjoy the things that I do	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4
I feel full of energy these days	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4
I feel that life is full of opportunities	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4
I feel that the future looks good for me	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4



23) The next two questions concern personal matters but are important from a research point of view to understand people's experiences. We hope you don't mind us asking them and remember that you are not obliged to answer.

(a) Are you interested in sex? (Please tick ONE circle)

Not at all A little Quite a bit Very much

(b) How often do you have sexual contact? (Please tick ONE circle)

Never 1 Occasionally 2 Often 3 Very often 4

24) Please think about your life in the last four weeks.

(Tick ONE circle on each line)

		Very poorly		Neither well nor poorly		Very well
		▼	Poorly	▼	Well	▼
		1	2	3	4	5
How well were you able to get around?						

Do you use any of the following assistive devices to aid in your ability to get around?
(tick all that apply)

Walking stick	<input type="checkbox"/>
Walker	<input type="checkbox"/>
Manual Wheelchair	<input type="checkbox"/>
Electric Wheelchair	<input type="checkbox"/>
Mobility scooter	<input type="checkbox"/>
Other (please specify):	<input type="checkbox"/>

(Tick ONE circle on each line)

		Very poor		Neither good nor poor		Very good
		▼	Poor	▼	Good	▼
		1	2	3	4	5
How would you rate your quality of life?						

(Tick ONE circle on each line)

		Very dissatisfied		Neither satisfied nor dissatisfied		Very satisfied
		▼	Dissatisfied	▼	Satisfied	▼
		1	2	3	4	5
How satisfied are you with your health?						
		1	2	3	4	5
How satisfied are you with your ability to perform your daily living activities?						
		1	2	3	4	5
How satisfied are you with yourself?						
		1	2	3	4	5
How satisfied are you with your personal relationships?						
		1	2	3	4	5
How satisfied are you with the conditions of your living place?						

(Tick ONE circle on each line)

		Not at all		Moderately		Completely
		▼	A little	▼	Mostly	▼
		1	2	3	4	5
Do you have enough energy for everyday life?						
		1	2	3	4	5
Have you enough money to meet your needs?						

25) These questions are to help us understand how the impacts of the series of earthquakes that struck the Canterbury region on and following 4 September 2010 may have affected you.

(a) Were you living in Canterbury during the following events (Please tick all that apply)

I lived in Canterbury during the Earthquakes on	
4 September 2010	<input type="radio"/>
22 February 2011	<input type="radio"/>
15 June 2011	<input type="radio"/>
23 December 2011	<input type="radio"/>
I am currently living in Canterbury	<input type="radio"/>
I have never lived in Canterbury	<input type="radio"/>

(b) Even if you were not living in Canterbury during this time, have you suffered direct or indirect effects in the last year as a result of the Canterbury earthquakes of 2010 and 2011?

Yes No (If you ticked **No** please go to Q.26)

(c) Please indicate the ways in which you may have been affected by the Canterbury earthquakes of 2010 and 2011

(Please tick **ONE** circle on each line)

	Not true for me at all				Definitely true for me
	1	2	3	4	5
Suffered significant direct personal effects	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Loss of life or injury within my family or networks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provided personal support to family and friends	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Experienced direct housing consequences	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Experienced direct business or employment consequences	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Experienced financial consequences through any of the above	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Affected by relocation of self, or family and/ or friends	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Experienced physical or emotional distress	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other (Please specify):	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Whānau, Family & Friends

26) Please indicate for each of the statements below the extent to which they apply to the way you feel now. (Tick ONE circle on each line)

	Yes ▼	More or less	No ▼
There is always someone I can talk to about my day-to-day problems	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3
I miss having a really close friend	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3
I experience a general sense of emptiness	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3
There are plenty of people I can lean on when I have problems	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3
I miss the pleasure of the company of others	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3
I find my circle of friends and acquaintances too limited	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3
There are many people I can trust completely	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3
There are enough people I feel close to	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3
I miss having people around	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3
I often feel rejected	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3
I can call on my friends whenever I need them	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3

27) The following questions are about getting along with people and how you feel you are treated in your own home. These people may be family members or others who come to visit you. (Tick ONE circle on each line)

	Yes ▼	No ▼
Are you afraid of anyone in your family?	<input type="radio"/> 1	<input type="radio"/> 2
Has anyone close to you tried to hurt you or harm you recently?	<input type="radio"/> 1	<input type="radio"/> 2
Has anyone close to you called you names or put you down or made you feel bad recently?	<input type="radio"/> 1	<input type="radio"/> 2
Do you have enough privacy at home?	<input type="radio"/> 1	<input type="radio"/> 2
Do you trust most of the people in your family?	<input type="radio"/> 1	<input type="radio"/> 2
Can you take your own medication and get around by yourself?	<input type="radio"/> 1	<input type="radio"/> 2
Are you sad or lonely often?	<input type="radio"/> 1	<input type="radio"/> 2
Do you feel that nobody wants you around?	<input type="radio"/> 1	<input type="radio"/> 2
Do you feel uncomfortable with anyone in your family?	<input type="radio"/> 1	<input type="radio"/> 2
Does someone in your family make you stay in bed or tell you you're sick when you know you're not?	<input type="radio"/> 1	<input type="radio"/> 2
Has anyone forced you to do things you didn't want to do?	<input type="radio"/> 1	<input type="radio"/> 2
Has anyone taken things that belong to you without your OK?	<input type="radio"/> 1	<input type="radio"/> 2

28) How important is faith to you? (Please tick ONE circle)

Not important at all	A little important	Reasonably important	Very important
<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4

29) How often do you practice religion, attend services or otherwise participate in religious activities? (Please tick ONE circle)

Daily	Several times a week	Once a week	Once a month	Seldom or never	I do not practice a religion
<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6

30) The following questions concern your feelings of being discriminated against by others.

How often in your day to day life has any of the following happened to you?

(Tick ONE circle on each line).

	Almost daily	At least once a week	A few times a month	A few times a year	Less than once a year	Never
You are treated with less courtesy and respect than other people	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6
You receive poorer service than other people at restaurants and stores	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6
People act as if they think you are not smart	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6
People act as though they are afraid of you	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6
You are called names or insulted	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6
You are threatened or harassed	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6

31) What would you say is the single most important reason for any of these things

above happening to you? Was it your: (Please tick ONE circle)

Race or ethnicity? 1 2 Sexual orientation?

Gender? 3 4 Disability?

Age? 5 6 Religion?

Weight? 7 8 Health?

Not applicable: I am not discriminated against 9 10 Other (Please specify):

32) Please answer the following questions about yourself. Be as honest as you can, and try not to let your response to one question influence your response to other questions.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
There is not enough purpose in my life	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
To me, the things I do are all worthwhile	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
Most of what I do seems trivial and unimportant to me	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
I value my activities a lot	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
I don't care very much about the things I do	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
I have lots of reasons for living	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

33) We would like to know whether you participate in recreational activities. Please

indicate below how often you have:

(Tick ONE circle on each line).

	Never	Once a year	Twice a year	4 times a year	Monthly	Weekly
Been a spectator at a sports event	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6
Gone to a concert, movie, play or other cultural event	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6
Gone to a restaurant, café, pub or bar	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6
Participated in an outdoor activity (walking, cycling, etc.)	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6
Gone to a library or museum	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6
Gone to a barbeque, hangi, or similar event away from your home	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6

34) These are questions about your participation in organisations and clubs. Please indicate below how often you attend each organisation or club.
(Tick ONE circle on each line).

	Never	Once a year	Twice a year	4 times a year	Monthly	Weekly
Sports clubs	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6
Community or service organisations that help people	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6
Political party, trade union, professional association, or business organisation	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6
Religious, church or other spiritual organisation	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6
Hobby, leisure-time or arts association/group	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6
Māori cultural group, Kapa Haka, Māori club, marae, hui	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6
Other cultural/ethnic group that encourages cultural/ethnic knowledge, traditions or arts	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6
Any other club, lodge, group or similar organisation (Please specify):	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6

35) If you have volunteered your time for any of the organisations/community groups/activities listed below please indicate:
(a) in the first column the hours you volunteer,
(b) in the second column whether you volunteer this many hours every week OR month OR year, and
(c) in the third column whether you have a committee or leadership role?

Community volunteering (unpaid work)	(a) Number of hours	(b) Do you volunteer this many hours every week, month or year?			(c) Do you perform a committee or leadership role? Yes
		Week	Month	Year	
Sports clubs		<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 1
Community or service organisations that help people		<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 1
A political party, trade union, professional association, or business organisation		<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 1
Religious church or other organisations		<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 1
Hobby, leisure-time or arts association/group		<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 1
Cultural/ethnic group that encourages cultural/ethnic knowledge, traditions or arts		<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 1
Māori cultural group, Kapa Haka, Māori club, marae, hui		<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 1
Any other club, lodge, group or similar organisation (Please specify):		<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 1

36) Do you provide unpaid care for:

	Yes, daily	Yes, weekly	Yes, occasionally	No, never	Not applicable (I have none)
...your grandchildren/mokopuna?	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
...other people's children/whāngai?	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

37) These questions are about providing care for someone with a long-term illness, disability or frailty. By 'providing care' we mean practical assistance for at least 3 hours a week.

Have you cared for someone with a long-term illness, disability or frailty within the last 12 months?

Yes	No
<input type="radio"/> 1	<input checked="" type="radio"/> 2 → If you ticked 'No' please go to Q.38 on page 15

(a) In total, how many people with a long-term illness, disability or frailty do/did you regularly provide care for? (Please tick ONE circle)

One person	Two people	More than two people
<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3

(b) Please select the person you have cared for the longest. Tell us about that person and their circumstances at the time of care.

i) Approximately how old is/was the person you care(d) for?

Years

ii) How long have/had you been caring for this person?

Years Months

iii) How often on average do (did) you provide this care or assistance?

(Please tick ONE circle)

Every day	Several times per week	Once a week	Once every few weeks	Less often
<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

iv) How much time on average do (did) you usually spend providing such care or assistance on each occasion? (Please tick ONE circle)

All day and night	All day	All night	Several hours	About an hour
<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

v) Is the person you care(d) for your: (Please tick ONE circle)

Spouse or partner?	<input type="radio"/> 1	<input type="radio"/> 2	Mother-in-law or father-in-law?
Mother or father?	<input type="radio"/> 3	<input type="radio"/> 4	Other relative?
Son or daughter?	<input type="radio"/> 5	<input type="radio"/> 6	Friend?
Brother or sister?	<input type="radio"/> 7	<input type="radio"/> 8	Other? (Please specify)

vi) Does/did the person you care(d) for: (Please tick ONE circle)

- Live with you? 1 2 Live alone?
Live with their family? 3 4 Live in a nursing home or care facility?
Live with their friends? 5 6 Other? (Please specify)
-

vii) Does/did the person you care(d) for have any of the following major medical conditions or disabilities? (Please tick ALL that apply)

- | | | | |
|--|----------------------------|----------------------------|--|
| Frailty in old age | <input type="checkbox"/> 1 | <input type="checkbox"/> 1 | Cancer |
| Stroke | <input type="checkbox"/> 1 | <input type="checkbox"/> 1 | Infectious disease |
| Alzheimer's disease / dementia | <input type="checkbox"/> 1 | <input type="checkbox"/> 1 | Major injury (e.g., head or spinal) |
| Autoimmune disorder | <input type="checkbox"/> 1 | <input type="checkbox"/> 1 | Respiratory condition (e.g., asthma, emphysema) |
| Intellectual disability or handicap | <input type="checkbox"/> 1 | <input type="checkbox"/> 1 | Paralysis |
| Cerebral palsy | <input type="checkbox"/> 1 | <input type="checkbox"/> 1 | Musculoskeletal condition (e.g., break / fracture) |
| Developmental disorder (e.g., Autism) | <input type="checkbox"/> 1 | <input type="checkbox"/> 1 | Severe arthritis / rheumatism |
| Mental health problem (e.g., depression) | <input type="checkbox"/> 1 | <input type="checkbox"/> 1 | Visual impairment |
| Substance abuse / addiction | <input type="checkbox"/> 1 | <input type="checkbox"/> 1 | Other? (please specify) |
| Other neurological disorder (e.g., multiple sclerosis, motor neuron disease) | <input type="checkbox"/> 1 | | |
-

You're about half-way through the questionnaire now.
Time for a cuppa.



Your Work or Retirement Status

38) Which of the following best describes

(a) your current occupation

(b) your partner's occupation (if applicable)

(Tick ONE circle in each column)

	(a) You	(b) Your partner
Retired <u>OR</u> Not in Paid Employment	(1)	(1)
Labourer (e.g., Cleaner, food packer, farm worker)	(2)	(2)
Machinery Operator / Driver (e.g., Machine operator, store person)	(3)	(3)
Sales worker (e.g., Insurance agent, sales assistant, cashier)	(4)	(4)
Clerical / Administrative Worker (e.g., Administrator, personal assistant)	(5)	(5)
Community or Personal Service Worker (e.g., Teacher aide, armed forces, hospitality worker, carer)	(6)	(6)
Technician / Trades Worker (e.g., Engineer, carpenter, hairdresser)	(7)	(7)
Professional (e.g., Accountant, doctor, nurse, teacher)	(8)	(8)
Manager (e.g., General manager, farm manager)	(9)	(9)
Self-employed (please specify): _____	(10)	(10)
Other (please specify): _____	(11)	(11)

39) Which of the following best describes

(a) your preferred work status (i.e., what you would like to be doing)

(b) your current status:

	(a) Your preferred work status (Please tick one from below)	(b) Your current status (Please tick one from below)	
Full-time paid work, including self employment (35 or more hours per week)	(1)	(1) →	Please go to Q.40 on Page 16
Part-time paid work, including self employment (less than 35 hours per week)	(2)	(2) →	
Retired, no paid work	(3)	(3) →	Please go to Q.44 on Page 18
Full-time homemaker	(4)	(4) →	Please go to Q.45 on Page 19
Full-time student	(5)	(5) →	
Unable to work due to health or disability issue	(6)	(6) →	
Unemployed and seeking work	(7)	(7) →	
Other: (Please specify) _____	(8)	(8) →	

**If you are currently retired please go straight to question 44 on page 18.
If you are currently not employed please go straight to page 19.**

For Those People Currently in Paid Work

40) How many hours do you currently work in paid employment per week?

--	--	--

Hours per week

41) Please indicate how much you agree or disagree with the following statements:

Strongly disagree Neither agree nor disagree Strongly agree

Disagree Agree

I feel fairly well satisfied with my present job	1	2	3	4	5
My job makes it difficult to be the kind of spouse or parent I'd like to be	1	2	3	4	5

42) The following statements refer to your current occupation. Please indicate the extent to which you disagree or agree with each statement.

(Tick ONE circle on each line)

Strongly Disagree Disagree Agree Strongly agree

I have constant time pressures due to a heavy work load	1	2	3	4
I have many interruptions and disturbances while performing my job	1	2	3	4
Over the past few years, my job has become more and more demanding	1	2	3	4
I receive the respect I deserve from my superior or a respective relevant person	1	2	3	4
My job promotion prospects are poor	1	2	3	4
I have experienced or I expect to experience an undesirable change in my work situation	1	2	3	4
My job security is poor	1	2	3	4
Considering all my efforts and achievements, I receive the respect and prestige I deserve at work	1	2	3	4
Considering all my efforts and achievements, my job promotion prospects are adequate	1	2	3	4
Considering all my efforts and achievements, my salary/income is adequate	1	2	3	4
I get easily overwhelmed by time pressures at work	1	2	3	4
As soon as I get up in the morning I start thinking about work problems	1	2	3	4
When I get home, I can easily relax and 'switch off' work	1	2	3	4
People close to me say I sacrifice too much for my job	1	2	3	4
Work rarely lets me go, it is still on my mind when I go to bed	1	2	3	4
If I postpone something that I was supposed to do today I'll have trouble sleeping at night	1	2	3	4

43) Please indicate how much you agree or disagree with the following statements.

(Tick ONE circle on each line)

	Strongly disagree	Somewhat disagree	Moderately disagree	Neither agree nor disagree	Moderately agree	Somewhat agree	Strongly agree
I can financially afford to retire now	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7
One reason I continue to work is because I cannot afford to retire	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7
I worry about the standard of living I will have in retirement	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7
I worry about having enough income in retirement	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7
I am satisfied with what my family income will be in retirement	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7
I feel secure that the government will financially support me in retirement	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7
I feel pressure to retire	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7

Please go to Page 19



For Those People Who Are Currently Retired

Please answer the next questions if you are currently retired (either partly or completely). If you are not currently retired then please go to page 19.

44) What was your MAIN reason for stopping or reducing work? (Please tick ONE circle)

- | | | | | | |
|--|-----------------------|----|-----------------------|----|----------------------------------|
| Forced due to poor health | <input type="radio"/> | 1 | <input type="radio"/> | 2 | Wanted to do other things |
| Forced due to disability or injury | <input type="radio"/> | 3 | <input type="radio"/> | 4 | Don't need to work |
| Forced by employer | <input type="radio"/> | 5 | <input type="radio"/> | 6 | Felt it was time to retire |
| Made redundant | <input type="radio"/> | 7 | <input type="radio"/> | 8 | Had care-giving responsibilities |
| Lacked skills to continue | <input type="radio"/> | 9 | <input type="radio"/> | 10 | I relocated |
| Was unhappy at work | <input type="radio"/> | 11 | <input type="radio"/> | 12 | Business was sold |
| Became eligible for New Zealand Superannuation | <input type="radio"/> | 13 | <input type="radio"/> | 14 | Other? (please specify) |

(a) How satisfying did you find your previous work? (Please tick ONE circle)

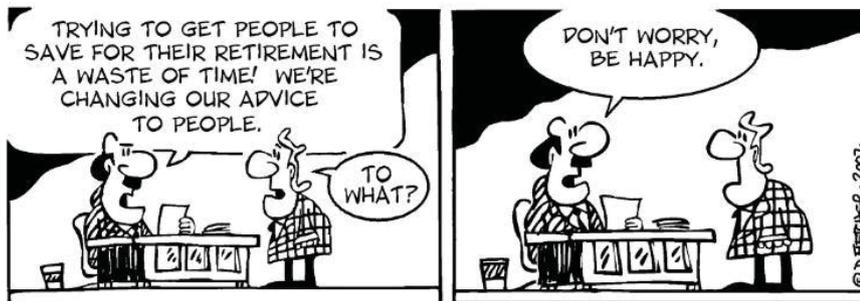
Extremely unsatisfying	Unsatisfying	Somewhat unsatisfying	Neither satisfying nor unsatisfying	Somewhat satisfying	Satisfying	Extremely satisfying
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

(b) How difficult has it been for you to adjust to retirement? (Please tick ONE circle)

Very difficult	←—————→			Not difficult at all
<input type="radio"/>				

(c) All in all, would you say that your retirement has turned out to be: (Please tick ONE circle)

Very satisfying	Somewhat satisfying	Not at all satisfying
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



"Trying to get people to save for their retirement is a waste of time! We're changing our advice to people." "To what?" "Don't worry, be happy." 19 April, 2007. Fletcher, David, 1952- [Digital cartoons published from 29 July 2005 onwards plus a selection of digital cartoons published between 2001 and July 2005 in the Dominion Post]. Ref. DCCL-0003213. Alexander Turnbull Library, Wellington, New Zealand. <http://beta.natlib.govt.nz/records/23140590>

Your Financial Wellbeing

The next section asks about your financial circumstances and living costs. For instance, we would like to know about (1) the range of incomes received by people in the study and how adequate they are to meet essential costs, and (2) housing costs because it is one of the biggest expenses people pay. We know that a lot of people don't like to answer questions about their income, and that is very understandable. But having this information about New Zealanders in general is very important for the success of this study. So we would really appreciate it if you would agree to answer these questions.

Please be assured that your answers to these questions are completely confidential.

45) What are ALL the ways you got income in the last 12 months?

In the first column please indicate all the ways you personally got income, and in the next column please indicate all the ways the rest of the people in your household (i.e., those people you live with, and not including yourself) got income.

You may not know your household's exact income or all the sources of this income, but please give us your best estimate as this will be important information for us.

	You personally	Rest of household (not including you)
Wages, salary, commissions, bonuses...etc, paid by my employer	<input type="radio"/>	<input type="radio"/>
Self-employment, or business I own and work in	<input type="radio"/>	<input type="radio"/>
Interest, dividends, rent, other investments	<input type="radio"/>	<input type="radio"/>
Regular payments from ACC or a private work accident insurer	<input type="radio"/>	<input type="radio"/>
New Zealand Superannuation or Veterans Pension	<input type="radio"/>	<input type="radio"/>
Transitional Retirement Benefit	<input type="radio"/>	<input type="radio"/>
Other superannuation, pensions, annuities (other than NZ Superannuation, Veterans Pension or War Disablement Pension)	<input type="radio"/>	<input type="radio"/>
Unemployment Benefit	<input type="radio"/>	<input type="radio"/>
Working for Families Tax Credits	<input type="radio"/>	<input type="radio"/>
Accommodation Supplement	<input type="radio"/>	<input type="radio"/>
Domestic Purposes Benefit	<input type="radio"/>	<input type="radio"/>
Invalids Benefit	<input type="radio"/>	<input type="radio"/>
Student Allowance	<input type="radio"/>	<input type="radio"/>
Unsupported Child Benefit	<input type="radio"/>	<input type="radio"/>
Other government benefits, income support payments, or war disablement pensions	<input type="radio"/>	<input type="radio"/>
Other sources of income, counting support payments from people who do not live in my household	<input type="radio"/>	<input type="radio"/>
No source of income during that time	<input type="radio"/>	<input type="radio"/>

46) From all the sources you listed above please tell us:

(a) Your total PERSONAL income

(b) Total HOUSEHOLD income

If possible, please work out one total amount and complete only one box for each, choosing either the before tax or after tax amount (not both), and choosing just one of the time periods (e.g., weekly or annually).

NB. If you cannot do this, and need to record income from different sources separately you may do so using the appropriate spaces. But please only record each part of your income ONCE.

(a) Firstly, what is your total PERSONAL income? (Complete ONE box only)

<u>BEFORE</u> TAX <u>PERSONAL</u> INCOME		OR	<u>AFTER</u> TAX <u>PERSONAL</u> INCOME	
Weekly	\$		Weekly	\$
Fortnightly	\$		Fortnightly	\$
Monthly	\$		Monthly	\$
Annually	\$		Annually	\$

(b) Secondly, what is your total HOUSEHOLD income? Please include your personal income from above in this amount (Complete ONE box only)

<u>BEFORE</u> TAX <u>HOUSEHOLD</u> INCOME		OR	<u>AFTER</u> TAX <u>HOUSEHOLD</u> INCOME	
Weekly	\$		Weekly	\$
Fortnightly	\$		Fortnightly	\$
Monthly	\$		Monthly	\$
Annually	\$		Annually	\$

47) Please indicate below how much your current housing costs are and how frequently you pay this amount.

HOME OWNERS	If you own (freehold, leasehold, or under a "licence to occupy") your current residence, please include mortgage repayments, rates, insurance, lease costs and retirement village or body corporate fees.
RENTERS or BOARDERS	Please consider just your regular rental/board payments.
ALL RESPONDENTS	Please record your costs in the box below. If you pay different parts of your costs at different times, for example rent weekly, insurance annually, etc., use the appropriate row to record each type of cost. Please record only ONE amount in any row. If you have, for example, several separate costs for any period, please add them up and record only the total for that period.

<u>Housing costs</u>	
Weekly	\$
Fortnightly	\$
Monthly	\$
Annually	\$

48) Could you tell us the Government/Capital Valuation of your dwelling (including land), that is on your rates bill?

Value \$

49) What assets do you and/or your partner own? (Tick ALL that apply)

- No assets Any bank deposits or savings
 Estate and trust funds Any managed funds
 A motor vehicle or vehicles Any shares
 Your own home A rental property or properties
 A holiday home Other major assets (please specify below):
 A business or businesses
 A farm or farms _____

50) Overall, and not counting the value of your family home, what do you think these assets would be worth after subtracting mortgages owing, loans and unpaid bills? (Please tick ONE circle)

- Loss \$0
 \$1 to \$5,000 \$5,001 to \$10,000
 \$10,001 to \$25,000 \$25,001 to \$50,000
 \$50,001 to \$100,000 \$100,001 to \$250,000
 \$250,001 to \$500,000 \$500,001 to \$1,000,000
 \$1,000,001 to \$1,500,000 \$1,500,001 to \$2,000,000
 \$2,000,000 or more

51) How many people inside and beyond your household, excluding yourself, are dependent on you for their financial support?

Total number of people OR 'I have no dependents'

52) At what age did you, or others on your behalf, start saving for your retirement?

Age AND/OR 'I'm not currently saving for retirement'

53) Other than New Zealand Superannuation, please indicate what sources of financial support you and your partner (if applicable) currently have which will support you in your retirement years: (Tick ALL that apply)

	Yourself	Your partner (if applicable)
None	<input type="checkbox"/>	<input type="checkbox"/>
Kiwisaver	<input type="checkbox"/>	<input type="checkbox"/>
Other employer sponsored superannuation	<input type="checkbox"/>	<input type="checkbox"/>
Overseas superannuation or pension	<input type="checkbox"/>	<input type="checkbox"/>
Other pension or superannuation	<input type="checkbox"/>	<input type="checkbox"/>
Personal savings	<input type="checkbox"/>	<input type="checkbox"/>
Personal investments	<input type="checkbox"/>	<input type="checkbox"/>

54) For the following questions, please indicate whether or not you have (or have access to) the item:

(Tick ONE circle on each line)

	Yes, I have it	No, because I don't want it	No, because of the cost	No, for some other reason
Telephone	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Washing machine	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
At least two pair of good shoes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Suitable clothes for important or special occasions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Personal computer	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Home contents insurance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Enough room for family to stay the night	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

55) For the following questions, please indicate whether or not you do the activity:

(Tick ONE circle on each line)

	Yes, I do it	No, because I don't want to	No, because of the cost	No, for some other reason
Keep the main rooms of your home adequately warm	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Give presents to family or friends on birthdays, Christmas or other special occasions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Visit the hairdresser at least once every three months	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have holidays away from home for at least a week every year	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have a holiday overseas at least every three years	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have a night out for entertainment or socialising at least once a fortnight	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have family or friends over for a meal at least once every few months	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



56) In the last 12 months, have you done any of these things not at all, a little, or a lot?

(Tick ONE circle on each line)

Not at
all A
little A
lot

	Not at all	A little	A lot
Gone without or cut back on fresh fruit and vegetables to help keep down costs	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3
Continued wearing clothing that was worn out because you couldn't afford a replacement	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3
Put off buying clothes for as long as possible to help keep down costs	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3
Stayed in bed longer to save on heating costs	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3
Postponed or put off visits to the doctor to help keep down costs	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3
NOT picked up a prescription to help keep down costs	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3
Spent less time on hobbies than you would like to help keep down costs	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3
Done without or cut back on trips to the shops or other local places to help keep down costs	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3

57) The following questions are about your material standard of living – the things that money can buy. Your material standard of living does NOT include your capacity to enjoy life. You should NOT take your health into account.

(a) Generally, how would you rate your material standard of living? (Please tick ONE circle)

High Fairly high Medium Fairly low Low

1 2 3 4 5

(b) Generally, how satisfied are you with your current material standard of living?

Very satisfied Satisfied Neither satisfied nor dissatisfied Dissatisfied Very dissatisfied

1 2 3 4 5

(c) How well does your total income meet your everyday needs for such things as accommodation, food, clothing and other necessities? (Please tick ONE circle)

Not enough Just enough Enough More than enough

1 2 3 4

58) ABOUT YOUR OVERALL LIVING STANDARDS: Please indicate how true these statements are for you.

(Please tick **ONE** circle on each line)

	Not true for me at all				Definitely true for me
	▼				▼
I am able to take part in any regular activities I want to	1	2	3	4	5
I can have my favourite foods when I want	1	2	3	4	5
I can have a special treat whenever I want to	1	2	3	4	5
I can get all the health care I need	1	2	3	4	5
I am able to do all the things I love	1	2	3	4	5
I have to be careful with spending	1	2	3	4	5
I can afford anything I need to remain well	1	2	3	4	5
I am able to travel as much as I would like	1	2	3	4	5
I have enough money for unexpected costs	1	2	3	4	5
I am able to go on special outings	1	2	3	4	5
There are things I would like to buy but cannot afford	1	2	3	4	5
	▼				▼
I am able to do the things I enjoy at any time	1	2	3	4	5
I am able to give to others as much as I want	1	2	3	4	5
I have enough money to feel secure about the future	1	2	3	4	5
I can help people whenever I want	1	2	3	4	5
I can afford to go to a medical specialist if I need to	1	2	3	4	5
I can have regular treats	1	2	3	4	5
I can give as much as I like to charity or the church	1	2	3	4	5
	▼				▼
I expect to have enough money to last my lifetime	1	2	3	4	5
I expect a future without money problems	1	2	3	4	5
I am able to follow my interests	1	2	3	4	5
Lack of money stops me from doing things	1	2	3	4	5
I am able to visit people whenever I wish	1	2	3	4	5
	▼				▼
I am able to have everything I need	1	2	3	4	5
More money would make my life easier	1	2	3	4	5
I have to do without many of the things I would like	1	2	3	4	5
I am able to go out with others whenever I like	1	2	3	4	5
I can afford all that I need to be healthy	1	2	3	4	5
I would like to be able to spend more on groceries	1	2	3	4	5
I can have everything I need to be happy	1	2	3	4	5
My choices are limited by money	1	2	3	4	5
I can provide for others when I wish	1	2	3	4	5
I can buy everything I want	1	2	3	4	5
I can spend money on others when I want to	1	2	3	4	5

Your Personal Situation

59) When were you born?

Day	<input type="text"/>	<input type="text"/>	Month	<input type="text"/>	<input type="text"/>	Year	<input type="text" value="1"/>	<input type="text" value="9"/>	<input type="text"/>	<input type="text"/>
-----	----------------------	----------------------	-------	----------------------	----------------------	------	--------------------------------	--------------------------------	----------------------	----------------------

60) Are you (Please tick ONE circle)

Male Female

61) Which one of these statements is true about you? (Please tick ONE circle)
(Please answer for your most recent marriage or partnership)

I am legally married	<input type="radio"/>
I am in a civil union/de facto/partnered/opposite sex relationship	<input type="radio"/>
I am in a civil union/de facto/partnered/same sex relationship	<input type="radio"/>
I am divorced or permanently separated from my legal husband or wife	<input type="radio"/>
I am a widow or widower	<input type="radio"/>
I am single (but not a widow or widower)	<input type="radio"/>
I have never been legally married	<input type="radio"/>

62) What is your highest educational qualification? (Please tick ONE circle)

No qualifications	<input type="radio"/>
Secondary school qualifications (e.g., School Certificate, University entrance, NCEA)	<input type="radio"/>
Post-secondary certificate, diploma, or trade diploma	<input type="radio"/>
University degree	<input type="radio"/>

63) Please tick as many circles as you need to show all the people who live in the same household¹ as you. Please also put in the number of people for those you tick.

		Number over 18yo	Number under 18yo
My legal husband or wife	<input type="radio"/>		
My partner or de facto, boyfriend or girlfriend	<input type="radio"/>		
My son(s) and/or daughter(s)	<input type="radio"/> →		
My parent(s) and/or parent(s)-in-law	<input type="radio"/> →		
My sister(s) and/or brother(s)	<input type="radio"/> →		
My flatmate(s)	<input type="radio"/> →		
My grandchild(ren)	<input type="radio"/> →		
My friend(s)	<input type="radio"/> →		
My boarder(s)	<input type="radio"/> →		
Other(s) (please specify): _____	<input type="radio"/> →		
None of the above – I live alone.	<input type="radio"/>		

¹ Count as usually living here: Children away at boarding school & people who are away on holiday, away for work, in hospital for a short time, etc. Don't count university or other tertiary students who live somewhere else for most of the year.

64) Which of the following best describes the type of residence that you live in?

(Please tick ONE circle)

- House or townhouse – detached or ‘stand alone’
 - House, townhouse, unit or apartment joined to one or more other houses, townhouses, units or apartments
 - Unit, villa or apartment in Retirement Village (licence to occupy)
 - Moveable dwelling (e.g., caravan, motor home, boat, tent)
 - Rest home or continuing care hospital
 - Other (Please specify below):
- _____

(b) Please indicate whether the residence that you live in is: (Please tick ONE circle)

- Owned by yourself and/or spouse/partner with a mortgage
 - Owned by yourself or spouse/partner without a mortgage
 - Owned by a family trust
 - Rented
 - None of the above – you are a boarder
 - Other (Please specify below):
- _____



65) (a) Please indicate below which ethnic group or groups you belong to: (Tick ALL that apply)

- New Zealand European Niuean
- Māori Chinese
- Samoan Indian
- Cook Island Māori Tongan
- Other (Please specify e.g., Dutch, Japanese, Tokelauan)

(b) Please indicate below which ethnic group you feel you identify with the most: (Please tick ONE)

- New Zealand European Niuean
- Māori Chinese
- Samoan Indian
- Cook Island Māori Tongan
- Other (Please specify e.g., Dutch, Japanese, Tokelauan)

66) Please answer the following questions about the ethnic group you said you most identify with in question 65(b).

(Tick ONE circle on each line)

	Strongly Disagree	Disagree	Neutral	Agree	Strongly agree
	▼	▼	▼	▼	▼
I have spent time trying to find out more about my ethnic group, such as its history, traditions, and customs	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
I have a strong sense of belonging to my own ethnic group	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
I understand pretty well what my ethnic group membership means to me	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
I have often done things that will help me understand my ethnic background better	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
I have often talked to other people in order to learn more about my ethnic group	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
I feel a strong attachment towards my own ethnic group	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

**If you have Māori ancestry, please complete question 67.
If you do not have Māori ancestry, please turn to question 68 on page 30**

67) (a) Do you identify as Māori?

Yes 1 No 2

(b) How many generations of your Māori ancestry can you name? (Please tick ONE circle)

1 generation (parents) 1 2 generations (grandparents) 2 3 generations (great-grandparents) 3 More than 3 generations 4

(c) Have you ever been to a marae; and if yes – how often over the past 12 months?

Yes 1 No 2  If you ticked 'No' please go to (d)
(Please tick ONE circle)

Not at all 1 Once 2 A few times 3 Several times 4 More than once a month 5

(d) In terms of your involvement with your whanau, would you say that your whanau plays... (Please tick ONE circle)

A very large part in your life 1 A large part in your life 2 A small part in your life 3 A very small part in your life 4

(e) Do you have a financial interest in Māori land (i.e., as an owner, part/potential owner or beneficiary)? (Please tick ONE circle)

Yes 1 No 2 Not sure/don't know 3

(f) This question considers your contacts with people. In general, would you say that your contacts are with... (Please tick ONE circle)

Mainly Māori 1 Some Māori 2 Few Māori 3 No Māori 4

(g) How would you rate your overall ability with Māori language? (Please tick ONE circle)

Excellent 1 Very good 2 Good 3 Fair 4 Poor 5 None 6

(h) Do you live on Māori or Papakainga/family land?

Yes

No

1

2

Do you wish to live on Māori or Papakainga/family land?

Yes

No

1

2

**(i) In the past 12 months have you filled any of the following roles in your marae?
(Tick as many as appropriate)**

Kai karanga 1

2 Kai/Pou kōrero

Ringa wera 3

4 Kai mahi/general help

Marae board member 5

6 Mahi wairua/religious services

Representation at hui/runanga 7

8 Other (e.g. manutaki, kai kōhi kōhā). Please specify: _____

None of the above 9

68) Please answer the next set of questions about your feelings of safety.

(Tick ONE circle on each line)

Yes No



1 2

Do you ever walk alone in your neighbourhood during the day?

Do you ever walk alone in your neighbourhood at night?

Over the last 12 months, have you been in a situation in your neighbourhood when your safety was threatened by someone else?

Over the last 12 months, have you been in a situation in your home when your safety was threatened by someone else?

1 2

1 2

1 2

1 2

1 2

69) Is getting to the shops difficult for you? Why is this? (Please tick ALL that apply)

- Yes** → Because
- 1 The footpaths are inadequate
 - 1 I do not feel safe
 - 1 There is no public transport
 - 1 There is public transport but the timetable is inappropriate
 - 1 My health/disability makes walking or catching public transport difficult
 - 1 Other reason (please specify):

- No** → Because
- 1 I can walk comfortably
 - 1 I have my own transport
 - 1 I can use public transport
 - 1 Someone else takes me
 - 1 Other reason (please specify):

70) Which other types of places do you have difficulty getting to: (Tick ALL that apply)

- N/A (I do not have difficulties) 1 1 Leisure activity
- Medical centres 1 1 Friend's place
- Church/Temple 1 1 Family member's place
- Library 1 1 Marae
- Other (Please specify): 1

71) (a) Have you moved in the last 2 years?

Yes No (If you ticked **No** please go to Q.72)

(b) What was your main reason for moving to your current residence? (Please tick ONE circle)

- | | | | |
|-----------------------------|--------------------------|--------------------------|--|
| To be near or with children | <input type="radio"/> 1 | <input type="radio"/> 2 | To be near or with other relatives or friends |
| Change in marital status | <input type="radio"/> 3 | <input type="radio"/> 4 | Health problems or to be closer to health services |
| Returning to family lands | <input type="radio"/> 5 | | |
| To free up equity | <input type="radio"/> 7 | <input type="radio"/> 6 | Work or retirement related |
| Smaller home | <input type="radio"/> 9 | <input type="radio"/> 8 | Larger home |
| Leisure activities | <input type="radio"/> 11 | <input type="radio"/> 10 | Easier maintenance of house and/or gardens |
| Other (please specify): | <input type="radio"/> 13 | <input type="radio"/> 12 | Climate or weather |

72) In which language(s) could you have a conversation covering everyday things?

- English 1
- Māori 1
- Samoan 1
- New Zealand Sign Language 1
- Other language(s), for example GUJARATI, CANTONESE, GREEK: 1

73) In general, how happy or unhappy do you usually feel?

Extremely unhappy		Pretty unhappy		Slightly unhappy		Slightly happy		Pretty happy		Extremely happy
<input type="radio"/> 0	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7	<input type="radio"/> 8	<input type="radio"/> 9	<input type="radio"/> 10

All things considered, how satisfied are you with your life as a whole these days?

Very dissatisfied	Dissatisfied	Neither satisfied nor dissatisfied	Satisfied	Very satisfied
<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

We have found that over the years people's circumstance might change (e.g., they move house) and that we can lose track of people if they don't let us know of their new address. To remedy this we would like you to nominate three people whom we can contact in the event that we do lose track of you. You do not have to do this, but it would help us. Please ensure that those you name are happy to act as contact people. We will only contact these people in the event that we cannot locate you.

Contact Person Number 1

Name: _____
Surname First Name

Address: _____

Phone (Home):

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Phone (Other):

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Email:

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Contact Person Number 2

Name: _____
Surname First Name

Address: _____

Phone (Home):

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Phone (Other):

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Email:

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Contact Person Number 3

Name: _____
Surname First Name

Address: _____

Phone (Home):

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Phone (Other):

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Email:

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--