The Lived Experience of Osteoporosis in the Male Body

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2010

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A thesis presented in partial fulfilment of the requirements for the degree of

Master of Science
in
Health Psychology

at Massey University, Palmerston North
New Zealand.

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2010

Abstract

Introduction: Osteoporosis has been medicalised as primarily a women's disease, despite the fact that men are also at risk. Although more attention has been paid to men's health in recent years, we know little about men's experiences regarding being diagnosed with, and living with, osteoporosis. This study was undertaken to address this gap in knowledge and attempted to explore what osteoporosis might mean for masculine identity and ageing. The male body was theorised as the phenomenological body, embodied masculinity integrated with Simone de Beauvoir's critique of gender and framed in her theory of old age.

Methods: In-depth individual interviews were undertaken with four voluntary male participants aged between 42 and 86 years old (mean age = 62), diagnosed with osteoporosis 2-6 years previously. Interviews explored their perspectives regarding their body after diagnosis, and how that relates to other aspects of embodied life, including body image, past views, relationships with others and everyday living. Data were analysed using an existential-phenomenological approach, drawing upon Beauvoir's philosophy. Three main themes emerged: body image, body sensation, and body action, all of which together represent embodiment.

Results: The medical diagnosis and bone density scan image served for the male participants to reconstruct their body images as fragile (how easy it is to break bones). The men attributed their chronic back pain to osteoporosis after the diagnosis. This led to the restriction of physical activities that they thought of as risky for fractures, which in turn encouraged them to engage in regular exercise. Meanings ascribed to osteoporosis (femininity, fragility, ageing) challenged their masculine identities. Although the participants recognised their bodies as ageing, they worked to retain their unchanging age-less self identities which were linked to masculinity.

Conclusions: Men, like women, reconstructed their body images as fragile after the diagnosis of osteoporosis. However, men endeavoured to sustain dominant versions of masculinity by actively engaging in regular exercise and gendered roles. Findings have implications for health practitioners. Younger men may experience stigma with the construction of a feminised and aged disease. Gender sensitive health promotion and health services can be achieved by understanding the psychological consequences men experience following the diagnosis of osteoporosis.

Preface

My encounter with health psychology in 2008 has led my psychology course to a new path. A journal article of Reventlow, Hvas, and Malterud (2006) in Antonia's (supervisor) health psychology paper raised my critical thinking. Among 60-year-old women with osteoporosis, the 10-year incidence of a hip fracture is 7.8% (Reventlow et al., 2006). This means "8 out of 100 women with osteoporosis will have a hip fracture within a time frame of 10 years, while 92 will not" (Reventlow et al., 2006, p. 2721). Osteoporosis does not necessarily mean a person will have a fracture, and people without osteoporosis still break bones. So what is osteoporosis? Medical technology of bone scans makes women frightened or discouraged (See Reventlow et al., 2008). What about men? This is how my inquiry in men's lived experience of osteoporosis came to the thesis topic.

We all experience our embodiment as both biological and social. Until I was 12 years old, I could run, ice-skate, and ski faster and play baseball better than many boys of my age. Soon I was confronted with my biological limitations and destiny. I could no longer compete with many boys in sports. I experienced what Beauvoir calls an 'identification crisis' (See Chapter III). When I immigrated from Japan to South Canterbury in 2003, I was employed at a local furniture company and worked on the production line with 40 local Kiwi men for two and a half years until the factory closed down. When I started, I was the only female craftsperson among them. I wished I had had a strong masculine body instead of my own so lifting heavy timber and furniture could have been much easier and less tiring.

Back in 1997, in the year after I had my daughter, I stopped at a local health exhibition in Tokyo and measured my bone density for free. I put my foot in a small square machine. A lady immediately told me my bone density was 3% lower than the average of women at my age. I did not expect or like it being below average! and tried to make sense of the '3% below average'. I concluded that the loss in density was due to my diet at the time. I had not been drinking milk over a year because my baby daughter was allergic to cow's milk while I was breastfeeding her. But this kind of thing is often 'imagining the unimaginable' in anxiety. From critical health psychology study, I am now very aware that many health-related phenomena are not easily explained in a simple causal relation but a complex network of so many factors interacting.

My thin and frail grandmother kept going until 96 years old without a fracture. On the contrary, my father, who has been a builder for 5 decades, experienced a complex fractures in his shoulder and ribs 5 years ago. He went out to feed stray cats around his house one dark cold December night. He slipped and was squashed underneath a fuel tank he grabbed as he fell, which six neighbour men eventually lifted up to save him. And again he had another vertebrae fracture this year! This time he fell off a plum tree while trimming but managed to drive back home with his fractured thoracic vertebrae. He did not even tell my mother what had happened for some hours. Eventually my mother sought medical help for him. He was hospitalised for two months. I attribute these accidents of my father's to his maleness. I must report that he has not been diagnosed with osteoporosis. My father still now proudly tells me on the international line how strong he is against physical pain. Today, more than 40,000 people are aged over 100 years old in Japan. New Zealand is another ageing nation. We would like to avoid unnecessary anxiety caused by health promotion but live old age with respect.

Acknowledgments

I would like to acknowledge the people without who my study could not have been completed.

To my study participants, a very special thanks for sharing their experiences with me for this study. Their honesty helped me for fuller understanding of the difficulties posed for men with the diagnosis of osteoporosis. Each man's life deeply touched my heart.

To Dr Antonia Lyons, my appreciation and respect go to her warm support, patience, and guidance throughout this project. Her high academic standard and expectations helped my academic achievement. She also supported me throughout a difficult time in my personal life as a teenage girl's mother.

To Simone de Beauvoir, I have always admired and deeply respected her since my teenage years. I knew her philosophy or her 1970 publication *Old age* was very significant when I previously attempted an undergraduate thesis on her existential philosophy in 1992. Health psychology helped me to appreciate her contributions to the study of phenomenological body. My lived experience is getting long enough to understand more fully what her philosophy is truly about.

To kaimahi of Te Rūnanga o Ngāi Te Rangi Iwi Trust, my special appreciation and friendship go to those awesome Māori people. Although this study is not a Māori study, they have supported this study and my degree while I was doing the health psychology practicum (part of Master's degree) at their Iwi organisation in May and June, 2010.

To Massey University Human Ethics Southern B Committee, without their careful considerations, approval and support, this study would not have been possible.

To a long list of organisations and individuals, who agreed to put my recruitment advertisement and to introduce the study to their members for me. It meant so much to me.

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Overview

This health psychology study explores men's embodiment or embodied masculinity from an existential-phenomenological approach. Osteoporosis was chosen as the health condition of interest to help us to understand socially formed gender via male bodies as lived experiences of socially and historically situated men. This study also helps us to appreciate Simone de Beauvoir's contributions to the study of the phenomenological body or embodied subjectivity that is both sexed (biological, objective) and gendered (social, subjective).

Although Beauvoir identified herself as a feminist (Schwarzer, 1984) and much argument presented in this thesis is an extension of her feminist work, this is not explicitly a feminist study. Rather, I demonstrate how Beauvoir's existential-phenomenological approach can be applied to a study of men's health as well as women's health. The balance between the biological (sex) and the social (gender) can be restored using Beauvoir's notion of embodied subjectivity. In this study I identify my position as "gender radial", holding a belief that "despite the obvious difficulties, the pursuit of greater gender equity in health is still a worthwhile goal" for the interests of both women and men (Doyal, 2000, p. 932). This position is also concerned with inequalities and social justice for a wider range of different groups (Doyal, 2000) such as Māori and non-Māori for example, which aligns with critical health psychologists' interests (Lyons & Chamberlain, 2006).

What some feminists claim to be harmful to women, like the medicalisation of menopause, can have negative implications for men as well. Osteoporosis has been medicalised as a means to diagnose menopausal status (Vondracek & Hansen, 2004). The meanings ascribed to osteoporosis are femininity, fragility and ageing. This study investigates the challenges that osteoporosis may pose to men's sense of masculinity and self identity and the psychological difficulties men may suffer.

In Chapter I, discussions open on the topic of gender and sex drawing upon Beauvoir and other feminist scholars' work. Understandings of the distinctive key concepts and the inevitable interaction of gender (social) and sex (biological) are highlighted as important for health research. The binary division between male/female, mind/body, and social/biological is reviewed from a historical and philosophical perspective. Beauvoir's notion of embodied subjectivity offers an alternative way of doing health

research to balance the biological and the social. Introducing a new type of gender gap in health, the focus shifts to men's health with its emphasis on the similarities and differences between the sexes.

In Chapter II, the topic turns to osteoporosis, the health condition chosen for this study, to explore gender in men's lived experiences. Bones naturally lose density and weaken as men and women age. Bone degeneration is a natural part of ageing, yet it is identified as a disease named osteoporosis and is medicalised for treatment in Western medicine. This chapter reviews osteoporosis from a biomedical point of view and also from a gender critical perspective. Osteoporosis has been constructed and maintained as a women's disease in the medical industry, thus men are largely neglected. Analogous gender bias found in heart disease research is also reviewed. There have been a small number of insightful qualitative studies of osteoporosis in women, which are reviewed in this chapter.

Chapter III theorises the male body or embodied masculinity for this study. Literature on men's concepts of health and the relationship between the body, image, masculinity and self identity is reviewed. These concepts are also examined in studies of different illness experiences. Useful templates from the research were adapted in this study, coupled with Beauvoir's existential-phenomenology. Beauvoir's central philosophical themes are introduced in relation to this study. Beauvoir's phenomenological body enables us to reflect her feminist critique of gender, which is differentiated from the phenomenology of Merleau-Ponty and others. The aims of this study and research questions are presented at the end of this chapter.

Chapter IV specifies the research method. My study was approved by the Massey University Human Ethics Committee. Four men (mean age = 62) previously diagnosed with osteoporosis took part in the study. In-depth individual interviews were transcribed verbatim and analysed from Beauvoir's existential-phenomenological approach. Details in research design, ethical aspects, recruitment and procedure (data collection, and data analysis) are described in this chapter.

The data were analysed and the results are presented in Chapter V. This study examines each man's "relationship with his body and his image" after the medical diagnosis of osteoporosis, "to his relationship with time, history and his own praxis, and to his relationship with others and the outside world" (Beauvoir, 1972, p. 279). Results are

presented under the three main themes: body image, body sensation, and body action, all of which represent embodiment. Eight sub-themes emerged under the main themes.

The final Chapter VI concludes the study from gender perspectives. While Chapter V sees each individual's life or experience as unique, this chapter summarises the findings from the gender perspectives outlined earlier, the ways in which each man's expression tends towards the typical and the phenomenological (Eckartsberg, 1997, See Chapter IV). Findings from the interview analysis including differences and similarities between women and men are summarised. Implications that arise from the study's findings are stated. This chapter also considers aspects of the research process, including Beauvoir's theoretical frameworks, recruitment issues, limitations, and future research suggestions. The findings from the study are presented as a means to pass on an insight: fuller understandings of embodied masculinity within the context of osteoporosis for health practitioners to achieve gender equity and improve support for men with osteoporosis.

Chapter I: Gender and sex in health and illness

"One is not born, but rather becomes, a woman" Simone de Beauvoir (1993, p. 281) differentiates gender from sex in her 1949 publication, *the second sex*. This distinction between biologically given sex and socially formed gender are important for both women and men's health research. Beauvoir (1993) questioned why woman is the second sex or "the Other" (p. xl) and looked into the history for what humanity has made of man and woman. The same can be said about a man that one is not born, but rather becomes, a man. The ways in which man is made the privileged sex may not work unequivocally in men's favour today. Although it is easily assumed "what is bad for women must be good for men" (Lee & Owens, 2002, p. 2), that is not always the case, particularly in health and illness. Moreover, which one is the second sex appears to be vague and analogous in different contexts of health and illness. It becomes evident in this study that men have become the second sex in the fields of osteoporosis research and practice, considering the resource availability or accessibility to men, and their own voices are rarely heard by researchers.

In this chapter, firstly a clear conceptual distinction is made between sex and gender. This distinction helps us to understand the limitations of the biomedical model for the studies of women and men's experiences of illness. Beauvoir's phenomenological embodiment suggests an alternative approach to the study of health and illness. Prostate cancer studies are used as examples to illustrate experience of illness as embodiment. Secondly, the issues associated with the biomedical model are further reviewed from a historical and philosophical perspective. I will demonstrate the way in which the binary division between male/female, mind/body, or social/biological was established in the ancient Greek civilisation and is still maintained in medical science today. Beauvoir's notion of 'the Other' explains a historical dualistic relationship established between man and woman. The biomedical model is further discussed in relation to women's medicalisation and the feminism movement. Thirdly, it follows discussions on Beauvoir's embodied subjectivity, introducing the biopsychosocial model. Insights from postmodern feminism and Beauvoir's philosophy are combined to suggest a direction for women and men's health research. Lastly, the focus shifts to men's health, identifying a new type of gender gap in health research. For a fuller understanding of

men's health, gender and sex differences and similarities are examined in ageing women and men.

Biologically given sex and socially formed gender

Sex refers to the biological differences in anatomy and physiology, determined by the chromosome constitution (Beauvoir, 1993; Lorber & Moore, 2002). Although this concept of sex seems straightforward, sex is not a simple binary as it multiplies into physiological development, childhood to adulthood (Lorber & Moore, 2002). Women's biological conditions change at different stages of the life cycle: puberty and menopause, for example. Male bodies also change with fluctuations in androgen levels and other hormonal cycles (Chew & Tan, 2005; Lorber & Moore, 2002). Diseases such as cervical and prostate cancers are characterised by these biological differences between the sexes. Nonetheless, "neither the chemical formulae of the hormones nor the anatomical peculiarities are sufficient to define the human female [or male] as such" (Beauvoir, 1993, p. 27).

Beauvoir (1993) points out that the biological facts need to be viewed from an ontological, economic, cultural and psychological perspective. Woman or man is a female or male to extent to which she or he experiences (e.g., feels, thinks, behaves). One's functional development distinguishes her or him from the other sex. Gender, thus refers to "a person's self-representation" (Lorber & Moore, 2002, p. 3). The body of woman or man is not sufficient to define her or him as a woman or man. It is not the object body described in biology that actually exists, but "the body as lived in by the subject" (Beauvoir, 1993, p. 39). What is meant by the body (biology) as lived in (embodiment) by the subject (consciousness) is central for health psychology and this is discussed throughout this thesis.

Hitherto, a clear conceptual distinction is made between sex (biology) and gender (social). Cervical or prostate cancer is a sex specific disease and a biological phenomenon in medical science. Medical science adapted the biomedical model of health and disease to explain aetiology and pathogenesis of diseases in the body (Doyal, 1995; Lyons & Chamberlain, 2006). The biomedical model objectifies the body as a machinery system and disease as a failure of some part "through an engineering metaphor" (Doyal, 1995, p. 15). However, woman's or man's experience of cervical or

prostate cancer becomes a social phenomenon (Lee & Owens, 2002). Researchers (Cameron & Bernardes, 1998; Chapple & Ziebland, 2002; Kelly, 2009; Oliffe, 2006) have explored men's bodily (biological), emotional (psychological), and gender (social) experiences associated with prostate cancer. Men's experiences of prostate cancer are understood as embodiment, and the subjective embodiment (the body lived in by the subject) involves a change in male hormones (biological sex) and the meanings ascribed to the cancer of the male reproductive system on their sense of masculinity (social gender). The context within which she or he experiences cancer is quite different from the other. I will return to the topic of the body and embodiment later. The biomedical model fails to account for these psychological and social aspects in health and illness. The biomedical model is dualistic and empirical, and attempts to objectify illness without taking the individual's and social values into account (Doyal, 1995; Lyons & Chamberlain, 2006). In the following section, these points are reviewed in history, back to the ancient Greek philosophy.

From a historical and philosophical perspective

The ancient Greek scientist and philosopher Aristotle (1963) wrote in the *generation of animals* that "a male is male in virtue of a particular ability, and a female [is] female in virtue of a particular inability"…"since it differs in the ability it possesses, so also it differs in the instrument which it possesses" (p. 391). This is a description of differences in the reproductive organs and functions between the sexes in the process of conception. Biological relations of male and female are viewed as a series of contrasts: duality, symmetry, and opposition (Beauvoir, 1993). Aristotle (1963) observed the physical inferiority of females and described female as passive "Matter" (p. vi), opposed to male that was active movement "Form known as sentient Soul" (p. viii). Aristotle's views about the human female are thought to be the result of empirical science that is based on observation, rather than the result of ideological presuppositions or misogyny (Mayhew, 2004). Although there is some truth in Aristotle's (1963) objective science, such as female bodies being generally smaller with less muscles than male bodies, his biology may not be bias-free from his gender and ancient Greek social structure. In the ancient Greek philosophy, the binary division was established between male/female, mind/body, and social/biological. It is evident in Aristotle's (1963) writing that gender

is not merely an overlay on biology: rather "biology itself is socially constructed as gendered" (Lorber & Moore, 2002, p. 4).

Civilisation as a whole, a complex interaction of sex and gender, produces the dualistic figures: men as masculine (e.g., public, active, strong, hard), and women as feminine (e.g., private, passive, weak, soft). Masculinity and femininity are the products of the historical, cultural, religious, and social dynamics, which confront both women and men in role-polarised societies. A male/female axis divides every society in two. There are no societies, where men and women are treated as equals for they are historically seen as dissimilar creatures with different duties and entitlements (Beauvoir, 1993; Doyal, 2000). In every society, women have been given primary responsibility for domestic labour and men have been linked with the public sphere. At the present time, gender inequalities in income and wealth make women vulnerable to poverty and discrimination, which in turn mean that women continue to be deprived of basic health care worldwide (Doyal, 2001). The dualistic construction of gender sustains unequal social relations but does not truly benefit either sex (Lyons & Chamberlain, 2006).

Beauvoir's (1993) notion of 'the Other' provides a useful philosophical framework to examine the relationship between the Self and the Other, the dualistic division. The category of the Other emerges when one's consciousness expresses a duality of the Self and the Other. One may identify the Other as a foreigner, poor neighbourhood, or old by setting up the Other over against the Self. "Otherness is a fundamental human thought" (Beauvoir, 1993, p. xl). The duality did not originally attach to the division of the sexes, and the division of the sexes "was not dependant upon any empirical facts", Beauvoir (1993, p. xl) argues. It was the male, who established the Other in defining himself as the One, the Subject, the Absolute, and "she is the Other" (Beauvoir, 1993, p. xl).

Aristotle's views about the human female as a passive, objective, and merely biological body survived into modern times. "Throughout history patriarchal ideology has construed women's illness as inherent biological weakness" (Annandale, 2009, p. 12). The healthy body in medical science has long been the White, young, middle-class, male body (Lorber & Moore, 2002; Lyons & Chamberlain, 2006). The biomedical model has long seen the female body as 'the Other' or sick opposed to healthy. The ways in which women's bodies are constructed as weak and sick in the biomedical model made women vulnerable to be medicalised for their reproductive organs such as the menopause (Lyons & Chamberlain, 2006). Some feminists used the biological body

to explain the wider oppression in women, rather than an exploration of women's reproductive well-being, which collapsed the social into the biological (Annandale, 2009). On the contrary, others (some feminists and sociologists) overwhelmingly emphasised the social nature of women's oppression (gender) and largely neglected the biological body in explaining women's health status, which collapsed the biological into the social (Annandale, 2009).

Although the biomedical model led to major achievements in understanding different types of disease and treatment (i.e., modern medicine such as anaesthesia, antisepsis, antibiotics, analgesia and other therapies), it has led to a neglect of prevention in explaining the causes of disease in economic and social terms and in exploring different ways in which illness is experienced (Doyal, 1995). Even though males are more frequently study subjects, biomedical research typically neglects to examine men and their health risks associated with men's gender (Broom & Tovey, 2009). The subjective experience of illness is the product of complex processes involving the individual and his or her relationship to others or the world. By reducing the complexity of health and illness, the biomedical model has limited its potential to improve both men and women's health.

The biopsychosocial model and health psychology

Beauvoir's (1993) notion of 'the body (biology) as lived in (embodiment) by the subject (consciousness)' aligns with the biopsychosocial model of health and disease, and restores the balance of the biological (body) and the social (mind). The biopsychosocial model provides a holistic approach and sees the mind and body as intertwined in health and illness (Lyons & Chamberlain, 2006). Against the central tradition of empiricism and Cartesian philosophy that conceptualises mind and body in different realms, Beauvoir recognises the reciprocal relation of the mind and body (Fullbrook & Fullbrook, 2001). Beauvoir's (1972) philosophy allows us to look at the body as an object from scientific, historic and social perspectives, and as a subject, who has an inward knowledge and who reacts to it. This will be further explained in Chapter III.

A critical insight from postmodern feminism suggests that tendencies to focus on a single aspect of the biological or the social and to focus on male/female difference are only to sustain sex dichotomy feminists are trying to escape from (Annandale, 2009).

Genetic, hormonal and metabolic factors play a part in shaping distinctive patterns of morbidity and mortality between men and women (Doyal, 2001). However, there are male or female patterns, for example, in drinking and eating, which are associated with socially formed gender: masculinity or femininity (Lorber & Moor, 2002; Lyons, 2009). Food, eating, and drinking have important meanings that play a role in identity expression and gender construction (See Lyons, 2009). "While on the face of it, (social) gender is treated as a variable, in reality it lapses back onto (fixed) binary biological difference that privileges the male body" (Annandale, 2009, p. 105). Because gender is not a measurable factor but an exploratory factor, findings in medical science need to be interpreted through a gender lens (Klinge, 2008). Annandale (2009) further suggests it is better not to ask what specific factors (biological or social) make women or men ill. Instead, we can ask how women and men experience illness in similar as well as different ways. The similarities between women and men's health have been largely neglected (Annandale, 2009; Lyons & Chamberlain, 2006). Moreover, I suggest that a phenomenological approach is an appropriate way of exploring the meaningfulness of human experience in health psychology research. These discussions will be carried on in Chapter II and III.

A new type of gender gap in health research

The relation of the two sexes may not be quite that of two electrical poles (Beauvoir, 1993). Men and women share common human experience. Women do not always have to be feminine and men masculine (Meryn, 2004). The degrees to which individuals express masculinity or femininity differ by age, ethnicity, and other socio-cultural axes, yet gender performance influences the health of men and women (Solimeo, 2008). In this section, the focus shifts to men's health, identifying a new type of gender gap in health research. Because osteoporosis is an age-related, degenerative disease (See Chapter II), men's health is examined from an ageing perspective here. There is a saying in epidemiology "women get sicker, but men die quicker" (Lorber & Moore, 2002, p. 13). Men's health is compared to women's health in order to acknowledge the differences and realise the similarities between the sexes.

Social inequalities or/and biological differences are sought in the life expectancy gap between different groups like men and women. The female advantage in life expectancy

is thought to have begun from the 16th century (Tan & Jacob, 2005) to towards the end of the nineteenth century (Annandale, 2009), and today women generally live longer than men worldwide. In most countries, currently there is a sex differential in longevity (i.e., life expectancy) with women outliving men by ~4-6 years (Tan & Nishikawa, 2005). Explanations for this phenomenon include improved nutrition and safer childbirth for women, and increased risks (e.g., hazardous jobs, substance misuse, accidents, and violence) for men in industrial economies (Doyal, 1995; Tan & Nishikawa, 2005). The mortality gap between women and men varies during the life course. For the age group of 15-24 years, men are 4-5 times more likely to die than women (Tan & Jacob, 2005). This time frame coincides with the stage of puberty and an increase in reckless male behaviour, which in turn causes most deaths in automotive accidents, followed by homicide and suicide (Tan & Jacob, 2005). Although one third of both boys and girls experience at least one fracture before the age of 17 years old, the fracture rate is 60% higher in boys (Geusens & Dinant, 2007), which implies that among those boys who experience fractures have multiple incidents. The fracture incidence peak is at the age of 11 years for girls and 14 years for boys (Geusens & Dinant, 2007). It is now recognised that attitudes, beliefs, and behaviours associated with masculinity and male gender roles can have a tremendous negative impact on men's mental and physical health (Garfield, Isacco, & Rogers, 2008; Solimeo, 2008).

The ways in which social construction of male gender is bad for men's health interplays with the very advantages that some men have, which makes it difficult to disentangle disadvantage and advantage (Broom & Tovey, 2009). Having acknowledged the historical subordination of women, "a new type of gender gap" has been recognised in the difficulties posed by "contemporary masculinities" for men (Broom & Tovey, 2009, p. 1). Women became feminists to achieve gender equity for women's health. Women or feminism cannot be totally casted out from studying men's health, or men's health cannot be achieved without the feminists' contributions. The awareness of men's health issues has been driven by research literature appearing in journals. A large number of research focuses on male-specific health problems like prostate and testicular cancers and to a lesser extent, the impact on men's quality of life and masculinity (Laws, 2006). Little is known about the lived experience of the male body (Lyons & Chamberlain, 2006; Watson, 2000), in particular with osteoporosis. Although there has been a long tradition of studying poverty in old age, health inequalities in old age is also a new area

that research is beginning to address (Higgs & Jones, 2009). “The so-called double jeopardy of being a woman and old” attracted researchers’ attentions and resulted in a higher profile for older women in gerontological research (Flemming, 1998, p. 4), which in turn mean that old men are neglected.

Beauvoir (1993) points out that woman’s individual life depends to a much greater degree upon her physiological destiny than man, and the curve of this feminine destiny is uneven and discontinuous as compared to the masculine curve. Each stage in woman’s life has been made uniform and monotonous in medical science that is traditionally male-dominant. “The transitions from one stage to another are dangerously abrupt” (Beauvoir, 1993, p. 605). Puberty, sexual initiation, then the menopause: woman is as if suddenly deprived of female hormone (i.e., estrogens) in mid-life. Women are made vulnerable to see their own female bodies in this manner. Although ‘male menopause’ or “andropause” (Tan, 2005, p. 21) is spoken about today, the physiological masculine curve is gradual through puberty to old age.

According to medical literature, testosterone in man declines gradually in the andropause (i.e., a lowered state of androgens) between the age of 40 and 70 years old (Chew & Tan, 2005). In contrast, menopause is described as the physiological transition of 5-10 years with “the ultimate shutdown of ovaries” (Tan, 2005, p. 22) or “an almost complete cessation of ovarian function” (Chew & Tan, 2005, p. 37). Menopause brings about a cessation of reproductive capability, whereas andropause may not affect fertility in men (Chew & Tan, 2005; Tan, 2005). Unlike menopause, andropause may not occur in every older man (Sheffield-Moore, Paddon-Jones, Cree, Lackan, & Urban, 2005). However, these statements regarding menopause are the dominant theoretical perspective in the biomedical model, which attracted feminists’ criticism. The ways in which menopause and women’s bodies are represented in self-help books (See Lyons & Griffin, 2003) and metaphors of menopause in medicine (See Niland, 2010) have been researched.

In mid-life, woman’s discomfort comes more from the anxious concerns she feels about her feminine destiny, rather than from her physical body, Beauvoir (1993) points out. In contrast to Beauvoir’s (1993) women’s physiologically grounded lifecourse, men encounter more social and cultural transitional events and status like marriage and fatherhood as a provider deeply rooted in the social world. Although andropause is illustrated with a gradual decline, emotional difficulties experienced by middle-aged

men have been reported. Men in the context of andropause are described as “men with dead-end job or dull marriages” (Hepworth & Featherstone, 1998, p. 296).

Once women and men reach to old age, women may actually cope better than men, psychologically. Although old age takes hold of both men and women by surprise, ‘women have less far to fall’, Beauvoir says (Schwarzer, 1984). In their old age, women still have a role to play in family (Beauvoir, 1993) and better coping mechanisms with better support in regard to mental health (Tan & Jacob, 2005). In contrast, men may feel more disturbed when their power and responsibility cease in old age. There is a concern about the “roleless role” of the retired elderly (Higgs & Jones, 2009, p. 18). Retirement (disconnection from the public sphere), rather than andropause, automatically classifies men in a certain stage of life.

Longevity does not equate with quality of life. Although many may die of fatal illnesses like heart disease, stroke, and cancer, those who tend to live longer do so with non-fatal conditions such as arthritis, diabetes, dementia and osteoporosis. Long-term deprivation of estrogens in women and androgens in men leads to similar outcomes in old age: cognitive changes, muscle loss, and osteoporosis (Chew & Tan, 2005; Tan, 2005). It is also pointed out that “the tendency to treat older people as genderless, thus considering sex as equivalent to gender, results in descriptions of older biological males rather than accounts of older men’s cohort specific, gendered social lives” (Flemming, 1998, p. 4). We need to recognise that gender (social) still impacts upon men in later life. The meanings ascribed to ageing needs to be explored in relation to gender (masculinity) and illness. I will come back to the topic of ageing in Chapters II and III. Within the fields of osteoporosis research and practice, there exists a gender bias and health inequalities between women and men. This is the topic for the next chapter.

Chapter II: Osteoporosis

Bones and body parts naturally wear out with age: all humans are mortal. Ageing is associated with a progressive physical deterioration, including the loss in bone density and of skeletal muscle mass. Muscle weakness is a key factor in falls (Sheffield-Moore et al., 2005). Beauvoir (1972) points out that "old age inevitably ends in death. But does it really cause death without the intervention of some pathological factor" (p. 35). In the *old age*, Beauvoir (1972) writes about osteoporosis as one of the degenerative diseases that characterise old age and about its impacts on appearance and movement. Beauvoir (1972) uses accidents such as a fall as an example of the ways in which psychosomatic disorders and organic diseases are interacting. Factors such as attention, perception, emotional attitude (e.g., indifference, self-neglect), disturbed orientation, eyesight, "muscular stiffness and the fragility of the bones" (Beauvoir, 1972, p. 29) are all attributed to accidents in old age. Studies in palaeopathology (i.e., the study of ancient diseases) suggest that age-related bone loss occurred in prehistoric populations. An osteoporotic hip fracture has been found in a human skeleton from the XIIth Dynasty (1990–1786 B.C.) in ancient Egypt (Dequeker et al., 1997). Bone degeneration is a natural part of ageing, yet it is identified as a disease named osteoporosis and is medicalised for treatment. Moreover, the disease of osteoporosis is gendered, largely known as primarily a women's disease in relation to the menopause. As more men are living longer than 75 years old today, male osteoporosis is expected to increase.

In this chapter, current osteoporosis literature is reviewed and implications are discussed. Firstly, osteoporosis is explained from a biomedical point of view: pathogenesis, aetiology, and the world health organisation's (WHO) definition of the disease. Secondly, osteoporosis is reviewed from a gender critical perspective. An analogous gender bias found between osteoporosis and heart disease is discussed. The implication of the medicalisation of osteoporosis to the New Zealand health services is considered. Lastly, it reviews existing qualitative studies of osteoporosis in women. There is no qualitative study that explores men's lived experience of osteoporosis and addresses gender or masculinity. Insights and templates from the women's osteoporosis studies are adapted into this study.

Pathogenesis

Once peak height and bone mass are achieved, bone remodelling continues throughout life (Guggenbuhl, 2009; Iannuzzi-Sucich & Taxel, 2005; Sanson, 2001). Bones are constantly remodelling and the entire adult skeleton is replaced in every 7-10 years (Sanson, 2001). Bones consist of two types of connective tissues: cortical and trabecular bones (Guggenbuhl, 2009; Sanson, 2001). Cortical bone forms outer shell of most bones, 80% of the skeleton (Sanson, 2001). Trabecular bone forms inner, more porous ("honeycomb-like" or spongy) bones of "the vertebrae, pelvis, flat bones, and the ends of long bones", and is most subject to density loss (Sanson, 2001, p. 43). Constant remodelling is achieved by two types of bone cells: osteoclasts (from the Greek words 'bone' + 'broken') and osteoblasts ('bone' + 'embryo'). Osteoclasts break down old bone, leaving a cavity, and osteoblasts lay down osteoid ('bonelike' proteins) in the cavity, which is subsequently mineralised (Guggenbuhl, 2009; Iannuzzi-Sucich & Taxel, 2005; Sanson, 2001). As long as this bone resorption/formation system remains in balance, there is no bone loss (Guggenbuhl, 2009).

However, the ageing process is thought to start soon after growth is completed (Guggenbuhl, 2009). Bone loss starts as early as the third decade of life in both women and men (Iannuzzi-Sucich & Taxel, 2005). About 40% of trabecular bone loss and less than 10% of cortical bone loss occurs before 50 years of age in both men and women although the underlying mechanisms are unknown (Guggenbuhl, 2009). Bone loss later in life is due to greater resorption relative to formation (Iannuzzi-Sucich & Taxel, 2005). Greater cortical bone loss generally starts after the menopause in women and after 75 years of age in men, in relation to the levels of sex hormones' decline (Guggenbuhl, 2009). However, it is postulated that 50% of men aged over 50 years old are hypogonadal (i.e., deficiency in gonadal production of testosterone) that results in andropause (Sheffield-Moore et al., 2005). Men with hypogonadism (i.e., testosterone deficiency) are at 6.5 times the risk for an osteoporotic fracture than eugonadal (i.e., normal level of testosterone) men (Sheffield-Moore et al., 2005). Although androgen (i.e., male sex hormone) deficiency is linked to male osteoporosis, estrogens (i.e., female sex hormone) are "at least as important as androgens in maintaining bone homeostasis for men" (Guggenbuhl, 2009, p. 598). Estradiol (i.e., estrogen) suppresses bone resorption and is more closely correlated with bone mineral density (BMD) values than testosterone (Guggenbuhl, 2009). Precisely, estrogen acts on osteoblasts' estrogen

receptors and facilitate both the activity and production of bone cells (Sheffield-Moore et al., 2005).

Aetiology

Osteoporosis is categorised into primary and secondary according to the cause. Primary osteoporosis is either age-related or idiopathic osteoporosis. 'Senile osteoporosis' and 'postmenopausal osteoporosis' are age-related and natural process of ageing. A diagnosis of idiopathic male osteoporosis is given to young and mid-age men without a known aetiology, which estimates about 40% of men aged 30-60 years who have osteoporosis but no other diseases (Briot et al., 2009). Secondary osteoporosis involves any other causal factors. Secondary causes of osteoporosis are numerous and include substances and medications such as glucocorticoids (i.e., steroid hormones) as well as disorders of endocrine, gastrointestine, and connective tissue (Iannuzzi-Sucich & Taxel, 2005). Whether it is primary or secondary, "the andropause phenomena and the resulting hypogonadism" is a primary factor in developing male osteoporosis (Sheffield-Moore et al., 2005). However, it is pointed out that "the borderline between 'normal, age-related' and pathological bone loss is obscure" (Reventlow & Bang, 2006, p. 325). This borderline has been defined by the world health organisation's (WHO) definition of osteoporosis as discussed in the next section.

WHO's definition

Although bones naturally lose density and weaken as women and men age, WHO (1994) defines osteoporosis as "a disease characterised by low bone mass and microarchitectural deterioration of bone tissue, leading to enhanced bone fragility and a consequent increase in fracture risk". The WHO's diagnostic criteria for postmenopausal women are used for osteoporosis (Vondracek & Hansen, 2004). Based on these criteria, osteoporosis is defined as a T-score of $\leq$ -2.5: BMD is 2.5 standard deviations or more below the normal peak bone mass that is derived from the measurement of a representative sample of young Caucasian female adults (WHO, 1994). 'Osteopenia', or low bone mass, is defined as a T-score between -1.0 and -2.5, and normal bone density is above a T-score of -1.0 (WHO, 1994). One standard deviation decrease in BMD is associated with a two-fold increase in the fracture risk on

average (Guggenbuhl, 2009). BMD can be measured by a Dual X-ray Absorptiometry (DXA) machinery. Although the correlation between BMD and fracture risk in men has not been specifically validated, this WHO criteria are applied to men as well (Iannuzzi-Sucich & Taxel, 2005). Screening programmes are generally aimed at women (Solimeo, 2008). Not surprisingly, osteoporosis primarily occurs among postmenopausal women, and osteoporotic fractures are 2-3 times more common in women than men after the age of 50 years (Brown, McNeill, Radwan, & Willingale, 2007; Seeman et al., 2004).

Socially constructed women's disease

Osteoporosis had not been known to most of us until 1982 when a major promotional campaign set about creating public awareness of osteoporosis as a women's health issue, sponsored by Ayerst (later merged with Wyeth, now with Pfizer), the world's largest pharmaceutical company, producing hormone replacement therapy (HRT) in the form of Premarin (Sanson, 2001). It has now become a world-wide phenomenon: osteoporosis foundations are warning of an epidemic. Despite the fact that men are also at risk for the disease, osteoporosis has been socially constructed and maintained as a 'women's disease' (Leonard, 2004; Meryn, 2004; Solimeo, 2008; Vondracek & Hansen, 2004).

Currently there is no generally accepted T-score criterion to define male osteoporosis (Boonen, Kaufman, Goemaere, Bouillon, & Vanderschueren, 2007). It has been argued that the use of female population data may significantly under-diagnose male osteoporosis (Vondracek & Hansen, 2004; Iannuzzi-Sucich & Taxel, 2005). Although the lifetime risk of osteoporotic fracture is lower (13%) in white men than women (40%) (Feldstein et al., 2005), the prevalence of vertebral fracture in middle-aged men is higher than middle-aged women (Francis, Aspray, Hide, Sutcliffe, & Wilkinson, 2008; Meryn, 2004; Seeman et al., 2004). And the mortality rate following a hip fracture is also higher in men than women despite the fact that only 30% of the lifetime hip fractures occur in men (Feldstein et al., 2005; Guggenbuhl, 2009; Seeman et al., 2004; Tan & Nishikawa, 2005). A much higher male mortality rate (men 31% vs. women 17%) following a hip fracture at 1 year after fracture is due to the incidence occurrence in later life, on average 10 years behind women (Tan & Nishikawa, 2005), often with comorbidities such as cardiovascular, respiratory, and infectious diseases

(Guggenbuhl, 2009). In an Australian longitudinal cohort study, the fracture itself contributed significantly to mortality only in men but not in women (Bliuc et al, 2009). Predictors of mortality in both sexes after any osteoporotic fracture include age, quadriceps weakness and subsequent fracture (Bliuc et al, 2009).

Behaviours associated with masculinity such as excess alcohol consumption, smoking, and poor diet are among the risk factors of secondary osteoporosis (Vondracek & Hansen, 2004; Iannuzzi-Sucich & Taxel, 2005). Alcohol abuse explains 15-20% of male osteoporosis and thought to be an underestimated cause of skeletal fragility in men (Boonen et al., 2007). Overall, 50% to 80% of the cases of male osteoporosis are secondary (Guggenbuhl, 2009; Iannuzzi-Sucich & Taxel, 2005). Considering these modifiable risk factors for male osteoporosis, the prevention of male osteoporosis can take on another dimension (Tan & Nishikawa, 2005). However, therapeutic interventions, educational and screening programmes are aimed primarily at women, thus positive outcomes of the intervention are not evident among at-risk men (Solimeo, 2008). There are very few trials that have focused on the treatment of male osteoporosis (Guggenbuhl, 2009). Male osteoporosis appears to be generally under-diagnosed and infrequently treated even with the presence of fracture (Feldstein et al., 2005; Curtis et al., 2009).

Analogous gender bias between osteoporosis and heart disease

The issues observed with male osteoporosis may be an analogue to the gender bias found in cardiovascular disease (CVD) (Solimeo, 2008). The mismatch between the known high prevalence of CVD in women and women's under-representations in cardiac care or general public has been researched (Chiaramonte & Friend, 2006; Richards, Reid, & Watt, 2002; Schoenberg, Peters, & Drew, 2003). Social representations of coronary heart disease (CHD) (i.e., a belief that CHD is a men's illness with certain symptoms) and feminine identities (i.e., a belief that female sex hormone protects women from CHD) have been constructed in the way in which women are made vulnerable to misinterpret their symptoms of CHD and to be under-diagnosed, thus untreated.

It is currently evident that CHD is as common in men as women after the menopause (Tan & Nishikawa, 2005). More than 50% of women die of CVD including CHD,

myocardial infarction (MI), heart failure and strokes whereas breast cancer causes just 3% of female deaths in the developed world (Nicholson, 2007). Women's overall risk of CVD lags behind men by approximately 10 years (Chiaramonte & Friend, 2006; Nicholson, 2007). The reason for the delay is believed to be the protective effects of female sex hormones in pre-menopausal women (Chiaramonte & Friend, 2006; Nicholson, 2007). Silent MI that reduces blood flow to the heart muscle without any symptoms is twice as common in women as men in the age group of 45-64 (Adams et al., 2008). The mortality rates of MI are actually higher in women than men: 42% of women who have a heart attack die within one year, compared to men at 24% (Tan & Nishikawa, 2005). Although men and women react differently to treatment, women have been seriously under-represented in, or even excluded from, clinical trials including drugs and devices (e.g., biventricular pacemakers, carotid surgery), and cardiac rehabilitation programmes (Nicholson, 2007).

It is clearly an analogous gender bias between CVD and osteoporosis. Osteoporosis has been identified as a "clear example of candidacy" in the EU gender equality policy for research, which refers to "the neglect of the other sex if a condition is labelled as 'male' or 'female' disease, and is in urgent need of addressing both sex and gender factors in research" (Klinge, 2008, p. 187). The EU funded GenderBasic project (2005-2008) was conceived to achieve gender equity in research. The project recognises that researchers are not unwilling to take sex (biological) and gender (social) into account, rather they encounter difficulties (Klinge, 2008). Most life sciences researchers who are familiar with the concept of sex differences confessed that they had paid little attention to socially constructed gender until now (Klinge, 2008). The GenderBasic project emphasises that "it is not differences per se that are interesting but rather how, as a result of the interaction between sex and gender, differences develop" (Klinge, 2008, p. 183). Researchers at different levels (i.e., organism, human) are encouraged to stick to their own field but work in multidisciplinary teams. Health psychology that acknowledges the interaction of biological body (sex) and psychosocial factors (gender) can play an important role in a multidisciplinary team for health and illness.

Osteoporosis as social anxiety

The slogan of the US osteoporosis prevention campaign in 2001 was 'every 20 seconds, osteoporosis causes a fracture' (Sanson, 2001). In New Zealand, it is currently 'every 6 minutes' (Osteoporosis New Zealand, 2009) and fracture rates are comparable with those identified in the U.S., Australia, and Europe (Brown et al., 2007). Sanson (2001) points out that these campaign messages arguably imply that osteoporosis is "more widespread than breast cancer, AIDS, and heart disease rolled together" for women and that the estimated osteoporotic fractures are "based solely on increasing populations and increased life expectancy, not because of any other factor" (Sanson, 2001, p. 16). As the WHO's definition of osteoporosis is based on the norm of the young healthy adult, "ageing has become equal to osteoporosis" (Reventlow & Bang, 2006). Medicalisation is deeply embedded in economy and benefits the capitalist profit in countries like the United States (Lorber & Moore, 2002). However, New Zealand where health services are nationalised, medicalisation of osteoporosis comes into conflict with cost-cutting practices. It is estimated that 80,000 New Zealanders aged over 50 would break bones annually due to osteoporosis (Brown et al., 2007). Hip fracture, the most resource intensive type of osteoporotic fracture, generally requires 14 days in acute wards, and for 70% of the fractures, an additional 22 days in rehabilitation wards, which results in costing New Zealand $24,000 per patient on average (Brown et al., 2007). With increasing life expectancy, osteoporotic fractures caused by an aging population are expected to increase and create additional financial stress on the health care system (Brown et al., 2007; Feldstein et al., 2005). In this way, old people are seen as a problem group and a burden on the nation. However, older people may provide researchers with a range of interesting experiences and potentially valuable insights like coping strategies that may benefit others (Lorber & Moore, 2002).

Much of the existing knowledge on osteoporosis has been drawn from epidemiological data and quantitative surveys. Osteoporosis prevention takes place largely within a biomedical discourse informed by such data. New Zealand is urged for effective interventions such as public funded bone scans, targeting primarily post-menopausal women (Brown et al., 2007). Information regarding osteoporosis may affect a large proportion of healthy women (Reventlow & Bang, 2006) while still neglecting at-risk men, and may have a great impact on society as well as individuals. Public health promotion and intervention regarding osteoporosis comprises an ethical obligation to

ease unnecessary anxiety in the targeted population (i.e., post-menopausal women) and to achieve gender equity in research and practice: prevention, intervention, and treatment.

Women's perspectives of bone scan and osteoporosis

Literature on male osteoporosis is scarce. A vast number of international studies of osteoporosis focus on older women, of which are mostly biomedical studies. Among a few qualitative studies, women's attitudes, perceptions and bodily experiences of osteoporosis have been reported. In this section, women's own perspectives are reviewed from the existing qualitative studies.

For women, osteoporosis is generally framed in terms of the menopause and HRT from a biomedical point of view. However, a UK qualitative study (Backett-Milburn, Parry, & Mauthner, 2000) of women aged 40-55 years reports women's disinterest and a distant concern about osteoporosis despite their menopausal status or even experiences on HRT. Mid-life women's discourses around the menopause generally focus more on "visible and sensate bodily and emotional experiences" rather than inner, invisible and unpredictable bodily parts (Backett-Milburn et al., 2000, p. 160). For women at mid-life, osteoporosis appears to be a long-term potential degenerative disease of the inner body and has little salience, even in the context of menopause.

In a series of Danish cohort studies, Reventlow and Bang (2006) examined the ways in which healthy Danish women aged 60-61 years formed their own ideas and images of osteoporosis and health risk. The healthy older women drew on experiences with relatives, friends, and health information. The prototypical appearance of osteoporosis reported by the healthy older women was "a woman with a bent body and a collapsing back" (Reventlow & Bang, 2006, p. 322). 'A type who gets osteoporosis' was also described as a 'slightly built and elderly' woman. These healthy older women agreed that age-related bone degeneration is 'fairly normal' and a result of the elderly becoming worn out. Osteoporosis is described by an elderly as "not a real disease, but it can be … it can be a disease, but you will not know until it is too late'' (Reventlow & Bang, 2006, p. 323).

Reventlow et al. (2006) and Reventlow (2007) also investigated the impact of a bone scan on healthy older women. With an experience of a bone scan, healthy older women

aged 60-63 perceived the risk of osteoporosis as immediate, and they also restricted their physical activities. Whether they had osteoporosis or merely decreased bone mass as a result of a bone scan, the older women generally overestimated the risk of fracture due to the imagined fragility of the bones. Reventlow et al. (2006) reveals the ways in which women's interpretations of their bodily fragility in a bone scan reconstructed their body image as weak (brittle bones) with reduced capacity. Medical diagnosis or prognosis of osteoporosis becomes pathological impairment in the elderly's body (Reventlow et al., 2006). Women attribute ambiguous bodily sensations to the bones and joints, or osteoporosis after a bone scan. Reventlow et al. (2006) point out that the experience of the bone scan for osteoporosis becomes a question of a presumed fragility and of an experienced fragility. People may picture the worst case scenario of osteoporosis as ending in the hospital or on a wheelchair as a result of hip fracture after a fall. Reventlow et al. (2006) point out that among 60-year-old women with osteoporosis, the 10-year incidence of a hip fracture is 7.8%. "Hence, 8 out of 100 women with osteoporosis will have a hip fracture within a time frame of 10 years, while 92 will not" (Reventlow et al., 2006, p. 2721). Moreover, people without osteoporosis still break bones: we cannot predict who will have a fracture and who will not (Reventlow et al., 2006).

Osteoporosis is often described as a silent disease without known symptoms (Solimeo, 2008). Such description of osteoporosis may illustrate a certain type of osteoporosis. There are different types of osteoporotic fractures and the degree to which people experience sensation and severity varies. Although vertebra fracture is the most common fracture seen in patients with osteoporosis, only one third comes to medical attention (Francis et al., 2008). A study of McNally, Wilson, and Ostlere (2001) reports that among the 1,042 (566 women and 476 men) with lower back pain in their study, 82 were discovered to have osteoporotic vertebral fractures, of which 51 (34 women and 17 men) were recent and 31 (20 women and 11 men) had normal marrow signal indicating that they were old fractures. This study of McNally et al. (2001) implies that vertebrae fracture of osteoporosis can be present in the younger and middle-aged male bodies but their symptoms may not be interpreted as fracture or osteoporosis by men so they may not seek help, and also that their osteoporotic fractures may be overlooked and untreated by health practitioners.

The meanings ascribed to osteoporosis are femininity, fragility, and ageing. If strong bones are linked to masculinity, what is it like for men to experience osteoporosis? We currently do not know the ways and extent to which osteoporosis affects quality of life for men. Constructions of gendered bodies suggest that men's experiences of osteoporosis would likely differ from those of women. Researchers are only starting to explore men's own perspectives of osteoporosis. Giangregorio et al. (2009) also report that patients' perception of the future fracture risk was influenced by whether or not they had a bone density scan or osteoporosis. Giangregorio et al. (2009) conducted structured telephone interviews with 127 people (106 women and 21 men aged over 40) with a fracture experience within the past 24 months. Of the 127 respondents, 54 have been diagnosed with osteoporosis although the number of men with osteoporosis is unidentified in the report. Those who broke bones but did not receive a diagnosis of osteoporosis generally underestimated the future fracture risk, whereas those who had been diagnosed with osteoporosis at some point perceived the future fracture risk as high. As well as 82% of the respondents were women, male gender was not specifically addressed in the study of Giangregorio et al. (2009). Raphael, Gibson, Lathlean, & Walker (2009) applied a grounded theory and focused on men's own perspectives regarding the media representations of osteoporosis, rather than lived experience or embodiment.

The next chapter reviews literature and theorises the male body for this study. Critical perspectives and insights reviewed in this chapter are reflected upon and adapted into theorising the male body.

Chapter III: Theorising the male body

The objective body of the female or the ill has traditionally been the focus in medicine as discussed. Women in particular have been the focus for discussions of health inequalities in relation to gender. In recent years, social science researchers started to address men's embodiment more adequately (Watson, 2000). Researchers realised the importance of lay knowledge and the embodied dimension has been extended to the everyday life of men and women in order to fully understand the lived experiences with illnesses. This study investigates the phenomenological bodies of males. Phenomenological human science is the study of the lived experience or existential meaning (Manen, 1990). From an existential-phenomenological point of view, this study is less interested in factual status of osteoporosis: what the process of its pathogenesis is or how the occurrence of the disease is attributed to other factors. What this study is most interested in is "the nature or essence of the experience of" (Manen, 1990, p. 10) osteoporosis in men. The nature or essence of an experience has been explored in phenomenological (qualitative) health studies. While many studies of the phenomenological body draw upon Merleau-Ponty's embodiment (e.g., Bullington, 2009; Donovan & Flynn, 2007; Gullick & Stainton, 2008; Reventlow et al., 2006), this study theorises embodied masculinity within Beauvoir's existential-phenomenological frameworks that reflect feminist critique of gender.

In this chapter, firstly men's health concepts are reviewed on literature. The relationship between health-related behaviour, body image, and masculine or self identity is discussed. Secondly, studies of different illnesses examine how the illness diagnosis or/and treatment alter the male body and image and challenge masculine identities. An anthropological framework of liminality is introduced to explain a sense of loss in masculine identity. Researchers suggest the use of multi-dimensional masculinities, some of which are identified. Lastly, Beauvoir's existential-phenomenology and her central philosophical themes are introduced. I theorise male embodiment within Beauvoir's existential-phenomenological frameworks coupled with the templates from the literature on the male body and osteoporosis. The aims of this study and research questions are presented in the end of the chapter.

Men's concepts of health, body image, and identity

Watson (2000) explored the concept of health in men and extended his research on the male body and embodiment. Men's definitions of health covered physical, mental, emotional and social dimensions, which dimensions are overlapping. Watson (2000) reports the six ways in which men thought about health as: a resource to live and work with; physical and mental fitness; a sense of physical and mental well-being; physical appearance; absence of illness; and the product of health-related behaviours. Health conceptualised as a resource, fitness, appearance and well-being grounded men's accounts in their own or others' bodies. Watson (2000) further analyses the ways in which laymen theorise about their lived bodies. Men's talk on healthy and unhealthy revealed behaviours and images attached to these concepts. 'The appearance of being in control' describes the body image of someone healthy, and this is associated with 'the body-in-action' for engaging in physical activities like exercises. The image of someone unhealthy is generally described as being overweight. Both healthy and unhealthy images are socially constructed with contemporary life-style messages regarding health behaviours (e.g., eating, drinking, smoking), "wrapped up in a very powerful and value-laden body image" (Watson, 2000, p. 78). Whether it is desirable or practical, healthy and unhealthy bodies are made explicit in the public. A muscular appearance has been long idealised by men themselves. In the studies from the 1960s and 1970s, a muscular male body type is coupled with personality traits with positive connotations like strong, attractive and happy, whereas skinny or obese body types are ascribed personality traits with negative connotations such as lazy, sneaky, and cheat (Cafri & Thompson, 2004). Men generally want to be heavier and larger (Lee & Owens, 2002). More recent research describes the idealised masculine body not only with masculine physical appearance but also with sexuality and power (Oliffe, 2006). Men's idealised mind is also constructed as objective, logical, and unemotional (Oliffe, 2006).

Watson (2000) found that men used symbolic representations of the body to evaluate others' health but not their own body or health. These findings are in line with the study of Reventlow and Bang (2006), in which healthy Danish older women drew the prototypical appearance of osteoporosis on others. It is pointed out that the explicitly constructed healthy and unhealthy bodies in the context of public discourse on health are not easily translated into the everyday life of men whose body is conceptualised as 'the body you're born with' (Watson, 2000). For example, being overweight is clearly

manifested in body image as the loss of body shape or distorted body shape. Being overweight and "spoiling male identity" result from the unhealthy behaviours such as over-eating and heavy alcohol consumption (Watson, 2000, p. 83). The socially constructed symbolic body images of healthy and unhealthy represent the opposing ends of a continuum of the relationship between the body image, self image and health behaviour (Watson, 2000).

Men judge their own body in terms of their ability to fulfil everyday gendered roles such as being a worker, father, husband and mate. Men construct and maintain their masculine identities by playing these masculine roles in everyday life (Watson, 2000). A younger healthy body interacts with masculine attitudes and behaviours and sustains the individual's masculine identity as a socially healthy guy. Watson (2000) found that men's talk on their bodies included the body 'as it used to be' before marriage, becoming a father, or even further back to the childhood. It is pointed out that in the process of abusing the physical male body the man acquires and sustains the social identity (Watson, 2000). The male body is seen as "a vehicle to demonstrate masculinity" (Oliffe, 2004, p. 412). The gradual dislocation of the body and self image is grounded in the process of ageing as well as a social and cultural context (Watson, 2000). Cunningham-Burley and Backett-Milburn (1998) explored middle-aged men and women's embodiment in terms of the body, health and self. Men reported back problems as a physical weakness in men. Middle-aged men attributed their bodily changes to ageing, comparing the past body that was easily brought to mind. The middle-aged men's body is no longer trusted, and this image is the image others see but is not what one really desires or feels about oneself (Cunningham-Burley & Backett-Milburn, 1998). Cunningham-Burley and Backett-Milburn (1998) point out that people saying they still feel young is a way of adjusting or resisting their bodies in decline.

Illness in the male body: altered body image and challenged identity

Williams and Barlow (1998) explored men and women's bodily experiences of arthritis, specifically focused on the impacts of arthritis and its treatment on their bodies and movement. Their study demonstrates that regardless of age, type of arthritis and disease duration, the disease has differential impacts on men and women's perceptions of the body. For men, the loss of body fitness and functioning (weight gain, muscle atrophy,

loss of stamina and flexibility) appeared to be the central concern. However, men's physically unfit body increased their self-consciousness and meant that they were more motivated to engage in regular exercise. Men view exercise as a means to achieve a positive perception of their bodies. In contrast, women's main concern was related to the appearance of the body (visibility of the disease, side effects of the medication on the skin).

Particular health problems such as prostate cancer, similar to osteoporosis, tend to affect older men than younger men (Cameron & Bernardes, 1998). Research attempting to examine the interaction of masculinity and ageing predominantly focuses on the aging of the male body (Smith, Braunack-Mayer, Wittert, & Warin, 2007). Men's lived experiences of prostate cancer have been researched, some of them addressing men's disadvantage in health. Cameron and Bernardes (1998) point out that because prostate cancer is seen as an old man's disease, young sufferers who fall outside the stereotype may be disadvantaged. The study participants (men with prostate cancer) Cameron and Bernardes (1998) recruited were from a wider range of age groups outside the typical age group medical textbooks and self-help manuals generally suggest. Men as young as 21 years old experienced the diagnosis of prostate cancer as a stigma or ageism. On the contrary, older men saw symptoms as part of the normal ageing process, rather than ill-health. Cameron and Bernardes (1998) also point out that men in a minority ethnic group or/and different class can be "doubly disadvantaged" (p. 686) because ethnicity and class are among the other key factors that influence men's gendered experiences. This will be further discusses in a later paragraph, a discussion on masculinities.

Researchers suggest that ill or disabled men are seen as the abnormal or the feminine, not the male, so men may experience a profound sense of loss and changed identity. Hormonal treatments for prostate cancer could cause changes in body shape, flushes, swollen breast, and mood change (Chapple & Ziebland, 2002). Navon and Morgan (2004) report men's feelings of incomplete maleness, lacking a full sense of masculinity, following androgen deprivation therapy (ADT) for prostate cancer. Chapple and Ziebland (2002) similarly consider male hormones to play a role in what it means to be masculine. Although hormones do not determine what it means to be masculine, they may subtly affect men and women's reaction to each other, and how gendered roles are played (Chapple & Ziebland, 2002). Prostate cancer experience evokes men to question fundamental aspects of their masculine lives (Kelly, 2009). A contested masculinity has

also been reported in the study of Donovan and Flynn (2007), who explored the lived experience of male breast cancer. Approximately 1% of the breast cancer patients are males (Donovan & Flynn, 2007). Developing a feminised illness in the male body has been experienced by men as distressing and stigmatising, which significantly alters their body images (Donovan & Flynn, 2007). Tamoxifen therapy for male breast cancer causes erectile dysfunction or loss of libido (Donovan & Flynn, 2007). Donovan and Flynn (2007) report these implications in sexuality resulted as "a further assault upon their sense of gendered self" (p. 467). The phenomenon of men being unable to classify themselves into culturally available categories is theoretically analysed in the anthropological framework of 'liminality' by Navon and Morgan (2004). In this framework, men are deemed liminal when their masculinity is challenged by a feminised illness or/and feminised outcomes of treatments, and are prone to "nullification of their former identity" (Navon & Morgan, 2004, p. 2338). Navon and Morgan (2004) adapted this theoretical explanation as the key to understanding the side-effects of ADT on masculine identity in men with prostate cancer. This framework of liminality can be applied to different phenomena, in which people experience uncertainty and disorientation (e.g., being neither sick nor healthy).

Pain associated with chronic illness has been addressed to investigate the relationship between the body and the self (Corbett, Foster, & Ong, 2007; Hellström, 2001; Osborn & Smith, 2006; Vroman, Warner, & Chamberlain, 2009). The experience of pain alienates the body (painful body) from the self (preferred self) as well as from others (Corbett et al., 2007; Osborn & Smith, 2006). The painful body is seen as something outside, not fully integrated with the self. The subject/object bi-modality of embodiment with chronic illness has been explored in the time dimension. Hellström (2001) explored temporal aspects of chronic pain patients' concepts of their selves: what they were in the past, how they are functioning at the present, and what they think about their potential future. The body in the past is seen as a 'carefree existence' or a life of ease (Hellström, 2001). People with chronic pain struggle to sustain familiar characteristics of their past selves. Recovery or being pain-free means regaining the former self (Vroman et al., 2009). The self is seen as multifaceted: the self may be feared, imagined, or hoped for (Hellström, 2001).

Recent research in gender (Cameron & Bernardes, 1998; Connell, 1987, 2000; Lyons, 2009; Schippers, 2007) recommends the use of multi-dimensional masculinities and

femininities rather than masculinity and femininity in order to allow it for a variety of ways men and women live out their maleness and femaleness. ‘Hegemonic masculinity’ (Connell, 1987, 2000) can be still used to describe the ideological construction of masculinity that serves the interests of dominant male group. It is this hegemonic masculinity that is seen dangerous to men’s health. Other forms of masculinities co-exist in relation to hegemonic masculinity. ‘Subordinated masculinity’ (Connell, 1987) or ‘marginalised masculinity’ (Connell, 2000) is used for groups such as homosexual (also ‘gay masculinity’). Oppressed groups such as ethnic minorities also share features with hegemonic masculinity but are de-authorised in society (Connell, 2000), which is termed as ‘protest masculinity’ (Connell, 1987, 2000). Protest masculinity is a result of marginalisation, exaggerated expression of potency and hypermasculinity (Pease, 2009). Connell (2000) terms the organised patriarchy gender power relation as ‘complicit masculinities’, which is found in institutions and organisations. Pease (2009) studied the relationship between ‘racialised masculinities’ and health in immigrant and refugee men. Cameron and Bernardes (1998) adapt the idea of ‘negotiated gender’ or ‘negotiated masculinity’, in which gender is constantly redefined and renegotiated in interaction. This negotiated-masculinity is a useful framework to apply in health research, where men with chronic illness are confronted by threats to their masculinity or the self.

The literature and study findings reviewed hitherto bring insights into studying men’s lived experiences of osteoporosis. The relationship between the body, image, masculine and self identity can be theorised drawing upon Beauvoir’s philosophy. The next section theorises how I approach men’s lives experiences of osteoporosis.

Beauvoir’s existential-phenomenology and the current study

My research draws upon Beauvoir’s existential-phenomenology. Beauvoir’s (1972) philosophy allows us to look at men as an object from the scientific, historic and social perspectives, and as a subject, who has an inward knowledge and who reacts to it. This holistic approach aligns with the biopsychosocial model of health and disease. Various factors (e.g., masculinity, age, self-identity) that define the man’s state influence one another, and none has its real meaning except in its relationship with the others (Beauvoir, 1972). Embodiment, body image, masculinity, and self identity are the central elements in this study. Beauvoir’s philosophy provides us with useful theoretical

frameworks to address the relationships between these concepts. This section outlines how I theorise these central concepts and their relationship upon Beauvoir's existential-phenomenology. Chapter II reviewed female osteoporosis studies and earlier sections in this chapter on the male body, image, and masculine/self identity. The insights and templates from these studies are adapted into this research, coupled within Beauvoir's frameworks. Beauvoir's important philosophical themes relevant to this study are: embodied consciousness, intentionality, doubling ('in-itself' and 'for-itself') and identification crisis, and time and space. Each of these concepts is introduced and defined here in relation to this research.

Beauvoir can be placed within the phenomenological tradition, amongst phenomenologists interested in the problem of 'intersubjectivity' (Simons, 2001). Studies of the philosophy of Beauvoir through the lens of existential-phenomenology, instead of either feminism or existentialism, have brought insights into the investigation of the meanings given to the lived experiences of individuals (See O'Brien & Embree (Eds.), 2001). Husserl focused on the problem of intersubjectivity and the other, identifying a series of issues concerning the body, time, sexes, and socio-cultural/historical life (O'Brien, 2001). In her innovative way, Beauvoir continued investigations on these philosophical problems of Husserl's. Beauvoir (1993) adapted 'the body as a basis for our Being' (Cataldi, 2001) on the common philosophical ground in existential-phenomenologies of Heidegger, Sartre, and Merleau-Ponty. The proposition of Sartre and Merleau-Ponty is that "sexuality is coextensive with existence" (Beauvoir, 1993, p. 40). In this proposition, while the sexual and the ontological are bonded together, social gender, in particular of female is somewhat neglected. For Beauvoir, who critically theorises gender and ageing, the body is also "as a basis for becoming" (Cataldi, 2001, p. 85). Beauvoir's notion of 'becoming' is a useful framework to adapt in studies of gender, illness, and ageing as it addresses the ambiguities, abilities, and disabilities of embodiment (Cataldi, 2001). Beauvoir's philosophical themes that are central to my study are outlined below.

Embodied consciousness

Beauvoir (1972, 1993) gives special attention to the individual human body. At this existential level, the body is thought to be "an integrated system of perceptual power"

(Fullbrook & Fullbrook, 2001, p. 55). By rejecting empiricist perception as a problem of objective knowledge, Beauvoir focuses on the way in which the body, with its organs of perception, and the subject, with its consciousness, are intertwined (Fullbrook & Fullbrook, 2001). "Rather than attributing sense data to the objective body" and their interpretation to the subjective mind, Beauvoir recognises the unity of these two aspects, and labelled them "embodied consciousness" (Fullbrook & Fullbrook, 2001, p. 57).

Beauvoir's embodied consciousness implies that "living a philosophical problem not only with one's brain, but with one's arms and legs" (Simons, 2001, p. 38). Instead of understanding male osteoporosis in the medical textbooks, this study gives voice to men who actually live osteoporosis in their body in everyday life. Osteoporosis is understood in the body actually lived by the subject. Each man's body has consciousness, "by which one has a hold and a unique vantage point on the world" (Fullbrook & Fullbrook, 2001, p. 55). Osteoporosis lived in the real world cannot be understood without the man's relationship with the others because social interaction influences the man's lived experience of osteoporosis.

We experience the subject/object ambivalence of the body. This subject/object bi-modality of the human body is central to Beauvoir's philosophical vision (Fullbrook & Fullbrook, 2001). The human body plays both object and subject roles simultaneously, somewhere between empiricists' immanent object (the material body without its consciousness) and Kantian Idealists' transcendent subject (subjective consciousness intentionally directed towards the world). The disembodied subjective nature of men's masculinity ("impersonal and free") can be understood from a Kantian position, "transcendental ego" (Fullbrook & Fullbrook, 2001, p. 56). However, once men are diagnosed with osteoporosis or any other illness, they become more conscious about their bodies and start to see their male bodies as more immanent or biological objects. Both Merleau-Ponty and Beauvoir examine bodily disabilities: Merleau-Ponty examines many bodies with pathological and neurophysiological impairment, whereas Beauvoir examines female and the elderly's experiences and perspectives that set a complex account of disadvantaged bodies (Cataldi, 2001). Therefore in Beauvoir's existential-phenomenological frameworks, men's bodies with osteoporosis are seen as disadvantaged bodies that pathologies are attributable more to men's situation, to social and historical gender power relation, rather than to biology. It can be argued that men

with osteoporosis may be deemed liminal when their hegemonic masculinity is challenged by feminised illness, and are prone to nullification of their former identity.

Intentionality

Mind or consciousness has been traditionally conceptualised as if it were a material entity like a container. This created an unbridgeable gap between it and the human body, not metaphysically but in a material sense (Fullbrook & Fullbrook, 2001). Beauvoir adapted the notion of 'intentionality' (the terminology originates from Franz Brentano, 1874, cited in Fullbrook & Fullbrook, 2001). Rather than identifying consciousness as a kind of receptacle for perceptions and images, the principle of intentionality conceptualises consciousness as a relation which human beings have to objects, either real or imagined: consciousness always intends an object (Fullbrook & Fullbrook, 2001).

We have examined how men perceived socially constructed healthy and unhealthy male bodies as images. Younger men experienced a stigma or ageism because of the prototypical image of prostate cancer constructed by the public as an old man's disease. We tend to picture what we are through the vision others have of us. The biological and social meanings ascribed to the disease of osteoporosis, and socio-cultural and historic positions of gender or masculinity are thought to influence men's sense of masculinity and self identity, by means of images. The image does not come from the consciousness but "it is a cluster of rays of intentionality directed through an analogon towards a missing object" (Beauvoir, 1972, p. 291). The image appears to be contradictory and vague but will come to suffice to assure us of our identity (Beauvoir, 1972).

It can be argued osteoporosis is difficult to assume in men's own bodies as men would regard it as something alien. Longer-term bodily degeneration, especially of the inner and invisible parts of the body appears to be seldom spoken about. Diseases like osteoporosis belong to the category which Beauvoir (1972) calls "the unrealisables" (terminology originates from Sartre, p. 291). Ageing or bodily decline may be more apparent to others (e.g., medical practitioners, family members) than to the subject himself. This research interests to investigate what images of osteoporosis come to men, from which sources (e.g., doctors, friends, family members), and how these images help men to construct and reconstruct their own body and self images.

Doubling

In her 1972 publication, *old age*, Beauvoir approaches old age from the vantage point of interdisciplinary studies of biology, sociology, history, anthropology and psychology upon her philosophy. By questioning the methods of inquiry gerontologists use for the psychology of old age (i.e., psychometry), Beauvoir (1972) examines the psychology of old age as a complete entity in the biological, existential and social context. Beauvoir (1972) provides a useful phenomenological framework of old age. Beauvoir (1972) depicts the lived experience of the elderly as "doubling" (Miller, 2001, p. 138): a division between outsiders' objective awareness of the elderly's decline and the elderly's own internal unchanging quality. The elderly's lived experience is both subject and object. Beauvoir (1972) points out that "the aged person comes to feel that he is old by means of others, and without having experienced important changes; his inner being does not accept the label that has been stuck to him – he no longer knows who he is" – that is, he has an "identification crisis" (p. 292). We can adapt Beauvoir's notion of doubling to describe an identification crisis men may experience when the unrealisable, a disease of osteoporosis, is discovered in their bodies. Men may hold a body image of themselves as abnormal or in decline by means of others.

The identification crisis occurs between the in-itself (non-conscious self) and for-itself (conscious self) (Beauvoir, 1972). What the man is for others is experienced in the in-itself mode. In the previous section, the study of Cunningham-Burley & Backett-Milburn (1998) described the middle-aged men's ageing body as the image others see but is not what one really desires or feels about oneself. With osteoporosis, the images others have of the man is comprised not only of mental pictures, but also beliefs and meanings ascribed to osteoporosis or/and ageing. Socio-cultural representations and a biomedical discourse of osteoporosis come to the man from outside: it is 'the Other' within the man who has osteoporosis. Whether he likes or not, the man will eventually submit to the outsider's point of view and adapt some given attitude towards osteoporosis (Beauvoir, 1972). According to Beauvoir (1972), in order to resolve the identification crisis, we must come to accept a new image of ourselves although there is "an insoluble contradiction" between the in-itself and for-itself (p. 323). "All we can do is to waver from the one to the other, never managing to hold them both firmly together" (Beauvoir,, 1972, p. 290). This is evident in the study of Cunningham-Burley and Backett-Milburn (1998), which points out that one way in which 'people adjust or

resist is to say they still feel young'. It is interesting to investigate men's embodied consciousness in this study in order to test Beauvoir's theory and existing research findings, whether there is a wavering gap between the physical body with osteoporosis and the unchanging self identity.

From the perspective of Beauvoir's existential-phenomenology, subjective embodiment in the for-itself mode is always sexed and gendered, and it is continuously involved in a process of ageing (Miller, 2001). The arthritis study demonstrated that regardless of age, the disease impacts on men's perceptions of the body and masculinities. How men endeavour to overcome the 'identification crisis' when they are challenged by osteoporosis is of particular interest. By exploring men's bodily experiences of osteoporosis, my research attempts to explore changes in men's gender identities: the relationship between a man's own inward feelings of his masculine identity or ageless self and 'the Other' within him in which external observers recognise his bodily decline or the stereotypical image of osteoporosis brought to mind. Men's reconstructions of their identities may be described as intentionality directed towards their new selves.

Time and space

'Time and space' are closely related to other themes of Beauvoir's, particularly with doubling from an ageing perspective, and the notions of for-itself (one in the present time) and in-itself (one in the past). Time and space are used to describe images held in different points in time. Unlike Merleau-Ponty, who focuses on the reversibility of past and future, Beauvoir emphasised its irreversibility in her study of old age (Cataldi, 2001). For the degenerative nature of osteoporosis and biological ageing, Beauvoir's framework of time and space (irreversible) is applied in this research. We exist in time and space. In any moment, we experience ourselves in the for-itself mode. "The past was experienced in the for-itself mode, and yet it has become in-itself" (Beauvoir, 1972, p. 361). As Watson (1998) and Hellström (2001) suggest, men recall their past body images and self identities. A man still tends to define his former 'I' as the 'I' that he is no longer and he cannot dissociate himself from his past image of himself. Beauvoir (1972) describes that the past images "we can call upon are far from possessing the richness of their original object" (p. 363). The image loses the principle of identity but it produces the object in its general, non-specific aspect, appearing in an unreal space and

time. This study will examine how men talk about their past, present, and future regarding their body, image and identity.

Aims of the current study

This study follows Beauvoir's (1972) methodology and aims to examine "the individual's relationship with his body and his image" after the medical diagnosis of osteoporosis, "to his relationship with time, history and his own praxis, and to his relationship with others and the outside world" (Beauvoir, 1972, p. 279). This project attempts to describe and to encounter the world around men by giving voice to them. Each man has family members, friends, and other members in the community who he interacts with in his everyday life. Each man's history such as career and previous health conditions differ from the others'. This study attempts to understand men by means of the variety of their praxis. A main research question and three sub-questions were posited.

'What is it like to experience osteoporosis in the male body?'

- How does the medical diagnosis challenge men with their masculine identities?
- How does the experience of a bone scan challenge men's body images?
- How do men endeavour to reconstruct their new identities?

Chapter IV: Method

Design/approach:

This project aims to gain in-depth understanding of men's lived bodily experiences of osteoporosis. Therefore, qualitative methods would be appropriate. Language will be investigated as the representational system through which participants construct realities, and data will be used for sense-making (Lyons, 1999).

From a number of different qualitative methods, existential-phenomenological analysis (interpretivism) (Finlay, 2006) is thought best suitable for this study of life-world experience. This approach is aligned with the underpinning philosophy of existential-phenomenology, which rejects the notion that humans are merely biological objects that can be explained by a complex network of causes (Giorgi, 2005). This phenomenological approach enables us to account for the meaningfulness of human experience (Kenyon, 2000).

The existential-phenomenological approach of thinking is reflected upon and expressed after Husserl's phenomenology and Kierkegaard's existentialism, and is fused together in the work of Heidegger (Eckartsberg, 1997). These philosophers do not design experiments nor engage in systematic data gathering methods or data analysis in a scientific sense but engage in careful and systematic reflection upon and interpretation of human experience, which is non-empirical (Eckartsberg, 1997). Phenomenology is considered to be primarily a contribution of method applied to the phenomena of human consciousness, whereas existentialism is characterised as a way of specifying the essential themes of human existence in its broadest sense: embodiment, being situated in time and space, striving for meanings, values, self-fulfilling, responsibility and so forth (Eckartsberg, 1997).

While there is much internal development within the phenomenological movement, this study adapts an existential-phenomenological analysis based on Beauvoir's philosophical themes. While Beauvoir's existential-phenomenology can be grouped together with that of Heidegger, Sartre and Merleau-Ponty, her focus appears to be less subjective than Heidegger's (1996) Hermeneutics and its central concern is, unlike Heidegger (1996) or Sartre, ethical rather than ontological (Gothlin, 2001; Simons, 2001). An existential-phenomenological analysis from the perspective of Beauvoir, like

the Hermeneutics of Dilthey (Crotty, 1998), looks for socially derived systems of meaning within history and culture. Therefore, the methodology here is stated as an existential-phenomenological analysis, which precisely differs from the hermeneutics of Heidegger and interpretive phenomenological analysis (IPA) that is based on social cognitive theories (Stephens, 2008).

The existential-phenomenological approach in psychology relies on the supposition that humans in a shared cultural and linguistic community name and identify their experience in a shared manner (Eckartsberg, 1997). While an individual's life or experience is seen as unique, existential, his expression (language and thinking) tends towards typical, the phenomenological (Eckartsberg, 1997). Human life takes place in between these levels of participation. The existential-phenomenological perspective questions how the truth of individual experience is related to the truth of the world in general (Eckartsberg, 1997).

Beauvoir recognises the existence of multiple realities, by looking at reality as a "human invention", constructed from different points of view, none of which are universal (Fullbrook & Fullbrook, 2001, p. 56). The lived experience of osteoporosis may vary among individuals in their contexts. This study attempts to understand men by means of the variety of their praxis, not by all men in the abstract. It will show men as they are, as "divided human beings, and not as they ought to be" in Beauvoir's words (Plimton, 1998 cited in O'Brien, 2001, p. 5). However, findings regarding masculine identities are examined from gender perspectives, specifically how hegemonic masculinity impacts on each man's experience of osteoporosis.

The existential-phenomenological analysis examines the interrelationship of language and experience. While our lives are more than we can say, we can also describe our experience more carefully than we usually do with our ability to remember, report, and reflect on both our own and others' experiences. Individuals' lived experiences incarnate in language (Crotty, 1998). Language is thought as a rich source for a truly human science psychology (Eckartsberg, 1997). Language is examined for human life experience itself, an existential principle, rather than a function of language.

Ethical considerations:

The human interaction between participants and researchers in qualitative inquires engages researchers with inescapable ethical aspects. The following ethical aspects are carefully asked prior to embarking on a research project:

Informed consent was obtained by the researcher. Participants were informed about the overall purpose of the research, the main features of the design, and participants' rights. It included obtaining the voluntary participation that participants have the right to withdraw from the study at any time.

Confidentiality of content of the interviews was assured to the participants. Private data that identify the participants are not reported in the written thesis.

Anonymity was assured to the participants. Participants remain anonymous. Any identifying features have been changed.

Bicultural perspectives were applied to the study. A cultural consultation was held with a Massey University cultural advisor to review the research proposal from a Māori (bi-cultural) perspective. Because very few Māori people live in retirement villages that were the initial recruitment venues, it has been advised to seek participants in Māori communities in order to achieve equal opportunities in research participation for Māori people. The advice was incorporated into the recruitment strategies.

The research proposal was written, and research approval was sought from the Massey University Human Ethics Southern Committee in December, 2009, and approval (See Appendix A) was given in January, 2010. The requirements and recommendations from the Committee were incorporated into the study.

Security of data was assured to the participants. All data were electronic (digital audio-recordings, transcriptions in Word files) and were kept on a password protected computer. Only the researcher and the supervisor have access to the data.

Data are safely kept by the researcher until the end of the project. They will be subsequently stored in the supervisor's office at Massey University and eventually disposed, ten years after completion of the project.

Recruitment:

I initially contacted Osteoporosis New Zealand and asked for their suggestions on the research recruitment for this study. They kindly introduced two local radiologists in our city for me to contact. Although I e-mailed the radiologists, there was no response from them. According to the New Zealand Health Survey (2002/3, cited in Brown et al., 2007), the estimated number of men diagnosed with osteoporosis in New Zealand in 2007 was 9,384 (3,932 by fractures; 5,452 by others). From these data, it was assumed possible to find several voluntary participants (men with osteoporosis) via the recruitment advertisement (See Appendix B) without accessing to the medical data or involving the DHBs. The recruitment advertisement included the information about the type and purpose of the study, participant criteria/requirement, and the researcher's contact details. A number of different avenues were used to recruit participants, as outlined below.

Recruitment at retirement villages: The set of the approved recruitment advertisement, information sheet (Appendix C), and a letter (Appendix D) was initially sent to six local retirement villages by mail in February, 2010. The six local retirement villages had been previously selected dependant on the village size and distance from the researcher's residential home. Soon after, follow-up phone calls were made to the retirement villages. Three villages immediately agreed on the phone to put the recruitment advertisement on their notice board for a limited period of time, and one also circulated the research advertisement to their male residents via e-mail. The other three villages' managements left the decision making to their Resident Committees. All the three Resident Committees later approved the study and introduced it in their village meetings and put the recruitment advertisement on their notice board for a limited period of time.

On the public notice boards: Copies of the recruitment advertisement were also put on the notice boards in the local five libraries, two Work and Income offices, a chiropractor's, a Māori health practice, a community centre, a polytechnics and a few natural health shops. Although people took the contact number slips from the recruitment advertisement from the local libraries, this did not lead to any contact or enquiry.

Introducing the study to senior clubs: I also visited the local Tauranga Age Concern and Grey Power offices and asked if they could introduce the study to their members. Later, I e-mailed and introduced the study to 18 Grey Power branches, 12 RSA branches, six Age Concern branches, 13 Bowling Clubs, seven Probus Clubs, and other senior groups in the mid-North of the North Island, including the Bay of Plenty. Six replied to express their support for the study and agreed to introduce the study to their members, one replied to say they could not help with the study, and the remainder did not reply. Age Concern Counties Manukau Incorporated introduced my study in their news letter in October. In October, three nearest local Probus Clubs' representatives were contacted on the phone (one of them had been previously e-mailed to but did not reply). All agreed to introduce the study to their members in the next club meeting. Two representatives gave follow-up e-mail messages to let me know that although the study had been introduced to the members, no one had come forward to take part in the study.

Osteoporosis exercise group: I happened to find on the Internet a local gymnasium that had an osteoporosis exercise programme and contacted the programme facilitator (physiotherapist) and visited her group in March. Two participants were recruited via this osteoporosis group (one was a present member at the recruitment and the other one had been previously a member. These two participants did not attend the group together thus do not know each other). The programme used to be an ACC's fall prevention programme, sponsored by the PHO. However, it is no longer funded so the members now pay fees to the gymnasium.

In Māori communities: During my health psychology practicum (as part of the Master's degree) at Te Rūnanga o Ngāi Te Rangi Iwi Trust (May-June, 2010), the study was introduced to Māori communities to provide equal opportunities in research participation for Māori. One of the participants was recruited from the local Māori community.

In the papers: The recruitment advertisement was also printed in two local newspapers, 'The weekend Sun' in the weekly issue of the 31st of July, 2010 (distributed to the homes of 150,000 residents in the Bay of Plenty region), and the 'Mt Maunganui community, CC's News Letter' in the August 2010 monthly issue (available free in various shops in the wide area of Tauranga, Mt Maunganui, and Papamoa).

Help sought with chemists and radiologists: Also in October, five local chemists suggested that they could introduce the study to their male customers who are on Fosamax (osteoporosis medication). A chemist in a peripheral city suggested me contacting the health practice that specialises musculoskeletal pain in his city. So did I e-mail and ask the practice for their support with my study. A radiologist from this health practice agreed to introduce my study to potential participants (his patients) in November. I visited three more local radiology practices in Tauranga and asked if they could introduce my study to their patients (men with osteoporosis). A radiologist at one practice agreed to talk to their patients to see whether anyone wanted to take part in the study in November.

*E-mail message circulated around Massey Psychology postgraduate mailing list: An e-*mail message was circulated around the Massey University, School of Psychology postgraduate mailing list, introducing the study and asking the members if anyone knows a potential participant. A student replied to me by e-mail and suggested contacting a Massey staff member who was involved in the bone health clinic on campus. I contacted three Massey staff members involved in the bone clinic or osteoporosis research and a radiologist in Manawatu. The Massey research members did not know any males with osteoporosis as their participants have been only women. The Manawatu radiology practice offered help in November. They contacted males who had bone scans at their practice in the past and now live in/nearby the Bay of Plenty or Auckland. Eventually they reported to me that they were having difficulty finding males who actually have osteoporosis.

Participants:

Four men were recruited for the study between February and December, 2010. The basic information regarding the participants is described in Table 1. The age of the participants at the interview was: 42, 53, 66, and 86 years old (mean age = 62). The recruitment advertisement originally sought men over 50 years but this criterion was lessened as younger men were not expected. There was no reason to exclude the 42 year-old participant so he was recruited for an interview. Three were European Kiwis and one identified himself as Māori. Two participants were recruited via the osteoporosis exercise group at the local gymnasium, one was recruited within the local

Māori community, and one was introduced by a friend's mother who works in a pharmacy and has known the participant. All the participants have had a bone density scan at least once for the medical diagnosis of osteoporosis. The participants have been living with osteoporosis for between 2 and 6 years (4 years on average).

Table 1. Participants' basic information

Participant	***Age***	***Time since diagnosis***	***Relationship status***	***Employment status***
1	86	2 years	Widower	Retired
2	53	6 years	Separated	Voluntary work
3	42	5 years	Married with a child	Employed & student
4	66	4 years	Married	Retired

Data collection:

Face-to-face interviews were chosen for data collection. In-depth individual interviews were held at each participant's residential home for three participants and at an Iwi property for the Māori participant. The information sheet was generally given prior to the interview, so the participant had plenty of time to read it and understand the overall purpose of the research, the main features of the design, and participants' rights. Participants' rights were verbally explained before the interview. The participants gave written consent (See Appendix E for the form used). I told participants that this study is not a medical study but a psychological study. I emphasised that what I was interested in was their own perspectives and there were no right or wrong answers. Interviews were audio-recorded, using a digital voice recorder (OLYMPUS® WS-450S VDR). Each interview took between 30 and 45 minutes. One participant requested that his wife was present in the interview.

Participants were asked to describe their experiences of osteoporosis. The interview questions (See Appendix F) included the topics of: experience of the medical diagnosis or

prognosis; experience of the bone scan if any; experience of fractures if any; everyday-life experience in terms of prevention/treatment; experience of osteoporosis and actions related to the risk of the disease (e.g., increased/decreased physical activity); experience of aged/gendered embodiment; constructed body images in different space/time (brief history of life); and family and social life with others. The questions were carefully prepared to help participants express their sense of embodiment or self and lived relations with others as directly as possible (Finlay, 2006). The questions focused on the participants' own perspectives such as how they felt or what they thought about when they were diagnosed with osteoporosis and when they saw a scan image rather than what the doctor said or which medication they were on.

All necessary questions were covered in each interview to elicit adequate information from all the informants. The primary aim of the interview is to empathise with the participant's situation. The empathic approach is characterised by openness and receptivity (Crotty, 1998). By listening to the participant, the researcher seeks to see the phenomenon from his point of view.

Participants were also asked to elaborate on their accounts if necessary. By the researcher engaging with what the participant has to say, the interview becomes interactive (Crotty, 1998). Interview questions were prepared but they were unfolded appropriately according to each participant's story.

Data analysis:

The audio-recorded interview data were transcribed verbatim by the researcher. Transcription notations include short pauses (,), long pauses (...), no discernible pause between two speakers' turns (=), the words of the researcher, participant, and spouse (in one interview) and acknowledgement of emotional expression (e.g., laugher). ([...]) is used where some words are omitted. (*italic*) are the words actually spoken in the interviews. Each interview transcript was printed out and passed to the participant to review. The authority for the release of the transcripts form (Appendix G) was signed by and returned from each participant.

Analysis aims to elicit knowledge about the informants' lived bodily experiences, and also to look at the meanings ascribed to the same experiences by society, from the scientific, historic, and social point of view. The interview data were repeatedly read

and analysed line by line, breaking down into discrete parts, with respect to meanings. Emerging themes were written in the margin, which captured the essential quality of what was said by the informant. The analysis examined, from Beauvoir's philosophical perspective, the ways in which men's intentionality reconstructs their new images or identities. The interpretation of the interview data may go further than the informant's own understanding. Researcher's explicit awareness of meanings and assumptions may be what informants themselves might have been unable to articulate. Examples of the lives of men are used as a means to pass on an insight, meaningful experience of men living with osteoporosis.

Chapter V: Results and discussion

In this chapter, the findings of the study are presented as a description of the men's lived experiences of osteoporosis under three main themes: body image, body sensation, and body action. These three themes together represent embodied consciousness in Beauvoir's existential-phenomenology. Body image is a product of the intentionality in which consciousness is directed towards an object. Body sensation is understood as the conscious interpretation of the physical phenomena. Body action results from conscious decision-making and the physical movement taken. Sub-themes emerged from the examinations of the men's relationship with their bodies and their images after the medical diagnosis of osteoporosis, to their relationship with time and their own praxis, and to their relationship with others and outside world. As the three main themes commonly represent embodied consciousness, each theme is closely related to the other. Images may emerge under the body sensation and body action as well. During the interviews, participants talked about their experiences partly in terms of the past and future. Time and space is not an independent theme categorised here but is used for some of the participants' accounts under different themes. Others (people) also appear in different accounts under different themes. I aim to present the meaningfulness of human experience within each man's own context of osteoporosis. Three main themes and eight sub-themes are outlined in Table 2.

Table 2. Emerging themes: representation of embodiment.

Main themes	*Sub-themes*
Body image	*Scan image as a diagnosis* *Imagined fragility in the new body image* *Body image in relation to others* *Unchanging self/masculine image*
Body sensation	*Experienced fragility in the new body image* *Experienced fragility in everyday living*
Body action	*Restricted activities* *Encouraged exercises*

Body image

Under this central theme 'body image', I investigate the body images that are assumed to have come across to the men's mind or consciousness during the interviews regarding their experiences of osteoporosis. My aim is not to capture or describe clear visible images of anyone's body. As Beauvoir's notion of intentionality explains images can be real or imagined, emerged in one's mind while one's consciousness intends objects. As Watson (2000) suggests, fitness and appearance are important health concepts for men. A variety of images are expected to emerge in men's talks of osteoporosis. There are four sub-themes under this first main theme: 'scan image as a diagnosis', 'imagined fragility in the new body image', 'body image in relation to others', and 'unchanging self/masculine image'.

Scan image as a diagnosis

All four men were diagnosed with osteoporosis as a result of a bone density scan. Three participants' (Participants 1, 2, and 3) reasons for being scanned share the same purpose: to investigate what was causing their chronic back pain. They had commonly suffered the chronic back pain for quite sometime (years) until the point their pain became unusually stronger and they decided to seek help. Participant 1 spent a week in the hospital when his balance became very poor prior to the diagnosis of osteoporosis. At the same time his back pain became stronger so he consulted for his back at the hospital. Participant 2 initially started to feel back pain in his 20's but left it and did not consult for his back for over two decades. Participant 3 worked as a builder but the pain became so strong that some mornings he struggled to go to work. Participant 3's osteoporosis was diagnosed by the third health practitioner he consulted. Participant 4 was referred to radiology by his physician to assess the side effects of the immunosuppressant medication on his bone density, which he had been on for another chronic illness for over twenty years. Back pain has not been a main concern for Participant 4.

The scan result showed compression fractures in the vertebrae for all three of the men with chronic back pain. The youngest Participant 3's diagnosis appears to be idiopathic osteoporosis without a known cause but could be genetic as well, the oldest Participant 1's is age-related or primary osteoporosis, and Participants 2 and 4's are secondary,

subject to Prednisone (i.e., glucocorticoids) that has been used for other illnesses (over twenty years for Participant 4, and over 15 years for Participant 2).

All the participants did not know exactly what osteoporosis was until their own diagnosis. They commonly gained information about osteoporosis from the doctors initially, followed by medical leaflets, the Internet, and other sources. The study of Seale, Ziebland, and Charteris-Black (2006) found that their male participants with prostate cancer were more likely to seek information on the Internet, whereas their female participants with breast cancer were more likely to seek social and emotional support. The information regarding osteoporosis that came from outside served to enable the men to image what osteoporosis is or what their bodies have become of. The new osteoporotic image of the body was compared with the image each man previously had of himself. Subsequently the diagnosis of osteoporosis had psychological impacts on men's sense of self image or identity.

The degree to which each participant has been affected by the medical diagnosis of osteoporosis was expressed differently in relation to their age, previous self image, past and current health conditions. Regarding the diagnosis of osteoporosis or the fact that they have got osteoporosis in their bodies, the participants expressed their psychological or emotional experiences. Their talk was described and analysed in terms of images. The order of the participants' accounts produced here is chosen by my own flow to draw on the theories guiding the study. I begin with this response of Participant 1 when I asked him how he felt or what he thought about when he looked at the scan image at the diagnosis.

> Participant 1: *Ah, I was uh very surprised, and I was uh very disappointed when they told me I had this, I had these crushed vertebrae, two, two crushed vertebrae in my back.*

Despite being 86 years old, the diagnosis of osteoporosis (a decrease in bone density that is a natural part of ageing) with crushed vertebrae (fractures) came as a surprise and disappointment. Participant 1 said that "*I could not see a lot in the X-ray. It was the expert who told me what the result, the report [was]".* The scan image, in which Participant 1 could not see a lot, was reconstructed, with a clear description of a medical expert about the fractures, into a more complete image. The image is the body of an 86-year-old man whose bone density has decreased and vertebrae are crushed. Although

Participant 1 had been suffering back pain for several years prior to the diagnosis, the compression fractures or osteoporosis had existed in his body as 'the unrealisables' according to Sartre's (Beauvoir, 1972) notion until he was diagnosed with osteoporosis. The following similarly repeated sentence make it evident.

> Participant 1: *Yes, very disappointed and also very surprised um, because I did not expect that. I was quite shocked.*

Although shock often accompanies illness at diagnosis (Coward, 2000), Participant 1's shock was caused by the new body image that confronted him. In Beauvoir's (1972) words, "what defences can he put up?" and "Can he adapt himself to it" ? (p. 448). The next sentences immediately followed the previous one.

> Participant 1: *Um, but I realised I couldn't do much about it except medication. It wasn't going to repair itself. But I'm taking calcium and medication, so it doesn't go any worse, yes.*

Participant 1's choice of reaction to the diagnosis is seemingly to adapt himself to it, to accept the scan image and the medical practitioner's suggestions. He finds a relief in the medication that is expected to maintain his newly accepted body image from getting worse in terms of bone density. In his talk, body images are found multifaceted in the time dimension as Hellström (2001) suggests: a current 'disappointing' body image and a future 'hoped for' body image. For Participant 1, his 70th or 80th birthday did not bring an apparent change into his life, he says. According to him, those birthdays did not make him feel any older. However, the medical diagnosis of osteoporosis turned out to be a pivotal life event. He repeatedly described that:

> Participant 1: *Oh, yes, it was uh, it was a shock, to, to learn I had osteoporosis. It was a shock, and ah [I] realised I couldn't do the things I used to do.*

In the above talk, there is a sense of loss in the former physically active self: the past healthy self has been lost forever. This phenomenon has been studied with people with chronic pain. In the study of Hellström (2001), informants who had developed chronic pain and become inactive talked about their former self as 'lost forever'. After retirement, Participant 1 started playing tennis and continued until he was 83 years old. He started to feel it was getting more difficult to keep playing tennis when he was 82

years old. At the same time he started to worry about falling over without knowing the condition and quality of his bones. Considering these circumstances, the following sentences of Participant 1 can be better understood.

> Participant 1: *And the fear of falling over, I think that's one of the big things. Once you've been told your bones are no good then you're more frightened.*

An elderly man's vulnerability can be read. He was already feeling frightened in his everyday life, which is a typical image of an elderly. He was just starting to realise a decline in his body and fear of a fall was appearing in his mind. An image of a fall Participant 1 might have had before the diagnosis was probably just a fall hitting his bodily parts. This image of a fall has been reconstructed with a characteristic of osteoporosis (poor quality of the bones) and its episode of a fall has extended to fractures. Now the quality ('no good') of his bones has made an imagined fall more frightening. An active tennis player is "a self deceased and forever gone" for Participant 1 (Hellström, 2001, p. 120). As I presented, the diagnosis of osteoporosis: low bone density and crushed vertebrae (previously the unrealisables) came to Participant 1 as a surprise. Some differences and similarities are found in Participant 3's experience of the medical diagnosis shown next.

Participant 3 was 37 years old when he was diagnosed with osteoporosis by the third health practitioner he consulted for his back pain. Being 37 years old is considered to be outside the typical age group of male osteoporosis. Although he was still functioning as a builder, his back was *"getting more sore than usual"* so some mornings he struggled to go to work, failing to demonstrate an important gendered role: being a worker as a breadwinner for the family. He knew something was wrong with his back and wanted a satisfying explanation for it as well as pain relief. However, osteoporosis was far from what he had expected. Although he found out that his mother and her sisters (5 women aged over 60 years) had osteoporosis in different parts of their bodies, he did not exactly know what osteoporosis was or that it could happen to men like him.

> Participant 3: *It wasn't still a big issue. It wasn't a big issue. Since, since then I've got on the Internet and done some research by myself, found out what it is.*

The more information or images of osteoporosis Participant 3 gathered, the less the diagnosis of osteoporosis made sense to him. In other words, the more he found out

about osteoporosis as a feminised disease, the more he was confused and experienced an identification crisis in Beauvoir's (1972) notion.

> Researcher: *Do you mean, when you were diagnosed with osteoporosis and found out what osteoporosis was, you were shocked?*
>
> Participant 3: *Yeah, I wouldn't say shocked, uh...well, yeah, I was a bit shocked, yeah. Why me? I'm in my 30's, I'm a male.*
>
> Researcher: *And having, have been doing a physical work=*
>
> Participant 3:*=Physical work. Yeah, I'm pretty healthy=*
>
> Researcher: *Strong.*
>
> Participant 3: *Yeah, strong, healthy, I eat well. I don't drink that much. Just an average guy. This can't be right. Why me?*

Within the above talk, multiple body images emerge. The body image or self image Participant 3 has of himself is 'the body of an average guy' and this is also described with an image of 'a healthy man who eats well, doesn't drink that much, engaged in physical work and strong'. Participant 3's concept of healthy is consistent with Watson's (2000) study that a healthy image is constructed with contemporary life-style messages regarding health behaviours: eating and drinking. However, these images and masculine identity of Participant 3 were challenged by an image of an old (vs. 30's) woman's (vs. male) body who would have osteoporosis. Clearly these conflicting body images of 'a healthy average guy' and 'an osteoporotic old woman' do not match well. Research on men with prostate cancer (Cameron & Bernardes, 1998) shows that a younger man experiences an illness as a stigma or ageism when the image of illness belongs to an older age group. Unlike prostate cancer, a prototypical image of osteoporosis belongs to not only older but also female bodies. Younger men can be doubly disadvantaged in osteoporosis, experiencing ageism as well as sexism. 'Why me?' represents disbelief that accompanies diagnosis (Coward, 2000). It is also a common question asked by people who search for a meaning to the experience of an illness and find a cause to blame (Miller, 2005). His description of 'just an average guy' is an interesting expression, in which I find his resistance to the position that osteoporosis put him in.

Participant 3: *I had a bone density scan, which showed I was below average.*

The bone density scan result 'below average' confronted his self image that he describes as 'just an average guy'. This 'below average' becomes 'abnormal' in his following talk.

Participant 3: *They showed me, first of all they showed me a normal, a normal sample from a male, my age. Then they showed me mine. So I could compare the two. Where it's all gone.*

His body and self images have been visually challenged with the scan images comparing his 'below average' or 'abnormal' body to the 'average' or 'normal' one. Although his bone density is below average and his bone structure is abnormal from a biomedical point of view, Participant 3 describes himself as 'just an average guy' by presenting on a continuum of the relationship between the body image, self image and health behaviour as Watson (2000) suggests. From the description of '*where it's all gone*' we can presume that Participant 3 also has an image of his past body. There is no medical record of his past bone density prior to the diagnosis. However, he is convinced that his body used to be the normal or average one. The scan image has clearly reinforced Participant 3 to reconstruct his new body image that has become medically abnormal over time. The challenges Participant 3 was posed to deal with by the visible diagnosis have clearly caused psychological distress for him, which he talks.

Participant 3: *The graphs in that, you look at the graphs, what can you feel? It's just the graphs. OK, this is average person, this is me. So what? You know. Uh, I try not to let things get me like that.*

In the above talk Participant 3 expresses his frustration and a sense of male competitive nature. The normal X-ray or bone density scan images require a professional's interpretation. As Participant 1 said, it is hard for lay people to see what's in it. Vertebrae fractures are particularly difficult to visualise as bone anatomy is complex: fractures may not have visible displacement (Francis et al., 2008). Participant 3's scan images (he had multiple scan images) appear to have been reconstructed in his mind over time, combined with the medical practitioners' descriptions, and presumably with more images from the Internet or elsewhere. The following description shows the way in which Participant 3 constructed and reconstructed an image of his bone structure in micro-detail. When he was asked what the scan image looked like to him, he said:

> Participant 3: *What did it look like? Uh, OK, if you look into, into a forest, and you see lots of trees, and each one of these trees is strand of a bone. Someone's gone through and cut down every third tree. And, that's why my bone density is bad because these structures form of your bone are disappearing. Um, your muscles are on either side, compensating for the lack of bone string. Uh, when I looked at it, I was, I was quite shocked, really. [Be]cause, I didn't know what it was.*

Participant 3 appears to be describing the structure of his trabecular (inner, porous) bones of the vertebrae in detail, which is not generally printed in a bone scan image. In the above talk, Participant 3 describes his current bone structure that implies a future image. He describes his bone structure as '*disappearing'* this time instead of 'gone'. His new body image appears to be a dynamic one rather than static, located on the continuous time line towards future. Clearly his experience of scan image was unpleasant. His body image of the future is not what he hopes for but rather 'fears about'. So the following talk of Participant 3 can be well-understood.

> Researcher: *Are you planning to have more density scans=*
> Participant 3: *=No=*
> Researcher: *=or X-ray?*
> Participant 3: *Why? It's just a waste of money.*

It is interesting to compare some comments of Participant 3 with those of Participant 1. The diagnosis of osteoporosis was shocking to both men because it was unknown (the unrealisables) to them previously and they never expected their vertebrae to be fractured. It is also probably because both Participant 1 and 3 have been healthy otherwise. However, it is assumed that it was harder for Participant 3 to accept his new body image because he was 37 years old and a strong, physical, masculine builder at the time of diagnosis. Participant 3 talks of both the bones and muscles, which are important basic body parts for his career and masculinity. When one is old, the biological phenomenon can be more easily attributed to nature (ageing), such as Participant 1 describing osteoporosis as: *"just part of growing older, really, to me".*

Participants 2 and 4 have suffered multiple health conditions besides osteoporosis prior to their diagnosis of osteoporosis. The other illnesses these men have had in the past or still have now are more severe as compared to osteoporosis. However, both men are

living relatively healthy and functioning in everyday life. Unless they tell you, they do not look like they are living with a chronic illness at all. The illnesses and conditions differ between the two men. Participant 2 was diagnosed with osteoporosis six years ago when he was 47 years old. Previously in the late 1990's, his physician gave him two months to live because of his chronic obstructive pulmonary disease (COPD), of which double-lung transplant was turned down as he had Hepatitis B and C at the time. Despite the physician's prediction, Participant 2 fought against the illnesses and survived. His COPD has been reversed and Hepatitis B and C became negative. The following description shows what the diagnosis of osteoporosis meant to him.

> Participant 2: *I was already quite shattered already about my health already. And it [osteoporosis] didn't really worry me at the start.*

The 'shattered health' implies that Participant 2's own body image had been previously distorted by the other illnesses and presumably by the past health-related behaviour he talks about later. Since the time when he was given two months to live, his body would have been primarily a vehicle to keep life at an existential level, rather than a vehicle to demonstrate masculinity, at least 'at the start' 6 years ago.

> Participant 2: *And, because at that time I had the other illnesses, I just thought 'Ah, something else with me to contend with'.*

He could not wish more than a life. Despite his immediate acceptance of osteoporosis and seemingly minimal psychological impact the diagnosis of osteoporosis had on him at the start, Participant 2 described his experience of a bone scan image as:

> Participant 2: *I looked at it and I just went 'Oh'. I'm sick of it (laughter by the interviewee).*

A bone scan image challenges every man's own body image. After several years of survival against the other severe illnesses, Participant 2 regained his physical body and his future unfolded before him. He was 47 years old when he was diagnosed with osteoporosis. His scan image came to him with a written description of four crushed vertebrae. Osteoporosis further distorted his body image and added new characteristics (fragile bones and the crushed vertebrae) to his previous body image. Participant 2 used the medical terms of osteopenia and osteoporosis somewhat interchangeably during the

interview. In line with the studies of Reventlow et al. (2006) and Reventlow (2007), an experience of bone scan becomes a threat to the person's body image, whether it is osteoporosis or osteopenia (merely decreased bone density).

Participant 4 has been living with multiple health conditions in his life time. He developed a rare type of blood cancer and has been living with this chronic illness for more than twenty years. This illness affects his energy level which he describes as 'fragile'. He had lower left extremity amputation five years ago because of bad blood circulation, which was partly attributed to the condition of the feet he was born with. The diagnosis of osteoporosis was given four years ago. Despite these health conditions, Participant 4 has been living a normal life otherwise. He has worked in sawmill and been married with an adult son. He has been demonstrating all typical gendered roles in his life. To a man with such complex of health history, the diagnosis of osteoporosis or the scan image meant as below.

> Researcher: *Could you recall what you felt like or what you thought about your bones when you looked at the [bone density scan] image?*
>
> Participant 4: *It didn't really concern me that much […] So it's uh, anything new discovered about my body, 'okay, fine, let's continue on life' (laughter by the interviewee).*

Despite the above talk of Participant 4, diagnosis of osteoporosis still evokes some psychological reaction in every man. Participant 4 described osteoporosis as *"just uh one of many problems"*, which illustrates his body image with a complex illnesses. 'Let's continue on life' implies Participant 4's primary concern at the existential level, the body as a vehicle to keep life, like Participant 2. For Participant 4, who has previously dealt with the other life-threatening chronic illness, he has assumingly already learned how to confront his health challenges. Although osteoporosis does not immediately threaten life, we must not understand that the osteoporosis has not at all affected Participant 4. Throughout the interview, Participant 4 expressed his emotion in the 'laughter'. The 'laughter' in the Participant 4's interview means that although he answered the interview questions seriously and honestly, a sense of humour characterises him and his positive attitude towards life, which is quite up-lifting. The ways, in which ill people talk of their illness with its emphasis on pain and suffer, evoking fear is called 'chaos narrative' (Vroman et al., 2009). Participant 4's narrative

is seen as ‘quest narrative’, in which ill people achieve meaning and find “a sense of purpose from an illness experience” (Vroman et al., 2009, p. 977). For Participants 2 and 4, osteoporosis interacts with another chronic illness in their bodies. Both men need to live on Prednisone for another illness that negatively affects osteoporosis, which Participant 2 described as “*in the catch 22 situations”*.

I have so far presented that the participants made sense of the medical diagnosis of osteoporosis in their own contexts. A scan image and a description that came with it and the meanings ascribed to osteoporosis played a role of a powerful mental image that helped the men to construct and reconstruct their new body images. The men talked about their bodies in the time dimension, comparing their present body image with that of the past and future.

Imagined fragility in the new body image

The second sub-theme under the body image is titled ‘imagined fragility in a new body image’. Under this sub-theme, I continuously investigate what it is like to be diagnosed with osteoporosis of which interpretation equals future fractures. The existing qualitative studies of osteoporosis (Reventlow et al., 2006; Reventlow, 2007) report an impact a scan image has on women’s risk perception that women overestimate the risk of fracture due to imagined fragility. ‘Fragility’ is closely linked to ‘femininity’, ‘weakness’ and ‘old age’. Whether men with osteoporosis would see their new body images as fragile regardless of age or/and gender is of interest.

A strong sense of imagined fragility was found in Participants 1, 2, and 3. For Participant 1, after the diagnosis of osteoporosis, his image of a fall that he had been already frightened of extended to a continuous image of a fracture, frightening him more. His image of a fall or imagined fragility becomes clearer in the following quote.

> Participant 1: *I don’t want to fall over and break my leg or break a hip, if I. Because my bones are soft, I realised, if I have a fall, I could break a bone.*

His new body image is characterised as ‘soft bones’. His mental image of a fracture consists of an event (a fall) and quality of the bone (soft). His concern has a lot to do with his poor balance. It is interesting to compare which psychosocial factors appear in each man’s image of fractures. Participant 2 (age 53) described his fear around fractures

as below when I asked him how his body image had changed after the diagnosis of fracture.

> Participant 2: *Um, I started, when I started researching that I'm easy to fracture. And, it's a major, it's a major concern I'm always thinking about, to fracture easily. So I am aware of heavy lifting, or even walking properly, uh walking at night, always stuff I've got to be, I always [got to] be alert because I know I can fracture easily.*

In the above description Participant 2 provides multiple images of fractures. The image of his new body is to 'fracture easily' or as fragile although the men did not purposively use such a word. 'Heavy lifting' interestingly provides an image of masculine physical activity associated with compression fractures in the vertebrae. Participant 2 may hold an image of a wrist fracture from heavy lifting as well. 'Walking at night' describes a younger male life-style as old people and women are less likely to be walking at night. Ambivalence is found in Participant 3's embodiment: 'being alert' describes a younger male's logical mind in contrast to his physical body that may 'fracture easy'. Participant 2 is particularly careful about walking in the dark because his eyesight has been affected by two accidents that happened to the same eye in his youth as well as the side effect of Prednisone.

I did not ask the participants what the physicians said to them unless they raised this themselves. Today lay people can gather a large amount of medical information regarding health and illness on the Internet. The information regarding osteoporosis generally has its emphasis on fragility and a risk of fracture. The youngest Participant 3, like the other two men, is experiencing chronic back pain. He was seeing an osteopath until his imagined fragility stopped him to do so. His imagined fragility was talked about within a context of osteopathy.

> Researcher: *So does it mean you are quite concerned about your pain, you also have a fear or a concern about future fractures as well?*

> Participant 3: *I wouldn't say a fear. I would say, a healthy awareness. Umm... I don't, I don't dwell on things so much. I don't let things get me down. But now I'm aware um, I can't see an osteopath any more, because the osteo's care may break my spine.*

Participant 3 disagrees to describe his imagined fragility as a ‘fear’ but returns it a ‘healthy awareness’. The above talk of Participant 3 is framed in masculinity: ‘I don’t dwell on things’ and ‘I don’t let thing get me down’. However, his imagined fragility is so strong that an osteopath’s treatment could break his bones. Osteoporosis does not necessarily mean that a fracture will occur and people without osteoporosis can still break bones. Boys and men break bones in sports. Healthy people are often unaware of the risk of fractures. The following talk of the same participant provides a very interesting episode how the realisation of possible fractures was raised by his osteoporosis and made him give up his hobby, go-kart racing.

> Participant 3: *Um, I had to give up my sport. I’ve been racing, racing karts, go-karts. Um, very fast, very rough. I couldn’t, I couldn’t keep racing. It was too sore. So I had to give that up. Yeah, that upset me. Because that’s my thing, you know.*

And also:

> Participant 3: *The doctor said I cannot keep racing. If I keep racing, I probably end of breaking my back, so I thought nope.*

The former sentences clearly describe his back pain as a problem. However, the latter sentences help us to understand that it was not only the pain but also his imagined fragility that made him give up go-kart racing. Being in a go-kart race that is described as very fast and very rough, Participant 3 as well as anyone else in the race had been at a high risk of injury including possible fractures anyway. It is interesting to find that the risk of fractures for anyone in go-kart racing had been the unrealisables to Participant 3 but was all the sudden raised by osteoporosis. The go-kart racing was an important part of Participant 3’s masculine identity, thus giving it up has upset him. Men’s sports have been historically produced and ability to play sport is also an important aspect of masculinity (Chapple & Ziebland, 2002; Connell, 2000). Participant 3 actually has experience of a fracture in the hand when he was 24 years old, which he attributes to ‘*young guy’* but ‘*not related to the osteoporosis’*. After the diagnosis of osteoporosis, Participant 3, like other participants, has not broken a bone.

For Participant 4 who has been living with a more severe illness and multiple health conditions, neither osteoporosis nor the risk of fractures is talked about as a worry.

Researcher: *Do you have a fear of fracture?*

Participant 4: *No, I don't.*

Researcher: *No?*

Participant 4: *No, I don't.*

*(*Researcher: *That's good.*

Participant 4: *I just continue on until something happens (laughter by interviewee).*

Researcher: *All right.*

Participant 4: *And hope it's repairable (laughter by interviewee).*

Participant 4 clearly understands what osteoporosis is and a risk associated with fractures as I confirmed with him during the interview. The above talk implies a possible fracture but he is still optimistic that he hopes it will be repaired. This is the positive attitude Participant 4 has towards life. He says "*life is still too good*" and appears to be appreciating his life as it is at the existential level, and trying not to waste a minute but enjoy. The lived experience of those with lower extremity amputation has been studied (e.g., Liu, Williams, Liu, & Chien, 2010). Although these studies report psychological distress experienced in a loss of physical wholeness, positive outcomes have been also reported. The positive outcomes or 'post-traumatic growth' has been long researched in the traditional psychiatry (Tedeschi & Calhoun, 2004). Although one's trauma or illness experience is unpleasant, increasing one's sense of vulnerability, it also strengthens one's sense of own capacities to survive and prevail over a sufficient amount of time (Tedeschi & Calhoun, 2004). Traumatic growth and distress are thought to coexist in most survivors of trauma including Participant 4. Participant 4 has experienced fractures multiple times in his childhood and once (hand) in adulthood before the diagnosis of osteoporosis. When he first tried to use new crutches after the limb amputation (prior to the diagnosis of osteoporosis), he fell on his hand on the concrete. He says he does not have a balance problem on his artificial leg now. He usually goes out without crutches. He uses the crutches only when he goes swimming because he can leave his artificial limb behind at home that is not used for swimming.

Surprisingly, three participants, like the older women in the study of Reventlow et al. (2006), understood the risk of fracture as immediate after a bone scan, by interpreting the diagnosis of osteoporosis as equal to future fractures.

Body image in relation to others

Hitherto, under the main theme 'body image' we have seen the diagnosis of osteoporosis came with a scan image. The scan image, alongside 'expert' translation helped the men to construct and reconstruct their body images as fragile. As Beauvoir suggests, this demonstrates a cluster of rays of intentionality each man's consciousness directed through an analogon (an osteoporotic figure) towards a missing object (his new body image). Others' opinions are important sources of information for men to construct and reconstruct their body and self images. Distorted body shapes, according to Watson's (2000) concept of unhealthy (being overweight), occur in the male body with excess fat altering shape and posture "so that a new body shape, as perceived by others, begins to emerge" (p. 85). Although excess fat may not associate with osteoporosis, altered posture and body shape characterise osteoporosis. Under this sub-theme, I present how images come to the man's consciousness from others he interacts with in his life.

Participant 3 lives with his wife and a child. I asked him whether he had told other family members about his osteoporosis. His and his wife's parents and relatives are around New Zealand.

> Participant 3: *Eventually. Yeah, um...might've popped questions like 'why don't you stand up straight?' or 'why are you hunched over?' or 'why does it take so long to stand up?' I've got to tell them.*
>
> Researcher: *Sounds like, sounds like uh, it must have been hard for you to be asked like that.*
>
> Participant 3: *Yeah, it was because I had to tell them that I had a disease that belonged to an old woman's body. You know, ah, it's not right.*
>
> Researcher: *What did they say?*
>
> Participant 3: *It's a shame (laugher by interviewee). Nothing much, really, you know.*

The above talk is a good example of how changes in the body are perceived by others and emerged in conversations. 'Hunched over' (shape) and 'take so long' (slow speed) together illustrate the typical image of the aged body in contrast to a strong, younger, masculine body. Now Participant 3's osteoporosis has become visible to others. The diagnosis has already caused him psychological distress, but it is additional distress for Participant 3 to tell others that he has osteoporosis, a feminised disease. His expression of 'it's not right' suggests his experience of what Navon and Morgan (2004) frames liminality. Paulson, Danielson, and Söderberg (2002) report that men with fibromyalgia (i.e., chronic muscle pain) perceive their bodies as a 'reluctant body' or 'body in pain' and this lead to an altered identity (being a different man from the former self). Stress, anger, and a feeling of uselessness are generally experienced by those with back pain and it can take a toll on marriage and a family (Corbett et al., 2007). This is evident with Participant 3.

> Participant 3: *Uh, some days I come home from work, and I am sore. So that naturally rolls on. I snap on my wife. I might snap on my daughter. Not because I want to, but because I'm already, sore.*

Participant 3 learned from his daughter that his identity as a father had been altered by his back pain. New images of being a father emerged in Participant 3's talk below.

> Participant 3: *Now I have noticed it's affected my family life. Uh, my daughter said, 'some days dad wakes up grumpy' because I've got a sore back. 'Some days we cannot go for a walk in the hills or go for a walk down on the beach because dad's back sore'. And that annoys her. Um, I try, do as much as I can, and not to put myself out the picture, you know, I just take some pain killers and play with it.*

A grumpy father image emerged in this specific local (family) interactional context. The grumpy father image his daughter described to Participant 3 was not what he desired to be. Participant 3 found a distinction between an original father and that which had emerged due to his pain. So Participant 3 has been trying to spend quality of time with his daughter. He may schedule his ancient massage appointment on Friday evening so he can wake up without a sore back to spend the weekend with his daughter, he told me. Since he gave up on his hobby, go-kart racing, his daughter's netball and swimming

have become the sports he participates in. By maintaining a gendered role of father, Participant 3 endeavours to sustain his masculine identity.

Participant 1 lives on his own in a residential home in town. His wife passed away eight months previously. He has two sons but they live in different cities (one overseas). He has friends in the same town. Others emerged in his talk when I asked him if he worries about fractures.

> Participant 1: *Yes, I do worry. That's why I got a walking stick. Because uh my friends uh all said I should have a stick.*

Fear is a common feeling accompanied with an illness diagnosis followed by "an urgency to reach out to others for information and support" (Coward, 2000, p. 158). His friends must have been aware of his balance problem and been concerned about a fall. Regarding an imagined future fall, the image of a fall that Participant 1 holds seems to have been constructed with his friends' suggestions that agree with an imagined fragility. Probably because of his age (86 years old), others are more aware of his bodily decline (in-itself) than he is himself (for-itself). Others' suggestion of a walking stick has been adapted, and the stick has become an important part of his body in his everyday living.

> Participant 1: *I always carry my stick but I don't always use it. And I don't need it rather in the house, and in my garden, and around, in and around the house, I don't need the stick. I keep it in the car so if I go where there is a lot of people like shopping mall, or children running around, I use my stick because I'm frightened of falling over.*

Participant 1 is independent and does not need the stick at his residential home. However, his movement can no longer catch up with the speed of children's movement. The above talk describes an elderly man's vulnerability and feelings of weakness in public (society). The stick may serve to enable others image him as an old man so that he will be treated as one, I expect in a respected way.

A man's age and outer appearance seem to influence others' views about the man's body image. Participant 2 has been living a healthy life-style for over a decade after suffering the life-threatening illness, COPD. He lives with his elderly mother in the residential home in town, looking after his own and his mother's health. Participant 2

has not really told anybody about his osteoporosis. Because of his healthy appearance, many others are not aware of his inward feelings about his own health and body.

> Participant 2: *Just because I do look like, people think I can, like a monkey, I can climb ladder or run but I can't.*
>
> Researcher: *Yeah?*
>
> Participant 2: *Yeah, but people take it for granted. Uh, they don't know how hard I work to stay in my condition.*

For better or worse, the body image others have (in-itself) of Participant 2 appears to be a more healthy active one than that which he has himself (for-itself). The lived experience of COPD (Ek & Ternestedt, 2008; Gullick & Stainton, 2008) and hepatitis C (Treloar & Rhodes, 2009) provide us some ideas what Participant 2 has gone through. Living with COPD often imposes limitations on daily living and impacts on quality of life (Ek & Ternestedt, 2009; Gullick & Stainton, 2008). Also a feeling of being condemned by Hepatitis C, and of despair have been studied to accommodate with the diagnosis (Treloar & Rhodes, 2009). Participant 2 has become self conscious about health after suffering the other illnesses so that he now even evaluates other's health from his knowledge and experience. Men use symbolic representations of the body to evaluate others' health (Watson, 2000). Participant 2 evaluates other men by using the prototypical body image of osteoporosis.

> Participant 2: *But I have actually seen a lot of people and men, I take notice of a lot of things, and people with uh, hunched spines, and that is due to uh lower bone density, that falling over spine, some of them they call it, um, wedging.*

On the contrary to the above talk of Participant 2, the following talk of Participant 4 points at the invisibility of osteoporosis in relation to others.

> Participant 4: *And whoever coming across with people lack of limbs, we compare notes (laughter by interviewee). And talk about the advantages of it. But osteoporosis, uh, it's not sort of obvious to anybody that they've got it.*

When I tried to elicit Participant 4's ideas about his self image, he did not quite understand what I meant by 'self image'. For Participant 4, osteoporosis had minimal psychological impact and his body image had not been particularly altered by

osteoporosis. We came to the following talk when his spouse asked Participant 4 about his body image, pointing that he sees himself in a mirror after a shower everyday. This talk described his relationship with others who do not see him often.

> Researcher: *So you, you see yourself in a mirror, everyday?*
>
> Participant 4: *Yes, and it's permanently cracked (laughter by everyone). Nah, people have said to me 'oh your hair's going grey' but I don't notice it's going grey. But the people I haven't seen for a long time so yeah.*

It reads true that Participant 4 does not notice his hair going grey. The objective certainty of our biological decline or old age belongs to what Beauvoir (1972) refers to the unrealisables. Outer bodily changes are more apparent to others who do not see him everyday or regularly. Therefore changes in shape and colours are perceived by others and a new body image emerges to the man from others. Regarding ageing Participant 4 also said:

> Participant 4*: I know steroids make you look older. It takes away elasticity of the skin. But, I need, um, steroids to keep me alive, so you just accept it.*

As research (Williams & Barlow, 1998) suggests medical treatments' ageing effects on the skin may be more distressing for women than men. Just like Participant 4's grey hair, why we fail to realise our biological transformation is that we hold "the inward feeling that guarantees our unchanging quality" (Beauvoir, 1972, p. 290). This unchanging quality of the self, 'unchanging self/masculine image' is analysed in the next section in relation to the new body images we have investigated so far.

Unchanging self/masculine image

Cunningham-Burley and Backett-Milburn's (1998) perspective that people adjust or resist to ageing is to say they still feel young, is an interesting aspect to address in this study. Beauvoir (1972) suggests that an old man's inward anxiety and his attitudes must be interpreted, "at least to a great extent, as forms of defence" (p. 466). This approach is applied to my analysis regardless of the man's age.

Firstly, I start with the oldest Participant 1. He was born and grew up in England and immigrated to New Zealand when he was 28 years old. He joined the Merchant Navy at the age 16 and spent many years on the sea until he retired at the age of 60 years old.

> Researcher: *Well, uh because you worked on a boat, you know, in the Navy, I, I suppose, you know, in, in your life you had your self image, a strong masculine one, is that right?*
>
> Participant 1: *Well, yes. I've never been a big man. I've always been, thin, slightly built. Um, but I did everything anybody else could do while I was working, yes.*

His body shape is described as thin, slightly built, which is not considered to be the most idealised masculine body (a large masculine body) by men today and back in that time. However, Participant 4 agrees that all the masculine tasks required at work were completed. So he agrees with the hegemonic masculinity in the way he demonstrated his masculine tasks. I asked him whether his age or ageing had changed his own self image in his later life.

> Participant 1: *No. Not really. I mean I'm now 86 but I don't feel it. I, I, I only feel about 66, ah. I don't. My brain is the how young I feel. It's just physically my body I can't do what I used to do. But that's, I didn't feel that until about 3 or 4 years ago.*

The above talk clearly describes 'an insoluble contradiction' between his objective body and his inward feeling. It is analytically fascinating. Participant 1 claims he doesn't feel he is 86 years old. A man aged 86 years old must have been, for him, for a long time, someone else Participant 1 could only imagine in the 'in-itself' mode for that man. From his childhood through to adulthood, Participant 1 must have always anticipated being 86 as a point in a long future ahead. And now he is 86 years old. However he is feeling right now is the real 86 years old in the 'for-itself' mode. He has given a particular age 66 to express how young he (embodied subjectivity) feels, 20 years younger! At the same time, he admits his physical limitations and biological decline in his body.

Beauvoir (1972) points out that "one attribute is common to almost all old people – they take refuge in habit", and "habit is the past in so far as we do not re-present it but live it

in the shape of attitudes and forms of behaviour" (p. 466). The elderly live in everyday life in which a routine is established: a given time table and a given arrangement of living space. Being 66 years old was once experienced by Participant 1 in the 'for-itself' mode yet being 66 years old has now become of the 'in-itself'. As Watson (1989) suggests, Participant 1 still tends to define his former 'I' as the 'I' that he is no longer and he cannot dissociate himself from the past image. In the habit like living in the same home or taking the same path for a walk everyday, the present moment is the past brought to life again, the future anticipated (Beauvoir, 1972). Participant 1 may be living in a habit. Theoretically, by living in the habit, one can experience both (past and present) in the for-itself mode (Beauvoir, 1972).

The death of Participant 1's wife must have brought changes into his habit or everyday routines. Whether it is his resistance or adjustment, it is encouraging to hear that Participant 1 is living happily, feeling young. As Beauvoir (1972) suggests, all he can do is to waver from the one (86-year-old body) to the other (subjective feeling of 66 years old), never managing to hold them both firmly together.

Participant 2 has been living a new life concentrating on his health recovery over a decade. He has completely changed his life-style. For Participant 2, who was once given 2 moths to live, osteoporosis did not affect the way he thinks or feels of his age. When I asked him about his identity, he did not immediately understand what I meant by identity but went on to say:

> Participant 2: *I'm still, I still think the same but my body can't do the same stuff. And uh, because of my uh...um, diagnosis, I am easily to fracture now, so I have to be aware of that now. But I know that. I've known that for a long time now.*
>
> Researcher: *Did you have a strong masculine identity when you were young? Did you think of yourself as strong?*
>
> Participant 2: *Yeah, invincible. I was invincible (laughter by interviewee) but you are not. No one is invincible. But that's the mentality of the young person. Especially young male, Māori male, or any male. I was very active, very uh good at sports, and uh, invincible, so I pushed the barrier and everything.*

Although Participant 2 says he still thinks the same, his talk provides us with at least two different images of him in time and space: a current image of his embodiment (he

still feels the same but he is aware that his body is not the same) and a typical image of a young man who abuses his physical body to acquire the masculine social self. The latter body image was further described:

> Participant 2: *I worked in, uh I was a carpenter when I was young. And I didn't, wasn't aware of how I was lifting things. I was just a, I was bullet, a teenager bulletproof. But I was also uh, used to get a lot of fights. And I've got knocked out in a fight once (laughter by both party), I've got a blind hitch. It's uh, a hit when you are not aware. And I went down and I've got kicked in the back. And it's been sore ever since. But I was, I was young then. I was about 21. And I didn't really, it was sore, but I didn't really take notice. And it wasn't until a doctor started talking to me about my uh fracture in my spine. What happened, in the recall that I was in this fight, I didn't do anything about it. I just, I didn't see a doctor or anybody.*

The severe illnesses followed by osteoporosis conquered Participant 2's body that he once thought invincible. Although he realised the biological destiny of the body, Participant 2 has confronted the illnesses invincibly. He still thinks the same in some ways (mental invincibility towards the illnesses) but apparently does not behave the same regarding health. His younger days are recalled in the in-itself mode today. He still maintains the same mentality, but has a more matured masculine identity. Invincibility, his attitude towards life maintains the unchanging self/masculine identity.

In the previous sub-theme Participant 3 discussed the psychological distress he experienced when he had to tell others that he has got osteoporosis. He is a masculine builder, husband and father. 'Confusion, frustration, or identification crisis is assumed to have occurred in the gap between his own self image (for-itself) and the osteoporotic images (in-itself) attached to his body. What defences can he put up? Can he adapt himself to it?

> Researcher: *Did you, did you change the way you think of your body image?*
>
> Participant 3: *Uh, I've lost some of my, some of my muscle. Because of, I stopped using it so much. My arms used to be a bit bigger. Because I haven't been using muscle as much, I've lost a little bit but nah, I'm just as strong as I was.*

Participant 3 has been living with osteoporosis for 5 years, and has accepted a small change in his body and image. He is aware of a loss of muscles in his arms. Muscle atrophy is a concern to men (Williams & Barlow, 1998). Although Participant 3 admits a loss in muscles in his body shape, he claims that he is just as strong as he was. His claim of his unchanging masculine identity can be supported by his everyday gendered roles he continues to demonstrate. In spite of his back pain and osteoporosis, Participant 3 kept his job (builder) as a breadwinner for his family. His gendered roles as a worker, husband, and father have been maintained to keep his masculine identity.

Research shows that two thirds of those with chronic back pain do not come to medical attention (Francis et al., 2008). There may be a lot of younger and mid-aged men with compression fractures in the vertebrae or osteoporosis like Participants 2 and 3. Considering this phenomenon, the prevention of male osteoporosis can take on another dimension, approaching men from a perspective of chronic back pain and masculinity associated with masculine activities such as heavy lifting. In the next main theme I investigate men's bodily sensation regarding the diagnosis of, and living with, osteoporosis.

Body sensation

Women attribute ambiguous bodily sensations to the bones and joints, or osteoporosis after a bone scan, which Reventlow et al. (2006) describe as an 'experienced fragility' in addition to the imagined fragility. Participants 1, 2, and 3 had been suffering chronic back pain prior to the diagnosis of osteoporosis and Participant 4 has mild occasional pains in his hip and hand. This study examined whether their interpretations of back pain or bodily sensations changed after the diagnosis of osteoporosis. Participants' accounts regarding the experienced fragility are presented under two sub-themes: 'experienced fragility in the new body image' and 'experienced fragility in everyday life'.

Experienced fragility in the new body image

Participant 2 has talked about his particular fight that caused the initial back pain and presumably affected his vertebrae fractures discovered 26 years later. So I investigated his interpretation of the back pain in relation to osteoporosis.

Researcher: *So you always actually had the pain but, since the fight?*

Participant 2: *Yes.*

Researcher: *But you just thought the pain came from the fight and left it?*

Participant 2: *Yes, from the fight and lifting wrong in my carpentry days, and not proper posture when lifting. And I'm paying for it now.*

Researcher: *Yeah.*

Participant 2: *But uh, life goes on.*

Researcher: *Yeah. So can I say, those accumulated pains, now you are attributing the pain to the osteoporosis?*

Participant 2: *Yes, I know it now. Yes.*

Interestingly, Participant 2 is convinced that the back pain is being caused by low bone density or osteoporosis although the pain originally started when he was 21 years old, over three decades ago. A female participant in the study of Vroman et al. (2009) similarly attributed her low back pain (LBP) to childbirth that took place 50 years earlier. It is understandable that Participant 2 in mid-life attributes his back pain to his younger days' masculine behaviour rather than old age to which he has not reached yet. Heavy-lifting is commonly talked about in developing back pain (Vroman et al., 2009). There is a function in telling an illness narrative that guilt is removed from the narrator and the relative responsibility is balanced for the illness (Vroman et al., 2009). However, as Participant 2 says above he is '*paying for it now'*, Participant 2 may still have guilt at some degree for his current body and the past behaviour. Participant 2 shared his past life-style as an '*addict'* in the interview. The new self image in developing COPD is in contrast to "spoiled identity" (substance abuse) that may describe Participant 2's former life-style and hepatitis C can be often attributed to (Treloar & Rhodes, 2009, p. 1321). Treloar and Rhodes (2009) hypothesise hepatitis C as a 'liminal illness experience', in which the illness is stigmatised because of its close association with injecting drug use. What actually caused hepatitis C in Participant 2 was not asked by the researcher or raised by the participant in the interview. The emphasis here is to take other illness experience of Participant 2 into account in order to fully understand his lived experience of osteoporosis in relation to others. Gullick and Stainton (2008) describe the lived experience of COPD as living in 'the shrinking life-world' with "declining opportunities

to express the self to the world in positive ways" (p. 609). This will be further discussed in the later accounts of Participant 2. Participant 2 further talked about his interpretation of his back pain in relation to the bone density graph printed in the scan result.

> Participant 2: *But 80%, it was so bloody sore. If you are 50 or 60%, it must be really sore. And I suppose those are the people you see already stooped or really limping with hip. So uh...Yeah, but I can tell you 80% is still sore. Um, bone density.*

Participant 2 seems to have mental images of people with osteoporosis, in which the lower the bone density, the more distorted in the body shape and the worse the bodily pain is. This lay knowledge has some truth in it from his lived experience. Understanding his way of symptom interpretation brings an insight into understanding lay people's pain conceptualisation. Consciousness intends an object for sensations like pain, too. Understanding the way in which a person holds a mental image of pain may contribute to the study of pain management in health psychology. In journals, osteoporosis is often described as a silent disease that the disease process of osteoporosis is unapparent until a fracture or bone density test brings it to the fore. On the contrary, the severity of LBP may often not correlate with the pathology. Approximately 80-90% of those who suffer LBP have no pathology such as abnormality in scan images (Corbett, Foster, & Ong, 2007; Vroman et al., 2009).

Participant 1 is similarly convinced that his pain was due to osteoporosis.

> Researcher: *Before you knew osteoporosis, what, what did you think the pains were about?*
>
> Participant 1: *I didn't know. I just had back pain. Yeah, several, it goes back to several years. Yes, yes, but uh I didn't know what it was. Now I know it's osteoporosis (laughter by interviewee).*

For Participant 3, who previously had multiple consultations like many LBP sufferers, being given a diagnosis to his chronic back pain was a satisfactory experience despite the psychological distress he experienced with the feminised disease.

> Participant 3: "*In fact, I was quite happy because now I know why I've got a sore back*".

Unlike the other men, Participant 4 thought his occasional pain was due to arthritis rather than osteoporosis, whereas his spouse thought it was due to osteoporosis. Musculoskeletal pain is complex. Pain Society internationally held 'the global year against musculoskeletal pain' in 2009-2010. Musculoskeletal pain includes a variety of disorders that cause pain in bones, joints, muscles, or surrounding structure (International Association for the Study of Pain (IASP), 2009).

Experienced fragility in everyday living

Bodily sensations are continuously explored, under this sub-theme, more regarding the participants' pain acceptance and coping strategies in everyday living. These men's accounts may benefit others who may similarly develop or suffer from pain. Participant 3 gave rich descriptions of osteoporosis, and how the pain is embodied in everyday life:

> Participant 3: *With osteoporosis, you just got it. But no, it's uh it does bum you up. It's with you everyday, I must say that, it is with you everyday because for the minute you wake up, and you, some morning might take 4, 5 minutes to get out of bed. That's when you think, sore back.*

Sleep disturbance, emotional problems and poor mobility have been reported by men with vertebrae fractures (Francis et al., 2008). Pain is described as "more than an unpleasant sensory sensation, but an emotional experience linked to beliefs, behaviours defined within a social context" (Francis et al., 2008, p. 898). Psychological factors that are associated with chronic back pain include low mood, anxiety, poor health, previous physical abuse, passive coping and catastrophising (Francis et al., 2008). Despite these known psychological issues associated with chronic back pain, Participant 3 learned how to deal with his pain over time in his own context. How his acceptance came to and how he copes with pain are talked about as below:

> Participant 3: *Um, it is getting worse. Part of me, my stubbornness, I just learned to block it out. Um, it's a psychological thing. You can let it down. And I did do that. And then I thought, 'nah'. It's not gonna go away. I've got to learn to deal with it. The physical pain and mentally I've got to deal with it. So I started wearing, oh it's not here yet, I wear elasticated back brace, nearly everyday.*

Researcher: *Does it help you?*

Participant 3: *Oh, yeah.*

Researcher: *That's good.*

Participant 3: *And mentally, mentally. And it's just the psychological part of it. Well, what you do? How do you go about it? I have no idea. Uh, I just try to tack back of my head and get on with it. As the years gone on and it is getting sorer, I've...how I put this um....I've found it has affected my, psychologically it's affected me.*

The above talk of Participant 3 brings an insight into the study of pain. Just like Participant 1's walking stick, a back brace has become a part of Participant 3's body. The above talk demonstrates how masculine side (dealing with pain) of Participant 3 is stronger than the feminine side (being in pain). Since I emphasised that my study is not a medical study but a psychology one and what I wanted to hear was the informant's own perspectives, Participant 3 consciously talked about the psychological aspects of his experience for me. From both Participants 2 and 3, this study is in line with research that women tend to focus on emotional support and draw on wide informal social and family support, whereas men tend to focus on information and deal with things on their own when they are ill (Seale et al., 2006). I hope the interviews served to help the participants to realise how well they confronted their mental challenges and became even stronger over time.

Because of the imagined fragility or/and experienced fragility, men took some bodily actions for prevention and treatment in terms of physical activities. The participants' accounts regarding physical activities are analysed in the last main theme 'body action'.

Body action

In the study of Reventlow et al. (2006), women became more cautious after a bone image scan and took "preventive action to safeguard the body" (p. 2726). In my study, after the diagnosis of osteoporosis, all the participants consciously disengaged from the physical activities they judged as risky, such as sports and heavy lifting, some of which has been already talked about. However, consistent with the findings from the study of Cameron and Bernardes (1998), men's new body image increased their self-

consciousness and motivated them to engage in regular exercise. Exercise serves as a means to achieve a positive perception of the body and maintain physical and mental well-being. The first sub-theme 'restricted activities' describes one side of men's new life-style, in which men made conscious changes in terms of restriction. The men's enhanced physical activities are described under the sub-theme 'encouraged exercises'.

Restricted activities

Although the male participants, like women, reconstructed their body image as fragile (how easy it is to break bones), they have not totally disengaged themselves from physical activities. The male participants commonly became more conscious about what they were doing before and restricted only what they thought of as risky for fractures or further damage to the back. For Participant 3, his osteoporosis led to a career change. The below describes how his conscious awareness was raised.

> Participant 3: *I started being a bit more sensible about, about what I was doing. I mean before, I was carrying uh, lots of, lots of heavy things and I was working for myself.*

The above talk describes his body image in the past, the way in which he used his body as a vehicle to perform masculine tasks. Experienced fragility (back pain) made him more cautious about his body movement. As Participant 3 was working for himself, he could not immediately change jobs. He had to continue to demonstrate his gendered roles as a worker and breadwinner. He gradually reduced the physical part of work. Now he is studying at home at night time for the qualification of a more expert (non-physical) position within the construction industry.

> Participant 3: *But I've got a family to support, so.*
>
> Researcher: *Yeah, so you just kept=*
>
> Participant 3: *=Needs, must. Just grin and bear it, really. Now I'm at the age I am. I tend to delegate a lot of work out. I get younger guys to, to do it now. I'm more managerial than the tools now. Uh, self-imposed. It really annoys me. I wanna, I'm good at hands. See, I wanna go and do it. But if I do that, I won't be*

> *able to come to work tomorrow. So, I've just got to organise people, get 'em to do it for me, yeah. Use my brain more than the back.*

In Western culture, masculinity is associated with being a breadwinner. Many men who develop illness concern how they would continue to provide family's financial needs (Chapple & Ziebland, 2002). Participant 3's reduced physical body and psychological struggle are described in the above talk. Younger men's healthy bodies contract Participant 3's new body image. Participant 3 has longer experience in the building industry and can do better than the younger men. Participant 3's masculinity is no less than the younger ones'. However, Participant 3 can no longer demonstrate the dominant masculinity at work with his new body. The solution to his frustration with such restricted activity is to position himself as more associated with the managerial brain (older but wiser) rather than the body or the tool (younger and physically stronger). The relationship between Participant 3 and younger male workers is interesting:

> Participant 3: *And I noticed I spend a lot of time telling the younger guys, 'this is how you lift it, nah, nah, nah, it's nothing to do with being strong or tough, this is how you do it because I don't want you to end up like me [...] But you've got uh, like the other day, for example, one of the young guys at work, 20, mid-20's, carrying three bloody big bits of wood. I said to him, 'mate, just take one at a time'. 'Oh, I can carry three.' he said, 'So could I'. That's why I wear one of these all day, my back brace, that's why I wear one of these [be]cause I could carry three, too. Put the bloody things down. I don't mind if you take three trips. Go for it. I don't want you to end up sore, and it's a bit different type of soreness. But I am aware for other people, definitely.*
>
> Researcher: *So when you see those young men, you are also recalling your past as well?*
>
> Participant 3: *Yeah, I can see myself. And then the frustration sets to it, oh, I can't do it any more. I should be able to but I can't, you know.*

His frustration caused by the restriction on activity is manifested in an identification crisis between the past and current selves: a self image of a 'masculine physical worker' and a new body image of a 'fragile and painful body'. Participant 3 once lived in his young body and experienced it in the for-itself mode. Those days can be no longer lived

again in the same mode as it has become of in-itself (the past memory). The sentence 'nothing to do with being strong or tough' tells us that men know themselves well that men use the male body as a vehicle to demonstrate masculinity. Participant 3 can see his past in the younger man's behaviour. But for younger men, being 42 years old or the body with a back brace may be a distant concern, the younger men cannot see their not-yet-to-come future as immediate. Participants 1 and 2 similarly restricted their activities by themselves.

> Participant 2: *I won't lift anything from um, I've got uh, if I have to lift anything, I've got to have a good posture. I won't lift any heavy, or not that I can, um not get a proper grip on. I won't just bend over and uh take it up willy-nilly. I've always got good posture, if it's not, it doesn't look safe to me, I won't do.*

Participant 2 is very aware of his posture and possible damage done to the body. All the participants 1, 2, and 3's restriction has come from the pain associated with the imagined fragility. For Participant 1, it has a lot to do with his balance as well.

> Participant 1: *Well, I restricted my own activities own restriction, yes. I couldn't do what I used to do. Um, uh I used to do a lot of work in the garden and painting the house. I can't, I can't do that anymore.*

Participant 1 also said "*If I do any hard work after an hour, I get this back pain*". This sentence of Participant 1 has commonality with Participant 3: if men do not consciously restrict their masculine tasks but just do it, they subsequently suffer pain. Therefore, Participant 1's 'can't' does not necessarily imply his physical inability but his own restriction.

Encouraged exercises

According to research, people with chronic back pain perceive their body as having a weak spine, which may lead to avoidance behaviour and result in disuse and disability (Francis et al., 2008). For the men in this study, their new body image increased their self-consciousness, which in turn motivated them to engage in regular exercise. Participant 1 has been going to an osteoporosis exercise class in town for the previous 6 months. The class was initially funded by the PHO and was called 'the falls prevention

programme' with the ACC. However, it is no longer funded. Participant 1 has been the only male member in the osteoporosis exercise group since he started. Participant 3 was an ex-member of the group some years prior. Participant 1 currently goes to the class weekly with several female members, all of whom were diagnosed with osteoporosis. I was interested to know if the elderly members talk about their osteoporosis and how they see each other.

> Researcher: *Do you uh, do you talk with the other people? Many of them are uh women in the osteoporosis exercise group. Do you talk about the condition or anything else [with them] when you go there?*
>
> Participant 1: *No. We don't. Um, I think I go to the class with, with 6-7 ladies. At there we don't talk about our medical conditions, no. And um I think they are all different. Um, one might have a bad shoulder or another a leg, bad leg or that had accidents. But we all ah enjoy each other's company but we're too busy doing the exercises. We don't discuss our own condition, no.*

The above talk describes a positive image of the elderly members. Not only men but women as well achieve a positive perception of their body by engaging in exercises. Because osteoporosis is known primarily as a women's disease and Participant 1 is currently the only male member in the osteoporosis class, I asked him about the gendered aspect.

> Participant 1: *Um, only after I got it, I discovered that more women have it than men (um). And, uh I'm just unlucky.*

Participant 1 only describes his chance of having osteoporosis in his male body as 'unlucky'. Although Participant 1 is the only male member, he actively engages in class and keeps it as his weekly routine. Participant 1 says he is more motivated to do exercises in class with other members rather than on his own at home. Participant 1 may be actually lucky. Subordinated men such as disadvantaged refugees or those in low socio economic status (SES) may face issues of availability, accessibility, and affordability for their health consultation, which in turn means that those disadvantaged men are much less likely to receive a diagnosis.

Participant 4 has mild, occasional pain with his back and other parts of the body. The bodily sensation also increased his self-consciousness and motivated him to engage in regular everyday walks.

> Participant 4: *I think of having a slow walk to get rid of the pain. So the dog takes me for a walk.*

He thinks of inactive life-style as:

> Participant 4: *If you say 'I won't do that' and sit down and read a book, everything contract, muscles contract, and you make your activities a lot less.*

From this talk, for Participant 4, bodily sensation is a reminder for body movement so he keeps going. Because Participant 4 lives with his spouse, I asked him how she interacts with his everyday activities. It is understandable for family members and close friends to worry about the person and restrict the person's activities. However, both Participant 4 and his spouse hold a very positive family attitude about physical activities in everyday life.

> Researcher: *So, you know, you actively engage in walking and gardening, and keep going? So, um, so apparently your wife doesn't tell you 'No, you shouldn't be doing that' or 'No=*
>
> Participant 4: *=Uh, she used to tell me not to fill so big a tree, but no, she now just keeps quiet=*
>
> Spouse: *=I just like him not to reach above his head.*
>
> Participant 4: *I have dislocated my shoulder.*
>
> Spouse: *But I was brought up in a family, which unless you've got very ill, you try to keep going, and you did what you could.*
>
> Participant 4: *That's the family attitude.*

On the day I visited their residential home for the interview, Participant 4 had been trimming trees in the back yard. He has actually dislocated his shoulder 14 times in the past. His spouse knows about osteoporosis and the risk associated with fractures. It is easy to imagine that she also holds a fear around his imagined fragility. However, she is very supportive and positive about her husband going for a walk or a swim on his own.

Maybe this married couple treat each other in the way they want to be treated (not as a dysfunctional old person). It can be assumed that if the relationship of the person with osteoporosis and the other member is an old father (with osteoporosis) and a daughter, or an elderly man (with osteoporosis) in a hospice and a carer, the old man's physical activities may be restricted by others or the environment. For Participant 4, by demonstrating his gender roles such as trimming trees at home, his masculine identity is sustained and reinforced by his wife even after his retirement.

Participant 2 has been doing Chi gong for 40 minutes every morning for 10 years. This exercise describes his conscious awareness of his appearance and body image.

> Participant 2: *I learned to do Chi gong breathing exercises. It so uh, that has really helped me to try and um, it's helped me learn posture, and um to help with my spine and osteoporosis [...] Because of the bone density, your uh spine can't, cannot hold up your body. Your back's posture falls over. And this is why I do my Chi gong and I try to keep the muscles strong, rear spines to keep me up.*

Appearance or the body shape is clearly an important aspect of masculinity for men as discussed. Participant 2 describes body shape in terms of muscles and posture as above. Osteoporosis shares common illness outcomes with COPD: a visible shrinking in posture and hunched shoulders (Gullick & Stainton, 2008). The difficulty of the combined tasks of breathing and chewing in COPD is thought to lead to weight loss, and wheezing causes hunched shoulders (Gullick & Stainton, 2008). Therefore COPD and osteoporosis like other illnesses evoke conscious body management in patients. Participant 2 was very active and played sports. He was a surfer in his younger days. He now engages in Chi gong that has an age identity for Participant 2.

> Participant 2: *But, I, I found uh, Tai Chi, it was too slow for me because of my youngness. But um, so I got combination of Chi gong. And it's uh, for me it's uh between Yoga and Tai Chi.*

Contrary to Participant 3's earlier talk in relation to his younger male workers, Participant 2 here compares his self image to those older and slower who would be doing Tai Chi, so 'youngness' characterises his new body image.

Reflections

I was deeply touched by the four men's lives explored in this study although the interviews were limited and focused on their own perspectives of osteoporosis. The findings show the men as divided human beings by means of the variety of their praxis. As Beauvoir (1972) suggests, multiple realities exist regarding osteoporosis, by looking at reality as a human invention, constructed from the four men's points of view, none of which are universal. Each man took his own path in his life to encounter osteoporosis. Two men have been living with other illnesses and multiple health conditions, which helped me to learn a wider view in health and illness. Although osteoporosis does not immediately threaten life, developing osteoporosis or being diagnosed with osteoporosis is an unpleasant experience for anyone and becomes a pivotal event in life. Yet it is an opportunity for us to think more consciously about our bodies and health, especially the invisible parts of the body, and to turn negative experience into something positive or constructive. Psychological distress such as anxiety, anger, frustration, and hopelessness may accommodate with an illness along the path. The men disclosed these emotional feelings at some degree during the interviews. A sense of loss in the former masculine identity was also presumed in their accounts. Because the men have been living with osteoporosis between 2 and 6 years, they seem to have had a sufficient amount of time to overcome the negative aspects of osteoporosis they initially experienced. If we see the pivotal event of illness as a trauma, post-traumatic growth may follow. The four men's experiences teach us how we can "make the best of any given situation" (Frankl, 1984, p. 139). Frankl's (Guttmann, 2000) logotherapy is based on his existential philosophy, in which life has meaning and we have the freedom to find meaning in life. Choices are present in all human situations. And I have been inspired by the ways in which each man in my study sought a sense of meaning of life in the context of osteoporosis or illness. Although I could assume psychological distress each man would have experienced in relation to osteoporosis and other illnesses, they generally talked positively overall in the interviews. This may be a way in which men construct their masculine identities in narratives. Nonetheless, we must understand that "for most trauma survivors, posttraumatic growth and distress will coexist" (Tedeschi & Calhoun, 2004, p. 5).

Another existentialist, Albert Camus (1955) wrote in *the myth of Sisyphus* that "Judging whether life is or is not worth living amounts to answering the fundamental question of

philosophy…It is legitimate and necessary to wonder whether life has a meaning" (p. 1-2). Alternatively Frankl (1984) points out that "man should not ask what the meaning of his life is, but rather he must recognise that it is he who is asked. In a world, each man is questioned by life; and he can only answer to life by answering for his own life; to life he can only respond by being responsible" (p. 113). The men in my study have been asked by osteoporosis or/and previous illnesses about their bodies, images, masculine identity and the self, and they accepted the degenerative nature of their biological bodies but still endeavour to maintain their masculine identities and the selves in their relationships with others and the world by demonstrating their social and gender roles as responsible members of families, communities, and society.

Participant 1 touched me by his charm that he feels about 66 years old. I had the impression that he could be actually feeling many more years younger with his unchanging self identity. He still drives to the gymnasium for his osteoporosis class that he exercises with ladies. The class instructor (physiotherapist) told me how much his balance had improved since he started half a year earlier. I am glad he lives happy and busy with his friends although he misses his wife very much.

Participant 2 is living an extraordinary life. He now delicates himself to social work, support groups for various health issues including substance abuse. He talks in public about his past drug addiction problems and how he overcame. It is not an easy thing to do as it attracts others' judgment and criticism as well as empathy. However, he seems to have found a meaning in his life from his survivor experience. We can learn so much from his lived experience.

Participant 3 provided us with a new image of male osteoporosis. His contribution is valued as researchers hardly hear younger men's (he was 37 years old at the diagnosis) own perspectives on osteoporosis. I am impressed with the ways in which he has dealt with all the psychological consequences that followed the diagnosis of osteoporosis. Studying after work towards career change in mid-life would not have been easy. His active role of a father and husband is supported by his family.

Many weeks after the interview, I now understand why Participant 4 said what he said. He has been living with a life-threatening illness over 20 years. He has such lively and fun energy. The family atmosphere is warm and up-lifting. I missed these long-married

couple when I had to leave their home after the interview. As he says, "*life is still too good*" for anyone.

Chapter VI: Summary, implications and Conclusions

In this final chapter, the findings of the study are summarised. While each man's experience is seen as unique, this chapter considers the results from the gender perspectives and the ways in which men's expression tends towards the typical and the phenomenological (Eckartsberg, 1997). It is presupposed that socially and historically constructed nature of the male body (i.e., masculinity) and osteoporosis (i.e., feminised disease) are experienced by men in a shared manner (Eckartsberg, 1997). The men's experience of osteoporosis and their embodied masculinity are made sense of within socially derived systems of meaning in the historical and cultural contexts. The implications of the results are discussed, as well as considerations regarding Beauvoir's theoretical frameworks and the process of the research. The findings are used as a means to pass on an insight: fuller understandings of embodied masculinity within the context of osteoporosis for health practitioners to achieve gender equity and improve support for men with osteoporosis.

Summary

This research sought to examine 'what it is like to experience osteoporosis in the male body'. The male body was theorised as the phenomenological body, specifically embodied masculinity. This embodied masculinity was theoretically framed in Beauvoir's existential-phenomenology, reflecting her gender critique: the body as not only a basis for our Being but also a basis for becoming (Cataldi, 2001). Man is not born but rather becomes a man. Hormones nor anatomical peculiarities are not sufficient to define human male as such. Man embodies historically and culturally constructed masculine identities, which differentiate man's experience from that of woman's or embodied femininity. As Chapple and Ziebland (2002) suggest, male hormones partly play a role in what it means to be masculine or a man. The mechanism of the hormones involved in osteoporosis is complex (Guggenbuhl, 2009). The degrees to which male hormones play a role in what it means to be masculine was implicitly talked about by the participants in terms of bone and muscle strength in relation to osteoporosis and ageing. Being a breadwinner for the family (Morgan, 2007) and sports player or even abusing the young male body to gain social identity (Oliffe, 2004; Watson, 2000) is the

historically and culturally situated strong version of masculinity in New Zealand (Tagg, 2008). The male participants' past health behaviour, help seeking and symptom interpretations regarding the back pain prior to the diagnosis of osteoporosis were found to link to hegemonic masculinity. However, this study suggests that men's experience of osteoporosis shares similarities with that of women's in the ways in which the men overestimated the risk of fractures and took preventive action to safeguard the body (Giangregorio et al., 2009; Reventlow et al., 2006), and attributed their bodily sensation or pain to the osteoporosis after the diagnosis (Reventlow et al., 2006). These findings were identified in the talk about the diagnosis and scan image. These are summarised in the following paragraphs.

This study examined 'how the experience of a bone scan challenges men's body images', and 'how the medical diagnosis challenges men's masculine identities'. The bone scan served as a means to diagnose the men with osteoporosis or osteopenia: the men experienced a visible diagnosis of osteoporosis. The visual diagnosis of osteoporosis confronted the men's body images, which in turn challenged their masculine identities. Regarding the men's experience of a bone scan, visible scan images of inner invisible bodily parts came to the men with a description of their bones as low (below average) density or abnormal, which was generally expressed as an unpleasant experience by the men. Crushed vertebrae came as a shock to the three male participants with chronic back pain. Osteoporosis has its own illness characteristics: weakened (fragile) and degenerative (ageing) bones, shown in image form. These characteristics became additional negative aspects in the male bodies, even if the body had already suffered illness. As strong bones are linked to masculinity, a scan image of osteoporotic bones may be more distressing for men than women, especially for younger men or those who have strong masculine body images. The older men saw osteoporosis more as a natural part of ageing, which is in line with the findings from the prostate cancer study of Cameron and Bernardes (1998).

Regarding the medical diagnosis of osteoporosis, although the male participants in this study did not know what osteoporosis was before, the diagnosis of osteoporosis subsequently brought to them the meanings ascribed to the disease (feminine, fragile, and old age). The men experienced, in different degrees, psychological distress after the diagnosis of osteoporosis and while reconstructing their new body and self images. It

seems harder for men than women to accept the characteristics of osteoporosis, with its close association to femininity and fragility. Although male osteoporosis is expected to increase as more men are living longer today, osteoporosis campaigns still reinforce the prototypical image of osteoporotic elderly women following menopause (Sanson, 2001; Reventlow & Bang, 2006; Reventlow et al., 2006). The youngest participant experienced the medical diagnosis of osteoporosis as a stigma, implying ageism (Cameron & Bernardes, 1998) and sexism (Solimeo, 2008) due to the current construction of osteoporosis as a feminised disease. The phenomenon of men being unable to classify themselves into culturally available categories (i.e., feelings of incomplete maleness after ADT) was theorised in the anthropological framework of 'liminality' by Navon and Morgan (2004). Having their bones identified as abnormal, men may feel liminal, experiencing the ambivalent nature of osteoporosis: it is a natural part of ageing yet it is identified as a disease; it is also a feminised disease, and additionally the men have not experienced any hormonal changes in their male bodies.

The current study found that the male participants saw themselves as at much greater risk of future fractures following the visible diagnosis of osteoporosis. The men in this study, like the women in the studies of Giangregorio et al. (2009) and Reventlow et al. (2006), expressed imagined fragility (overestimation of future fractures) and experienced fragility (physical sensation attributed to osteoporosis) after the medical diagnosis of osteoporosis. This challenged men's sense of masculinity in two ways: altered body and self images; and the restricted physical activities, which are closely related to each other. Reventlow et al. (2006) critically point out that medical diagnosis or prognosis of osteoporosis becomes pathological impairment in the female elderly's bodies and that the experience of the bone scan for osteoporosis becomes a question of a presumed fragility and of an experienced fragility for the elderly women. Considering men's problematic masculine attitude and health behaviour in general (Garfield et al., 2008; Solimeo, 2008), the male participants' raised awareness regarding the fracture risk seems to have positively served to "reinforce appropriate preventative behaviours in the context of the patient's model of osteoporosis and fracture susceptibility" (Giangregorio et al., 2009, p. 219). The oldest male participant's model of osteoporosis was found to closely link to falls (so he carries a walking stick with him while he still goes out), whereas the younger male participants' model of osteoporosis was still liked to masculine activities such as heavy-lifting and its potential damage to the back (so

they consciously avoid or take extra care with such work). Although the men with chronic back pain reconstructed their spine as weak, failing to demonstrate some masculine tasks, on the positive side the medical diagnosis of osteoporosis helped them to make sense of this pain.

In line with Watson's (2000) findings, the male participants talked about their bodies as an important resource, fitness and appearance. Temporal body images in Beauvoir's (1972) notion of 'time and space' emerged in the male informants' accounts, linking to the selves: what they were in the past, how they are functioning at the present, and what they think about their potential future, also researched by Hellström (2001). The visible diagnosis, together with the available information regarding osteoporosis, enabled the men to reconstruct not only their new body images (i.e. as easy to fracture) but also the healthier past (normal bone density) and the feared future (leg/hip fractures) body images. The men's past body images were found to link to young male careless attitude and behaviour, like the young male body described as "a vehicle to demonstrate masculinity" by Oliffe (2004, p. 412). The present self is linked to the mature age and self-awareness for health. The new fragile body images restricted the men from engaging physical activities they judged as highly risky for fractures. This affected the men's ability to demonstrate masculine tasks (e.g., sports and heavy work), which in turn challenged their masculine identities. A loss of muscles in relation to the reduced physical activity was a concern in the men's body images, which in turn the men consciously engaged in regular exercise such as daily walks. The relationship found between the unfit new body image and encouraged exercises is in line with the arthritis study of Williams and Barlow (1998). The future degenerative body image is not necessarily linked to an identifiable self but the men seem to hold tightly to their unchanging qualities of the selves while acknowledging their bodies as ageing.

This study further examined 'how men endeavour to reconstruct their new identities'. The men cannot totally dissociate their former self identities from their present bodies in decline and still hold their masculine identities within their unchanging or age-less qualities of the selves. Beauvoir's (1972) theory of old age explains this phenomenon as 'doubling': the gap between the men's inner feelings (for-itself) and the outsiders' awareness (in-itself) of the men's bodily changes. The male participants commonly expressed their present feelings as the same as before (e.g. young or strong) while

admitting that their bodies are ageing. As Cunningham-Burley and Backett-Milburn (1998) suggest, this may be the way men either adjust or resist ageing. From Beauvoir's (1972) perspective, the men in this study have accepted their new body images after experiencing an identification crisis: contradiction between the historical masculine male body (for-itself) and the new body image with a feminised disease (in-itself). The men now waver between their former selves and the new body images. The men maintain their masculinities by demonstrating gendered roles: worker, husband, father, mate, and so forth, which are reinforced and supported in their interactions with others such as family members and friends. In this study, the men's ill experience, mature age, and wisdom in life helped them to negotiate their masculinities. Negotiated masculinity (Cameron & Bernardes, 1998) enables men to constantly redefine and renegotiate gender. It is evident in this study that no matter how old a man is, he embodies a socially formed male gender within his biologically given male body, and both biological sex and social gender are continuously involved in his process of ageing in the for-itself mode (the man's own perspective) as Beauvoir pointed out (Miller, 2001).

Implications

This study confirmed that the constructions of gendered bodies (i.e., men as masculine) and the meanings ascribed to the disease (i.e., osteoporosis as a feminised disease) influence men's experience of osteoporosis in the male body, including their symptom interpretation, help-seeking, and psychological consequences following the diagnosis and in treatment. Men's underrepresentation in the field of osteoporosis has been addressed as an analogous gender bias found in CVD (Solimeo, 2008). Because osteoporosis has been constructed as a feminised disease with its close relation to the menopause (Vondracek & Hansen, 2004) and with its emphasis on fragility, these meanings ascribed to osteoporosis challenged the men's sense of masculine identities. This study also suggests that osteoporosis with its close relation to the old age is understood as a natural part of ageing by older men (Cameron & Bernardes, 1998) but as stigmatising by younger men. The current construction of osteoporosis or the prototypical osteoporotic image as an elderly woman with a stooped back discriminates men, in particular younger men.

These findings have implications for health practitioners. Gender and age sensitive health promotion and services can be achieved by understanding the psychological challenge osteoporosis poses to men's sense of masculinity. The construction of the disease in public health and health promotion needs to be altered to include younger men. The awareness of idiopathic osteoporosis in younger and mid-age men (Briot et al., 2009), and the life-style factors, such as heavy alcohol consumption and smoking (Tan & Nishikawa, 2005), that are attributed to developing osteoporosis may be beneficially highlighted in public education campaigns. The ways in which the elderly view their pathological symptoms as a natural part of ageing (Cameron & Bernardes, 1998) as well as the more typical male attitude of reluctance to seek help (Galdas, Cheater, & Marshall, 2005) may make older men vulnerable to exclusion from health services (Flemming, 1998). We need to be aware that social gender still influences older men's health-related attitudes. Fall prevention, rather than the fracture risk associated with osteoporosis, needs to be considered in order to reduce preventable accidents in the elderly and to decrease anxiety in healthy people with osteoporosis. It is our ethical obligation not to treat old or ill people as a problem group or burden on the nation (Lorber & Moore, 2002). Beauvoir's (1977) study of old age portrays the real suffering of the elderly and encourages us to consider the ethical importance arising from the descriptions of the elderly's lived experience (Miller, 2001). "What should a society be, so that in his last years a man might still be a man? – the answer is simple: he would always have to have been treated as a man" (Beauvoir, 1977, p. 603).

Physicians, radiologists, and nurses need to understand the psychological impact the diagnosis of osteoporosis and bone scan image have on men and women so more sensitive services may be achieved, and appropriate support provided. Men and women's constructions of their new body images influence their life-style changes and future participation in activities. Considering the patients' psychological aspects and pain management, health practitioners should work in a multidisciplinary team which includes health psychologists.

Existential-phenomenology theoretical framework

I have demonstrated in this study that Beauvoir's existential-phenomenology is a useful theoretical approach for studying men's (and women's) health and illness. Beauvoir's

phenomenological body is, like Merleau-Ponty's, a basis for our Being but it is uniquely a basis for becoming (Cataldi, 2001). Beauvoir's 'becoming' addresses "the ambiguities, abilities, and disabilities of embodiment" (Cataldi, 2001, p. 85), which is relevant to studying ill health and social gender in order to pursue greater equity and raise ethical standards. Beauvoir's existential-phenomenology explored the men's lived experience, meaningfulness of human experience (Kenyon, 2000) and brought their valuable insights into studying male osteoporosis. In the biomedical model, each man is abstracted and his osteoporosis diagnosis is the focus: his own unique personal experience and values are sidelined or deemed irrelevant. The objective body in the biomedical model has no real meaning without its conscious relationship with others and outside world. The osteoporosis diagnosed in the participants in this study could not have been understood fully without its relationships with their body images, other illnesses, historically and culturally constructed masculinity, and the others in their lives. Beauvoir's, or originally Husserl's, notion of intentionality (O'Brien, 2001) is a useful philosophical framework for studying the relationship between body image, self, and masculine (and feminine) identities, especially if it is coupled with other central philosophical themes of Beauvoir's.

Considerations regarding the research process

Although this study involved only four participants, they varied in age from 42 to 86 years old at interview (37 to 84 years old at diagnosis). The four men provided rich descriptions of their lived experiences of osteoporosis in their own contexts. There may be unexplored aspects of osteoporosis, which may possibly be found in a wider population of men with osteoporosis. Despite the efforts and scale of the recruitment in this study, no more than four men contacted the researcher for enquiry or voluntary participation. No participant was recruited from a retirement village although the study was introduced to six retirement villages. This is despite the fact that through contacts and word-of-mouth I was told about or introduced to a number of men who were living with osteoporosis. A nurse I met at a retirement village knew two elderly males with osteoporosis living in a retirement village. However, one of them had a severe hearing problem and the other one was quite dependant on a wheelchair so their wives did not want their husbands to take part in this study. Another (Māori) woman told me of her father with osteoporosis, but he did not wish to take part in the study, perhaps due to his

stubbornness she suggested. Thus older men might be living with other health conditions or have specific circumstances that make it difficult for them to be interviewed. They also may be less keen to share their experiences (emotional feelings) with others, especially if they think they have been diagnosed with a woman's disease. Kiss and Meryn (2001) report that men in prostate cancer support group tend to share information rather than emotion.

The recruitment process also highlighted that men may be unsure if they actually have osteoporosis. A man who works at a local RSA suggested that some of the elderly people who have multiple health conditions may not be fully aware what they have got in their bodies or what their medications are for. An elderly man I was introduced to by a chemist had a bone scan and subsequently took Fosamax, but he did not think he had osteoporosis and concluded he could not participate in the study. My chiropractor introduced me to his father-in-law, who he thought had osteoporosis. However, when I spoke to his father-in-law, he insisted that he does not have osteoporosis so he was not recruited for the study. The estimated number (9,384) of men diagnosed with osteoporosis in New Zealand in 2007 by Brown et al. (2007) may have been overestimated, and in practice male osteoporosis may be still under-diagnosed. Alternative ways of recruitment are possible. In order to recruit a larger number of participants, research could take appropriate ethical procedure to access to the medical data.

Consideration must also be given to the researcher and her role in the research process. The gender of the interviewer may influence informants' accounts in the interview. The female researcher in this study could have been either advantageous or disadvantageous in eliciting rich data from the male participants. In a study on prostate cancer (Chapple & Ziebland, 2002), male participants were given a choice of a male or female interviewer. Out of 52 male participants aged over 50 years old, only one preferred a male interviewer to a female interview. The researcher's gender may also influence her interpretation of the data. Beauvoir (1993) questioned who would be appropriate to study woman's gender in *the second sex* and wrote: "Man is at once judge and party to the case; but so is woman. What we need is an angel – but where shall we find one? Still, the angel would be poorly qualified to speak, for an angel is ignorant of all the basic facts involved in the problem" (p. Iii). While I am a woman, I am also from a different culture at a certain age (early 40s) in life. These background aspects will have

influenced the interviews and my interpretations of the data. Like all people, I have aspects of masculinity within my feminine identity. I tried to empathise with the men and to understand their experiences from their perspectives that share common human experience.

As little research currently exists regarding men's experience of osteoporosis, it would be interesting to further investigate the same research questions with men who have a recent experience of osteoporotic fractures in different parts of the body, similar to the osteoporosis study of Giangregorio et al. (2009) but conducting in-depth individual interviews, addressing gender. It would be interesting to investigate distinctive aspects of lived experiences of osteoporosis in men from different backgrounds, such as different social classes, cultures and ethnicities to investigate the "doubly disadvantaged" (Cameron and Bernardes, 1998, p. 686) nature of gender or marginalised masculinities (Connell, 2000). The existing qualitative studies of osteoporosis in women are from overseas. The lived experience of osteoporosis in the female body with women living in Aotearoa is an area unexplored.

Conclusions

This research demonstrates that the historical constructions of gendered bodies (men as masculine, women as feminine) and the current social construction of osteoporosis (feminised disease) reinforce the gender bias that currently exists in the field of osteoporosis. Man embodies historically and culturally constructed masculine identities, which differentiate man's experience from that of woman's or embodied femininity. The meanings ascribed to osteoporosis (femininity) challenge men's body images and their sense of masculine identity, as evidenced in research with other illnesses such as breast cancer in men (Donovan & Flynn, 2007). However, this research reports findings highlighting the similarities that men share with women in living with osteoporosis: like women, the diagnosis of osteoporosis and a bone scan image mean that men reconstruct their body images as fragile, and consequently they overestimate their risk of future fractures and restrict their physical activities to safeguard the body; and like women, after the diagnosis of osteoporosis, men attribute their bodily sensation or pain to their bones or their osteoporosis. While women with osteoporosis may tightly hold on to their feminine aspects such as fragility (Reventlow et al., 2006), men with osteoporosis, on

the other hand, endeavour to sustain their masculine identities within their unchanging qualities of their selves by demonstrating their gender roles, being a breadwinner for the family, husband, mate and so forth. Men's new body image, on the positive side, encourages them to actively engage in regular exercise. Considering men's problematic masculine attitude and health behaviour in general (Garfield et al., 2008; Solimeo, 2008), raising awareness of male osteoporosis in men of all ages could lead them to their appropriate preventive behaviours. No matter how old a man is, he still embodies a socially formed male gender within his biologically given male body, and both biological sex and social gender are continuously involved in his process of ageing as Beauvoir (Miller, 2001) points out.

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APPENDIX A

MASSEY UNIVERSITY

12 January 2010

Sachiko Kawakami

Dear Sachiko

Re: HEC: Southern B Application – 09/66
Men's lived experience of osteoporosis

Thank you for your letter dated 18 December 2009.

On behalf of the Massey University Human Ethics Committee: Southern B I am pleased to advise you that the ethics of your application are now approved. Approval is for three years. If this project has not been completed within three years from the date of this letter, reapproval must be requested.

If the nature, content, location, procedures or personnel of your approved application change, please advise the Secretary of the Committee.

Yours sincerely

Dr Sharon Stevens, Acting Chair
Massey University Human Ethics Committee: Southern B

cc Dr Antonia Lyons
School of Psychology
WELLINGTON

A/Prof Mandy Morgan, HoS
School of Psychology
PN320

APPENDIX B

Participants invited to take part in a Male Osteoporosis Research Study

If you are:

"a male aged over 50 who has been diagnosed at some point with osteoporosis, and has been living with the condition",

your voice is important for this study.

Type and the purpose of the study:
This is a research study as part of a Master's of Science degree in Health Psychology. Despite the high prevalence of osteoporosis in men, little is known about their lived experience of osteoporosis. This study gives voice to men with the condition for fuller understanding of their bodily experiences.

Participant criteria/requirement:
You are invited to this research if you are: a male aged over 50, who has been diagnosed at some point with osteoporosis and speaks English. Experience of fractures or a bone scan is not necessary. Men who currently have complex fractures or severe health issues besides osteoporosis are not suitable for this study as it focuses on people's everyday experience with osteoporosis specifically, rather than other health issues. The researcher would like to interview participants individually about their experiences of osteoporosis, at the participants' residential home or public place, which will last 45-85 minutes.

Researchers' contact detail:
Student Researcher (principle investigator): Sachiko Kawakami
Research Supervisor: Dr Antonia Lyons
School of Psychology, Massey University
Private Box 756, Wellington
For enrolment or enquiry: please contact Sachiko
E-mail: MasseyAccount@uni.massey.ac.nz Phone: 07-XXX-XXXX

INFORMATION SHEET (more detail about the research/researcher) ***available***

Male Osteoporosis Study Contact: Sachiko, 07-XXX-XXXX MasseyAccount@uni.massey.ac.nz
Male Osteoporosis Study Contact: Sachiko, 07-XXX-XXXX MasseyAccount@uni.massey.ac.nz
Male Osteoporosis Study Contact: Sachiko, 07-XXX-XXXX MasseyAccount@uni.massey.ac.nz
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APPENDIX C

Men's lived experience of osteoporosis

INFORMATION SHEET

Researcher Introduction
My name is Sachiko Kawakami, and I've been living (working then studying) in New Zealand for the past 7 years. I immigrated from Japan in 2003 and have made New Zealand my home. I feel passionately about contributing to New Zealanders' health and well-being, and am conducting research as part of my Master's of Science degree in Health Psychology at Massey University. My research project is titled: *'Men's lived experience of osteoporosis'* and it aims to gain in-depth understanding of men's experience of living with osteoporosis.

Project Description
Bones naturally lose density and weaken as men and women age. Despite the known high prevalence of osteoporosis in men, little attention has been paid to them in the osteoporosis research. Little is known about how men experience living with osteoporosis. Studies exploring men's own perspectives are rarely reported. To fill this gap in our knowledge, this project gives voice to men and explores their own perspectives.

Who can take part?
You can take part in this research if you are a male aged over 50 who has been diagnosed at some point with osteoporosis, and you speak English. Experience of fractures or a bone scan is not necessary. Men who currently have complex fractures or severe health issues besides osteoporosis cannot take part in the study because the study focuses on everyday experience with osteoporosis rather than other health issues. If you meet these criteria, please consider taking part in this study. Your participation will be highly valued and results will contribute to research regarding osteoporosis in men.

What would be involved?
If you decided to take part, we will arrange a mutually convenient time and place for you to be interviewed about your experiences of osteoporosis and ageing. The interview will be audiotaped and later transcribed. It will last approximately 45-80 minutes.

What are the participant's rights?
You are under no obligation to accept this invitation. If you decide to participate, you have the right to:

- decline to answer any particular question;
- withdraw from the study (within two months of taking part);
- ask any questions about the study at any time during participation;
- Provide information on the understanding that your name will not be used unless you give permission to the researcher;
- be given access to a summary of the project findings when it is concluded.
- ask for the recorder to be turned off at any time during the interview.

What will happen to the audiotape of my interview?

- Audiotaped data will be transcribed by the researcher for an analysis.
- All data will be electronic (digital audio-recordings, transcriptions in Word files) and will be kept on a password protected computer. Only the researcher and the supervisor will have access to the data.
- Data will be safely kept by the researcher until the end of the project. They will be subsequently stored in the supervisor's office at Massey University and eventually disposed, ten years after completion of the project.
- You will have the option of receiving a summary of the results of the study at the end of the research. For any further questions about the research, you can contact the researcher.
- In the report (thesis), your names will be changed to pseudonyms (fictitious names) so you remain anonymous. All identifying features about you will also be changed in any quotes that are used to protect your identity.

Procedure

If you are interested in participating, please contact Sachiko (details below). If you meet all the criteria, we will organise an interview at a mutually convenient time and place. This can be at your home, or an available public facility nearby. If more than 10 people volunteer, we will ask people with a range of experiences to take part (with/without experience of fractures/bone scans; time length since diagnosis; age group).

Project Contacts:

Student Researcher (principle investigator):
Sachiko Kawakami
E-mail: MasseyAccount@uni.massey.ac.nz
Phone: 07-XXX-XXXX

Research Supervisor:
Dr Antonia Lyons
Senior Lecturer in Health Psychology
School of Psychology, Massey University
Private Box 756, Wellington
E-mail: a.lyons@massey.ac.nz
Phone: 04-8015799 xtn 62164

Committee *Approval Statement*

This project has been reviewed and approved by the Massey University Human Ethics Committee: Southern B, Application 09/66. If you have any concerns about the conduct of this research, please contact Dr Karl Pajo, Chair, Massey University Human Ethics Committee: Southern B, telephone 04 801 5799 x 6929, email humanethicsouthb@massey.ac.nz

APPENDIX D

NAME
ADDRESS
OF RETIREMENT FACILITY

Sachiko Kawakami
07-XXX-XXXX
MasseyAccount@uni.massey.ac.nz
DD/MM/ YY

To Whom It May Concern:

RE: Research exploring men's experiences of osteoporosis

My name is Sachiko Kawakami. I am a Massey University Master's student in Health Psychology, based in Papamoa. This letter is to ask for your permission: initially for me to put up a recruitment advertisement at your facility for my research project, and if you have any suitable potential participants, to ask them if they would be willing to take part in the study.

Your retirement village/club has been selected as one of the 6 retirement facilities in the Tauranga region for my project titled '*Men's lived experience of osteoporosis*'. My research is to recruit approximately 10 men with osteoporosis for an individual interview to explore men's lived experiences of osteoporosis. Each interview lasts 45 to 85 minutes. The advertisement will be also distributed to some other businesses in the same region.

Despite the high prevalence of osteoporosis in men, little research has been conducted with men to explore their own perspectives regarding the condition. If any male resident lives with the condition at your facility, he would be able to contribute positive aspects of his life to the osteoporosis research. His participation will be highly valued and appreciated.

Enclosed are the RECRUITMENT ADVERTISEMENT and INFORMATION SHEET that provide further information about the researcher and project. Please read them and contact me if you have any questions; your assistance and support will be highly appreciated. I will contact you by phone in a few days.

Sincerely,

Sachiko Kawakami

APPENDIX E

Men's lived experience of osteoporosis

PARTICIPANT CONSENT FORM - INDIVIDUAL

I have read the Information Sheet and have had the details of the study explained to me. My questions have been answered to my satisfaction, and I understand that I may ask further questions at any time.

I agree/do not agree to the interview being sound recorded.

I wish/do not wish to have my recordings returned to me.

I agree to participate in this study under the conditions set out in the Information Sheet.

Signature: ..... **Date:** .....

Full Name - printed .....

APPENDIX F

Men's lived experience of osteoporosis

INTERVIEW QUESTIONS

** The order of the questions may change, and additional questions may be added, dependant on the way answers unfold. However, the following are the attempted questions.*

Demographic questions (Please tell me about yourself first.)
- May I ask your age?
- How long have you been living in this area or New Zealand?
- Which ethnic group do you most identify with?
- Please tell me about your family (who do you live with)?

Medical diagnosis
- Please tell me when and how you were given medical diagnosis of osteoporosis.

- What did you know about osteoporosis before you knew you had the condition?

Fractures
- (if it was due to fractures) Please tell me about the incident that you broke your bone(s).

- (if you had a bone scan) Please describe your experience of the bone scan? (How did you see your body image in the scan?)

Reactions
- Please describe what the diagnosis of osteoporosis made you feel or think?

- What factors do you attribute your osteoporosis to?

- Did it change your life style? (Including treatment and prevention of fractures.)

- Did it change the way your family members, friends, and others treat you?

Body image
- Did it change the way you hold your body image? (Please describe your body images you held before the diagnosis or/and when you were younger and the image you hold today).

- What kind of body images do you think others (doctors, family members, friends and others) have of you today?

Self

- Please tell me more about yourself, roughly about major events in your life in relation to the ways you have treated your body, engaged in activities, and looked after your health and so forth.

- Please tell me whether or not having osteoporosis has changed who you are? (How would you describe who you are?)

Gender differences

- Do you think men have different response to osteoporosis?

Else

- Is there anything else you would like to say?

"Thank you very much" for your participation and valuable insights to the osteoporosis research.

APPENDIX G

Men's live experience of osteoporosis

AUTHORITY FOR THE RELEASE OF TRANSCRIPTS

I confirm that I have had the opportunity to read and amend the transcript of the interview(s) conducted with me.

I agree that the edited transcript and extracts from this may be used in reports and publications arising from the research.

Signature: ..... **Date:** .....

Full Name – printed .....