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Women's decision making process about Hormone Replacement Therapy in the New Zealand context

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Wendy Lena Radford

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ABSTRACT

The transitional time of menopause has differential meanings for mid-aged women around the world. The medicalisation of menopause has resulted in the increasing promotion of hormone replacement therapy (HRT) both to alleviate distressing symptoms and prevent future illnesses. It is against a background of constantly changing information that women have to make a complex decision about the benefits and risks of this therapy for short and long term use. The theory of planned behaviour (TPB) (Ajzen, 1985) has been successful in predicting a range of health behaviours but few studies have been conducted to assess its predictive validity on intention to take HRT and to date there has been no assessment of this model in the New Zealand context. The present study was undertaken to discover the factors that influenced decision making about HRT use in New Zealand and to predict women's intention to take it at menopause by applying the TPB. A cross sectional postal survey of 140 mid-aged women randomly selected from the General and Māori electoral rolls measured attitudes, subjective norms and perceived behavioural control as well as moral norms and similar prior behaviour. Results of hierarchical multiple regression analysis supported the utility of the TPB to predict intention to use HRT and also showed that moral norms made a significant independent contribution to the prediction of intention to use HRT. The most important factors that influence New Zealand women's intention to use HRT are both the views of people who are important to them and their own attitudes to this treatment. Having a personal sense of control over following the HRT regime and believing it is right to do so and not a sign of weakness are also important considerations. Taking the contraceptive pill in the past has no influence on the decision making process about future HRT use.

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CHAPTER ONE: INTRODUCTION

Introduction

Decision making is part of everyone's life. However, some health decisions facing women have become increasingly complex. Being a woman in the twenty-first century at the time of menopause now precipitates a number of decisions that have to be made. When a young girl experiences the rite of passage that starts to make her a woman she encounters a monthly rhythm that does not involve conscious decision making. Endocrinal changes, beyond her conscious control, usher in at puberty a monthly cycle of menstruation that affects each girl differentially. This cycle is not considered a medical condition - rather it is part of being a woman, part of reproduction. The menses also stop at different times for each woman and again this affects each person in different ways. If difficulties do occur then coping with these changes often means that conscious decisions do have to be made so that the transition time of menopause is handled most effectively.

The use of hormone replacement therapy (HRT) has been promoted as a healthy choice for women dealing with the physiological changes at the climacteric as well as a preventative measure for osteoporosis and heart disease. Research shows that increasing numbers of women in New Zealand are using HRT during menopause (Breheny & Stephens, 2000) and in 1999 HRT was prescribed to approximately 100,000 women nationally (Women's Health Action Trust, 2002).

This study looks at what influences New Zealand women as they make this important decision and investigates the applicability of one particular social cognition model called the theory of planned behaviour (Ajzen, 1985). Most research to date has

focused on how women in the United States of America, Canada or the United Kingdom make these health-related decisions while studies of the decision making process of women in New Zealand about the use of HRT have been accumulating slowly in the last ten years.

This study is part of an ongoing project by researchers interested in investigating the use of HRT by women in New Zealand. It considers whether Ajzen's (1985) theory of planned behaviour can be applied to New Zealand women and accurately predict who will, or will not, use HRT in the future. The first part of the introduction provides information on the menopause and some background information about the development and use of HRT.

Human judgement and health behaviours are then explored and this is followed by information on the development of social cognition models which are used to explain the decision making process.

There is a particular focus on one social cognition model (the theory of planned behaviour) and the factors which influence people's intentions to act are identified and explained. A review is provided of some of the studies that have applied this theory to health behaviours and in particular the two that have used this theory to research women's use of HRT. The rationale and hypotheses for this study are then outlined, the method and results presented and discussed after which some recommendations are offered.

The Menopause

Medical advances have resulted in people living longer and women now can look forward to living one third of their life after the menopause (Blumberg, Kaplan, Rabinerson, Goldman, Kitai & Neri, 1996). The mid-aged woman of the twenty-first century can expect to have about 400 periods in her life time compared to her great-grandmother who, because of constant pregnancies, had very few menstrual periods and seldom lived into her eighties (Hope, 1999). However, for centuries there is evidence that women have experienced the menopause at a similar age (Achilles & Leppert, 1997).

The term, menopause, originally came into being in the mid nineteenth century (Greer, 1991) and refers to the stopping of the menses or monthly periods although it is now used to include symptoms and treatment approaches to this time of life (Whitehead, 1999). The menopause is usually experienced some time between the ages of 45 and 54 years (Quine & Rubin, 1997). However, there are increasing numbers of women experiencing premature or early menopause from the age of 17 years due to radiation treatment for diseases which then results in changes in their ovarian function (Whitehead, 1999), from living at high altitudes or inadequate nutrition (Achilles & Leppert, 1997).

Menopause occurs when the ovaries gradually cease to produce eggs and hormonal changes result in oestrogen and progesterone levels decreasing (Quine & Rubin, 1997). This change is triggered by the hypothalamus in the brain in concert with the pituitary and ovaries (Coney, 1991). The menopause is a process of change that signals the end of menstruation and although it is medically considered to have occurred two years after a final menstrual period (Quine & Rubin, 1997) it is a time of transition. This can last for up to ten years for many women but it is not a life-threatening event (Sellman, 1996) as the body prepares itself to move into a non-fertile stage of life (Achilles & Leppert, 1997).

Menopausal status

There are three stages of menopause: perimenopause is the term given when changes are observed in the regularity of the menstrual cycle and menstruation has occurred in the previous 12 months but not in the last three months. Women are considered premenopausal when menstruation continues to occur regularly in the past three months.

When amenorrhoea occurs for 12 months this is called natural postmenopause compared to surgical menopause when the removal of the uterus or ovaries results in the cessation of periods (Johannes, Crawford, Posner & McKinlay, 1994). The climacteric is another term given to the transition from the reproductive stage of life to postmenopausal status (Achilles & Leppert, 1997).

The reality of menopause is uniquely different for each woman. The variety of symptoms that might be experienced, their severity and frequency are all influenced by medical and psychological factors. Genetic predispositions, personal health, ethnicity, lifestyles and diet will impact on this mid-life experience as well as the actual hormonal levels. Psychological reactions, such as the personal and emotional meaning of ageing, will also colour how this event is perceived and affect quality of life differentially (Nachtigall, 1994).

Cultural differences and social issues

Ethnic and cultural backgrounds impact on the way women view the menopause and HRT. A woman's experience of this stage of life is influenced by her culture, her position in that culture and the current social debate in addition to the personal physiological changes within her body. Many Western women have hot flushes yet Japanese women seldom experience these symptoms (Griffiths, 1995b). Asian and Japanese women's diets consist of high amounts of lentils, chickpeas and soya beans that contain natural chemicals or phytoestrogens, that are later changed into oestrogens. These women have a lower risk of breast and bowel cancer or osteoporosis (Hope,

1999).

Hispanic, Asian and black women are less likely to use HRT than white women, who are considered at greater risk of osteoporosis and who are also more accepting of the medical approach to treatment of the menopause (MacLaren & Woods, 2001). Cultural differences also impact on the degree that menopausal symptoms are reported to General Practitioners and so affect HRT use by women in Southern China and Hong Kong (Haines, Rong, Chung & Leung, 1995 cited in Breheny & Stephens, 2000). Two studies conducted of Chinese women in Hong Kong showed no attitudinal changes to menopause over two decades although Chinese women do experience menopausal symptoms (Longstaff, 1984 and Tang, 1993 cited in Chan, 1994). The incidence of hot flushes is much lower than that experienced by Western women, most reported having only one or two symptoms and these were mainly psychological. Their belief that the menopause is a natural event has meant that Chinese women do not anticipate difficulties or actively ask for treatment and instead they often perceive this time as a more acceptable transition from being menstrually unclean to a state of cleanliness.

This religious belief of Hindu, Islam and Buddhism also affects women in Malaysia and Singapore and means they are not permitted to pray during menstruation (Panikkar, 1994). Any intermittent spotting has the same effect as well as increasing their fears of high blood pressure, headaches and hysteria which traditionally are believed to be caused by dirty blood redirected to the head. Hot flushes are considered to be a sign of illness and loss of libido is affected by a heavy physical work load. Those women employed in manual occupations were more likely to report this symptom than their better educated counterparts.

Israeli, European and American woman viewed the menopause as a positive event making them less likely to use HRT compared to women of Asian and North African origin who thought HRT was important (Blumberg et al, 1996). In New Zealand, Māori women were far less likely to use HRT than non Māori (North & Sharples, 2001)

and Mayan and Greek women reported looking forward to a stage of higher social status ushered in by the menopause (MacGregor, 1998).

Physiological changes at menopause

Three natural hormones are implicated in the changes at menopause: oestrogen, progesterone and testosterone, or androgen. As these hormonal changes occur women can experience a variety of physical and emotional symptoms.

As women age their follicle supply is gradually used up and their ovaries produce less inhibin from the age of 35 years. This results in higher levels of follicle-stimulating hormone (FSH) which then cause irregular menstrual cycles. However, estradiol and luteinizing hormone (LH) levels stay the same until the end of follicular growth (Achilles & Leppert, 1997). Prior to menopause some women experience anovulatory cycles when no egg is produced. Although they still menstruate there is no corpus luteum, as ovulation has not occurred, and so no progesterone. This results in a progesterone deficiency (Sellman, 1996). During menopause FSH levels cannot be used to calculate the most effective hormone replacement dose as this hormone is not suppressed by HRT. Initially testosterone levels do not alter very much although they do diminish after menopause while oestrogen produced by the ovaries completely stops. This does not mean that no oestrogen circulates: the adrenal gland continues to produce some oestrogen precursors and there is still extraglandular conversion of testosterone to oestrogen. However, it is the decrease in ovarian steroids that leads to the cessation of menstruation and a variety of symptoms being experienced (Achilles & Leppert, 1997).

Oestrogen is a class of hormones that promote oestrus or endometrial cell growth in the uterus to prepare it for pregnancy and is the primary hormone secreted during the first two weeks of the menstrual cycle (Sellman, 1996). It is comprised of about twenty different hormones and the three most important hormones that have specific functions are oestradiol, oestrone and oestriol (Martin, Lee & Gerstung, 1997). Oestrogen also

stores energy as fat and fat cells secrete small amounts of this hormone (Sellman, 1996). Oestradiol is the most potent and influential of the oestrogens (Farrell, 1993). Progesterone, on the other hand, is a single hormone and is the precursor of testosterone and of oestrogen in the ovaries. It is the main hormone in the third and fourth weeks of the cycle (so named because it is pro gestation) and it is also the precursor of essential corticosteroids. This vital hormone, manufactured by Schwann cells, has the ability to make oestrogen or testosterone when the body requires these as well as fulfilling a variety of physiological functions. These range from improving libido, mood and well-being to protecting against uterine and breast cancer (Sellman, 1996).

Health problems due to diminishing oestrogen

Physical and psychological changes at menopause can lead to adverse symptoms that are classified as psychosomatic (such as dizziness and headaches), psychological (irritability and tiredness) or somatic (night sweats and hot flushes) (Dennerstein, Smith, Morse, Burger, Green, Hopper & Ryan, 1993 cited in France, Lee & Schofield, 1996). The depleting supply of oestrogen is linked to a number of different symptoms which vary in severity:

- Vasomotor instability is experienced by many women as hot flushes and night sweats which can vary in severity and lead to insomnia and concentration difficulties
- Vaginal atrophy or shrinking can occur and cause urinary problems
- Some women feel more anxious or depressed but it must be remembered that the menopause often coincides with other life stressors such as children leaving home
- There is an increased risk of cardiovascular disease
- and breast disease
- Oestrogen is one of the four factors related to the development of osteoporosis: a bone mass deficiency. Bone loss, which starts about 10 years prior to menopause,

speeds up as oestrogen decreases making bones more fragile and placing women at greater risk of fractures (Achilles & Leppert, 1997).

However the only three signs that are definitely due to menopause are the changes in menstruation, vaginal changes and the vasomotor effects (Coney, 1991).

Differing views of the menopause

The menopause can mean different things to women and can be constructed in a variety of ways. These are influenced by the predominant social attitudes of the culture in which the woman lives and often cause conflict when a decision has to be made about taking HRT.

There are two main views of the menopause in Western culture: that it is part of a natural biological process that women undergo (Griffiths, 1999) as they mature and experience this rite of passage (MacLaren & Woods, 2001) or the medical model of disease prevention (Griffiths, 1995b) which is strongly perpetuated in the media (Coney, 1991).

The menopause can be a time not only of physical changes but can also demand adjustment to the attitudinal changes of others who no longer look at the menopausal woman in the same way as they did when she was younger. For women entering the menopause there is no formal rite of passage to be observed as there is for marriage, births or deaths (Greer, 1991). Fears have become a part of this time of life assisted by promotional material from pharmaceutical companies and the medical profession (Kenton, 1995).

The medical paradigm

The medical model in Western culture portrays the menopause as a negative time of

loss: loss of reproductive ability, of youth and sexuality as well as a time of increasing ill health and disability (Griffiths, 1995b). Women's third age has been medicalised (Kaufert & Locke, 1997 cited in MacLaren & Woods, 2001) by the labelling of the menopause as a deficiency disease (MacGregor, 1998). The ovaries are described as failing to function when they stop producing oocytes and do not respond to gonadotropin stimulation. This leads to the diagnosis of oestrogen deficiency which can only be given retrospectively with the subsequent consequences classified in three subdivisions as acute, intermediate or chronic symptoms (Whitehead, 1999). The age of 50 has become a signal for a dreaded pathological state (Kenton, 1995) that has diagnosed women as ill once they experience menopause with doctors acting as gatekeepers to knowledge (Sellman, 1996).

The medical perspective portrays the menopause as a debilitating time of innumerable unpleasant symptoms ranging from hot flushes and mood swings to loss of libido, bladder problems and a crawling sensation like ants under the skin. It has also declared that the deficit of oestrogen has long term ramifications for women which are life threatening such as increased risk for osteoporosis, heart attacks and strokes (MacGregor, 1998). The symptoms of menopause, due to the depletion of oestrogen, are seen as a public health concern which will affect women's quality of life (Achilles & Leppert, 1997).

As cardiovascular disease is a major cause of morbidity and mortality for women over 55 years of age it is important to reduce risk as much as possible and low levels of oestrogen are considered to increase the risk after menopause. The deficit of this hormone is also linked to osteoporosis which occurs mainly in menopausal women when accelerating bone loss and resulting fractures can lead to disability (Achilles & Leppert, 1997).

In the medical model a woman becomes a patient because of the perceived sex hormone deficiency and is additionally required to undergo a series of examinations of uterus,

vagina, cervix, ovaries and breasts as well as bone mineral analyses (Wren, 2002). For decades the medical model has promoted the benefits of its treatment of choice for the illness of menopause and stressed that hormone replacement therapy is essential not only for treating the short-term problematic symptoms of menopause but even more importantly for prophylactic reasons and so has reinforced its lifesaving qualities and its safety (Beard & Curtis, 1988).

This was seen in Australia in the 1980s when the majority of the medical profession having given menopause the status of a disease conservatively treated only the symptoms or more extremely recommended it for all women. It was only the minority who considered it a natural part of ageing and were condemned for refusing any drug therapy (Weisberg, 1984 cited in Coope, 1984).

For the women who view the menopause through the lens of the medical model HRT is considered to be the panacea to regain control of both inner emotions and outer appearance. They describe their menopausal experiences in medical terminology with talk of side effects, disease and deficiency and when this view is adopted a risk-benefit model is promoted in the decision making process regarding HRT use (Stephens, Budge & Carryer, 2002).

Yet the majority of women view menopause as normal and natural (Blumberg et al, 1996) and do not see it as a time of decreasing health - in fact they relax more, stop worrying about getting pregnant and even report increased energy (Griffiths, 1995b). There is another way of looking at the menopause.

A natural process

The feminist view challenged and exposed the traditional social male attitude that perpetuated the negative image of the post-menopausal woman and offered another more liberating perspective. It does not deny that physiological and physical changes

and discomforts are experienced at menopause. It attributes them instead to natural changes rather than an illness which needs to be treated without women being labelled as a patient forever after the age of 50. Feminist protestations started a revolution.

Feminist writers proposed that the medical model seeks to control women's bodies (Griffiths, 1999) as it promotes the menopause as a disease, characterised by a deficit of oestrogen and treatable by replacement of the lacking hormones by using HRT (Blumberg et al, 1996). They highlighted the aim of HRT to do away with the menopause and to prevent natural changes from occurring so that women could retain youthful appeal and avoid the proposed tragedy of what was seen as an early death (Greer, 1991). They exposed the exploitation of women at mid life transition, the promotion of a negative stereotype of ageing (Coney, 1991) and they challenged the belief of HRT as the safest option to prevent future health problems (Kenton, 1995).

The promotion of HRT may therefore increase women's fears of decreased quality of life and ageing (Griffiths, 1995b) and as it is not vital that hormones must be replaced in order for women to enjoy a sense of well being it has been suggested that HRT be called Hormone Therapy, or HT, as the word 'replacement' reinforces the idea of hormonal deficiency rather than changes of hormone levels being a normal part of physical ageing. However, hormone therapy is considered to be only one option available to women at menopause. There have always been alternative ways available of dealing with the changes at menopause. To some women HRT is a drug that can foster dependence and taking it is a sign of weakness. They believe that they must maintain a more positive attitude and resist medication. If menopause is constructed as a natural stage of life and ageing gracefully is a virtue then HRT is considered unnatural and to be avoided. Alternative, natural treatments are preferred such as adopting a healthy lifestyle, vitamin or herb supplements to manage symptoms (MacLaren & Woods, 2001) lubricants for more enjoyable intercourse and even walking to reduce bone loss (Springen, 2001).

This alternative feminist perspective rejects the medical model and instead considers the menopause as a time when women can review their life (Hunter & O'Dea, 1999), and experience a time of spiritual renewal (Coney, 1991). Through this lens the menopause is seen as a time of mystery with a focus on spiritual changes. A time for women to engage in planning for the future, gain new skills or education, make a new reality out of previously forgotten dreams and redesign a different role for herself (Greer, 1991). It has been reframed as another opportunity at living and freedom from the pressure of biology (Farrell & Westmore, 1993) as well as a celebratory and creative time. Menopause can be a rewarding adventure and a transformation to freedom especially when tapping into the power of myth and the meaning of being female (Kenton, 1995).

Feminist writers promote the need for women's voices to be heard in the male dominated domain of women's health which has traditionally been researched by men (Sarrel, 1994). Other voices have joined this increasing demand. More doctors and scientists are also promoting this perspective, decrying the practice of traditional medicine and pointing out not only the financial but the physical costs to women who place their bodies at risk when using HRT (Kenton, 1995).

The menopause is achieving a higher profile and becoming more visible socially as a result of the work of feminists. However, it has now also become a crossroad and an occasion for mid-aged women to make important decisions about their health (MacLaren & Woods, 2001): decisions which involve hormone replacement therapy.

Hormone Replacement Therapy

Women who are experiencing a natural menopause or have had a hysterectomy or oophorectomy (surgical removal of the ovaries) are increasingly being offered the medication of HRT for the treatment of distressing menopausal symptoms. Approval for its use was initially granted in the United States of America in the 1930s and two decades later it was being widely used universally (Shelley, Smith, Dudley & Dennerstein, 1995). Combined oestrogen and progestin HRT has been prescribed since the 1980s to women entering the menopause to both alleviate symptoms and as a preventative measure for protection of the heart and bones (Spake, 2002). Use has fluctuated with reports of risks and benefits since its introduction (Brett & Madans, 1997).

Johannes et al (1994) reported that women experiencing surgical menopause are most likely to use HRT. This treatment, in the United Kingdom, involves the hormone of oestrogen on its own or combined with progestogen (Griffiths, 1999). It is prescribed for a range of menopausal symptoms such as hot flushes, reduced sex drive, emotional instability and night sweats (Quine & Rubin, 1997). HRT is also prescribed as a prophylactic. In the United States of America oestrogen was approved by the Food & Drug Administration for osteoporosis prior to any large randomised trials being conducted (Altkorn & Vokes, 2001).

How Hormone Replacement Therapy works

The mid-aged woman and her menopause have increasingly become a profitable industry for pharmaceuticals and the medical profession (Coney, 1991) and there are now a variety of HRT preparations available on the market (Hope, 1999). In addition to being administered orally or by transdermal gel or patches HRT can also be administered per vagina, by implants or intranasally via sprays (Attilakos & Wardle, 2002). Three hormones are involved: replacement progesterone called progestin, a

synthetic analogue; replacement oestrogen called estradiol or estrone and synthetic testosterone known as methyl-testosterone (Sellman, 1996).

HRT is a generic term that includes three possible regimes involving sequential or continuous use: oestrogen on its own (unopposed HRT); a longer period of oestrogen followed by shorter time combined with progestin (opposed sequential therapy) or finally oestrogen and progestogen at the same time (opposed continuous combined therapy) (Coney, 1991).

So how safe is it to take HRT and what are the benefits? Attitudinal changes to HRT as well as more recent robust evidence based research have resulted in an increase of information about the advantages and disadvantages for well women using this controversial therapy at menopause.

The debate about Hormone Replacement Therapy

Open the lid on the HRT debate and strong, passionate words leap out to confront the researcher. Words from the medical paradigm like disease, decline, dread, deficient and decay compared to language describing the menopause as growth, energy, empowerment and transition. How are women to make a truly informed decision about the benefits and risks of this therapeutic approach or alternative options when essential information is withheld or difficult to access? How are they to decide whether to use HRT for short or long term use? The information has been constantly changing, is often conflicting and is not clear cut.

Women are still being told that HRT is not a drug, is not addictive and will positively benefit not only themselves but their partners, friends and even the community. They are advised to take it as long as they are physically, sexually or mentally active (Wren, 2002). This is in contrast to knowledge that replacement hormones are a drug, can only mimic naturally produced human hormones without restoring an exact return to the

same premenopausal levels and therefore side effects can be expected (MacGregor, 1998).

Development of HRT: from leeching to hormone replacement

Treatment of menopausal symptoms has progressed since the medieval approach of cervical leeching or the recommended avoidance of sexual excitement at the start of the twentieth century. In the 1920s in the USA Doisy isolated and identified oestrogen in the urine of pregnant women and later called this oestrone (Coney, 1991) followed in 1929 by Allen's discovery of progesterone (MacGregor, 1998). In Germany an injectable oestrogen was developed from human placentas in 1928 and in the 1940s the first synthetic product became available in the USA called diethylstilboestrol or DES, initially prescribed to pregnant women and then during menopause (Sellman, 1996). However, it was in 1943 that conjugated equine oestrogen, developed from the urine of pregnant mares, was put on the market and promoted as having less unpleasant side effects. Hormone Replacement Therapy had arrived and the debate started.

When the pharmaceutical companies joined Wilson in 1966 in his passionate promotion of unopposed oestrogen in the United States of America and Cooper in 1970 in Britain there was an orchestrated marketing campaign followed by an explosion in the number of women using the drug. HRT was seen as a wonder drug for women. HRT would transform a woman, keep her young forever, emotionally stable and sexually active so that her husband would have a more enjoyable life. Efficacy was the main issue rather than women's safety (Coney, 1991).

In 1975 the risk of increasing endometrial cancer from the use of unopposed oestrogen was revealed, the numbers of women using the drug began to decrease and the debate about the benefit of Estrogen Replacement Therapy (ERT) began. The pharmaceutical companies reacted with providing a new and apparently safer approach in the combined form of HRT and the focus shifted from preservation of youth to prevention

of diseases (Sellman, 1996).

The debate resurfaced even more strongly at the beginning of the twenty-first century when the growing weight of conflicting evidence again challenged the long-term benefits of HRT and a number of risks were more clearly revealed. Women who already had coronary artery disease were not found to benefit from HRT and in fact there was an unanticipated increase in myocardial infarctions (non fatal) and deaths from coronary heart disease (MacLaren & Woods, 2001). More women experienced gall bladder disease and venous thromboembolism and breast cancer. This questioned the original beneficial claims for vascular changes and bone density, prevention of coronary heart disease and osteoporosis (MacLaren & Woods, 2001). The PEPI trial results in 1996 had already indicated that women with an intact uterus should not take long term unopposed oestrogen (The Writing Group for the PEPI Trial, 1996).

The risk of blood clots had increased 200 percent to three in 1,000 women users with the possibility of strokes resulting from blood clots (Springen, 2001). It was also found that long-term users run the risk of increased breast cancer and doubts have been cast on the benefits for preventing heart disease and osteoporosis after only weak evidence for HRTs efficacy in preventing fractures was reported (Springen, 2001).

Reasons women stop taking HRT, or become non compliant

Part of the decision making process about whether or not to use HRT centres on coping with the side effects of the drug and fears about its use. When women talk to others about their reasons for stopping HRT it influences those who are still deciding if to start this regime or not. Hearing about bloating, nausea, cramps and breast tenderness resulting from oestrogenic side effects or pre-menstrual syndrome, acne, headaches and mood swings from progestogenic side effects as well as the other drugs needed to deal with these (Attilakos & Wardle, 2002) can affect a woman's intention to use HRT.

It has been found that women most often stop therapy because of adverse side effects. These range from weight gain, breast tenderness and headaches to hypertension, tiredness and increased bleeding as well as psychological problems such as depression, decreased concentration and irritability (Garton, Reid & Rennie, 1995). They also stop because of fears of breast cancer or melanoma, the cost of the long-term medication and the ineffectiveness of the programme to change their negative symptoms (MacLaren & Woods, 2001). There was a demand for large randomised controlled trials to establish consistent and reliable data on the long-term effects of HRT on women's health (MacLaren & Woods, 2001).

Attitudes to the menopause and HRT

Attitudes play an important role as predictors of using HRT - the more negative a woman feels toward the menopause the more positive her attitude towards using HRT and therefore the more likely she was to use HRT (Breheny & Stephens, 2001). Women using HRT thought that it was vital once you were over the age of 50 years and that it was needed in order to manage distressing symptoms (France, Lee & Schofield, 1996).

Healthy women who were not having many negative menopausal symptoms and did not often need to visit their doctor generally held a positive attitude to the menopause and so were more negative about HRT use (Breheny & Stephens, 2001) considering it too risky (France, Lee & Schofield, 1996).

Mid-aged women of 45 years living in London reported a greater intention to use HRT when they held negative attitudes towards menopause - which they viewed as a medical condition. These women, who were feeling depressed and anxious, also considered their doctors to be more powerful and better able to advise them about HRT use which they hoped would restore general well being (Hunter & Liao, 1994) and knowledge of the menopause and HRT use was closely aligned to attitudes to HRT

(Woods, Saver & Taylor, 1998 cited in Breheny & Stephens, 2001).

The use of HRT by women in Aotearoa/New Zealand

New Zealand women started using HRT for symptom relief although almost half were taking it to prevent heart disease and osteoporosis. Controlled trials had strongly suggested the effectiveness of HRT for managing hot flushes and vaginal symptoms. HRT was also promoted as increasing bone density and so decreasing the risk of fractures. There was a reported 35% reduction in the risk of heart disease and indications that short term use did not increase risk of breast cancer. However, long term use was associated with a 35% increase in risk in breast cancer and a ten fold increase in risk of endometrial cancer (North & Sharples, 2001).

In New Zealand approximately 20 per cent of women between 45 and 64 years of age were using HRT in 1997 and they were more likely to be non Māori (North & Sharples, 2001). The view of health held by tangata whenua, or the indigenous people of New Zealand, differs to the traditional Western perspective. The Māori emphasis is a holistic, integrative one requiring four aspects to be functioning in harmony in order to be healthy. This model of health called te whare tapa wha (Durie, 1985) incorporates taha wairua (soul or spirit), taha hinengaro (thoughts and feelings), taha tinana (body or physical) and taha whanau (family). While the main focus of the medical model is on the physical body, or taha tinana, it is the spiritual aspect, or taha wairua, that is the most important quality for Māori. Health is not seen as separate from the wider context in which the person lives so te whanau, or the family, needs to be involved for a healthy status to be restored (Durie, 1977). The meaning of menopause for a Māori woman could therefore be different from that of non-Māori women and cultural differences in attitude to accessing doctors could also influence HRT use.

HRT is a prescription only medication that New Zealand women take in either tablet form or patches to manage the symptoms that negatively affect quality of life. The

most common reason given for taking HRT was to alleviate vascular changes, such as hot flushes and night sweats, and to improve emotional stability. They also took it to relieve urogenital and menstrual symptoms and for disease prevention, physical benefits and improved sex drive (Breheny & Stephens, 2000).

Changes in New Zealand in the last ten years resulted in HRT being recommended for long-term use (more than five years) as a preventative measure for osteoporosis and coronary heart disease. Between 1992 and 1995 annual prescriptions almost doubled (North & Sharples, 2001). This therapeutic shift from the treatment of symptoms to prophylactic treatment has meant that mid-aged women need to carefully consider controversial and often conflicting information as they make a decision about HRT in their lives.

Indeed, it is conflicting information, rather than a lack of information that makes it difficult for women to interpret the results from different trials so that it makes personal sense to them (Budge, Stephens & Carryer, 2000). For women with coronary heart disease (CHD) this would have been more difficult after results of studies like the Heart and Estrogen/progestin Replacement Study (HERS) (Hulley, Grady, Bush et al, 1998) were published. The women in this study had all experienced coronary heart disease prior to participation and results indicated no overall effect on CHD although there had been an apparent increased risk in the first year. This led other researchers to reanalyse their data and some were then able to detect an early increase in CHD risk for women with prior CHD (Grodstein, Manson & Stampfer, 2001; Alexander, Newby, Hellkamp et al, 2001 and Heckbert, Kaplan, Weiss et al, 2001 cited in the Writing Group for the Women's Health Initiative Investigators, 2002) but not in women who were healthy (Grodstein, Manson, Colditz, Willit, Speizer & Stampfer, 2000 cited in the Women's Health Initiative, 2002). This fuelled the belief that early adverse effects of HRT on elevated occurrences of CHD was limited to women with documented CHD.

Results of another trial, the Postmenopausal Estrogen/Progestin Intervention (PEPI)

showed that it was not feasible for women with an intact uterus to take long-term unopposed oestrogen (The Writing Group for the PEPI Trial, 1996).

New Zealand women's voices have been growing stronger over the past few years as they make their needs known about how they want to manage menopause. It has been shown that women in the new millennium have a different expectation from their GPs. They no longer go to their doctors for permission to take HRT but rather as an avenue for accurate information, reassurance and support as they make their own decision about HRT use. A lot of the information provided in doctors' surgeries is supplied by pharmaceutical companies, is often not detailed enough and is perceived as biased. Women worry about being given only the positive aspects of HRT and expect their doctors to keep up to date with the latest research once they have decided to adopt this regime. They have become dissatisfied with an authoritative, paternalistic approach from their GPs and are more articulate about having a consultation style that matches their individual needs. Interestingly there was also some dissatisfaction with a partnership style as this had the potential to generate uncertainty due to the information shared by their doctors which was thought to be biased (Budge, Stephens & Carryer, 2000).

Knowledge about HRT

It has been shown that doctors do play a vital role in women's decision making. Those women who were using or had previously used HRT reported that their doctors provided the main source of information compared to non-users who depended on relatives or friends for knowledge and advice. All women had read about HRT in books and magazines (Breheny & Stephens, 2000) and Garton, Reid & Rennie (1995) had also found that the media was an important source of information about HRT as well as women's magazines. Other studies have also reported the importance of newspapers, television, radio and nurses as being useful when deciding about HRT (Griffiths, 1995a).

In the early 1990s a report to the New Zealand Core Services Committee identified the conflicting information about the benefits and risks of taking HRT and recognised the need for further randomised trials to be conducted. It recommended that it be used in the short term, for the management of adverse vaginal and vasomotor symptoms that interfered with quality of life, and in the long term for the prevention of fractures but only in women already at high risk. It stressed as well the need to make separate decisions about short term treatment for symptoms and preventative use against osteoporosis and coronary heart disease (National Advisory Committee on Core Health and Disability Support Services, 1993).

Current Guidelines for the use of HRT in New Zealand

A new guideline about appropriately prescribing HRT was launched in May 2001 by the New Zealand Guidelines Group. This was an evidence-based approach and reinforced the contraindication of HRT use for women with existing coronary artery disease. The nine main messages that were released were:

- Routine use of HRT is not recommended in the menopause
- Decisions about short-term use (less than five years) to treat menopausal symptoms should be made separately from long term preventative use for osteoporosis
- The most effective treatment of hot flushes and other climacteric symptoms is HRT
- HRT is effective if osteoporosis is already established and can prevent postmenopausal bone loss. Prior to treatment it is recommended that bone density be assessed. Optimal prophylactic treatment should begin when the woman is in her 60s and 70s when risk of fracture is increasing rapidly rather than in her 50s
- For women experiencing a natural menopause and still have a uterus it is important to administer progestogen along with oestrogen replacement therapy
- More evidence is required to support claims that HRT improves cognition or prevents or slows down Alzheimer's Disease

- There are contraindications for the use of HRT for secondary prevention of coronary artery disease. There is also insufficient evidence that HRT is beneficial or harmful for the primary prevention of coronary artery disease
- Using HRT for less than five years does not increase the risk of a diagnosis of breast cancer. However, there may be an association with longer term use (more than five years) and an increase in breast cancer diagnosis
- Over the next five to ten years there will be clarification of the benefits and risks of HRT when two very large randomised controlled trials are completed.

One of these, the Women's Health Initiative (WHI), was the first to focus on the beneficial or unfavourable effect on the incidence of coronary heart disease as well as the effects of hormones on well women's overall health and the results quantified the degree of risks and benefits in July 2002. Women with an intact uterus enrolled on this trial took the most widely used HRT preparation of conjugated equine oestrogen plus progestin but the planned eight year randomised controlled trial was stopped three years early when results showed that overall health risks were greater than the benefits of HRT and highlighted the risks of HRT for healthy postmenopausal women (Women's Health Initiative, 2002). This had immediate implications for women all over the world and there was an instant reaction to the news. It was the first definitive evidence of the risks involved for invasive breast cancer and results showed that this treatment should not be started or continued for the primary prevention of coronary heart disease in well women with an intact uterus at menopause.

The primary outcome of this clinical trial aimed to ascertain the degree of potential protection HRT provided against coronary heart disease with hip fracture designated as a secondary outcome. A primary adverse outcome was designated as invasive breast cancer with fractures, colectoral, endometrial and other cancers designated as secondary outcomes that could possibly be affected by HRT use.

Although there was some indication of a possible benefit for fractures and colon cancer

the risks of invasive breast cancer exceeded the designated boundary and the global index supported a result of overall harm as well as evidence of increases in strokes and pulmonary embolism and coronary heart disease. The results of the WHI have therefore identified that using combined oestrogen plus progestin for longer than five years will increase the risk of getting breast cancer and that there are more harmful outcomes than benefits from this regime. It was recommended that the second trial, researching the effects of unopposed oestrogen taken by women who have had hysterectomies, be continued until March 2005 to assess the balance of benefits and risks for this group of women using HRT.

Against this background of constantly changing information women all over the world are required to make a complex decision. Information which is sometimes influenced by pharmaceutical companies to promote their products. Information which is often conflictual and uncertain and makes it difficult to know which report is more reliable.

Summary of the HRT decision making process

It has been shown that making a decision whether to take HRT or not is a complex and difficult one. The main elements that women of the twenty-first century have to consider is how they view the menopause itself - whether they consider this a natural process or see themselves as sick patients needing to be treated. The constantly changing medical information, which can be biased by pharmaceutical companies, and the critical debate about the safety of HRT adds to the complexity of the decision making process. Lack of robust research is only now being addressed regarding the safety of long-term versus short-term use which affects decision making and in addition women are also influenced by the pressure of social attitudes from others who are important to them.

So, how do women in New Zealand make such an important decision about HRT use? A decision which involves short or long-term use to either prevent chronic diseases or

to deal with distressing symptoms at menopause. How do their attitudes, pressure from people who are important to them, their own perceptions of control all interact to influence their decision to start such a treatment?

The next section examines what is involved in making a decision such as whether to take HRT or not and the process that women undergo as they form an intention, or plan, about how to deal with distressing symptoms at menopause.

Human judgement

Decision making is part of everyone's life. During the course of each day numerous decisions are required to be made and these all involve conflicting options. Every act is the result of a choice and even when it appears that no change has occurred there has actually been a decision to maintain the status quo (Ajzen & Fishbein, 1980).

Problems present a challenge to consider a range of alternatives with the aim to overcome specific difficulties. Making choices is part of every behaviour in which adults engage (Bootzin, Bower, Zajonc & Hall, 1986).

The paradigm of social psychology originally considered behaviour to be rational and stressed the individual as a thinking, proactive organism involved in changing ineffective behaviour or cognitive patterns (Bandura, 1982 cited in Conner & Norman, 1995). Social psychology assumes that social behaviour is a result of an individual's perception of reality (Conner & Norman, 1995). However, there has been a shift from the original view of the individual as making rational decisions to a model that considers people as more reasonable in their judgements (Ajzen, 1996).

The process of making a decision

When a problem is encountered there is a detailed process in which humans engage before a final decision is made. Initially there has to be an awareness and identification that a situation is problematic and that a decision for change must be made. The person then considers alternatives, gathers information about these while also projecting ahead to probable relevant events in the future that might impact on their decision. They will also think about the possible outcomes that might result because of their chosen solution (Ajzen, 1996). After the problem has been structured the person still has to consider how useful the possible outcomes might be for each alternative and incorporate these judgements to make their final decision. However, even after the chosen behaviour has been carried out it can still be modified - depending on feedback

received, how satisfied the decision maker is with the result (Ajzen, 1996) and the meaning it has for the person.

When a decision is finally made to carry out a specific action it can be said that there is an intention to behave in a specific way, which involves a conscious plan being made to reach that goal. The strength of the intention then determines the possibility that the person will actually perform the behaviour or at least make an attempt to do so. Central to an explanation of the formation of intentions and behaviour is the cognitive construct of attitude which is defined as the positive or negative evaluation of the proposed object (or any aspect of a person's world, such as a proposed behaviour) based on the individual's beliefs or expectation about the object in question (Ajzen, 1996).

A person can have any number of beliefs about an object. Fishbein (1963, cited in Ajzen, 1996) originally proposed that it is the person's salient beliefs, or those few most relevant beliefs, that determine their attitudes or evaluations about an object. Beliefs were defined as the perceived probability that the object under consideration had a specific attribute, or any particular aspect of the person's life. Positive or negative attitudes to a behaviour are developed as beliefs about the consequences of our actions are formed and as a personal value of the consequences on the actions become linked to the actions. So, if a behaviour is the object of an attitude, then the attributes are mainly the outcomes that result from carrying out that specific behaviour. When this is applied to the making of behavioural decisions each belief associates a specific result with the behaviour chosen to meet that specific goal.

An expectancy-value model proposes that an individual's overall attitude to a behaviour is influenced by the strength of their personal evaluations and values about the outcomes that their behaviour is expected to achieve. This theory is the one most accepted for describing attitude formation and is the basis of social cognition models used to explain the decision making process (Ajzen, 1996).

Expectancy-Value Theory

When a person decides on a course of action they can maintain their determination to keep going, in spite of the difficulties encountered, by thinking about the end result they have anticipated. Expectancy-value theory posits that motivation is generated and sustained by the degree than an anticipated outcome is valued and expected to result from a chosen action. When certain actions are chosen, because they are expected to provide specific results that are highly valued, then there will be a greater incentive to carry out the actions. In other words, the more that a person expects that their behaviour will achieve their desired goal and the more that they value that specific goal the greater will be their motivation (Bandura, 1997).

According to this model the information that is part of the person's salient beliefs about their behavioural choices is the core factor which provides insight into human decision making. It is the person's salient beliefs which influence their evaluations, determine their preferences and ultimately their decisions (Ajzen, 1996). Theorists, such as Ajzen and Fishbein (1980) have added the determinant of perceived social norm to the expectancy-value formulation (in their theory of reasoned action) proposing that motivation is influenced by the perceived social pressure to agree with others who are important to the person.

However, these traditional models of subjective expectancy of success multiplied by the incentive value approach have been criticised on the grounds that they fail to take into account the difficulty of actually carrying out an intention. This criticism is principally directed to their underlying assumption of humans' information processing capabilities, which are deemed to be unrealistic. When applied to real problems there is doubt about a person's ability to process all the possible alternatives in a short space of time complicated by situations when multiple alternatives have identical numbers of pros and cons (Kuhl & Beckmann, 1985). What influences the stability of intentions?

Ajzen (1985) addresses these issues in his theory of planned behaviour which extends

this expectancy-value approach by identifying the difficulties which prevent intentions being carried out and aims to close the gap between behavioural intentions and realised goals. He maintains that for intentions to become actions it is necessary that a person not change their mind before commencing their plan, doubt that they can easily achieve their chosen goal (which they believe is under their volitional control) as well as how much control they actually have in carrying out their decision.

Health behaviours

Kasl & Cobb (1966, cited in Conner & Norman, 1995) defined health behaviours as any actions taken by healthy people in order to prevent or detect disease before symptoms appear. This could be seen as a limited view as it fails to include the actions people take to manage their adverse symptoms or increase their sense of well-being (Conner & Norman, 1995). Taking HRT is considered a health behaviour that women use in order to control current distressing menopausal symptoms or prophylactically, to improve their future health. Women in New Zealand have become increasingly more proactive demanding a different approach from their doctors regarding management of distressing symptoms at menopause (Budge, Stephens & Carryer, 2002).

Research has revealed that social cognitions account for the majority of factors that influence choice of health behaviours. Although demographics and accessibility of health care services play a role in determining whether these are adopted or not it appears that cognitive factors such as attitudes, beliefs, knowledge and social networks are even more important in the decision making process (Cummings, Becker & Maile, 1980).

It is suggested that a social cognition model called the theory of planned behaviour is a useful model for understanding this decision-making process and also for predicting intention to use HRT, which is considered a health behaviour. The next section provides information about these models.

Social Cognition Models

In the social cognitive approach people are seen as thinkers and there is a focus on the meaning that they make of their social situations. This has resulted in the formulation of social cognition models (SCMs): models that explain how intrinsic cognitive factors determine external social behaviours. Over the past seventy years SCMs, such as the theory of planned behaviour, have been developed to provide a framework to understand not only the factors involved in making health decisions but also to predict behaviour and suggest interventions to promote healthy behaviour changes.

SCMs got their name because they embrace both social and cognitive aspects about decisions to act. These models visually map the important beliefs that will indicate who will or will not carry out specific behaviours, identify the specific cognitions that are the proximal determinants of actions and isolate targets on which to focus if the behavioural changes are to eventuate successfully. Questionnaires are used to overtly reveal the inner decision making process.

There are two main types of SCMs: attribution, or type 1, models focus on causal explanations of health and the responses made to major illnesses and type 2 SCMs look at cognitions in order to predict health behaviours and their outcomes in the future. The theory of planned behaviour, used in the present study, is a type 2 model which stresses that human behaviour is based on reasoned and informed considerations of problems and that health behaviours are the outcome of a logical decision-making process. It is one of five SCMs most used to predict the performance of health behaviours (Conner & Norman, 1995).

Social Aspects of SCMs

Abraham (1999) proposes four ways that SCMs are social. They are social because they are concerned with social groups; measure beliefs of other people; predict social

behaviours that are influenced by the social context and apply interventions at a social macro level.

SCMs are concerned with what motivates people to act and classifies people according to the way they make sense of different behaviours. Beliefs that are shared by a specific social group of people are often targeted to differentiate what specific actions (such as exercise, condom use or hormone replacement therapy) mean to them. Once the relevant beliefs about a certain behaviour have been identified in the particular group of people being researched (like mid-aged women or adolescents) then self-report questionnaires are designed, based on those beliefs. A number of questions request the participants to support or disagree with the beliefs. In this way the identified social and cultural differences enable a more accurate prediction to be made about the behaviour.

SCMs assess beliefs about other people and this also makes them social as they consider the patterns of behaviour, or norms (Reber, 1985) that are typical of social groups. Measures of descriptive, subjective and moral norms as well as the amount of perceived control over the behaviour allow these beliefs to be measured and classified. These measures allow researchers to differentiate how people think about performing a certain action, the influences of their social context and significant others in their lives, the perceived ease or difficulty of carrying out the behaviour and how their personal expectations and moral standards can all impact on their decision making.

These models aim to predict social behaviours which occur during interactions between people in specific social situations. They can identify the most influential factors that determine the likelihood of the behaviour being performed. In achieving this SCMs can have a reciprocal effect impacting on social groups as a result of interventions which change the individual as well as social policy.

Cognitive aspects of SCMs

The social cognitive approach uses cognitive variables to understand social behaviour. It assumes that people process information and actively develop their own cognitive representations (mental images or symbols) of themselves and their world. The differences in decision making and self regulation processes are seen to be the result of the individualised differences in the semantic content, or the words people use, to construct their own representations. These are then verbally expressed and shared socially (Abraham, 1999). People make sense of themselves by talking to others; they decide on goals and make plans to achieve them.

The key to understanding an individual's behaviour lies in understanding the person's perception of their environment (Conner & Norman, 1995) and this approach is cognitive because it tries to reveal how people, as data processors, create their own programmes by systematically interpreting the information they receive and use it to generate behaviours which are predictable. However, Leyens & Codol (1998, cited in Abraham, 1999) also believe that people can be creative, capable of designing their own data programmes and that some of their decisions can be based on established routines rather than spending time processing incoming information.

Cognitive processes cannot be seen and so are inferred by using questionnaires which ask people what they think. Participants reflect and then report the cognitions and the inner processes that guide their outer observable actions by rating their beliefs. SCMs then categorise the individual's self-reported thoughts in order to differentiate how each person perceives and understands their realities and plans their actions. These are then used to predict how likely they are to perform future actions. In this way researchers aim to identify how people differ in their motivation to act on their decisions.

The categorisation of the way people process incoming data and systematically make sense of their environment allows insight into differences in cognitive processing within individuals. Successful application of SCMs depends on reliable categorisations of

cognitions so researchers design strict operational definitions of constructs and use standardised items in their questionnaires. As the models are based on an everyday approach to decision making they are more likely to parallel peoples' internal conversations as they strive to make sense of situations and formulate a decision to take action (Abraham, 1999).

For example, when a woman is considering hormone replacement as therapy for adverse menopausal symptoms she will think about and evaluate the drug (resulting in a positive or negative attitude to HRT) and compare it with other peoples' views (like her partner's or friends') before making a decision if to take it or not (an intention to act).

Social cognitions are therefore a central focus of these models because they are formed through socialisation, become permanent characteristics and shape the behaviour of individuals. Social cognitive factors make the difference between some people from the same background being more or less likely to perform health behaviours. They are also amenable to change thereby offering a way to change health behaviours (Abraham, 1999).

The importance of social cognitions in the decision making process

Intrinsic and extrinsic factors are the two main factors that underlie the many approaches taken to understand who is more or less likely to perform health behaviours. Personality, sociodemographic factors, cognitions and social support are referred to as intrinsic, or within the individual, while incentive structures (like taxes on alcohol or the imposition of subsidies) as well as legal restrictions (such as fines for speeding or banning dangerous substances) are extrinsic to a person. The focus of psychologists has been mainly directed towards intrinsic factors involved in the decision making process and cognitions have been identified as the most important proximal determinant of health behaviours (Conner & Norman, 1995).

The following section takes a more detailed look at two SCMs: first the theory of reasoned action and then an extension of this, the theory of planned behaviour in order to better understand the factors that influence the decision of mid-aged women whether or not to take HRT.

Theoretical frameworks in decision making

There are various aspects involved in making a decision that will impact on how healthy a person can be. It has been shown that SCMs provide a framework to understand the decision making process where health is concerned. Two of the most popular theories used to predict behaviour are the theory of reasoned action (TRA) and an extension of this called the theory of planned behaviour (TPB). This study applies the theoretical constructs of the TPB to the decision making process of New Zealand women about HRT. However, as the TPB is made up of all of the factors of the TRA (with the addition of one more important concept) it is useful to start by looking at the theory out of which it developed.

The theory of reasoned action

Fishbein & Ajzen (1975) proposed a theoretical framework called the TRA to explain and predict volitional, or wilful, behaviours within the person's control that can be carried out easily if they decide to do so. It is comprised of four concepts and has been extensively tested in a variety of situations. The TRA is concerned with relationships between attitudes, beliefs, intention and the resultant behavioural outcome in any domain. It is not concerned with external variables such as demographics or personality traits as these are considered to influence behaviour only to the degree that they affect the causal determinants of behaviour (Ajzen & Fishbein, 1980).

In the TRA intention is proposed to be the most proximal cause of behaviour and is made up of two independent factors: attitude and subjective norms. These two antecedents are a combination of personal and social influences and reflect the degree to which the person considers their decision will have a positive or negative outcome (their personal attitude to the behaviour) and social desirability or how much they will conform to social pressures to please significant others in their life (the impact of perceived social influences) (Ajzen & Fishbein, 1980).

In turn, these two sets of beliefs are determined by behavioural beliefs about the consequences of their actions and normative beliefs about the expectations of important people in their lives.

Attitudes, the favourable or unfavourable evaluations of the behaviour in question, are beliefs held by the individual about whether the choice they make will have positive outcomes or not. If a person believes that doing something will result in a beneficial outcome then they will have a favourable attitude towards performing the behaviour in question in contrast to another person who has an unfavourable attitude to the same behaviour because they foresee negative consequences. These behavioural beliefs underlie attitudes to behaviour and so will influence performance of the target behaviour (Ajzen, 1985).

A person can have a range of different beliefs about any one specific behaviour but at a given time only a few are likely to be relevant. According to the TRA it is these salient beliefs about the behaviour that determine attitude because each salient belief links an important outcome (either positive or negative) with the behaviour (Ajzen, 1985).

Attitudes to any behaviour are a function of these underlying beliefs known as behavioural beliefs and are formed by a person's evaluation of these salient outcomes and the strength of their behavioural beliefs, which reflect what they believe about the consequences of their choice.

Evidence of a weak relationship between attitudes and behaviour prompted a review of 109 studies (Ajzen & Fishbein, 1977 cited in Ajzen, 1996) which revealed that general abstract attitudes had been used to predict a person's decision to perform a specific behaviour and resulted in non-significant relationships or relationships of low magnitude. The principle of compatibility was proposed which established the conditions which are necessary for a strong correlation between attitude and behaviour (Ajzen, 1996).

This principle maintains that measures of behaviour and attitude are indeed compatible by either measuring the specific attitude to the specific behaviour being researched or by summing behaviours to increase the general behavioural measures towards a general attitude. A correlation between behaviour and attitude is strongest when they are both measured at the same level in regard to each of four aspects of behaviour and attitude: action, target, context and time. Any behaviour is made up of an action toward a target performed in a particular context at a specific time.

When specifically applied to a health behaviour such as taking HRT this would be measured by the decision to use (action) HRT (target) if medical problems occur (context) around menopause (at a specific time).

The social context, or the perceived social pressure to act or not, is seen to also influence the decision making process via people who are considered important to the decision maker. When others are perceived to apply subtle or overt pressure to conform to their wishes there is a strong drive to acquiesce with their views and increased motivation to comply with their wishes. These underlying normative beliefs pressurise the person to make a decision (Ajzen & Fishbein, 1980). Alternatively, if the person believes that the other groups or individuals think they should not act in a certain way then they will have a subjective norm that pressurises them to refrain from carrying out the behaviour under consideration (Ajzen, 1985).

Figure 1 shows the various factors that the TRA proposes are involved in the decision making process.

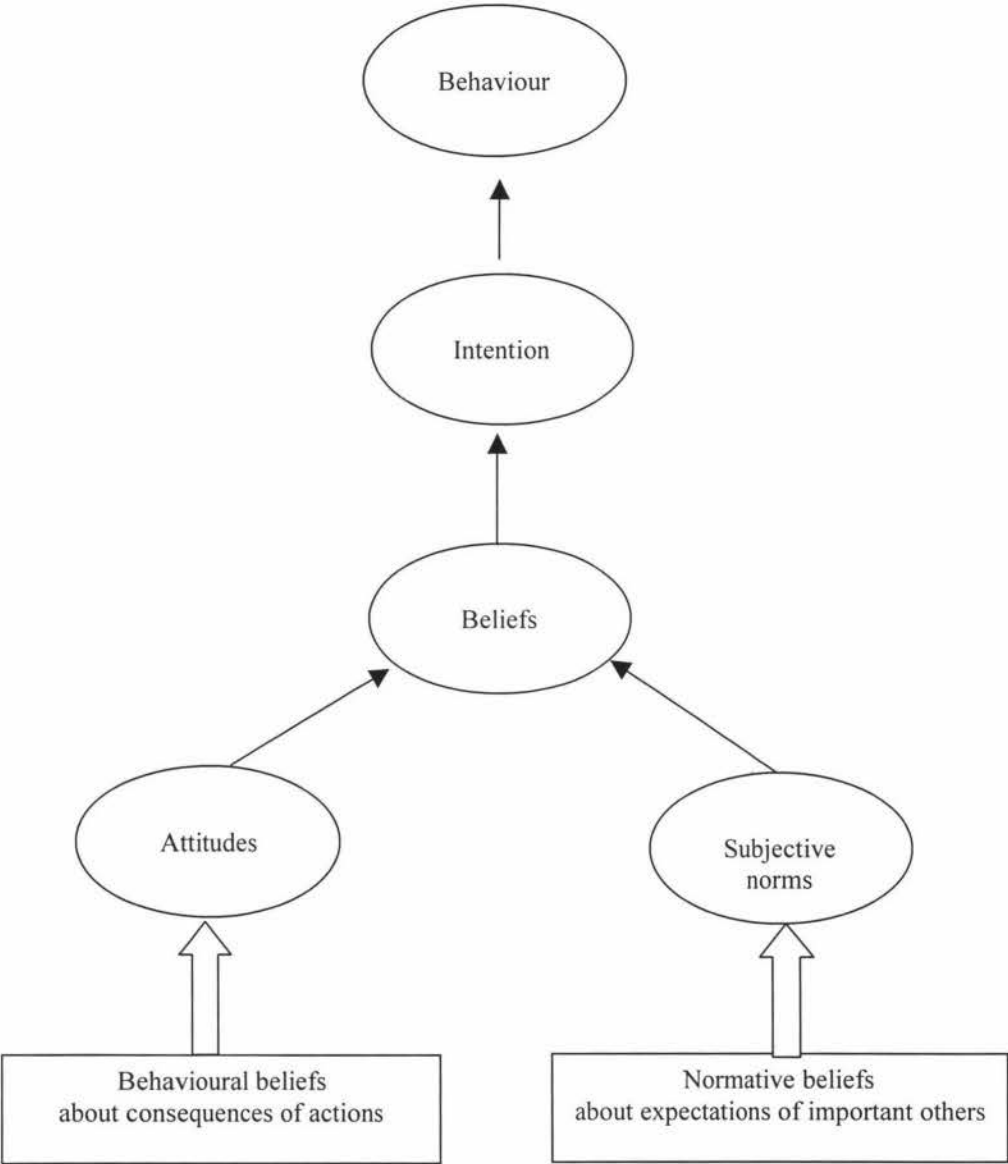


Figure 1: The theory of reasoned action (Fishbein & Ajzen, 1975)

The TRA, however, cannot be applied to a wide range of behaviours as it is concerned only with those behaviours under volitional control. This is a limiting factor which was of concern to researchers and led to the development of the theory of planned behaviour in order to predict behaviour over which people did not have total control.

The theory of planned behaviour

This SCM deals with more complex behaviours and although it also maintains that a person's intention predicts behaviour it has been extended by adding one more predictor of behaviour: perceived behavioural control. This construct addresses the beliefs that people hold about their ability to carry out the target behaviour and the resources that are available to them. Ajzen (1985) suggests that behavioural goals are located on a continuum of control polarities which range from total control over the behaviour to a total lack of control. When there are no practical barriers preventing performance of the behaviour it is viewed as easy to carry out and the person feels confident of their ability to achieve their goal. However, a total lack of control is felt if the desired outcome requires skills and resources that the person currently does not have and the goal is then perceived as very difficult to achieve.

The TPB challenges the construct of intention as being the only proximal determinant of behaviour. Intention is proposed to be indirectly influenced by a third element which is also suggested to directly determine behaviour: perceived behavioural control.

Perceived behavioural control is concerned with the beliefs about the difficulty or ease of carrying out a chosen behaviour and the person's ability to exert control. Some behaviour choices are very easy to carry out and well within the person's capability while others might require specific skills and resources and so affect their decision. This exogenous variable is proposed to directly affect behaviour as well as having an indirect effect on intention formation. It is assumed that intention to perform a behaviour will be low if a person believes they have little control because they lack the

necessary opportunities or resources to carry out the intention. Motivation is therefore affected and this impacts on the strength of the intention which then determines the behavioural outcome.

There is also a direct path from perceived behavioural control to behavioural outcome as this is assumed to mirror the actual or real control the person does have to perform the behaviour. When a person has an accurate perception of their ability to carry out the behaviour, of which some parts are not under total volitional control, then there will be an important effect (Ajzen, 1985).

It is proposed that the person's belief that they can successfully cope with the planned behaviour and can overcome any barriers by accessing the required resources will influence their perception of being in control. There are two kinds of control beliefs. Internal control factors which refer to the skills, information resources and emotions engendered by the behavioural decision while the perceived external factors are related to the obstacles, opportunities or lack of independence. These beliefs will then determine how achievable the desired outcome is perceived to be.

Figure 2 shows the way the various elements of the model interact in the decision making process. Behaviour is determined directly by intention to perform the behaviour or by perceived behavioural control. Perceived behavioural control can also influence behaviour indirectly via its impact on intention. Intention is determined by attitude, subjective norms and perceived behavioural control.

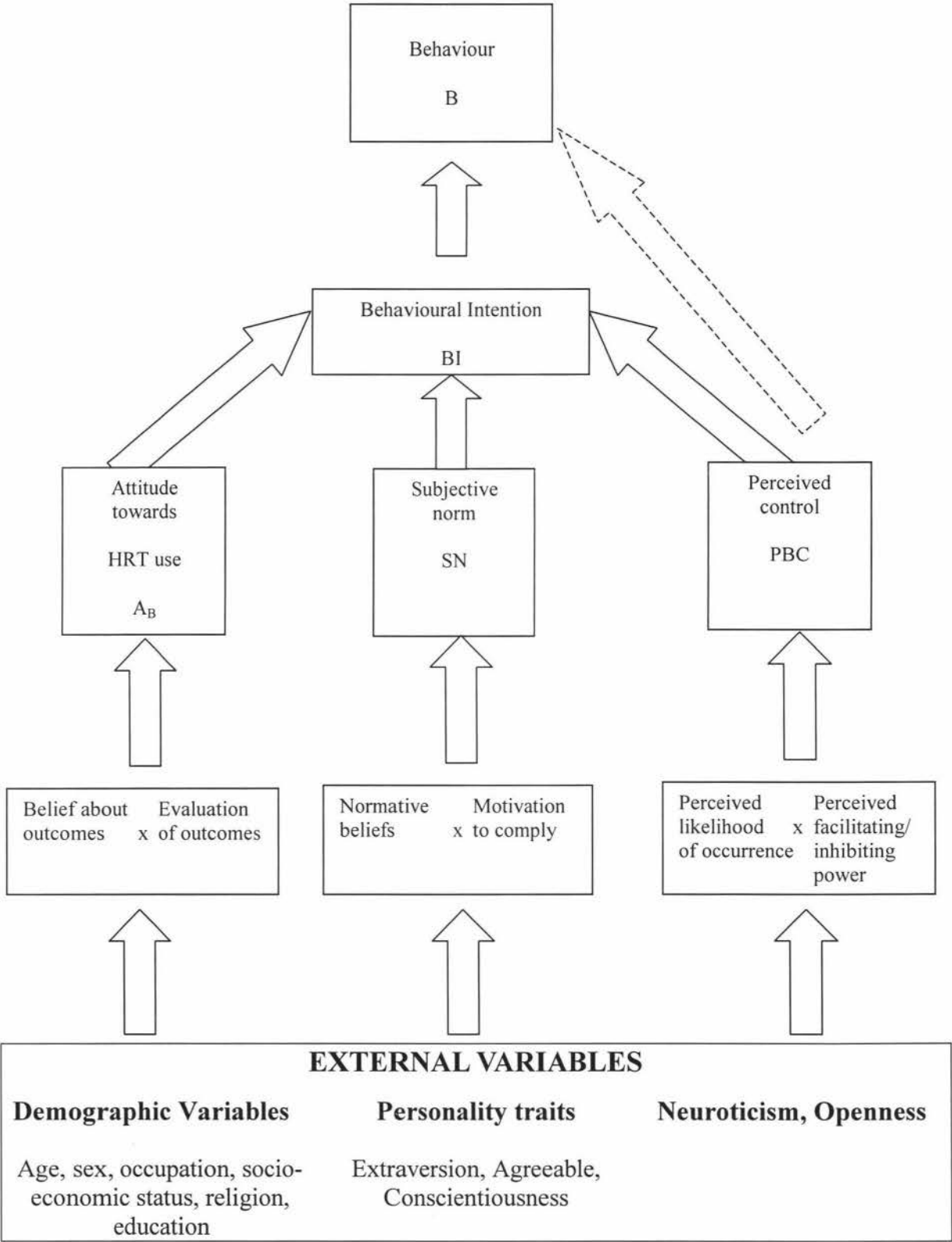


Figure 2: The theory of planned behaviour (Ajzen, 1985).

Another factor to be considered with perceived control is being able to design a

comprehensive plan that not only takes into account the steps, or intentions, required to achieve the goal but alternatives to rely on if the original plan meets with obstacles to implementation. Therefore, a person who is experiencing difficulties with a situation might come up with a way to overcome these and this would be called their behavioural attempt and whether they resolved these satisfactorily would depend on how effective their plan was as well as internal and external factors that might affect their control.

Perceived behavioural control is similar to Bandura's (1985 cited in Bandura, 1997) concept of self-efficacy. Self-efficacy refers to beliefs about personal ability to be effective, make desired changes and be competent. These efficacy beliefs affect a person's choice of goal, the amount of effort they will expend, the length of time they will persevere when challenges occur, their coping strategies, thinking patterns and ultimately the level of success attained. Such beliefs are concerned with self-regulation and also exercising control. In order to be efficacious a number of subskills must be organised and integrated to achieve a variety of different actions. Social, cognitive, emotional and behavioural skills all come into play in different situations and outcomes are influenced by the strength of their personal efficacy beliefs (Bandura, 1997).

Ajzen's (1985) addition of perceived behavioural control to increase the prediction of the theory of reasoned action appears to correspond with and measure personal self-efficacy beliefs (Dzewaltowski, Noble & Shaw, 1990 cited in Bandura, 1997).

The TPB provides a useful framework for understanding decision making processes such as the taking of HRT. It is also a useful model to predict women's intention to use, or not use, hormone replacement therapy as this health behaviour is one that is not totally under complete control. However, there are other variables which are thought to influence decision making and increase the predictive utility of the TPB. One such construct is moral norms, which are theorised to develop through social processes and cognitive development.

Development of moral norms

Moral norms embrace the belief or conviction that certain actions are intrinsically right or wrong in spite of the outcomes for the person (Manstead, 2000). Vygotsky's (1978, cited in Manstead, 2000) view stresses the role of language in the construction of moral development. This sociocultural theory argued that it was in the creation and sharing of meaning between the child and caregiver that moral norms were developed.

Differential adult reactions to the child's behaviour provide opportunities for assisting the child to internalise a moral norm that will influence their future behavioural choices. The words expressed in the dialogue between adult and child then become an internalised message that can be later accessed to establish moral understanding of a situation and regulate behaviour.

Later research claimed that the child accepts the external norms of their individual culture and internalises these as their own moral norms as a result of two patterns of socialisation. The process of inductive discipline means that the child, having been taught by significant others to view the impact of their behaviour on others (to see through other's eyes) and to feel distress for causing pain to another, then internalises and attributes the moral norm to themselves. Thus guilt is acquired, building on the child's empathic ability. Alternatively, when an adult delivers moral prescriptions and disciplines in a strongly punitive way the child is motivated to avoid detection when doing something wrong or to use force in conflictual situations (Hoffman, 1983 cited in Manstead, 2000).

It was also suggested that the child's cognitive development enabled them to make ever deepening moral decisions as a result of this inner ability (Kohlberg, 1984 cited in Manstead, 2000). This view was extended by Flavell (1985, cited in Manstead, 2000) who posited that the ability to consider contributing issues (or decentralisation) rather than focusing solely on the central egocentric concern is a function of cognitive development that is vital to moral development. What drives this moral development is the child's growing social awareness of what is equal and just and their reciprocal role

in social situations. The child is gradually able to consider how their behaviour can contribute positively or negatively to situations rather than viewing things from a selfish perspective (Gibbs, 1991 cited in Manstead, 2000).

It is possible to experience conflict between what is held to be morally the right thing to do yet have the intention to perform that behaviour. This can be a dilemma and shows that intention and moral norms do not always measure the same construct. There are some situations that promote a strong relationship between moral and subjective norms especially those fostered in family groups. While moral norms imply that a certain behaviour can be expected from a person and subjective norms refer to perceived pressure to meet the expectations of significant others there are still circumstances when a person can resist such social pressure from people very important to them and still hold firm to their own moral convictions.

Once moral norms are an intrinsic part of a person's internal code then they affect the decision making process as even thinking about breaking them gives rise to anticipated guilt, shame or regret or conversely to feelings of pride and happiness about adhering to them (Manstead, 2000).

However, Manstead (2000) maintains that the concept of moral norms is conceptually independent of intention, subjective norms, attitude and perceived behavioural control although it has the potential to overlap with these constructs. He suggests that adding this measure to the TPB increases the predictive utility of the model and also improves its ability to explain differences in behaviour and intentions.

Prior behaviour is another construct which has been hypothesised to influence the decision making process. This is about people previously performing the behaviour being studied so that the actions have been learned, reinforced and become a habit suggesting that some health behaviours can be repeated (Quine & Rubin, 1997). When behaviours are not usually repeated this construct has been modified as similar prior

behaviour and another action, that is similar to the behaviour being researched, is used to measure intention.

A number of studies have applied the theory of planned behaviour to a variety of health behaviours as well as including the construct of moral norms or similar prior behaviour in extended models. The following section provides examples of some of these applications.

Application of the theory of planned behaviour

The theory of planned behaviour has been applied to a wide variety of health behaviours around the world across different cultural and ethnic groups.

Lugoe & Rise (1999) examined the ability of the TPB to predict behaviour and specifically the link between perceived behavioural control and intent to use condoms in Tanzania. The results of a questionnaire completed by secondary school students revealed that perceived behavioural control was the strongest determinant of intention and showed that the inclusion of this construct increased the prediction of intended condom use.

Another study of university students in Leeds (Conner, Graham & Moore, 1999) looked at the influence of alcohol on sexual practice, specifically the intention to use condoms. The TPB was used to determine how alcohol affected the relationship between intention and its three proposed antecedents (attitudes, subjective norms, perceived behavioural control). Data again showed the power of the TPB to predict intention of condom use regardless of the impact of alcohol and supported the theory.

The TPB has also been used to study people's intention to choose healthy food. 413 British hospital workers, ranging between 20 and 64 years, completed two questionnaires about their intention to use a low-fat diet over a 12 week time frame. Results indicated that the TPB variables are stable predictors and effectively predicted intentions about food choices as well as actual behaviour over a three month period (Armitage & Conner, 1999).

When people return from malarious countries in the tropics they are required to follow a medication regime for a further 4 weeks. This has been shown to be problematic. 236 British travellers participated in a prospective study by Abraham, Clift & Grabowski (1999) that was based on the TPB and another SCM called the Health Belief Model.

The data supported the structure of the TPB with perceived behavioural control shown to be an important variable. Results showed that once the traveller strongly intended to adhere to the regimen on their return then they could control and manage the medication programme.

Studies of moral norms within the context of the TPB have ranged from altruistic, antisocial and sexual behaviours to the ethics of business, employees' behaviour and eating and drinking. However, if moral considerations are not salient to the behaviour being investigated then they will have a weak role and not increase the predictive value of the TPB. Hom & Hulin (1981, cited in Manstead, 2000) found this when they studied the intentions of national guardsmen to enlist and remain in their jobs. Obviously considering this occupation did not cause any moral conflict and so this construct was not salient.

This is in contrast to a number of studies reported by Manstead (2000) that consistently showed how the inclusion of moral norms independently increased the predictive ability of the TPB. Zuckerman & Reis (1978) found this when they investigated the altruistic behaviour of donation decisions. People who were considering whether to donate blood or not were influenced by their moral norms as was the motivation of potential volunteers for a winter project (Harrison, 1995). It was also shown that moral obligations were a significant predictor in situations when people are tempted to be dishonest and consider stealing or lying (Beck and Ajzen, 1991) as well as occupations, like nursing, that stress commitment and loyalty especially among single nonbaccalaureate nurses (Lane, Prestholdt & Mathews, 1990). Perceived moral obligation was tested by Kurland (1996) when ethical responsibility among sales agents was targeted concerning disclosure of their personal commission and quality standards of their product. It revealed that moral responsibilities did indeed influence their decision and adding this construct increased the predictive ability of the TPB by a further 12%.

There is a tendency for people to resist appeals to donate their blood resulting in a need for increased supplies of blood products. This has led to research about blood donation decisions and the TPB has been tested in this context to ascertain how people can be encouraged to do so as well as identifying the motivational determinants. Subjective norms did not significantly predict intention in this domain while adding moral norms and self-efficacy improved the predictive ability of the model. Armitage & Conner (2001) suggested that interventions should focus on moral issues about donating blood and enhancing a sense of self-efficacy.

Moral considerations in sexual behaviour, like using condoms, has also been studied in the adolescent population and can be distinguished from attitudes as well as significantly providing a better explanation for variance. 584 sexually active teenagers indicated that they anticipated feeling unsafe and worried if they did not use condoms when having a casual sexual relationship (Richard, van der Pligt & de Vries, 1995 cited in Abraham, 1999). Perceived morality has even been found to influence decisions like choice of milk products when the fat content is believed to impact on health and added to the prediction of behavioural intentions (Raats, Shepherd & Sparks, 1995 cited in Manstead, 2000).

Studies applying The theory of planned behaviour to Hormone Replacement Therapy

Very few studies, however, have applied the TPB to a health related decision such as taking HRT. During the present review a search revealed only two published studies using this theoretical model to understand women's attitude towards HRT and predict their intention to use this therapy at menopause.

Similar numbers of women were interviewed in each study but in the UK only women in Kent were involved (specifically those using the Kent Family Health Service) while in Canada the participants were only from the city of Quebec. Different research methods were used in the two studies and different variables added to extend the model.

Quine & Rubin (1997) used postal questionnaires while Légaré, Godin, Guilbert, Laperriere & Dodin (2000) used a telephone questionnaire and random digit dialling methodology. Quine & Rubin (1997) were interested in the influence of similar prior behaviour on intention to use HRT and added this variable to their questionnaire while Légaré et al (2000) wanted to examine the impact of moral norms on women's decision to use HRT as well as measuring the effect of similar prior behaviour.

Quine & Rubin's (1997) study of a large sample of 641 British women whose ages ranged from 37 to 58 years was the first to apply the TPB to HRT use. The postal questionnaire items examined the attitude of women towards HRT as well as looking at the predictors of intention to use HRT at menopause. Four age groups of women not currently using HRT were examined. As the researchers were interested to find out if similar prior behaviour would explain any additional variance in intention to use HRT in the future the questionnaire also included a measure of this on the basis that when behaviours are constantly repeated and become habitual they can influence intention. HRT is considered an unrepeatable behaviour in that women seldom start the treatment, stop and later resume HRT use. A question about taking the contraceptive pill was used as this is similar to taking HRT in two ways: hormones are involved as well as remembering to take it daily. It was hypothesised that it might therefore influence intention via perceived behavioural control.

The results showed that all three determinants of behaviour as outlined in the TPB were important predictors of intention. The model was successful in predicting women's intention to use HRT and was also able to differentiate between those planning to take HRT and non-intenders. It showed that women who intend to use HRT held positive attitudes towards the benefits of the therapy, were more compliant to the wishes of significant others and were confident of coping with the regime. It was valuable in predicting intentions and showed that all three determinants of behaviour as outlined in the model were important predictors of intention.

The study showed that subjective norms was the strongest predictor of intention and was stronger than attitude. This result supported other studies (Smetana & Adler, 1980; Vinokur-Kaplan, 1978 cited in Quine & Rubin, 1997) regarding the contextual influence of the private versus public domain. When decisions about preventative health behaviours are considered to impact on the lives of important others then subjective norms become more important in the decision making than attitude to the behaviour. If taking HRT is viewed as a positive way to manage symptoms that have been personally distressing as well as negatively impacting on close family members then this can influence the formation of subjective norms. Perceived behavioural control was also shown to be a more important predictor than attitude.

These results suggested that when others will be affected by a woman's decision then social pressure, in the form of perceived expectations to comply with the wishes of others who are important to them (such as husband or doctor) has a greater influence on the decision. The beliefs of these referents, their own personal beliefs, their sense of control to manage the behaviour as well as having successfully carried out a similar behaviour in the past were all important determinants in predicting intention to use HRT.

However, the theory of planned behaviour failed to provide a complete account of intention as the measure of similar prior behaviour (assessed by previous use of the contraceptive pill) also predicted intention independently. Such behaviour affected intention not only through perceived behavioural control but also through attitudes. It appeared that a more positive attitude was engendered towards taking medication that changed hormonal levels because the success of taking a similar drug in the past strengthened the women's belief of perceived control about being able to take medication regularly.

The Canadian study (Légaré et al, 2000) used a telephone questionnaire to recruit 644 women, between the ages of 45 and 54, with an intact uterus, in the city of Quebec. It

measured the multiple determinants of intention according to the TPB but this time included the additional variables of personal normative belief and similar prior behaviour. Results showed that for these women attitude was the strongest determinant of intention to use HRT and indicated that these city women had a low intention to use this therapeutic approach at menopause. In contrast to Quine & Rubin's (1997) study, subjective norm was not found to be a significant determinant of intention and was not even retained in the final model as it explained less than 1% of the variance. These Canadian women indicated that the wishes of even important individual referents or groups of people did not influence their decision to use HRT. It would appear that different cultural contexts might have an impact on testing the TPB resulting in differential importance of the predictor variables in the decision making process of women about HRT.

Similar prior behaviour, tested by past or current use of oral contraceptives, did not add to the explained variance of intention and neither did moral norms. Personal normative beliefs (or moral norms) were measured by asking about feelings of personal responsibility about taking HRT. Results suggested that the women did not consider this was a moral decision and experienced no sense of moral obligation to use this therapy, strongly believing that the decision was very much their own personal choice. It would be interesting to know if they felt morally obliged not to take HRT.

Those women who strongly intended to use HRT held positive outcomes for its use and believed that it would be beneficial for distressing vasomotor symptoms and emotional mood swings as well as improving their relationships, increasing their productivity, general well being and preventing future health problems. However, they also believed that there would be negative consequences such as increased risk of cancer, gaining weight, negative side effects and an awareness that HRT changed the normal transition of menopause.

The exclusion criteria used in this study resulted in one limitation: there was an over

representation of younger women who were employed and had a higher level of education than provincial women. Based on an epidemiological definition of premenopausal status it eliminated the hysterectomised women who wanted to participate. All of the women (both strong and weak intenders) identified insufficient information on HRT, the contraindications and getting cancer as being barriers to using HRT.

Most importantly the results indicated that different variables were responsible for influencing the women's decisions: the rural British women in Kent were influenced more by subjective norms (or the beliefs of significant others) while personal attitudes were the main determinant of HRT use for the Canadian women. Women in both countries indicated a low intention to adopt HRT.

Present research goals

With results from only two international studies that had applied the theory of planned behaviour to HRT use the present study was undertaken to discover what New Zealand women intended. The aims of the present study were to examine how women in New Zealand accounted for their intention to use HRT at menopause and also to know what factors would influence them most in their decision making process by testing Ajzen's (1985) theoretical framework of planned behaviour as a model of the factors related to intention and behaviour in the context of HRT decision-making around the time of menopause. It also aimed to assess whether additional variables, such as moral norms and similar prior behaviour would explain additional variance.

To ensure that Māori women were included in the research there was consultation with the Māori Unit at Massey University who provided translations into Te Reo Māori and so made the questionnaire available in the Māori language

Hypotheses

It was hypothesised that the theory of planned behaviour would successfully predict mid-aged New Zealand women's intentions to take hormone replacement therapy at menopause. Additionally, that other variables such as moral codes would predict intention over and above attitude, subjective norms and perceived behavioural control and that similar prior behaviour would also predict intention over and above the determinants of behaviour as outlined by the TPB.

The final model tested by the questionnaire in the present study added moral norms and similar prior behaviour to the TPB and is shown in Figure 3.

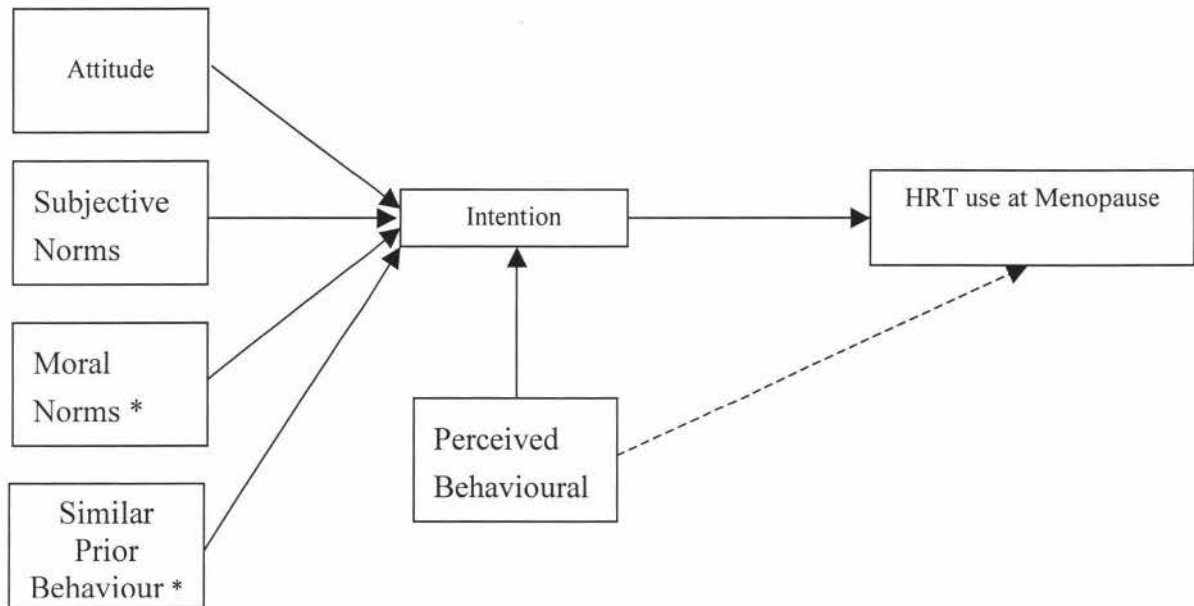


Figure 3: A cognitive model of intention to use HRT based on the theory of planned behaviour

* added variables

CHAPTER TWO: METHOD

Due to the limited evidence available it was decided to conduct a cross-sectional study to collect data through a four section postal questionnaire aimed to support three researchers. The first section was the basis of the present study and consisted of a 48 item questionnaire specifically generated for the study and based on methodology described by Ajzen (1985). Section four was made up of seventeen sociodemographic items also used for the present study. A full copy of the two sections and items used in this study can be found in Appendix B.

Sample

Participants were randomly selected from the New Zealand General and Māori electoral rolls. Two samples were taken: one of 400 45 year olds from the General roll (twice the number that was being aimed for on the assumption that females make up half of the population) and another sample of 200 45 year olds from the Māori roll, on the same basis. This was then reduced by excluding males. The title “Mr” was the main exclusion criteria and if this was not available then first and middle names were used to make the distinction. Occupation was considered when names were ambiguous. The selection process reduced the initial sample of 600 participants to a final 354 person sample, 257 women from the General roll and 97 from the Māori roll.

76 completed questionnaires were returned after the initial mail out as well as 19 uncompleted questionnaires and 42 marked “gone, no address”. After the second posting 25 completed questionnaires and 19 uncompleted questionnaires were returned. The third and final posting resulted in a further 49 women returning completed

questionnaires and 2 uncompleted questionnaires being sent back. One request was made for a Te Reo Māori version of the questionnaire and this was not returned. In total there were 149 questionnaires returned giving a 49% response rate. Data from nine women currently using HRT was deleted and the analyses were based on the 140 women not currently taking HRT.

Statistical analyses

Statistical analyses of the relationships among the data was carried out through the SPSS 10.0 for Windows statistical package. Descriptive statistics (means and standard deviations) were computed and correlations between components of the model conducted. A hierarchical multiple regression analysis of intentions on the predictor variables of attitude, subjective norms, perceived behavioural control, morals and similar prior behaviour was then carried out to identify the variables explaining the intention to use HRT at menopause.

Sample description.

There were one hundred and forty cases in the sample. Table 1 provides information about age and ethnicity of the sample. One woman exercised the choice not to answer this question and as can be seen the age range of the remaining one hundred and thirty-nine participants within the sample ranged from forty-four to forty-eight years. The average age was just over forty-five years. The majority of the sample population was New Zealand Pakeha/European, (65%) with New Zealand Māori representing 18.6% of the sample. This distribution adequately reflects the general population as according to the New Zealand Census, 14.3% of the national population identify as Māori (Statistics New Zealand, 2001). Twenty percent of the sample identified with an Iwi and Hapu and 19.3% identified with a Marae. All of those identifying with a Marae had visited a Marae at least once in the last year. Thirty-eight percent of the sample stated that they knew at least some Māori language but only 2.1% were fluent in Te Reo Māori .

Table 1: Age and Ethnicity of participants

	Frequency	% of total
<u>Age</u>		
44	1	0.7
45	77	55
46	59	42.1
47	1	0.7
48	1	0.7
TOTAL	139	
<u>Ethnicity</u>		
NZ Pakeha/European	91	65
NZ Māori	26	18.6
Pacific Island Nation	4	2.9
Asian	7	5
Indian	1	0.7
Other	5	3.6
TOTAL	134	

Table 2 presents information about employment status and educational level of the participants. These New Zealand women worked in both paid and unpaid occupations. 43.6% of the women were employed full time. Higher education was recorded for 50.7% of the sample with University, Polytechnic or teacher training accounting for 39.3% and other trade or vocational training accounting for the remaining 11.4%.

Table 2: Employment status

	Frequency	% of total
<u>Employment Status</u>		
Employed Full-time	61	43.6
Employed Part-time	39	27.9
Student	3	2.1
Self-employed	10	7.1
Homemaker	19	13.6
Not in paid employment	6	4.3
TOTAL	138	
<u>Level of Education</u>		
Secondary School for 1 – 2yrs	9	6.4
Secondary School for more than 2 years	58	41.4
University, Polytechnic or Teacher Training	55	39.3
Other trade or vocational training	16	11.4
TOTAL	138	

Table 3 presents past and present HRT and contraceptive pill use. The sample consisted of six women (4.3%) who had used HRT in the past but none of the participants within this sample were currently using HRT. Seventy-two women (51.4%) had taken the contraception pill for over five years at some time in their lives

Table 3: Past and Present HRT use and Contraception Pill use

	Frequency	% of total
<u>Used HRT in the past</u>		
Yes	6	4.3
No	134	95.7
TOTAL	140	
<u>Used contraceptive pill for over 5 years</u>		
Yes	72	51.4
No	67	47.9
TOTAL	139	

The sample consisted of sixteen participants who had undergone a hysterectomy (11.4%). Three women had both ovaries and uterus removed (2.1%) and only one woman (0.7%) had undergone surgery for an oophorectomy. This meant that one hundred and twenty women in the sample had an intact uterus.

The number of times a participant had seen a General Practitioner in the past twelve months ranged from zero to forty-five with the mean number of times being 3.5 occasions. Forty-two percent of the participants had seen a GP within the last three months.

Procedure/Research design

The present study was reviewed by the Massey University Human Ethics Committee and approval was granted. In order to include representation of Māori women in New

Zealand there was consultation with Te Pumanawa Hauora (Māori Research Unit at Massey University) about the construction of the questionnaire. In addition the translation was carried out by the Unit to ensure that language was not a barrier to Māori women's participation in the study.

The questionnaire was posted with an explanatory letter, written in both English and Te Reo Māori, which outlined the purpose of the study and invited the women to participate. This covered confidentiality, included instructions and participants' rights and was attached to the front of the questionnaire before postage. These attachments can be found in Appendix A. Once the questionnaire (see Appendix B) had been compiled it was sent to the corresponding postal address provided on the electoral role. A request option for a Te Reo Māori version of the questionnaire was included on the front page of the questionnaire. The respondent could tick this option and return the English version and a Māori language version would then be posted. The questionnaires were returned to the Massey University address in the pre-paid enveloped supplied.

Women indicated consent to participate by returning the completed questionnaire. They also had the option not to be involved in the present study by returning the questionnaire unanswered and so avoid future reminders. If the participant wanted a summary of the results they could complete a page attached to the back of the questionnaire. This summary of results form was separated from the completed questionnaire upon return to the University. Once the results were compiled a summary was sent to those who had requested the results (see Appendix E). The names and addresses of those participants were also destroyed after the information was posted to them. These procedures were approved by MUHEC. The results were presented in aggregate form and did not identify any individual. The results were also kept confidential and could not be traced back to any individual respondent.

A reminder postcard was sent two weeks after the first posting to potential participants

who had not returned their completed or uncompleted questionnaires. A copy of the postcard can be found in Appendix C. One week later another questionnaire, including a cover letter, was posted to all participants who had not yet returned their questionnaire. This letter acknowledged that questionnaires can often be misplaced but that participants could still be included in the study. A copy of this letter can be found in appendix D.

Measures

The questionnaire included scales designed to measure intention and the determinants of behaviour: attitude, subjective norms, perceived behavioural control, moral norms and similar prior behaviour. Low scores indicated a stronger agreement to HRT use. Satisfactory alphas were found for every scale and ranged from .78 to .83 and so met the desired level of 0.70 recommended by Murphy & Davidshofer (1998). The following is a description of each multi-item scale including example items.

Behavioural Intention

Behavioural intention is considered to be the strongest predictor of behaviour. Intention to use HRT in the future was assessed by four items such as “I intend to use HRT if I have distressing symptoms at menopause”; “I would use HRT if I have distressing symptoms at menopause” and “I will use HRT whether I experience symptoms or not”. A seven-point Likert probability scale was used ranging from 1 (strongly agree) to 7 (strongly disagree). Scoring was reversed for one item “I would never use HRT even if I have problems at menopause” and a final Cronbach’s alpha of .83 was obtained for this measure.

Attitude

Attitude was operationalised as personal evaluations of the target behaviour. Both direct and indirect attitudes towards the use of Hormone Replacement Therapy at menopause were assessed.

The direct measure of attitude invited the participants to rate using HRT at menopause on a semantic differential scale based on Ajzen and Fishbein's (1980) examples. These included six pairs of adjectives such as "using HRT would be: good - bad; harmful - beneficial; helpful - unhelpful; unpleasant - pleasant; positive - negative and disadvantageous - advantageous" which were each rated on a seven-point Likert scale with 1 indicating strong agreement and 7 corresponding with strong disagreement.

The indirect measures of attitude were assessed by the perceived likelihood of salient outcomes and the evaluative consequences of the target behaviour. Behavioural beliefs were measured in terms of seven items such as "I believe that HRT will stop me looking older", "Using HRT will decrease my chances of suffering osteoporosis", "Using HRT will relieve the unpleasant symptoms of menopause" and "I think that HRT will relieve hot flushes at menopause". A seven-point Likert probability scale ranging from 1 (strongly agree) to 7 (strongly disagree) was used and scoring was reversed for two items.

Outcome evaluations: favourable as well as undesirable outcome evaluations were measured in terms of six items which are captured in items such as "In general, I do not worry about the risk of cancer", "I expect to experience unpleasant symptoms at menopause" and "The side effects of HRT will not bother me". A seven-point Likert probability scale was used ranging from 1 (strongly agree) to 7 (strongly disagree) and scoring was reversed for three items. This had an alpha of .83.

On the basis of the results of a separate exploratory regression analysis using both measures of attitude it was decided that the semantic differential measure more

accurately captured the concept of attitude. The items used in the final scale had an alpha of .83.

Subjective norms

Subjective norms are the person's subjective judgement about whether important others would want them to take HRT at menopause or not. This was measured by normative beliefs weighted by motivation to comply and summed across referents (Ajzen & Fishbein, 1980). The referent groups of important people targeted were doctors, friends, husband/partner and family/whanau.

Normative beliefs were assessed by questions such as "My husband/partner thinks that I should use HRT", "Most of my friends intend to use HRT" and "My doctor thinks I should use HRT". One item was reversed. A seven point Likert scale was used ranging from 1 (strongly agree) to 7 (strongly disagree).

Motivation to comply was captured in items such as "In regard to HRT I want to do what my husband/partner thinks I should do", "I will use HRT if family/whanau think I should" and "I think I should use HRT if my doctor recommends it". These questions were measured on a seven point Likert probability scale from 1 (strongly agree) to 7 (strongly disagree) and had an alpha of .80.

Perceived behavioural control

Perceived behavioural control represents the overall control that each woman perceived herself to have over taking HRT in the future. Beliefs about perceived behavioural control and their perceived power (the ease or difficulty) about using HRT were measured by nine items. For example: "Whether or not I use HRT is entirely up to me", "Financially, I can afford to use HRT", "If I wanted to I could easily use HRT" and "I am confident that I could use HRT if I chose to". Five items were reversed. All

items were measured on a seven-point Likert probability scale ranging from 1 (strongly agree) to 7 (strongly disagree). Cronbach's alpha was .78.

Moral norms

The inclusion of this measure opens up the TPB to the influence of moral imperatives on intention to use HRT. For the purposes of the present study moral norms were defined as a sense of being virtuous, about how right or wrong it is to use HRT and differs to the definition of morals as an obligation, as used by Légaré et al (2000). An exploratory scale was designed based on qualitative analyses of women talking about HRT. In New Zealand women had expressed a view of living a virtuous lifestyle if they did not use drugs or depend on pharmaceutical support such as HRT. They considered that only weak women, who could not have a positive attitude, would have to resort to being propped up by such a drug at menopause and thought this should be avoided. This was linked with their view of menopause as a natural and positive process which could be dealt with by natural alternative means and HRT was therefore seen as an unnatural and unhealthy choice. There was a strong sense that in this natural approach it was virtuous to age gracefully (Stephens, Budge & Carryer, 2002).

A similar theme was identified by British women who also viewed menopause as a natural process and experienced inner conflict about taking medication for symptoms. It became a moral issue whether it was right or not to take hormones, which they considered unnatural, and could only be justified if symptoms were extremely severe and prevented full functioning. Again it was seen as weak to take hormones and more virtuous not to take anything (Hunter, O'Dea & Britten, 1997).

Mid-aged women in the United States of America also expressed similar concerns about taking pills, preferring not to interfere with the natural process of menopause unless adverse symptoms greatly interfered with their life (Andrist, 1998).

Moral norms were assessed by items such as “I will not need to use HRT because I have a positive attitude to menopause” and “I will not need to use HRT because I have a healthy lifestyle”. These questions were rated on a seven-point Likert probability scale where 1 indicated strong agreement and 7 showed strong disagreement. This had an alpha of .79.

Similar prior behaviour

Similar prior behaviour was assessed by one item in Questionnaire 4 which asked about previous use of the contraceptive pill for over 5 years at some time in their life.

The items for each of the scales are shown in Table 4.

Table 4: Final items used in each scale

Scale	Item
Intention	1 I intend to use HRT if I have distressing symptoms at menopause
	16 I would use HRT if I have distressing symptoms at menopause
	27 I will use HRT whether I experience symptoms or not
	38r I would never use HRT even if I have problems at menopause
Attitude	48a I think that using HRT at menopause would be good/bad
	48c I think that using HRT at menopause would be helpful/unhelpful
	48e I think that using HRT at menopause would be positive/negative
Subjective Norms	17 My husband/partner thinks that I should use HRT
	19 Most of my friends intend to use HRT
	20 My doctor thinks I should use HRT
	21 My family/whanau think I should use HRT
	22 In regard to HRT I want to do what my husband/partner thinks I should do
	23 I will use HRT if family/whanau think I should
	24 People who are important to me will help me to decide about HRT
	25 In regard to HRT I want to do what my friends think I should do
PBC	26 I think I should use HRT if my doctor recommends it
	39 Whether or not I use HRT is entirely up to me
	40 Financially, I can afford to use HRT
	41r Forgetting to take pills or use patches regularly will prevent me from using HRT
	42r Problems getting to the doctor regularly will prevent me from using HRT
	43 If I wanted to I could easily use HRT
	44r Remembering to take pills or change patches regularly would be a problem for me
	45r The cost of HRT will prevent me using it
Morals	46r I have problems getting to see the doctor
	47 I am confident that I could use HRT if I chose to
	28r I will not need to use HRT because I have a positive attitude to menopause
	30r I will not need to use HRT because I have a healthy lifestyle
	32r I will be too busy in my life to need HRT
	33r I will not need HRT because my mother did not need it
SPB	Q.4.3 Have you used the contraceptive pill for over 5 years at some time in your life?

CHAPTER THREE: RESULTS

The questionnaire used for the present study was designed specifically for this research. The focus of the first section of this results chapter will be on the scales that were constructed followed by the statistical analyses used to test the extended theory of planned behaviour on women’s intention to use HRT in the New Zealand context.

Before the analyses were commenced data were screened for accuracy of input.

Descriptive statistics

Table 5 presents the means, standard deviations, reliability and scale range for each of the scales used in the model. The internal validity of the scales provides evidence for convergent validity (i.e. all Cronbach’s alpha were more than .70).

Table 5: Reliability of scales from the extended theory of planned behaviour

Scales	N	Mean	S.D.	Reliability	Scale Range
Intention	100	16.01	5.26	.83	1 = strongly agree 7 = strongly disagree
Attitude	130	11.01	3.50	.83	1 = strongly agree 7 = strongly disagree
Subjective Norms	117	42.50	7.47	.80	1 = strongly agree 7 = strongly disagree
PBC	130	23.97	7.72	.78	1 = strongly agree 7 = strongly disagree
Morals	135	14.57	4.32	.79	1 = strongly agree 7 = strongly disagree
SPB	139	1.48	.50		

Correlations between predictors

A Pearson product-moment correlation coefficient was then performed to explore relationships between the five predictor variables at the bivariate level. The underlying assumptions for this analysis were all tested and met. Table 6 shows the significant correlation coefficients between the variables.

Table 6: Pearson r correlations between predictors of the theory of planned behaviour

	Intentions	PBC	SNS	Indirect Attitudes	Direct Attitudes	Morals	SPB
Intentions	1	.266**	.615**	.597**	.727**	.256**	.205*
PBC	.266**	1	-.135	.232**	.233**	.197*	.165*
SNS	.615**	-.135	1	.324**	.386**	-.128	.045
Indirect Attitudes	.597**	.232**	.324**	1	.499**	.382**	.082
Direct Attitudes	.727**	.233**	.386**	.499**	1	.278**	.037
Morals	.256**	.197*	-.128	.382**	.278**	1	.120
SPB	.205*	.165*	.045	.082	.037	.120	1

** . Correlation is significant at the 0.01 level (1-tailed)

* . Correlation is significant at the 0.05 level (1-tailed)

As can be seen from Table 6 there were significant positive relationships between intention to use HRT and attitude, subjective norms, perceived behavioural control, morals and similar prior behaviour, i.e. as intention to use HRT gets stronger there is a corresponding increase in positive attitude to HRT use, more perceived social pressure from important people to use it, an increased sense of personal control about taking it and stronger belief that it is right to use a drug like HRT. The strongest relationship for intention was with attitudes (.73) and subjective norms (.61).

This suggests that as women form a strong intention to take HRT they tend to also have a positive attitude to taking it, are motivated to comply with important people in their lives who think they should take it, believe it will be easy to use and think it is a good thing to use HRT for distressing symptoms at menopause. There was also a positive relationship between intention to use HRT and having taken the contraceptive pill in the past.

There was a significant positive relationship between attitude to HRT use and intention to use it (.73), subjective norms (.39), moral norms and perceived behavioural control. This indicates that attitude to HRT use is positively related to intention to take HRT, views of important others, whether women think it is a good or bad thing to do and their perceived sense of control over taking it. However, results showed that the weak, positive relationship between attitude to HRT use and the similar prior behaviour of taking oral contraceptives in the past was not significant.

Subjective norms had a significant positive relationship with intention to take HRT and attitude towards its use. However, the weak, negative relationship between this variable and moral norms as well as a sense of personal control was not significant. There was a positive relationship with taking the contraceptive pill in the past but this was also not significant.

This suggests that wanting to agree with the wishes of important people like doctors or friends about whether or not to use HRT and personal attitude to this therapeutic regime are the most important influences on women's intention to take HRT.

Results showed a strong positive relationship between scores for perceived behavioural control and scores for intention, attitude, moral norms and similar prior behaviour.

There was a weak, negative relationship between perceived behavioural control and subjective norms which was not significant suggesting that women's perceived ease or difficulty in taking HRT is not related to the perceived views of important others. As their personal sense of control increases so too do their positive attitudes to HRT, their intention to use it and their belief that it is right, and not a sign of weakness to take it. Having taken the contraceptive pill in the past is also positively related to a sense of personal control over taking HRT. However the perceived social pressure to comply with others decreases.

The sense of it being right or wrong to use a drug like HRT has a positive significant relationship with intention to use HRT, attitude towards the drug and a personal sense of control over taking it. The more that women feel it is right to use this therapeutic approach then the more positive they feel about HRT and the more they feel it is well within their control to follow the regimen. The negative relationship between moral norms and subjective norms was weak and not significant and the positive weak relationship with taking the contraceptive pill in the past was not significant. Having taken a pill to prevent pregnancy in the past is not significantly related to how right a woman believes it is to take hormones at menopause.

There was a significant positive correlation between previous use of oral contraceptives and the sense of control women perceive themselves to have over taking HRT as well as their intention to use HRT, although this was weak. If they took the pill in the past then women believe they can cope with taking HRT at menopause and this increases their intention to do so. The negative relationship with their attitude to HRT use, what others think they should do or how right or wrong they believe it is to take the drug was not significant.

Predictive utility of the extended TPB

The final step in the analysis was to examine the sufficiency of the TPB in predicting New Zealand's women's intention to use HRT at menopause and to assess whether the additional variables of moral norms and similar prior behaviour would increase the predictive power of the model. The technique used was hierarchical multiple regression which allows the best prediction of a dependent variable from several independent variables. This has traditionally been used to compare and determine the strength of the beta weights of each component of the model being studied.

Before this was conducted it was necessary to check the assumptions underlying this use of regression. The residual scatter plots suggested that assumptions of linearity, normality and homoscedasticity had not been violated. The Mahalanobis distance of 18.60 confirmed that there were no multivariate outliers among the independent variables (that is, no values were greater than or equal to the critical chi-square value of 20.52 at an alpha level of .001).

In carrying out a hierarchical multiple regression analysis the order of entry of the independent variables is based on theoretical knowledge. Congruent with the formulation of the TPB for the regression on intention, attitudes, subjective norms and perceived behavioural control were entered into the analysis simultaneously on the first step. This was followed by the addition of moral norms on step 2 and then similar prior behaviour on the third and final step. The dependent variable was behavioural intention to use HRT.

Results of each step of hierarchical regression of intention to use HRT on these variables are presented in Table 7. This shows that the three components of the theory of planned behaviour accounted for a significant proportion of the variance in intention at the first step, explaining 59% of the variance. When moral norms were added on the second step it made a statistically significant contribution, increasing the proportion of explained variance by 4%. The inclusion of similar prior behaviour on the final step did

not significantly increase the proportion of explained variance. The extended model of the TPB including moral norms, accounted for 63% of the variance in intention. This suggests that it provides a useful account of decision making about HRT use at menopause.

Table 7 Hierarchical Multiple Regression of extended theory of planned behaviour

Steps	R ²	ΔR ²	Sig. F Change
1 PBC, SNS, ATT	.60	.59	.00
2 MORALs	.65	.63	.00
3 SPB	.66	.64	.06

The standardised beta coefficient values (beta) are provided in Table 8.

Table 8 Beta coefficient values of the predictor variables of intention to use HRT

Step	Predictors	B	SE B	β
1	Attitudes	.69	.13	.47
	SNS	.27	.06	.37
	PBC	.11	.06	.15
2	Attitudes	.58	.13	.40
	SNS	.30	.06	.42
	PBC	.11	.05	.15
	Morals	.28	.09	.22
3	Attitudes	.58	.13	.40
	SNS	.29	.06	.41
	PBC	.11	.05	.15
	Morals	.25	.09	.19
	SPB	1.38	.73	.13

a. Dependent Variable: Intention

All three variables of the TPB had a significant effect on intention on the first step. Attitude was the dominant predictor of intention to use HRT (beta = .47) followed by subjective norms (beta = .37). Interestingly perceived behavioural control was much

lower than expected ($\beta = .15$) and was of borderline significance.

Moral norms were then added, on the second step of the equation, to assess its influence on intention to use HRT while the variance of the three components of the TPB was held constant. This made a statistically significant contribution, ($\beta = .22$) increasing the proportion of explained variance by an additional 4% to a total variance of 63% (AR^2).

The inclusion of similar prior behaviour on the final step did not significantly increase the proportion of explained variance.

The beta values at step 3 support the predictive utility of the TPB applied to HRT use with women in the New Zealand context. Subjective norms ($\beta = .41$) and attitudes ($\beta = .40$) were equally important in predicting women's intention to use HRT at menopause. A moral sense of it being right to do so ($\beta = .19$) influenced women's decision more than having a personal sense of control ($\beta = .15$) and having taken the contraceptive pill in the past did not significantly affect their decision making process.

CHAPTER FOUR: DISCUSSION

The present study was undertaken to find out what influenced New Zealand women in their decision making about HRT use and to identify the factors that were most important in this process. After the specific findings of the present study are reviewed and interpreted in regard to findings from previous research in this field, limitations will be considered. The chapter will conclude with implications and recommendations for further studies in New Zealand.

Review of specific findings

Applicability of the predictors of the theory of planned behaviour on intention to use HRT

Ajzen's (1985) theory of planned behaviour (TPB) was tested to assess the predictors of intention to take HRT and multiple hierarchical regression analyses were used to determine the strength of each component of the model. It was hypothesised that this theoretical framework would successfully predict mid-aged New Zealand women's intention to take HRT if medical problems occurred at menopause.

Results of the present study showed that the TPB is a useful predictor of women's intention to use HRT at menopause. The model accounted for a considerable amount of the variance in intention to take HRT (59%) supporting its application to predict HRT use in the New Zealand context. The most important findings were the major importance of subjective norms in the decision making process and the surprisingly small influence exerted by perceived behavioural control on women's intention to use

HRT. This suggests that although a sense of confidence about taking HRT is important to New Zealand women complying with the views of important others and their own personal attitudes to HRT are more important determinants of intention.

Results of the present study support the findings by Quine & Rubin (1997) about the utility of the TPB to predict this health behaviour. Attitudes, subjective norms and perceived behavioural control were all shown to be important considerations in the decision making process in both studies suggesting that a positive attitude to HRT use, complying with the perceived expectations of valued others about HRT use and the perceived sense of control over taking HRT are important influences on intention to use HRT.

However, findings of the present study differed to the Canadian research. The results of this study showed that one variable of the TPB, subjective norms, was not a significant predictor of intention to use HRT for the women of Quebec. This variable was omitted from the final model indicating that the TPB was not sufficient to predict HRT use (Légaré et al, 2000).

Importance of the variables of the theory of planned behaviour

Attitudes and subjective norms

In the TPB subjective norms have usually been the weakest predictor of intention (Godin & Kok, 1996; Armitage & Conner, 1999). However, results of the present study indicated that subjective norms were as important as attitudes in predicting intention. This means that women's attitudes towards HRT and beliefs of significant others are the two factors that have the most influence on their intention to use HRT at menopause. The results of the equal importance of both attitudes and subjective norms of the present study differ to the findings of Quine & Rubin (1997) and Légaré et al (2000).

Légaré et al (2000) found that women's attitudes were the strongest predictor of intention to use HRT. For Canadian women the belief that HRT would have positive consequences and enhance their general sense of well being was the most important factor in their decision making. Previous research has indicated that attitudes are the most important predictor of HRT use in New Zealand (Breheny & Stephens, 2001) and indeed results of the present study support their major importance.

However, in Quine & Rubin's (1997) study subjective norms were found to be the most important predictor of intention to use HRT. They suggest that the context in which a health behaviour is carried out needs to be considered. When a preventive behaviour is performed in public, like wearing a seat belt or helmet, then subjective norms are proposed to exert a greater influence on intention. If the behaviour is carried out in the privacy of the home, such as breast examination, then attitudes will generally play a greater role.

Subjective norms are also proposed to be a stronger determinant of intention when people think that their health decision will affect the lives of others who are very important to them. This was evident when women were deciding about abortions or extending their families (Smetana & Adler, 1980; Vinokur-Kaplan, 1978 cited in Quine & Rubin, 1997). This indicates that when women are making a decision that they know will impact on the lives of others who are important to them, such as HRT use, then they are more likely to be influenced by the views of those significant people.

The finding of the importance of subjective norms in the present study supports the results of Quine & Rubin's (1997) study and shows that when women take into account the consequences, not only for themselves of not taking HRT for menopausal symptoms (for hot flushes or improved sex life), but consider how this might affect the lives of others with whom they live or work then this has a strong influence on their decision making.

It has been proposed that subjective norms are very important in the field of health behaviours (Finlay, Trafimow & Moroi, 1999) and results of the present study confirm the vital role that the perceived opinion of valued others has in decision making. Research in New Zealand (Budge, Stephens & Carryer, 2000) and overseas (Griffiths, 1995a) has shown that doctors play an important role in women's decision making about treatment at menopause and are the main source of information (Breheny & Stephens, 2000). Results of the present study confirm the important role that subjective norms play in women's decision making about HRT.

By comparing the beta weights of attitudes and subjective norms after carrying out a multiple regression analysis it is possible to determine if a behaviour is under attitudinal control or normative control. Although behavioural intentions are usually predicted more strongly by attitudes, which usually have greater beta weights, a few behaviours such as condom use have been found to be under normative control (Trafimow & Fishbein, 1994 cited in Finlay et al, 1999).

It seems that when health behaviours are being considered people feel sure that they know what others who are important to them think about a choice that affects their health. When predicting health behaviours it has been found that subjective norms are especially important (Terry & Hogg, 1996 cited in Finlay et al, 1999).

Research has also shown that people intend to carry out health behaviours that have relatively large subjective norm beta weights, more than .25 (Finlay et al, 1999). The beta weights of subjective norms in the present study suggest that New Zealand women will therefore carry out their intention to use HRT.

It has also been proposed that people can be under attitudinal or normative control and culture is one factor that can influence this (Trafimow, 2000). People under normative control perceive more pressure to comply with the wishes of important referents about

performing health behaviours (Finlay et al, 1999). It has been posited that people have access to a private or collective aspect of the self. This is determined by the degree to which they are under attitudinal or normative control and it is their culture that will determine which aspect is more easily accessed. Some cultures have a more individual focus and others stress a collectivistic view. In this way culture can influence the degree to which each person is under attitudinal or normative control (Trafimow, 2000).

Légaré et al (2000) suggested that cultural differences were the reason that subjective norms were non significant determinants of intention to use HRT in their study. What others thought they should do about using HRT did not influence Canadian women's intention to use HRT.

In New Zealand it has been shown that culture has an important effect on how health is conceptualised (Durie, 1977), how the menopause is viewed, symptoms reported and attitude to HRT use is influenced. New Zealand research has shown that women are more likely to use HRT if they have a negative attitude to menopause while those who experienced few distressing menopausal symptoms regarded the menopause as a positive time and so had a negative attitude to HRT use (Breheny & Stephens, 2001). Māori women are much less likely than non Māori to use HRT. North & Sharples (1997) suggest this may be due to the different way the menopause is experienced and different cultural attitudes to medical treatments.

This is similar to mid-aged British women whose intention to use HRT is greater when they view the menopause as a medical condition requiring treatment by HRT (Hunter & Liao, 1994).

Perceived behavioural control

The addition of perceived behavioural control is what differentiates the TPB from the theory of reasoned action (TRA) and this variable is proposed to indirectly affect

intention. Although results from the present study showed that perceived behavioural control did influence intention its influence was surprisingly weak. Moral norms were significantly more important than perceived behavioural control in the final equation suggesting that it is more important to New Zealand women to believe it is right to use this medication than it is to have a personal sense of confidence in following the HRT regime.

The correlation results of the present study showed that being confident about using HRT is positively and significantly related to having a positive attitude to this therapy, believing it is right to do so, taking the contraceptive pill in the past and intending to use HRT in the future. The non-significant correlation with subjective norms suggests that perceived behavioural control, in this group of New Zealand women, is not related to complying with the perceived wishes of others who are important.

An extended model of the theory of planned behaviour

It was also hypothesised that the TPB would not provide a complete account of all the factors that influence intention to use HRT. The present study showed that the TPB failed to do so and findings add to Quine & Rubin's (1997) study by providing evidence for the inclusion of moral norms in the TBP, extending the model to the influence of moral codes on intention to use HRT.

Moral norms

Results showed that when moral norms were added to the equation this variable had a significant influence on women's intention to use HRT and increased the explained variance by a further 4%.

In the present study moral norms were operationalised as how right or wrong it was to use a drug like HRT and whether it was a sign of weakness to depend on such

medication to deal with distressing symptoms at menopause. This variable was not tested in the British study (Quine & Rubin, 1997) and the Canadian study (Légaré et al, 2000) operationally defined this as a moral obligation, or personal responsibility, to take or not take replacement hormones. Results showed that Canadian women did not feel morally obliged to take HRT which contrasts with the intentions of New Zealand women in the present study. This could be due to the way that moral norms were differentially operationalised in the two studies. Canadian women believed that it was their own personal moral responsibility to decide about using HRT and this did not significantly impact on their decision.

In the present study moral norms were defined as concerns about it being right or not to use drugs and interfere with a natural process such as menopause. It was based on a sense of virtue: that it was virtuous to age gracefully and would be a sign of weakness to rely on medication. Manstead (2000) proposes that attitudes are more accurate predictors of behaviour when energised by moral evaluations. Results of the present study suggested that such perceptions influence decisions about HRT use and add to the prediction of intention to use this.

Similar prior behaviour

It was also hypothesised that the similar prior behaviour of taking an oral contraceptive in the past would influence women's decision about taking HRT over and above attitudes, subjective norms, perceived behavioural control and moral norms. However, in the present study, although 51.4% of the women had used the contraceptive pill for over 5 years at some time in their life, this additional variable did not significantly contribute to the explained variance and suggests that it has no influence on the decision making of mid-aged women in New Zealand.

Results of the present study indicated that similar prior behaviour was not related to attitude to HRT use, complying with the wishes of significant others about taking HRT

or a belief that it was right or wrong to use drugs.

Taking the pill in the past also had no impact on Canadian women's decision about HRT use but it was a significant predictor in the British study when it increased the explained variance by a further 1%. Quine & Rubin (1997) hypothesised that having taken a contraceptive pill regularly might make women feel more confident and so more in control of coping with the HRT regime when they were trying to decide if to use HRT or not. They suggested that reflecting on previous success in remembering to take a pill daily, that was similar to HRT in that it also affected hormonal levels and was prescribed by an understanding GP would affect intention via perceived behavioural control. This did not happen in the present study.

However, the observed effect in Quine & Rubin's (1997) study was very small and has not been replicated. It appears that this variable is not an important aspect in the decision making process after all.

Limitations

The use of social cognition models and questionnaires has been challenged and interventions based on these "flowchart" theoretical frameworks (Spicer & Chamberlain, 1996) questioned for not being robust (Oakley, Fullerton, Holland et al, 1995 cited in Abraham, 1999). However, research indicates that questionnaires are effective ways to measure cognitions (Sheeran & Orbell, 1996) and that interventions based on SCMs are more effective (Abraham, 1999) than information based programmes, especially those which enhance individual skills and cognitions. SCMs have been effective not only for predicting health behaviours but also for providing a framework on which to base health promotion interventions (Abraham, 1999).

As the postal survey used to assess the decision making process in the present study

required women to circle numbers and not write answers and 98.6% of the sample had attended at least a minimum of two years of secondary education this meant that comprehension of English and literacy were not barriers to completion of the questionnaire. The questionnaire was also available in New Zealand's two languages so language was not a barrier to completion. However, a telephone survey (like Random Digit Dialling, used by Légaré et al, 2000) might also be a limitation as this would limit participants to those who had access to a telephone and the telephone interviews might under represent marginal groups (Fox, Heilmendinger & Block 1992 cited in Légaré et al, 2000).

Twenty women who had undergone a hysterectomy or oophorectomy were included in the present study and the only participants who were excluded were those currently taking HRT. The Canadian study excluded women without an intact uterus however the British study only excluded those who were not yet taking HRT so this may not be a limitation.

The participants in the present study were 45 year old women who were randomly selected from both the General and Māori electoral rolls. It is important to remember that the factors identified by these New Zealand women represent the views of this age group and cannot be generalised to all women in New Zealand. This younger age group of women might not yet have reached menopause or experienced any adverse menopausal symptoms.

In addition, the modest return rate (39.5%) and the difficulties with the electoral roll information, previously outlined, did mean the sample was not completely randomly selected so this does limit the results.

Although intention to use HRT was measured and not actual HRT use it has been shown that intentions are highly correlated with real behaviours (Finlay et al, 1999).

Implications and recommendations for future research

The present study found four variables that account for significant proportions of variance in intention to use HRT. These suggest that attitudes, subjective norms, perceived behavioural control and moral norms are all important factors for mid-aged women to consider when they have to decide how to deal with health concerns at menopause if distressing symptoms are experienced.

Results of the present study highlight the importance placed on the views of significant others in the decision making process about HRT use. The views of people important to mid-aged New Zealand women like their GP, husband/partner, family and friends have a strong influence on their intention to use HRT. It is recommended that further research into subjective norms would be valuable to gain a better understanding of this.

It has been suggested that cultures which are more collective have more people who are under normative control (Finlay et al, 1999). This would be worthwhile investigating within the New Zealand context in regard to HRT use. Further research is needed to identify the degree to which HRT use is under normative or attitudinal control.

Although Māori women were included in the survey it is suggested that it would be more culturally appropriate for Māori researchers to carry out further investigations about Māori women's decision making about using HRT. Interpretation of results is known to be subject to cultural bias (Levine-Silverman, 1989 cited in Andrist, 1998) and Durie (2001) provides an important reminder of the unique Māori way of feeling, thinking and behaving.

Providing evidence based research about the risks and benefits of HRT use might increase women's sense of internal control about how easy it would be to take HRT. A lack of access to accurate information is perceived as a barrier to successfully carrying out an intention and inhibits its performance. Providing comprehensive information

uncontaminated by pharmaceutical companies could facilitate a perceived sense of control over following the HRT regime. The present study would need to be replicated as women have had access to more accurate information about the risks of HRT use since the results of the Women's Health Initiative were released in 2002.

Based on the results of the present study it is also suggested that adding moral norms to the TPB would enhance its predictive utility. It would appear that for New Zealand women taking HRT is a behaviour that involves beliefs about how right or wrong it is to use hormonal treatment at menopause and whether or not taking HRT is a sign of weakness.

More research is needed to replicate the results of the present study to provide support for the extended model of the TPB and the measure used. It is recommended that a broader age range be targeted and a larger number of women surveyed.

Conclusion

Mid-aged women in New Zealand are faced with making a difficult decision in regard to their health at the time of menopause. The present study has helped to identify the factors that are involved in women's decision making about intention to use HRT. It has also provided insight into understanding this process and evidence of the most important factors as they consider how they will deal with distressing symptoms at menopause. The results are a valuable contribution to the field.

This was the first time that the theory of planned behaviour was applied to HRT use in the New Zealand context. Results of the present study support the use of the TPB as a predictor of intention to use HRT at menopause as well as the inclusion of moral norms into the model.

Findings of the present study add to the growing body of knowledge about decision

making about HRT and the factors that exert the most influence as women make a decision about their health status. Results show that the factors that most strongly impact on mid-aged women's intention to use HRT are the views of important referents and their own personal attitudes to HRT use. Having a personal sense of control over following the treatment regime and believing it is right to do so and not a sign of weakness are also important considerations.

Mid-aged New Zealand women who might not yet be experiencing menopause and intend to use HRT have a positive attitude to using HRT. They are also motivated to comply with important referents who think they should take these hormones, are confident that they can cope with this medication and think it is right to use such a drug for distressing symptoms at menopause. Results also suggested that having taken the contraceptive pill in the past has no influence on their decision making about HRT use in the future.

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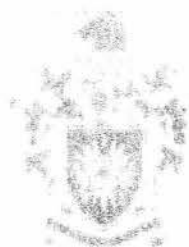
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APPENDIX A: LETTER TO PARTICIPANTS



4 February 2002



School of Psychology
Private Bag 11 222,
Palmerston North,
New Zealand
Telephone: 64 6 356 9099
Facsimile: 64 6 350 5673
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Information: Decision Making and Hormone Replacement Therapy Study

Dear

My name is Christine Stephens and I am a lecturer in the School of Psychology at Massey University. With two masters' thesis students, Tracey McLellan and Wendy Radford, I am carrying out research with mid-aged women.

We are writing to ask for your help with a survey on how women make decisions regarding Hormone Replacement Therapy (HRT). At present very little is known about how New Zealand women and their doctors make such treatment decisions. We seek to understand this decision making process so that women may be assisted if they are trying to decide whether to use HRT or not.

Your name was selected at random from those of women, aged 45 years, on the electoral roll. Any information that you provide will be anonymous; it will not be linked to your name or address, and will be used only for the purpose of this study. No individual woman will be identified in any report from this survey.

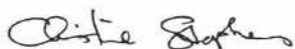
We are very interested in replies from all women, including those who have not reached the menopause or have never taken hormone replacement therapy. However, your participation is voluntary (your choice). If you prefer a Māori language version of the questionnaire, please tick the box on the first page and return the questionnaire in the pre-paid envelope. We will send you a copy of the questionnaire in Te Reo Māori. If you do not wish to take part, please return the questionnaire in the pre-paid envelope and we will send no further reminders. Your questionnaire is coded, only so that we can remove your name completely from our address list as soon as we receive your questionnaire back (either completed or uncompleted).

If you are willing to take part, please answer the questions on the enclosed form and return them to us in the pre-paid envelope (no stamp required) within two weeks. Please note that completion of the questionnaire implies that you consent to participate in this survey. As a participant, you have the right to decline to answer any particular questions.

We will send you a summary of the results of the study if you complete the request form included with the questionnaire. This request form will be stored separately from the questionnaire as soon as we receive it and the record will be destroyed once we have sent you the information.

If you would like any further information or have any questions about the study please do not hesitate to contact Christine Stephens at the address above or phone us at 06 350 5799 ext. 2071.

Yours sincerely



Dr Christine Stephens



Tracey McLellan



Wendy Radford

This project has been reviewed and approved by the Massey University Human Ethics Committee, PN protocol 01/21

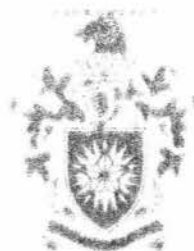
Te Kunenga ki Pūrehuroa

Inception to Infinity: Massey University's commitment to learning as a life-long journey





4 February 2002



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Facsimile: 64 6 350 5673
354

Te Whakatau Kōwhiringa me te Haumanu Taiaki: He Kaupapa Rangahau

Tēnā koe MRS RADFORD

Ko Christine Stephens tōku ingoa, he pūkenga ahau i roto i te Kura Hinengaro i Te Kunenga ki Pūrehuroa (Te Whare Wānanga o Massey). Kei te mahi au i tētahi kaupapa rangahau i te taha o te hunga wahine pakeke. Tokorua anō aku kaiāwhina, he ākonga paerua, ko Tracey McLellan rāua ko Wendy Radford.

He tono tēnei kia āwhina mai koe i tā mātou kaupapa rangahau i tā te wahine whakatau i āna kōwhiringa e pā ana ki te Haumanu Taiaki (HT). I tēnei wā, kāore e nui ngā mōhiotanga e pā ana ki te hunga wāhine o Aotearoa me te āhua o tā rātou whakatau i ngā kōwhiringa mō ō rātou rongoā, i te taha o ō rātou tākuta. Mā te tēnei rangahau e puta ai ētahi māramatanga hei āwhina i te wahine e whiriwhiri ana mēnā e tika ana te Haumanu Taiaki (HT) mōna, kāore rānei.

He mea tūpako matapōkere tō ingoa, mai i te hunga wahine he pakeke ake i te 45 tau i te rārangi pōti. Ka noho matatapu tō ingoa, e kore hoki e honoa ō kōrero ki tō ingoa, ki tō wāhi noho rānei, ā, ka whakamahia ō kōrero mō tēnei kaupapa rangahau anake. Kāore hoki e whākina atu te hunga ka whai wāhi mai i roto i ngā pūrongo ka puta i tēnei rangahau.

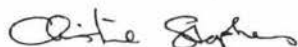
E tino hiahia ana mātou ki ngā whakaaro o ngā wāhine katoa, ahakoa kāore anō pea kia eke atu ki te wā o te koero, kua kore rānei e whakauia ki te haumanu taiaki (HT). Oti anō, kei a koe tonu te whiriwhiri ki te uru mai ki te kaupapa, kāore rānei. Mēnā e hiahia ana koe ki te rārangi patapatai reo Māori, tohua mai te pouaka i te whārangi tuatahi, ka whakahoki mai ai i roto i te kōpaki utu-kore. Kātahi ka tukuna e mātou te rārangi patapatai reo Māori hei whakaoti māu. Ki te kore koe e hiahia ki te āwhina mai, kei te pai noa iho – me whakahoki mai te rārangi patapatai i roto i te kōpaki utu-kore, ā, ka mutu i konā. Kua tohua tō rārangi patapatai, e taea ai tō ingoa te tango i tā mātou rārangi wāhi noho ina whakahokia mai te rārangi patapatai (ahakoa kua whakautua ngā pātai, kāore rānei).

Ina whakaae koe ki te āwhina mai i te kaupapa nei, me whakautu ngā pātai, ka whakahoki mai ai i roto i te kōpaki utu-kore i mua i te paunga o ngā wiki e rua. Ina oti i a koe te rārangi patapatai, koirā e whakaatu mai ana i tō whakaaetanga ki te uru mai ki te kaupapa rangahau nei. Kei a koe anō te whiriwhiri ina kore koe e hiahia ki te whakautu i t/ētahi o ngā pātai.

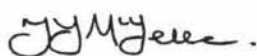
Ina oti i a koe te puka tono i te mutunga o te rārangi patapatai, ka tukuna ki a koe tētahi tuhinga whakarāpopoto o ngā whakakitenga ka puta i te rangahau. Kia tae mai tō rārangi patapatai, ka tangohia atu te puka tono nei, ā, ka waiho ki wāhi kē atu o ngā rārangi patapatai. Ka oti i mātou te tukutuku i ngā tuhinga whakarāpopoto, ka whakakorea ēnei puka tono. Mā konei, e āta tiaki ai tō kiri matatapu.

Ki te hiahia koe ki ētahi atu kōrero, mēnā he pātai āu, me whakapā mai ki ahau, ki a Christine Stephens. Kei runga nei te wāhi tuku reta mai, ko taku nama waea: 06 350 5799 peka 2071.

Hei konā i roto i ngā mihi.



Dr Christine Stephens



Tracey McLellan



Wendy Radford

Kua whakaaetia tēnei kaupapa rangahau e Te Komiti Matatika Tangata o Te Whare Wānanga o Massey (01/21)

Te Kunenga ki Pūrehuroa

Inception to Infinity: Massey University's commitment to learning as a life-long journey



APPENDIX B: WOMEN'S DECISION-MAKING QUESTIONNAIRE

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Women's decision-making study.



**Please read the instructions
carefully and answer all
questions.**

**Do not spend a lot of time on
each question, usually your first
answer is best.**

**Completing this questionnaire
implies your consent to
participate in this study.**

Hormone Replacement Therapy (HRT) is a medication that may be prescribed to women to help with menopausal symptoms such as hot flushes or to prevent osteoporosis.

Please answer these first questions if you do not use HRT at present. If you do use HRT please go straight to SECTION 2.

Section 1

Instructions: The following questions are about your intentions to use HRT in the future. Please **circle the number** that shows how much you agree with each of the following statements if they were about you. We expect everybody's answers to be different – there are no right or wrong responses.

	Strongly Agree	Agree	Probably Agree	Neither Agree nor Disagree	Probably Disagree	Disagree	Strongly Disagree	Office Use Only
	1	2	3	4	5	6	7	
1. I intend to use HRT if I have distressing symptoms at menopause.	1	2	3	4	5	6	7	<input type="checkbox"/>
2. I intend to use alternative therapies if I have distressing symptoms at menopause.	1	2	3	4	5	6	7	<input type="checkbox"/>
3. I believe that HRT will stop me looking older.	1	2	3	4	5	6	7	<input type="checkbox"/>
4. Using HRT will decrease my chances of suffering osteoporosis.	1	2	3	4	5	6	7	<input type="checkbox"/>
5. Using HRT will increase my risk of getting cancer.	1	2	3	4	5	6	7	<input type="checkbox"/>
6. Using HRT will relieve the unpleasant symptoms of menopause.	1	2	3	4	5	6	7	<input type="checkbox"/>
7. I think that HRT will relieve hot flushes at menopause.	1	2	3	4	5	6	7	<input type="checkbox"/>

L1/10

	Strongly Agree	Agree	Probably Agree	Neither Agree nor Disagree	Probably Disagree	Disagree	Strongly Disagree	Office Use Only
	1	2	3	4	5	6	7	
8. I believe that HRT will cause unpleasant side effects.	1	2	3	4	5	6	7	<input type="checkbox"/> L1/11
9. Using HRT will make me feel better in myself.	1	2	3	4	5	6	7	<input type="checkbox"/>
10. Looking older will be a good thing for me.	1	2	3	4	5	6	7	<input type="checkbox"/>
11. In general, I do not worry about the risk of cancer.	1	2	3	4	5	6	7	<input type="checkbox"/>
12. I expect to experience unpleasant symptoms at menopause.	1	2	3	4	5	6	7	<input type="checkbox"/>
13. I do not think that hot flushes will be a problem at menopause.	1	2	3	4	5	6	7	<input type="checkbox"/>
14. The side effects of HRT will not bother me.	1	2	3	4	5	6	7	<input type="checkbox"/>
15. I do not expect to feel unwell at menopause.	1	2	3	4	5	6	7	<input type="checkbox"/>
16. I would use HRT if I have distressing symptoms at menopause.	1	2	3	4	5	6	7	<input type="checkbox"/>
17. My husband / partner thinks that I should use HRT.	1	2	3	4	5	6	7	<input type="checkbox"/>
18. People who are important to me would disapprove of my using HRT.	1	2	3	4	5	6	7	<input type="checkbox"/>
19. Most of my friends intend to use HRT.	1	2	3	4	5	6	7	<input type="checkbox"/> L1/22

	Strongly Agree	Agree	Probably Agree	Neither Agree nor Disagree	Probably Disagree	Disagree	Strongly Disagree	Office Use Only
	1	2	3	4	5	6	7	
20. My doctor thinks I should use HRT.	1	2	3	4	5	6	7	<input type="checkbox"/> L1/23
21. My family/whanau think I should use HRT.	1	2	3	4	5	6	7	<input type="checkbox"/>
22. In regard to HRT I want to do what my husband/partner thinks I should do.	1	2	3	4	5	6	7	<input type="checkbox"/>
23. I will use HRT if family/whanau think I should.	1	2	3	4	5	6	7	<input type="checkbox"/>
24. People who are important to me will help me to decide about HRT.	1	2	3	4	5	6	7	<input type="checkbox"/>
25. In regard to HRT I want to do what my friends think I should do.	1	2	3	4	5	6	7	<input type="checkbox"/>
26. I think I should use HRT if my doctor recommends it.	1	2	3	4	5	6	7	<input type="checkbox"/>
27. I will use HRT whether I experience symptoms or not.	1	2	3	4	5	6	7	<input type="checkbox"/>
28. I will not need to use HRT because I have a positive attitude to menopause.	1	2	3	4	5	6	7	<input type="checkbox"/>
29. I am happy to use HRT to help me through menopause.	1	2	3	4	5	6	7	<input type="checkbox"/>
30. I will not need to use HRT because I have a healthy lifestyle.	1	2	3	4	5	6	7	<input type="checkbox"/> L1/33

	Strongly Agree	Agree	Probably Agree	Neither Agree nor Disagree	Probably Disagree	Disagree	Strongly Disagree	Office Use Only
	1	2	3	4	5	6	7	
31. I think that it is appropriate for a person my age to use HRT.	1	2	3	4	5	6	7	<input type="checkbox"/> L1/34
32. I will be too busy in my life to need HRT.	1	2	3	4	5	6	7	<input type="checkbox"/>
33. I will not need HRT because my mother did not need it.	1	2	3	4	5	6	7	<input type="checkbox"/>
34. I think that a woman should do whatever she needs to do to keep healthy or youthful.	1	2	3	4	5	6	7	<input type="checkbox"/>
35. I would feel guilty if I were to use HRT.	1	2	3	4	5	6	7	<input type="checkbox"/>
36. I believe that HRT is beneficial during menopause.	1	2	3	4	5	6	7	<input type="checkbox"/>
37. I think that a person in a close relationship should use HRT.	1	2	3	4	5	6	7	<input type="checkbox"/>
38. I would never use HRT even if I have problems at menopause.	1	2	3	4	5	6	7	<input type="checkbox"/>
39. Whether or not I use HRT is entirely up to me.	1	2	3	4	5	6	7	<input type="checkbox"/>
40. Financially, I can afford to use HRT.	1	2	3	4	5	6	7	<input type="checkbox"/>
41. Forgetting to take pills or use patches regularly will prevent me from using HRT.	1	2	3	4	5	6	7	<input type="checkbox"/> L1/44

	Strongly Agree	Agree	Probably Agree	Neither Agree nor Disagree	Probably Disagree	Disagree	Strongly Disagree	Office Use Only
	1	2	3	4	5	6	7	
42. Problems getting to the doctor regularly will prevent me from using HRT.	1	2	3	4	5	6	7	<input type="checkbox"/> L1/45
43. If I wanted to I could easily use HRT.	1	2	3	4	5	6	7	<input type="checkbox"/>
44. Remembering to take pills or change patches regularly would be a problem for me.	1	2	3	4	5	6	7	<input type="checkbox"/>
45. The cost of HRT will prevent me using it.	1	2	3	4	5	6	7	<input type="checkbox"/>
46. I have problems getting to see the doctor.	1	2	3	4	5	6	7	<input type="checkbox"/>
47. I am confident that I could use HRT if I chose to.	1	2	3	4	5	6	7	<input type="checkbox"/>
48. I think that using HRT at menopause would be:	(CIRCLE ONE NUMBER PER LINE)							
a. Good	1	2	3	4	5	6	7	Bad <input type="checkbox"/>
b. Harmful	1	2	3	4	5	6	7	Beneficial <input type="checkbox"/>
c. Helpful	1	2	3	4	5	6	7	Unhelpful <input type="checkbox"/>
d. Unpleasant	1	2	3	4	5	6	7	Pleasant <input type="checkbox"/>
e. Positive	1	2	3	4	5	6	7	Negative <input type="checkbox"/>
f. Disadvantageous	1	2	3	4	5	6	7	Advantageous <input type="checkbox"/> L1/56

Thank you, please continue with the questions on the following pages.

Section 4

Finally, we would like you to provide some background information about yourself so that we can compare the preferences of different groups of women. Tick the appropriate boxes or write your responses in the spaces provided below. Remember that the information that you give us is **confidential**.

	Office Use Only					
1. Have you used HRT in the past? (PLEASE TICK ONE BOX)						
<input type="checkbox"/> ₁ Yes <input type="checkbox"/>₂ No		<input type="checkbox"/>				
		L4/1				
2. Are you currently using HRT? (PLEASE TICK ONE BOX)						
<input type="checkbox"/> ₁ Yes <input type="checkbox"/>₂ No		<input type="checkbox"/>				
3. Have you used the contraceptive pill for over 5 years at some time in your life? (PLEASE TICK ONE BOX)						
<input type="checkbox"/> ₁ Yes <input type="checkbox"/>₂ No		<input type="checkbox"/>				
4. Have you ever had any of the following operations?						
<input type="checkbox"/> ₁ Hysterectomy (uterus removed)						
<input type="checkbox"/> ₂ Hysterectomy and both ovaries removed						
<input type="checkbox"/> ₃ Both ovaries removed		<input type="checkbox"/>				
5. How many times in the last 12 months have you seen any GP or been visited by one (e.g. family doctor, but not a specialist)?						
Number of times seen by any GP in the last 12 months:		<input type="checkbox"/>				
6. When was the last time you saw the doctor? (PLEASE TICK ONE BOX)						
<input type="checkbox"/> ₁ In the last two weeks						
<input type="checkbox"/> ₂ More than two weeks ago but less than three months						
<input type="checkbox"/> ₃ More than three months ago but less than six months						
<input type="checkbox"/> ₄ More than six months ago but less than one year						
<input type="checkbox"/> ₅ One year ago						
<input type="checkbox"/> ₆ More than one year ago		<input type="checkbox"/>				
7. Please give your age in years.						
<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 30px; height: 20px;"></td> <td style="width: 30px; height: 20px;"></td> </tr> </table>				<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 30px; height: 20px;"></td> <td style="width: 30px; height: 20px;"></td> </tr> </table>		
		L4/8				

14. If you are married or living as married, what is or was your husband's/
partner's main occupation?

.....

OR

- If separated, divorced or widowed, what was your husband's main
occupation?

.....

15. What is your highest level of education?

(PLEASE TICK ONE BOX)

- ☐₁ Primary School
☐₂ Secondary School for 1 or 2 years
☐₃ Secondary School for more than 2 years
☐₄ University, Polytechnic or teacher training
☐₅ Other trade or vocational training (please explain)

.....

Office
Use
Only

☐ ☐
L4/21

☐ ☐

☐
L4/24



Thank you very much for taking the time to complete the questionnaire.

Your contribution to this study is appreciated.

Please return this questionnaire in the pre-paid envelope provided (no stamp required).



If you complete this section it will be promptly removed from the questionnaire to protect your privacy.

Please send me a summary of the results at the conclusion of the study:

Name: _____

Address: _____



Te Rangahau i te te Wahine Whakataau Kowhiringa



Äta pānuihia ngā tohutohu, ka whakautu ai i ngā pātai katoa. Kaua e whakapau i te wā nui ki te pātai kotahi - i te nuinga o te wā, ko tōu whakaaro tuatahi te whakautu pai rawa.

Ina mahi koe i tēnei rārangi patapatai, koia e tohu mai ana i tō whakaaetanga kia uru mai ki tēnei kaupapa rangahau.

Te Wāhanga Tuatahi

Ngā Tohutohu:

Kei tēnei wāhanga ētahi pātai e pā ana ki ō whakaaro ki te uru atu ki te haumanu taiaki i roto i ngā tau kei te heke mai. Ko te haumanu taiaki (HT) tētahi rongoā hei āwhina i te hunga wāhine i te wā o te koero, ina pāngia ki te mate uraura, ki te mate konupūmā rānei.

Mehema kāore koe i te whakauia ki te HT i tēnei wā tonu, me whakautu ngā pātai o tēnei wāhanga. Haere tika ki ngā pātai o te wāhanga tuarua mēnā e whakauia ana koe ki te HT i tēnei wā tonu.

Porowhitatia te tau e tika ana hei whakaatu i ōu ake whakaaro ki ngā pātai. Kāore e kore, he rerekē ngā whakautu a tēnā, a tēnā – ehara i te mea e tika ana, e hē ana rānei tētahi whakautu.

	ae marik a ka eke 1	ka eke 2	tērā pea ka eke 3	kāore i te mōhio 4	e kore pea e eke 5	kāore e eke 6	tino kore nei e eke 7
1. Ka whakauia au ki te HT, ina pāngia ki te mate i te wā o te koero.	1	2	3	4	5	6	7
2. Ka whai au i ētahi rongoā rerekē, ina pāngia ki te mate i te wā o te koero.	1	2	3	4	5	6	7
3. Mā te HT, ka tamariki tonu tōku āhua.	1	2	3	4	5	6	7
4. Mā te HT e heke ai te tüpono ka pāngia au ki te mate konupūmā.	1	2	3	4	5	6	7
5. Ina whakauia au ki te HT, ka piki anō te tüpono ka pāngia au ki te mate pukupuku.	1	2	3	4	5	6	7
6. Mā te HT e māmā ai ngā momo mate ka pā i te wā o te koero.	1	2	3	4	5	6	7
7. Mā te HT e māmā ai te pāngia o te mate uraura.	1	2	3	4	5	6	7
8. Ina whakauia au ki te HT, ka puta ētahi anō mate i te taha.	1	2	3	4	5	6	7
9. Ina whakauia au ki te HT, ka piki anō taku wairua.	1	2	3	4	5	6	7
10. He painga mōku ina kaumātua haere tōku āhua.	1	2	3	4	5	6	7

	ae marik a ka eke 1	ka eke 2	tērā pea ka eke 3	kāore i te mōhio 4	e kore pea e eke 5	kāore e eke 6	tino kore nei e eke 7
11. Kāore au e māharahara ki te pāngia mai o te mate pukupuku.	1	2	3	4	5	6	7
12. Kāore e kore, ka pāngia au ki ētahi raruraru i te wā o te koero.	1	2	3	4	5	6	7
13. Ki tōku whakaaro, kāore au e whakararu ki te mate uraura.	1	2	3	4	5	6	7
14. Kāore au e whakararu ki ngā momo mate ka haere i te taha o te HT.	1	2	3	4	5	6	7
15. Kāore e whakararu tōku hauora i te wā o te koero.	1	2	3	4	5	6	7
16. Ka whakauia au ki te HT, ina pāngia au ki ētahi raruraru i te wā o te koero.	1	2	3	4	5	6	7
17. Ko te whakaaro o tōku hoa rangatira, kia whakauia au ki te HT.	1	2	3	4	5	6	7
18. Mēnā ka whakauia au ki te HT, ka whakahēngia e ngā tāngata e piri ana ki tōku ngākau.	1	2	3	4	5	6	7
19. Ko te nuinga o aku hoa ka whakauia ki te HT.	1	2	3	4	5	6	7
20. E ai ki taku tākuta me uru atu au ki te HT.	1	2	3	4	5	6	7
21. E ai ki tōku whānau, me uru atu au ki te HT.	1	2	3	4	5	6	7
22. Ka whai au i ngā whakaaro o tōku hoa rangatira e pā ana ki te HT.	1	2	3	4	5	6	7
23. Ka whai au i ngā whakaaro o tōku whānau e pā ana ki te HT.	1	2	3	4	5	6	7

	ae marik a ka eke 1	ka eke 2	tērā pea ka eke 3	kāore i te mōhio 4	e kore pea e eke 5	kāore e eke 6	tino kore nei e eke 7
24. Ko ngā tāngata e piri ana ki tōku ngākau hei āwhina i ahau ki te whiriwhiri i taku whakauinga ki te HT.	1	2	3	4	5	6	7
25. Ka whai au i ngā whakahau a ōku hoa e pā ana ki te HT.	1	2	3	4	5	6	7
26. Me uru atu au ki te HT me he pērā ngā whakaaro o taku tākuta.	1	2	3	4	5	6	7
27. Ka whakauia au ki te HT, ahakoa pāngia ki te raruraru i te wā o te koero, kāore rānei.	1	2	3	4	5	6	7
28. Kāore au e uru atu ki te HT, nā te mea e pai ana tōku ngākau ki te ekenga mai o te koero.	1	2	3	4	5	6	7
29. E pai ana ki ahau te HT hei āwhina I a ahau i te wā o te koero.	1	2	3	4	5	6	7
30. Kāore he take kia whakauia au ki te HT, nā te mea he wahine whai hauora.	1	2	3	4	5	6	7
31. E tika ana kia whakauia tōku reanga tangata ki te HT.	1	2	3	4	5	6	7
32. Kāore au e whai taima ki te uru atu ki te HT – he nui rawa aku mahi.	1	2	3	4	5	6	7
33. Kāore he take o te HT ki tōku whaea, nō reira ka pērā hoki ko au.	1	2	3	4	5	6	7
34. Me whai te wahine i te huarahi e tamariki tonu ai, e hauora tonu ai ia, ahakoa he aha taua huarahi.	1	2	3	4	5	6	7
35. Ka āhua whakamā au, ina whakauia ki te HT.	1	2	3	4	5	6	7

	ae marik a ka eke 1	ka eke 2	tērā pea ka eke 3	kāore i te mōhio 4	e kore pea e eke 5	kāore e eke 6	tino kore nei e eke 7
36. He painga ka puta i te HT i te wā o te koero.	1	2	3	4	5	6	7
37. Mēnā e whai hoa piripono te tangata, e tika ana kia uru atu ki te HT.	1	2	3	4	5	6	7
38. E kore au e uru atu ki te HT, ahakoa ngā momo raruraru ka pā mai ki ahau i te wā o te koero.	1	2	3	4	5	6	7
39. Māku tonu e whakatau mēnā ka uru atu au ki te HT, kāore rānei.	1	2	3	4	5	6	7
40. E pai ana taku pūkoro hei utu i te HT.	1	2	3	4	5	6	7
41. Ki te kore au e maumahara ki te kai pire, ki te whakapiri rānei i te rongoā ki taku kiri, e kore e taea te uru atu ki te HT.	1	2	3	4	5	6	7
42. Mēnā he uaua mōku te haere ki te tākuta, e kore e taea te uru atu ki te HT.	1	2	3	4	5	6	7
43. Mehemea koirā taku hiahia, he māmā noa iho te uru atu ki te HT.	1	2	3	4	5	6	7
44. Ka raru au i te kai pire, i te whakapiri rānei i te rongoā ki taku kiri ia rā.	1	2	3	4	5	6	7
45. Nā te nui o te utu, ka kore au e uru atu ki te HT.	1	2	3	4	5	6	7
46. He nui ngā āhuatanga e whakararu ana i taku haerenga ki te tākuta.	1	2	3	4	5	6	7
47. E whakapono ana au, e taea ana e au te uru atu ki te HT, mēnā koina taku hiahia.	1	2	3	4	5	6	7

Ngā Kōrero Whānui

Ko te wāhanga tuatahi tēnei – ko ngā kōrero whānui mōu. Tohua te pouaka e tika ana, tuhia rānei ō whakautu. Ka noho matatapu ēnei kōrero katoa.

1. Inahea koe i whānau mai ai? _____/_____/_____

2. Ko tēhea tō ira iwi matua?

- ☐₁ Ko te iwi Māori
- ☐₂ Ko te iwi Pākehā
- ☐₃ Ko tētahi o ngā iwi o Te Moana-nui-a-Kiwa (tuhia mai te iwi) _____
- ☐₄ Ko tētahi o ngā iwi o Āhia (tuhia mai te iwi) _____
- ☐₅ Ko te iwi Iniana
- ☐₆ Ko tētahi atu iwi (tuhia mai te iwi) _____

3. He aha tō mahi matua?

- ☐₁ Kei te whai mahi utu mō te 30 hāora neke atu rānei ia wiki
- ☐₂ Kei te whai mahi utu mō te 30 hāora, iti iho rānei ia wiki
- ☐₃ He ākonga
- ☐₄ He tangata tākuhu
- ☐₅ Kāore i te whai mahi utu (he koremahi, kua whakangā, he penihana, he tiaki whānau tō mahi)

4. He aha tō tohu mātauranga teitei rawa?

- ☐₁ Kāore he tohu mātauranga
- ☐₂ Ko te Kura Tiwhikete
- ☐₃ Ko ngā tohu mātauranga o te kura, i tua atu o te Whakaurunga Whare Wānanga
- ☐₄ Ko te tiwhikete mahi-ā-rehe, ko te tiwhikete ngaio, ko te pōkairua rānei
- ☐₅ Ko tētahi tohu Whare Wānanga

5. He aha te wā whakamutunga i toro ai koe ki te tākuta?

- ☐₁ I roto i ngā wiki e rua kua taha ake nei
- ☐₁ I waenganui i te rua wiki me te toru marama kua taha ake nei
- ☐₁ I waenganui i te toru me te ono marama kua taha ake nei
- ☐₁ I waenganui i te ono marama me te kotahi tau kua taha ake nei
- ☐₁ Kotahi tau ki muri
- ☐₁ Nui atu i te kotahi tau ki muri

6. I roto i ngā marama 12 kua taha ake nei, e hia ngā wā kua toro atu koe ki te tākuta, kua toro mai rānei ia ki a koe (ko te tākuta ā-whānau, kua ko tētahi tohunga hohipera).

7. Kua uru atu koe ki tētahi o ngā mahinga hohipera nei?

- ☐₁ te tango i tō kōpū
☐₂ te tango i tō kōpū, me ō kiato kākano hoki
☐₃ te tango i ō kiato kākano

8. Kua whakauia koe ki te haumanu taiaki i ngā tau kua taha ake nei?

Ae ☐₁ Kao ☐₂

9. Kei te whakauia koe ki te haumanu taiaki i tēnei wā tonu.

Ae ☐₁ Kao ☐₂

10. Kua kai koe i te pire ārai hapū mō te rima tau, roa ake rānei?

Ae ☐₁ Kao ☐₂



Tēnā rawa atu koe e whai taima ana ki te whakaoti i tēnei rārangi patapatai.

He mea nui ki a mātou tēnei tautoko āu.

Me rau atu te rārangi patapatai ki te kōpaki utu-kore, ka whakahoki mai ai ki a mātou (kua e tāpiri atu he pane kuini).



Mēnā ka oti i a koe ēnei tuhinga i raro nei, ka wawe tā mātou tapahi atu, kia kua e noho tahi tō ingoa me tō rārangi patapatai. Arā ka āta tiakina tō kiri matatapu.

Tukuna mai ki a au ngā kōrero whakarāpopoto o tēnei rangahau.

Tō ingoa: _____

Tō wāhi noho: _____

APPENDIX C: REMINDER POSTCARD TO PARTICIPANTS



School of Psychology
Private Bag 11 222,
Palmerston North,
New Zealand
Telephone: 64 6 356 9099
Facsimile: 64 6 350 5673
354

WOMEN'S DECISION-MAKING STUDY: WHAKATAU

Two weeks ago you were sent a questionnaire about decision making for mid-aged women. If you have already returned the questionnaire please accept our thanks and appreciation.

If you have not responded yet we would very much like to hear from you. If you have any questions about the study or need a replacement questionnaire please phone 06 350 5799 ext 2071 or email to: C.V.Stephens@massey.ac.nz Thank you for your time.

Dr Christine Stephens

Tracey McLellan

TE RANGAHAU I TĀ TE WAHINE

KÖWHIRINGA

Kua pau te rua wiki mai i te wā i tukuna tētahi rārangi patapatai ki a koe e pā ana ki tā te wahine pakeke whakatau köwhiringa. Mēnā kua whakahoki kē koe i te rārangi patapatai nei, ka nui rā ngā mihi.

Mēnā kāore anō koe kia whakahoki kōrero mai, ka nui tō mātou hiahia kia uru mai koe ki te āwhina i te kaupapa nei. Ki te hiahia koe ki ētahi atu kōrero, mēnā he pātai āu, me whakapā mai ki ahau, ki a Christine Stephens. Kei runga nei te wāhi tuku reta mai, ko taku nama waea: 06 350 5799 peka 2071.

Wendy Radford

This project has been reviewed and approved by the Massey University Human Ethics Committee, PN protocol 01/21.
Kua whakaetia tēnei kaupapa rangahau e Te Komiti Matatika Tangata o Te Whare Wānanga o Massey (01/21)

APPENDIX D: LETTER SENT WITH REPLACEMENT QUESTIONNAIRE



25 February 2002



School of Psychology
Private Bag 11 222,
Palmerston North,
New Zealand
Telephone: 64 6 356 9099
Facsimile: 64 6 350 5673
354

Decision Making and Hormone Replacement Therapy Study

Dear

My name is Christine Stephens and I am a lecturer in the School of Psychology at Massey University. With two masters' thesis students, Tracey McLellan and Wendy Radford, I am carrying out research with mid-aged women. Three weeks ago we sent you a letter about our study of decision making and hormone replacement therapy (HRT). Your name was selected at random from those of women, aged 45 years, on the electoral roll. As you have not yet returned a questionnaire, either completed or uncompleted, we are contacting you again.

At present very little is known about how New Zealand women and their doctors make such treatment decisions and we seek to understand this decision making process so that women may be assisted if they are trying to decide whether to use HRT or not. We are very interested in replies from all women, including those who have not reached the menopause or have never taken hormone replacement therapy.

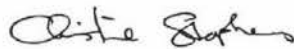
We would like to take this opportunity to send you a replacement questionnaire for our study. We have found that often people would still like to be involved in the study that they were invited to participate in, but they have misplaced their questionnaire. If this is the case please feel welcome to respond to the enclosed questions and return them to us in the pre-paid envelope provided. If you prefer a Māori language version of the questionnaire, please tick the box on the first page and return the questionnaire in the pre-paid envelope. We will send you a copy of the questionnaire in Te Reo Māori. If you choose not to respond, we will not be contacting you again.

Your participation is voluntary (your choice) and you have the right to decline to answer any particular questions. Please note that return of the completed questionnaire implies that you consent to participate in this survey.

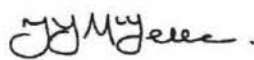
We will send you a summary of the results of the study if you complete the request form included with the questionnaire. This request form will be stored separately from the questionnaire as soon as we receive it and the record will be destroyed once we have sent you the information.

If you would like any further information or have any questions about the study please do not hesitate to contact Christine Stephens at the address above or phone 06 350 5799 ext. 2071.

Yours sincerely



Dr Christine Stephens



Tracey McLellan



Wendy Radford

This project has been reviewed and approved by the Massey University Human Ethics Committee, PN protocol 01/21

Te Kunenga ki Pūrehuroa

Inception to Infinity: Massey University's commitment to learning as a life-long journey





25 February 2002



School of Psychology
Private Bag 11 222,
Palmerston North,
New Zealand
Telephone: 64 6 356 9099
Facsimile: 64 6 350 5673
354

Te Whakatau Kōwhiringa me te Haumanu Taiaki: He Kaupapa Rangahau

Tēnā koe

Ko Christine Stephens tōku ingoa, he pūkenga ahau i roto i te Kura Hinengaro i Te Kunenga ki Pūrehuroa (Te Whare Wānanga o Massey). Kei te mahi au i tētahi kaupapa rangahau i te taha o te hunga wahine pakeke. Tokorua anō aku kaiāwhina, he ākonga paerua, ko Tracey McLellan rāua ko Wendy Radford. E toru wiki ki muri, i tukuna atu ki a koe tētahi reta e whakamārama ana i te āhua o tēnei kaupapa e pā ana ki te whakatau kōwhiringa me te Haumanu Taiaki (HT). He mea tūpako matapōkere tō ingoa mai i te hunga wāhine he pakeke ake i te 45 tau i te rārangi pōti. Nā tō kore whakahoki mai i te rārangi patapatai (ahakoa oti, kāore rānei), kei te whakapā atu anō mātou ki a koe.

I tēnei wā, kāore e nui ngā mōhiotanga e pā ana ki te hunga wahine o Aotearoa me te āhua o tā rātou whakatau i ngā kōwhiringa mō ō rātou rongoā, i te taha o ō rātou tākuta. Mā te tēnei rangahau e puta ai ētahi māramatanga hei āwhina i te wahine e whiriwhiri ana mēnā e tika ana te haumanu taiaki (HT) mōna, kāore rānei. E tino hiahia ana mātou ki ngā whakaaro o ngā wāhine katoa, ahakoa kāore anō pea kia eke atu ki te wā o te koero, kua kore rānei e whakauia ki te haumanu taiaki (HT).

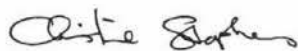
Kei te tukuna tētahi anō rārangi patapatai i te taha o tēnei reta. Akene pea kua ngaro te mea tuatahi i tukuna i tērā wā, ā, e hiahia tonu ana koe ki te āwhina mai i tēnei kaupapa. Ki te pērā, tēnā, me whakaoti tēnei o ngā rārangi patapatai, ka whakahoki mai ai i roto i te kōpaki utu-kore. Mēnā e hiahia ana koe ki te rārangi patapatai reo Māori, tohua mai te pouaka i te whārangi tuatahi, ka whakahoki mai ai i roto i te kōpaki utu-kore. Kātahi ka tukuna e mātou te rārangi patapatai reo Māori hei whakaoti māu. Ki te kore koe e whakahoki mai i te rārangi patapatai nei, kāore mātou e whakapā atu anō ki a koe.

Kei a koe tonu te whiriwhiri mēnā ka uru mai ki te kaupapa nei, kāore rānei. Kei a koe hoki te whiriwhiri ki te kore koe e hiahia ki te whakautu i tētahi o ngā pātai. Ina oti i a koe te rārangi patapatai, koirā e whakaatu mai ana i tō whakaaetanga kia uru mai ki te kaupapa rangahau nei.

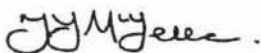
Ina oti i a koe te puka tono i te mutunga o te rārangi patapatai, ka tukuna ki a koe tētahi tuhinga whakarāpopoto o ngā whakakitenga ka puta i te rangahau. Kia tae mai tō rārangi patapatai, ka tangohia atu te puka tono nei, ā, ka waiho ki wāhi kē atu o ngā rārangi patapatai. Ka oti i mātou te tukutuku i ngā tuhinga whakarāpopoto, ka whakakorea ēnei puka tono. Mā konei, e āta tiaki ai tō kiri matatapu.

Ki te hiahia koe ki ētahi atu kōrero, mēnā he pātai āu, me whakapā mai ki ahau, ki a Christine Stephens. Kei runga nei te wāhi tuku reta mai, ko taku nama waea: 06 350 5799 peka 2071.

Hei konā i roto i ngā mihi.



Dr Christine Stephens



Tracey McLellan



Wendy Radford

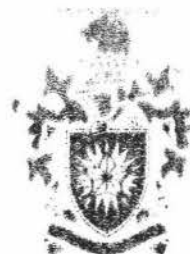
Kua whakaaetia tēnei kaupapa rangahau e Te Komiti Matatika Tangata o Te Whare Wānanga o Massey (01/21)

Te Kunenga ki Pūrehuroa

Inception to Infinity: Massey University's commitment to learning as a life-long journey



APPENDIX E: SUMMARY OF RESULTS



School of Psychology
Private Bag 11 222,
Palmerston North,
New Zealand
Telephone: 64 6 356 9099
Facsimile: 64 6 350 5673
354

Dear participant

Some time ago you agreed to participate in a survey of women's attitudes towards the use of HRT. The study was conducted by two masters students in the School of Psychology at Massey University, Wendy Radford and Tracey McLellan, under the supervision of Dr Christine Stephens. We apologise for the time that it has taken us to get back to you, and are now in a position to explain some of the early difficulties of this survey. Owing to errors in formatting and presentation that were made by the printers and distributors of the first questionnaire, the first survey was cancelled after the initial distribution. The responses to this first survey were analysed and enabled us to develop the questionnaire, changing some items and deleting others, for the next survey. We took another random sample of women from the electoral roll and some of you were included in that second sample as well, owing to the chance nature of random selection. Since then, thanks to your very helpful responses, Wendy and Tracey have been hard at work analyzing and reporting on the results. You have asked for a summary of those results and these are included in this letter.

The first part of the questionnaire was about the important aspects of decision making about HRT, among younger women who have not yet necessarily reached menopause. We found that the most important factors that influence New Zealand women's decisions about using HRT are the views of people who are important to them, and their own attitudes to this treatment. Mid-aged NZ women who intend to use HRT are more likely to have a positive attitude to using it, and are motivated to comply with important people who think they should take these hormones. Having a personal sense of control over following the treatment regime, and believing that it is right to use HRT, and not a sign of weakness, are also important considerations in women's decision making process. If women are confident they can cope with this medication and think that it is right to use such a drug for distressing symptoms at menopause, then they are more likely to intend to use HRT. Having taken the contraceptive pill in the past has no influence on their intention to use HRT at menopause. This last is a surprising result that contradicts some findings from Britain and Canada.

The other main part of the questionnaire was about how women in general prefer to interact with their doctor. Sharing the decision-making process with the doctor was the most preferred style of making HRT decisions. On average women 'agreed' with this style. Being in charge of the decision-making process themselves was rated by women as their second preferred style. Leaving decisions to the doctor was the least preferred style and on average women remained 'neutral' or 'disagreed' with this approach to HRT decision-making.

The decision-making process was also investigated according to the decision stages of 'information exchange', 'deliberation', and the 'final decision'. Sharing the responsibility with the doctor was the most preferred style at each stage. Women wanting to be in charge of the decision-making process themselves was most notable when it came to making the final decision, and less likely as a preference when it came to deliberating their choices. At the deliberation stage women clearly wanted their doctor's help with considering their choices. Women were more likely to leave the doctor in charge when considering what type and how much information they should receive, than at any other stage of the process. Most women disagreed with the doctor alone making the final decision about whether or not they should take HRT.

Although women tended to keep to the same style throughout the whole process there was evidence that styles changed, particularly toward women wanting more involvement closer to final decision time. It was at the deliberation stage that women were the most decisive about how they preferred to conduct their decision-making. Women clearly wanted their doctor's help when considering their choices, but did not want to relinquish control as many preferred to go on and make the final decision themselves.

Few personal factors were related to decision-making styles. Women who did not currently use HRT were found to be more likely to prefer to be in charge of the decision-making. As were those women with less recent contact with their doctor. Those women with more recent contact with their doctor were found to be more likely to want to share the responsibility of decision-making. No differences were found in decision-making preferences according to women's social groups or ethnicity.

In general our findings enable us to point to the importance of the broader aspects of women's lives, beyond the consideration of medical risks and benefits, in making a decision about HRT. The results also demonstrate that the current shift in medical practice towards making women responsible for the decision, does not suit all women at every stage of the decision-making process and a more flexible approach to assistance with the decision about HRT is required. Such findings will contribute to current research about decision making in HRT which is an important area as all women may encounter this decision in our current health system. This research is an initial project from which it is planned to develop more longitudinal studies that ask questions of women as they progress into menopause, and also as they encounter the changing medical knowledge about HRT itself. Thank you for your participation in this study.

Yours sincerely

Wendy Radford

Tracey McLellan

Christine Stephens