PhD Thesis October 2005

University of Strathclyde

(Department of Marketing)

Marketing in a social context: An interpretive approach to behaviour change after a stimulus of illness

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Submitted according to the regulations of the degree of Doctor of Philosophy

2005

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Acknowledgements

In the first place I would like to thank Napier University Business School for funding my PhD qualification and to John Ensor (Head of the School of Marketing & Tourism) for providing me with the time resource and continuing support to research and write the thesis. I am also grateful for the kindness and support of my colleagues within the Marketing Department and many others at Napier during the highs and lows of completing a thesis. Other support was provided by Dr. Candace Currie and Dr. Sonja Hunt from Edinburgh University and their advice was much appreciated. For their support in other ways I would like to thank my many friends and wider family for providing encouraging words as always.

Special thanks go to Professor Ken Fearon of Edinburgh University and his team of medical staff in the Surgical Department at the Royal Infirmary of Edinburgh. Mentions to Mark Little and Gill McMorran and her nursing team who helped me during the clinics.

My appreciation and thanks go to many members of staff at the Department of Marketing at Strathclyde University. Thanks to Douglas Eadie for his guidance and support during the first part of my thesis and especially during the fieldwork. I am grateful for the expert advice of Professor Gill Hogg and Dr. Stephen Tagg who provided insight and comments towards the end of the thesis. A special vote of thanks must go to Dr. Maria Piacentini for her unfailing support and guidance during the bulk of the thesis and her knowledge concerning how to write a thesis.

Finally I would like to thank my family Iain, Alastair, Eilidh and Ronnie for their unfailing love and support. An overall acknowledgement is given to my parents who inspired my fondness of education and learning. This thesis is dedicated to my mother who died during the second year of the research for this thesis.

Abstract

Many social marketing studies concern the uptake of 'healthful' behaviour changes (Andreasen, 2002). The issue contained in this thesis is why some people make and maintain dietary behavioural change and others do not. The participants in the study had taken a diagnostic test for cancer and received a result demonstrating that they were suffering from a minor bowel disease. Behaviour change literature was developed beyond the implementation of behaviour change (Bagozzi & Warshaw, 1990) and the thesis explored the factors involved in maintaining change (Lazarus, 1991; Rothman, 2000). An interpretivist approach was chosen so that the social context of the diagnostic test (source of stress) and the behaviour changes were explored (Hudson & Ozanne, 2001). A phenomenological methodology (Moustakas, 1994) utilised in depth semi-structured interviews to provide richer accounts of the participants' experiences (Sanders, 1982).

A conceptual framework of literature was built (Miles & Huberman, 1994) consisting of key theoretical processes such as stimulus of change, appraisals and coping strategies (Becker, 1974; Bagozzi, 1992; Park & Folkman, 1997). Both content and interpretive analysis techniques were adopted when analysing interview data. The interpretive analysis provided a clearer picture of actual behaviour change and was focused on three groups of participants who had different patterns of behaviour; maintainers of behaviour change; relapsers from change and those who did not make behaviour changes.

The study makes a contribution to behaviour change literature (Prochaska & Di Clemente, 1992; Bagozzi, 1992; Huffman et al, 2000; Folkman et al, 1986). The thesis also made a contribution to social marketing and social policy such as knowledge of diet from childhood, social support and the management of health at work. The interpretive methodological approach explored the patterns of change in the context of these participants' lives and this developed more understanding of qualitative methodologies within social marketing.

Glossary of Terms

Stimulus of Change – A stimulus of change is an event or situation that is highlighted in the consciousness. The event can initiate and contribute to behaviour change (Hunt, 1988). The stimulus can be information or in the case of this thesis a diagnostic test for cancer (Currie et al, 1991).The stimulus of change can cause anticipatory emotional responses (Bagozzi et al 1998).

Social Cognition

Social cognition involves the thought processes that facilitate with the input of information concerning the social environment (Coleman, 2003). Thoughts and information is stored in memory and has an effect on how people react to events (Bandura, 1986). Within the thesis the beliefs, attitudes and values the participants hold concerning health and behaviour change link to their social cognitions such as health beliefs (Becker, 1974) and attitudes (Fishbein & Ajzen, 1980) concerning significant others and their health behaviour.

Knowledge

Knowledge is what a person believes about a general or specific context such as the link with healthy diet and health (Lazarus, 1991). The important type of knowledge is the functional knowledge of why certain features in food will benefit bowel health (Huffman & Houston, 1993).

Stages of Change

Stages of change are temporal and involve attitudes, intentions and/or behaviour changes that are relevant in the process of change (Prochaska & Di Clemente 1992). Individuals modify their behaviour through a series of stages of pre-contemplation, contemplation, preparation, action and maintenance. In terms of this research stages of change are measured by an algorithm and categorised by change in bowel diet (Curry et al, 1992). Maintenance stage is the focus of the thesis and is the stage when participants have made and have sustained behaviour changes.

Processes of Change

Processes of change correspond to stages of change, which are temporal dimensions of change. Processes of change are how a person changes their behaviour (Prochaska

& Di Clemente, 1992). The participants used the processes to help with their family support at home, and assess their work environment.

Relapse

Relapse is defined as a regression to an earlier stage of change (Prochaska & Di Clemente (1992:446). Within this research relapse is defined as failing to keep to a healthy diet and returning to preparation or contemplation stage. It is possible to recycle back to action stage from relapse.

Trying

Trying was defined as the degree in which the individual tries to accomplish the goal (Bagozzi & Warshaw, 1990). Effort is the behavioural manifestation of the trying (the intent and self-control) of the individual in achieving the goal. Trying is linked to the coping strategies (Folkman et al, 1986) and processes of change (Prochaska & Di Clemente, 1982) that are used to achieve the goal of change in bowel diet.

Appraisal

Appraisals involve evaluating what is at stake in terms of illness and longer term goals of better health (Lazarus, 1991). The participants within the study evaluated the significance of their knowledge concerning bowel disease and their long term health with diet and specifically change in bowel diet.

Primary Appraisal

Primary appraisal involves the weighing up of the risks of harm or benefit with respect to commitment values or goals (Folkman et al, 1986). Within this research the primary appraisal was carried out at the onset of the bowel disease or after the diagnostic test for cancer. The risks of further more serious diseases were evaluated. The threat to self-esteem and harm to relationships and lifestyle were taken into account.

Goals

Many authors refer to a goal hierarchy structure. This structure can take the form of higher level goals such as long term health, value system as well as lower level goals, such as everyday consumption intentions and benefits sought from consumption (Huffman et al 2000). Other authors refer to goals as focal or terminal goals and subordinate goals (Bagozzi &Dholakia 1999). In terms of this research a higher level goal or terminal goal would be to achieve longer life through prevention of further

bowel disease. The action and implementation of one of the subordinate goals would be to eat a healthy diet daily.

Secondary Appraisal

Secondary appraisal follows on from primary appraisal and is the evaluation of actions that can be carried out to prevent further illness or discomfort (Folkman et al, 1986). Prior knowledge of specific features concerning the behaviour change could be helpful in dealing with the planning of change (Huffman & Houston 1993). In terms of this research secondary appraisal involved looking at dietary changes and lifestyle changes to sustain a healthy bowel. Secondary appraisal will lead to the forming of coping strategies (Folkman et al, 1986). The coping strategies are helping strategies towards change or distancing strategies to avoid the issue of change.

Past Behaviour

Past behaviour has been found to predict intentions (Perugini & Bagozzi, 2001). It was defined as a part of the informational input necessary in the decision to act (Ajzen & Madden, 1986). It concerned prior dietary behaviour changes and the perceived behavioural control in sustaining those changes (Ajzen, 1991). Other authors incorporated the construct of past behaviour (Bagozzi & Kimmel 1995). The construct was split into frequency and recency of past behaviour. Both of these might affect an action. Frequency could affect intention and future behaviours, (Perugini & Bagozzi, 2001). Within this research past behaviour signified the previous attempts at changing dietary habits because of health. The significance was the previous success or failure in maintaining the dietary changes and the effect this had on the decision to change the bowel diet.

Volition

Volition is defined as – the will to act. Action requires volition to be present between the cognitive and motivational processes and the decision to pursue a goal (Bagozzi, 1993). Three appraisals take place in the act of volition which involve specific self-efficacies, instrumental beliefs that the means that might lead to the goal. The means to the goal are evaluated in terms of pleasure or discomfort involved. Then the act of trying follows on from this. (Bagozzi, 1993)

In terms of this research volition is the power behind the desire or wanting to change the bowel diet. That is how hard the participants in this research are willing to try

(Ajzen 1991). This volitive desire was formed with the commitment to change the bowel diet. Factors such as the primary and secondary appraisals (Folkman et al, 1986), self-efficacy (Bandura 1977), trying (Bagozzi & Warshaw, 1990), and coping (Folkman et al, 1986) are built into an effort or plan with volition in the pursuit of the goals of maintaining the bowel diet.

Emotion

According to Coleman (2003), emotions are defined within psychology as "any short term evaluative, affective, intentional, psychological state including happiness, sadness, disgust and other inner feelings". Emotions apply to the feelings of the participants after the test (fear) or when they relapse from a change of behaviour (guilt, disgust).

Self-Efficacy

Self-efficacy is defined as the beliefs people have that they can attain the goals they set for themselves (Bandura 1991). The more capable people judge themselves to be the higher the goals they set themselves and the more firmly committed they remain to them. Other authors have also included self-efficacy as an important factor in goal-directed behaviour. In terms of this research self-efficacy was required as a factor in behaviour change. Many authors have linked self-efficacy as a factor in committing to and making a change (Bandura, 1977, 1982, Prochaska & Di Clemente, 1982, Bandura 1991 Bagozzi, 1992). Self-efficacy linked to outcome beliefs and also to self-regulation and pro-active control. Within this research self-efficacy was linked to the decision to make changes in bowel diet and to the strong commitment sustained by participants maintaining changes.

Coping

Coping is defined as cognitive and behavioural efforts to manage specific external/internal factors (Lazarus & Folkman, 1984a). Some of the coping strategies referred to by these authors are relevant such as problem focused coping, emotion focused coping and seeking social support (Folkman et al, 1986). Two emotion focused strategies applied to those participants who had not made changes to their bowel diet.

Motivation

Motivation is defined by Coleman (2003) as "a driving force or forces responsible for the initiation, persistence, direction and vigour of goal-directed behaviour.

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1 Introduction and Background to the thesis

1.1 Introduction and statement of the problem

This thesis explores the behavioural change approaches adopted by a group of people after a stimulus of a test for cancer and the factors which affect their ability to maintain behaviour change. The study takes an interpretive stance in exploring dietary behaviour change and maintenance. An interpretive approach involves understanding how and why people make and maintain behaviour changes within the social context in which the change happened (Hudson & Ozanne, 2001). The present work utilises social marketing as a marketing context and concludes that more studies are required within social marketing that adopt different methodological perspectives (Andreasen, 2003; Weinreich, 1996). Some social marketing researchers have begun to introduce a more interpretive (qualitative) approach (Kirby et al, 1995; Stead et al, 2001; Hastings & Saren, 2003). Behaviour change studies have traditionally adopted positivist methodological approaches when studying high involvement changes such as diet (Glanz , 1997; Brug et al, 1997).This study demonstrates that using interpretive methodological approaches the experiences of people making and maintaining change can be understood more fully (Carson et al, 2001).

Using interpretive techniques the stimulus of behaviour change and the experiences of people making and maintaining a dietary behaviour change were explained using theoretical processes from goal directed behaviour theories (Bagozzi & Warshaw 1990, Bagozzi, 1992) and theories of coping (Lazarus, 1991; Folkman et al, 1986). The stages of change model was utilised as a holistic framework for the literature (Prochaska & Di Clemente, 1982). From the study of goal directed behaviour and behaviour change theories a gap in knowledge was discovered.

1.2 Where is the gap in knowledge

The gap in knowledge discovered concerns how people maintain change and the impact change has on their social environment and their well being. A number of social marketing and consumer behaviour studies have looked at behaviour change concerning dietary factors such as fat, fibre, fruit and vegetable intake, exercise and smoking and have taken various theoretical approaches, including goal-directed

behaviour (Bagozzi, 1992; Bagozzi et al, 1998; Bagozzi & Edwards, 2000); the stages of change approach (Prochaska & Di Clemente, 1992; Steptoe et al, 1996; Greene et al, 1999); the social influence approach (e.g. Glanz et al 1994, 1997); and the social cognition approach (adopted by Maibach 1993, 2003).

Despite the various strands of research, the gap in knowledge remains concerning peoples' experiences and the social contexts that causes them to respond differently to a significant stimulus of change. Many of the previous works have researched how people implement behaviour change but not how they continue their efforts to maintain change (Rothman, 2000). When examining the issue of change and maintenance of change it is important to consider what the stimulus of change is and what is involved in making behaviour change. The focus of the thesis concerns the way behaviour change links to how changes are maintained by people and the influence that sustaining change has on peoples' lifestyle, social environments and their physical and emotional well-being.

Social marketing campaigns have achieved success (Andreasen, 1995) where raising public awareness concerning a health risk and making initial changes to behaviour is required. Writers within social marketing rarely discuss methodological issues (Weinreich, 1996) but the continuing issues concerning what motivates behaviour change and maintenance of change have been raised in recent articles (Andreasen, 2003). The need to extract more meaning to social contexts such as cultural norms, peer influences and values is recognised but so far not many suggestions relating to interpretive techniques have been recommended (Hastings & Saren, 2003). By adopting an interpretive approach (Hogg et al, 1999; Hogg & Garrow, 2003) and social marketing perspective (Andreasen, 2002), the current study explores in depth key dimensions concerning the stimulus for behaviour change, and its links to the factors that influence maintenance of behaviour change. Qualitative techniques used within an interpretive approach such as in depth interviewing can provide extensive and more meaningful data that will provide detailed answers to research questions.

1.2.1 Why is this gap in knowledge an important problem?

The thesis has relevance and provides theoretical contributions within a number of areas of behaviour change such as obesity and healthy eating initiatives (Boden-

Albala & Sacco, 2000; Rhiner, 2004 (U.S.A.); http://www.channel4.com/life/microsites/J/jamies_school_dinners/index.html#), exercise strategies (Bagozzi & Edwards, 2000) and dietary health (Glanz, 1997; Brug et al, 1997). These types of behaviour change all involve possible impediments to change that may prevent maintenance of change. The new knowledge gained (from the thesis) is necessary to inform policy (Lovell & Cordeaux, 1999) in relation to behaviour change and maintenance of change, since maintaining health behaviour change is a key policy concern, for example, in relation to improvements in diet (WHO, 1998, Cancer Research UK, 2002; Brownell &Cohen, 1995); prevention of colorectal cancer (The Scottish Office, 1999; http://search.scotland.gov.uk/search/pages/search/basic.asp?QuerySubmit=true&Paging=true&Page=1&QueryText=Cancer+UK+Project+on+bowel+cancer); and reduction in cardiovascular disease (McGinnis and Meyers, 1995). Public sector organizations are concerned with promoting health communications effectively (Laing, 2003) and the aims of such organizations are to achieve behaviour change and ideally maintenance of change for their consumers. These organizations can achieve their aims by understanding their consumers and the social context within which they are required to make behaviour changes and to maintain change. The purposed of the study provides a contribution towards these key issues.

1.3 Purpose of the study

The purpose of the study is to develop understanding and explanations of the different ways in which people make and maintain behaviour changes when a significant personal stimulus (such as a test for bowel illness) is present.

The case study focus of minor bowel disease was used to develop an improved understanding of dietary behaviour change and maintenance. Diet is a tangible measure of change and is recommended for the prevention of further disease after the incidence of minor bowel disease. More specifically, the aim was to illuminate the range of experiences associated with dietary behaviour maintenance. To do this, a longitudinal interpretive approach was taken with a group of people over a two-year period who had all experienced a minor bowel health 'scare' (a potential stimulus for dietary behaviour change). The goal of the study was to improve understanding of the experiences of people making behaviour change and maintaining change (with

reference to making a change to diet) in order that long-term behaviour change or rehabilitation from disease can be effected. From the proposed purpose of the study research strategies were designed to aid with the understanding of the research problem.

1.3.1 Research Strategies

- Develop a conceptual framework drawn from literature to explain how people respond differently to a stimulus of change (Creswell, 1994).
- Categorise participants according to stage of change, and monitor this across the study period (Prochaska & Di Clemente, 1982)
- Using an interpretive approach (Hudson & Ozanne, 2001), for each individual, characterise the main factors impacting on their lives throughout the behaviour change period, based around:
    - Psychological factors (e.g. goals, emotions, attitudes, coping strategies)
    - Social (e.g. family, friends)
    - Environmental and situational factors (e.g. work life, access to information about diet and health, provision of healthful foods)
    - Influence of behaviour change on their lives, social environments and well-being.

From the proposed purpose of the study and the research strategies key research questions were developed for the thesis.

1.3.2 Key Research Questions

In developing an understanding of the experiences of people making and maintaining behaviour change (with a stimulus for change) the following research questions were posed.

- What are the key characteristics along which people's behaviour change and maintenance of change varies? (social factors, emotional/psychological responses, environmental and situational influences)
- What impact do efforts to sustain behaviour change have on peoples' social environments, lifestyle and physical/emotional well-being and what are factors that cause people to relapse and then recycle back to change?

- How are the people who make dietary change (with a stimulus of a minor bowel health scare) different from those who do not, or who have trouble making change?

The thesis makes a number of contributions to knowledge outlined in the following section.

1.4 Contribution to Knowledge

The thesis makes a contribution in a number of areas:

- Many studies within social marketing (Epstein, 1999; Black et al, 1994; Potter et al, 1990; Maibach, 2003) and health behaviour change (Glanz, 1997; Sorenson et al, 2002) have used an positivist (intervention based) approach. The thesis utilises an interpretive approach that involves studying a small number of people within a natural context using four theoretical processes from theory (Rosenstock, 1966; Bagozzi, 1992; Folkman et al, 1986) and three conceptualisations from theory and data. The three conceptualisations are developed by building a conceptual model of literature and using content and interpretive analysis. This brings more depth of understanding as to why and how people make behaviour changes and specifically what influences need to be moderated in the long term for the maintenance of change. The use of an interpretive approach is an important contribution to social marketing and behaviour change as according to Andreasen (2003) more theoretical work using a naturalistic context is required within these subject areas. Studying the consumer within a natural context helps with the understanding of how the behaviour changes will fit into their lives (Patton, 1990; Hunt & Martin, 1988). It is important to understand what the benefits of behaviour change will be in the long-term as a person begins a behaviour change strategy. The cost of giving up eating certain foods and not taking part in problem activities (drinking alcohol) might be difficult but the reward is the perceived long term benefit (Rothman, 2000). The social marketer needs to understand the customer and what the benefits of change are (Andreasen, 2003).

- Intervention based studies using mass marketing promotion methods utilise persuasive techniques to convince people to change their behaviour (Kotler & Andreasen, 1987). Such a communications approach will raise awareness concerning problem behaviour but may not meet customer long-term needs in changing the behaviour and maintaining the change (Andreasen, 2003). It is more important to fully understand what is required for behaviour change and maintenance of change (Rothman, 2000). Using an interpretive stance will create an understanding of what influences behaviour change and how social environments can be controlled so that behaviour can be maintained (Hudson & Ozanne, 2001). The meaning of the experience of behaviour change described in detail by an individual in an interview is an essential tool in developing a better understanding of behaviour change (Moustakas, 1994). Taking an interpretive stance enables the researcher to get closer to the experiences of the people. As changing diet is long-term behaviour, taking a longitudinal approach with phenomenological methodological approaches enables the process of change and maintaining change to be understood as the processes evolve (Moustakas, 1994).
- From the longitudinal the study (panel study concerning the same participants throughout the study), three conceptualisations of behaviour change were considered to explain how people make changes and potentially maintain the changes (after a minor bowel disease). The conceptualisations are important tools that could be utilised in research on other studies of behaviour change. A new model of maintenance of change was developed from the three conceptualisations in the thesis. As the behaviour change process is affected by the social context of the people making, maintaining behaviour change the various facilitating and impeding influences to change could be understood in depth. (Becker, 1974; Huffman & Houston, 1993; Bagozzi, 1992; Lazarus, 1991; Folkman et al, 1986; Cooper, 1998).
- The thesis develops the work of Prochaska & Di Clemente (1982) beyond the scope of behaviour change and utilises the categorisation of stages of change (Curry et al, 1992) to understand what happens when people manage to maintain change and how it affects them (Rothman, 2000). The work of

Bagozzi (1992, 1993) developed the idea of trying to change being more than the behaviour change itself but a sustaining of change. The present work builds on the idea of trying and using interpretive techniques studies maintenance of change in more depth and outlines the differences between making a change and maintaining it (Bagozzi & Warshaw, 1990).

- The experience of the stress of the stimulus of change with a diagnostic test demonstrated how health beliefs (Becker, 1974) and knowledge of the link between diet and illness affect behaviour change and maintenance of change (Huffman & Houston, 1993). The experiences of making and maintaining changes are linked to making appraisals and coping with change (Lazarus, 1991; Folkman et al, 1986). The importance of setting goals (Huffman et al, 2000) and having strong beliefs in the achievement of change are explored (Bandura, 1977a; Bagozzi, 1992). Finally, environmental influences from work (Cooper, 1998) and home (Fishbein & Ajzen, 1980; Bagozzi, 1992) are considered and how participants cope with these influences in trying to maintain change (Pearlin, 1989).
- The study chose a focus of minor illness and rehabilitation through diet. The rationale for the choosing of minor bowel disease as a case study is outlined in the following section.

1.5 Possible Case Studies

The choice of a case study of illness was selected using the reasoning that change of diet would help in the rehabilitation from the disease and that there was sufficient evidence that diet was an underlying factor with the symptoms of the disease. If these two factors were present the illness would be suitable for a case study and behaviour change would be beneficial.

1.5.1 Minor Bowel Disease Chosen as a Case Study for Thesis

Irritable bowel syndrome (IBS) is a minor inflammation of the bowel. The condition can vary from being severe with poor quality of life and psychosocial distress to being a minor problem. IBS has been linked to seasonal disorder and depression (Talley et al, 1995). Other effects of the disease are insomnia and lost time from work (Luscombe, 2000; Hahn et al, 1997; Drossman, 1999). Irritable bowel syndrome is diagnosed at general practice level and referral for a diagnostic test for

colorectal cancer is a common procedure (Beck & Hurwitz, 1992). The majority of the participants (thirty-three) within the study were suffering from IBS.

1.5.2 Haemorrhoids

Haemorrhoids are painful swellings in the anus. The symptoms are bleeding after a bowel movement pain and itching. The symptoms are similar to those of other bowel diseases including colorectal cancer and people are sometimes referred for a diagnostic test for cancer as a precaution. Two of the participants within the study were suffering from this recurring minor bowel condition.

1.5.3 Diverticulitis

Five of the participants were suffering from diverticulitis, which is a minor bowel disease involving inflammation of small pouches in the wall of the colon (Steadman, 1993). The disease presents similar symptoms to IBS.

Illustrated below is Table 1.5-1 illustrating the minor bowel diseases, which are considered in the study:

Minor Bowel Diseases	Definitions	Symptoms	Effects on general health
Irritable Bowel Syndrome (IBS)	"a functional disorder of the lower intestina causing a wide range of symptoms" (Beck & Hurwitz, 1992: 32)	"Abdominal pain and/or distension and altered bowel habit" (Ibid, 1992) "varying in severity (Lea & Whorwell, 2003)	Negatively affects general health, "vitality, social functioning, bodily pain, sleep and associated with lost time from work" (Luscombe, 2000)
Haemorrhoids	"veins likely to bleed. cause painful swelling of the anus" (Stedman, 2003	"pain, burning feeling or itchiness in the anus and bleeding after a bowel movement" (Bayer Healthcare, 2001	Pain and discomfort but no severe symptoms can be controlled with ointment
Diverticulitis	"Inflamed pockets in the wall of the colon"(Stedman, 2003)	"Mild cramps, bloating and constipation"(N.D.D.I.C., 2004)	Similar effects to IBS

Figure 1.5-1 Factors in Maintenance of Behaviour Change

Protection from minor bowel disease and its symptoms is associated with diet and some of the relevant dietary factors are discussed. The dietary factors that positively effect minor bowel disease are outlined in the following section.

1.6 Dietary Factors for minor bowel disease

Certain dietary factors are important in the carrying out of behaviour changes with minor bowel disease. Many IBS sufferers attribute their symptoms to eating foods that caused adverse reactions (Zar et al, 2002). It has been discovered that management of diet can be achieved if foods that cause symptoms of IBS are identified (Alderman, 1999). In order to change to a bowel diet recommendations of diet (Floch and Narayan, 2002) are often required. Making dietary behaviour changes for the bowel can be difficult and some foods are rejected within the diet that can cause symptoms (Visser and Heitkemper, 2001). Visser and Heikemper (2001) conducted a study on women with irritable bowel syndrome. The women (aged 18-45 years) were interviewed and asked about adjustments to their diet because of IBS.

The conclusions were that the women used a process of trial and error. The women found this frustrating and decided that it was not worth the effort to find the foods that caused the symptoms. The poor therapeutic implications of this study are relevant to the thesis in relation to the reasons for the frustration concerning change of behaviour and their relationship with the social context of the women in the study. Education concerning diet for the bowel, exercise and stress management (Colwell et al, 1998) can reduce the symptoms of irritable bowel syndrome and help people to make behaviour changes and maintain them. Dietary recommendations for irritable bowel syndrome (Burden, 2001) included diets that eliminated large amounts of any one food within the diet and exclusion of foods that caused symptoms. The moderation of foods such as fibre and less caffeine is recommended for IBS (Dunlop and Spiller, 2001). Parisi et al (2002) agreed that high fibre diets derive benefits for patients with IBS in moderation.

Recommended dietary factors for haemorrhoids were high fibre foods, fruit and vegetables, pulses and fish. The other recommendation was to have regular meals and not to skip meals. Diet for diverticulitis (N.D.D.I.C., 2004) was recommended as increases in fibre, fruits vegetables and grains in the diet. The recommendations also included moderation in all types of foods and the exclusion of foods that caused the symptoms of pain and bloating (ibid, 2004). The dietary recommendations for the three minor bowel diseases were similar in the fact that regular meals were important, moderation of all foods and the identification of foods that caused symptoms.

1.7 Why minor bowel disease was chosen as a case study

The focus on minor bowel disease is central to the thesis as dietary factors are associated with rehabilitation from minor bowel disease and diet is a tangible example of change. Other reasons for the choice of minor bowel disease as an example for the present study are:

- Behaviour change will have an impact for participants with minor bowel disease even if they make relatively minor behaviour changes to diet and sustain the behaviour change; this will alleviate the symptoms of the disease and prevent the incidence of more serious illness

- The people who suffer from minor bowel disease have a good prognosis over the following two years of life (Oncology Sub-Committee on Ethics, Royal Infirmary of Edinburgh, June 1999 – Appendix One).
- The prognosis of the disease means that the participants are not as prone to extreme emotional responses as with other more serious diseases such as cancer.
- The study of people with minor bowel disease facilitates in the understanding of what rehabilitation and support is required in behaviour change and maintenance of change.
- Some of the background to the focus of the study (minor bowel disease) and its associated dietary factors have been discussed as part of the background to the present work. The introduction and context of the thesis are summarised in the conclusion below.

1.8 Conclusion

This chapter presented an introduction to the thesis with the purpose of the study, research strategies and research questions illustrated. The gap in knowledge concerning behaviour change and maintenance of change was examined (Bagozzi & Warshaw, 1990).The need for a more interpretive stance when studying behaviour change was demonstrated (Hudson & Ozanne, 2001). The contribution to knowledge was presented and justified linking to the research questions being posed (Prochaska & Di Clemente, 1982; Folkman et al, 1986). The focus of the study is minor bowel disease and the rationale behind the choice of the disease was presented with a demonstration of diet as a tangible measure of behaviour change. Specific dietary factors are involved in dietary behaviour change and the difficulty in identifying these factors and controlling diet over time is raised. The next Chapter (Two) critically analyses the literature for this thesis concerning the marketing context of social marketing and provides a perspective for the conceptual base of behaviour change and maintenance of change (Andreasen, 2003).

2 Literature Review – Social Marketing

2.1 Introduction

The focus of the thesis is behaviour change (Prochaska & Di Clemente, 1982) after a stimulus of change and specifically how behaviour change is maintained after the initial behaviour changes are implemented (Bagozzi & Warshaw, 1990). Within Chapter Two of the literature review chapter a marketing context is provided for the thesis with the main theoretical perspectives in social marketing (Andreasen, 1995). Following this behaviour change theories provide a conceptual base for the thesis in Chapter Three. The main focus of the theory within this chapter is the importance of behaviour change within social marketing (Andreasen, 1995). Previous works (Andreasen, 2003) on behaviour change within social marketing are developed further and introduce more theoretical underpinning for social marketing with goal directed theories (Bagozzi & Warshaw, 1990). Goal directed theory involves the continuous effort to make and maintain behaviour changes after the initial implementation of change (Bagozzi & Warshaw, 1990). Social marketing has taken maintenance of behaviour change into account with the stages of change model (Prochaska & Di Clemente, 1982). Research concerning the factors that affect the maintenance of change after implementation of change however have not been researched in any depth (Ajzen, 1991). This demonstrates that although behaviour change has been developed within social marketing more work is required to understand how behaviour changes such as diet are maintained over time (Andreasen, 2003). The review of social marketing literature includes concepts and processes such as voluntary exchange, consumer orientation, the social marketing mix and formative research (Baker, 1999) .The stages of change theory (Prochaska & Di Clemente, 1982) and social cognition models (Ajzen, 1991) are critically examined as a part of social marketing scholarship with particular emphasis on dietary behaviour change. Chapter Three reviews the literature concerning behaviour change (Prochaska & Di Clemente, 1982) and goal directed theory (Bagozzi & Warshaw, 1990). The following section concerns behaviour change theory within social marketing.

2.2 Social Marketing and Behaviour Change

Social marketing is chosen as a marketing subject area for the thesis as it utilises knowledge of models of behaviour change (Rosenstock, 1966; Bandura, 1977a;

Fishbein & Ajzen, 1980; McGuire, 1976; Wilkie, 1990; Prochaska & Di Clemente, 1982). This thesis concerns health behaviour change and draws upon social marketing as the fundamental nature of a social marketing problem is to enable people to change behaviour when social goals such as improving health for public policy is at stake (Lefebvre, 1992; Lovell & Cordeaux, 1999). The issues raised in this thesis link to the social initiatives and policies being carried out concerning healthy eating and bowel health (http://www.channel4.com/life/microsites/J/jamies_school_dinners/index.html#; http://search.scotland.gov.uk/search/pages/search/basic.asp?QuerySubmit=true&Paging=true&Page=1&QueryText=Cancer+UK+Project+on+bowel+cancer).

The knowledge gained by social marketers concerning behaviour change theory (Prochaska & Di Clemente, 1982) and the practical experience of working with people with health behaviour problems such as poor diet provides a strong basis for understanding how people change behaviour (Andreasen, 1995).

Social marketing problem solving concerns implementing small incremental changes such as changing to a healthy diet which builds towards achieving the long term goal of better health (ibid, 1995). The thesis examines the factors concerning a stimulus of change of behaviour, how change is maintained and the impact (social, physical and emotional) change has on the individual. To understand these issues behaviour change is examined within the participant's social context to gain an appreciation of the complex interpersonal interactions and constraints which are not always within the control of the individual (Backett, 1989). The reason that social marketing utilises behaviour change theory is that health behaviour change does not take place in a vacuum and other influences such as the social context and attitudes of the people making the behaviour change are taken into account (Prochaska & Di Clemente, 1982; Fishbein & Ajzen, 1980).

2.3 Social marketing processes and concepts

Historically the concept of social marketing was derived when Wiebe (1951) made the assertion that citizenship could be sold in the same way as a commodity such as soap. Social marketing began to have practical applications in the 1960's with family planning initiatives within third world countries (Harvey, 1997; Manoff, 1985). But it was later that social marketing was introduced by academic writers (Kotler &

Levy, 1969). Social marketing concerned the influencing of ideas and beliefs concerning social problems (Kotler & Zaltman, 1971) such as health education and immunization in developing countries (Andreasen, 1993; Baker, 1999). Contrary to Kotler & Zaltman's definition techniques to raise awareness using education campaigns are only effective in social marketing if behaviour change is achieved (Andreasen, 1993). Rothschild (1979) considered the problem of using marketing communication techniques within the non-profit sector. The issue with high-involvement decisions concerning social marketing, such as changing to a healthy diet, is that consumers are required to put more thought into the decision to change than they would do in buying a product in marketing (Warlop et al, 2000). There is a need for consumers to contemplate the health implications of behaviour change within the social context of their lives (Fishbein & Ajzen, 1980) and how to maintain the changes in the longer term (Andreasen, 1995). High involvement exchanges such as incorporating a healthy diet into daily life take time and the outcomes are important and beneficial for the person involved such as better health (Blackwell et al, 2001).

The broadening of the scope of marketing into social marketing is supported by many authors (Lazer, 1973, Laczniak et al 1979, Fine 1981). Supporters of social marketing believe that the principles and techniques used in marketing are beneficial when promoting social causes (Lacnziak et al, 1979; Mintz, 1989). Young (1989) discussed the benefits of social marketing in the use of scholarship from other disciplines such as psychology, sociology and anthropology. Glenane-Antoniadis et al, (2003) highlighted a similar point by discussing the fact that some social marketing researchers have taken a more "social and relational approach" using theories from the behavioural science and psychology subject areas. Within this thesis a behaviour change model (Prochaska & Di Clemente, 1982) is utilised within a social marketing structure to demonstrate how people make and maintain change. Some critics felt however that social marketing would threaten the identity of marketing (Luck, 1974; Bartels 1976). Marketing had its foundations in the subject of economics (Bartels, 1976; Luck, 1974) and the broadening of the subject area to include subjects from social science such as social responsibility and consumer behaviour transformed generic marketing into a vague and intangible discipline

which was alien to the business practitioner (Bartels, 1976). Marketing functions evolved to include product marketing, social, political and cultural marketing with different techniques applied to each category (ibid, 1976). The problems were exacerbated when social marketing was applied in health promotion campaigns as social marketing derived from a different background and subject discipline (Montazeri, 1997). For this reason social marketing was criticised as it could provide some communication tools to help raise awareness with health-related problem behaviours but could not provide a solution to them (ibid, 1997). There were also ethical dilemmas with social marketing involving the idea that social messages were being promoted using marketing techniques by the wealthy classes in society as a form of propaganda (Laczniak et al, 1979).

Maibach (2003) claimed that social marketing involved public communication with the underpinning of human behaviour and communication theories. The fact that the exchange of health behaviours involves high involvement decisions to make behaviour changes means that more understanding is needed as to how people manage the impediments in the process of maintaining change such as environmental influences and social marketing can provide that understanding (Rothschild, 1979; Andreasen, 2002). The future of social marketing lies in a focus on behaviour change theory (Andreasen, 2003) and in the context of the present work goal directed theory (Bagozzi & Warshaw, 1990) to understand how people make and maintain long-term health behaviour changes. Benefits are derived from social marketing exchanges when the experiences (psychosocial & environmental) of dietary behaviour change and maintaining change for participants are understood in a social context (Fishbein & Ajzen, 1980). Social marketing concerns voluntary behaviour change (Baker, 1999). The important point with an exchange is that the consumer should be able to perceive the benefits such as health or psychological well-being that are to be gained. The benefits must outweigh the costs of making the exchange if behaviour change is to take place (Maibach, 1993). Voluntary exchange and other theoretical aspects of social marketing are discussed in the next section.

2.4 The theoretical bases of social marketing

2.4.1 Voluntary Exchange

Richard Bagozzi's Model of Exchange (1978) is significant in terms of the work within the thesis. The message within the social marketing exchange (Bagozzi, 1978) concerning behaviour change must be credible and the individual needs to believe that the efforts involved in making and maintaining dietary behaviour changes will bring benefits such as better health after a change of diet (Kotler & Andreasen, 1987). It is also important that the poorer outcomes of an exchange such as exclusion from peer groups or deterioration in health are understood. A person will give up time, money and make dietary behaviour changes and in return they will receive better health, peace of mind and other psychological benefits (Hastings & Saren, 2003). The rewards may never be ideal for instance better health may come at the price of changing from foods that are desired to foods that are disliked.

The compromise that social marketing makes is to promise some tangible reward as an outcome of the exchange such as feeling healthy (Glenane-Antoniadis et al, 2003). Results can be measured in terms of reliability and performance such as feeling better after eating bran cereal daily within a diet. Symbolic exchange involves psychological factors and situations that are intangible for instance the responses of an individual's family when changes in diet are required. Emotional responses by significant others and the support that is given to the dietary behaviour change are key factors in a symbolic exchange (Hastings and Saren, 2003).

2.4.2 Consumer Orientation and Segmentation

The consumer's role within a voluntary exchange must be understood within the individual social context (Baker, 1999). Consumer orientation involves researching the experiences of the consumer throughout the social marketing processes, developments and campaign, to understand why they make decisions to implement and maintain behaviour changes (Lefebvre & Flora, 1988). By utilising consumer orientation social marketing target audiences are not segmented in the conventional way with variables such as locality, demographic information, attitudes, interests and opinions (ibid, 1988). By utilising consumer orientation it can be discovered that the sample group targeted may be unable to take part in a voluntary exchange.

Consumers may not make behaviour changes because of lack of finance, mobility or

lack of knowledge concerning the behaviour (Hastings and Saren 2003). The audience may be difficult to approach (Lefebvre & Flora, 1988) as they may not like the product offered such as eating a diet to help with bowel disease (Rothschild, 1979). The message needs to be tailored to meet the differing needs of each of the targeted audiences using segmentation techniques (Lefebvre & Flora, 1988).

It is important to understand the different goals that people set when segmenting a target audience and trying to understand their concerns (Bagozzi & Warshaw, 1990). The goal structures can be short term for example eating a healthy diet on a daily basis or longer-term goals to achieve better long-term health and lifestyle (Huffman et al, 2000). The characteristics of the segmented groups are tailored with the knowledge from consumer orientation to relate to the behaviour change stage the individual is going through. The stages of change are pre-contemplation, contemplation, preparation, action and maintenance (Prochaska & Di Clemente, 1992). When designing a message for a voluntary exchange the amount of past experience, knowledge of the behaviour, intention to change and perceived belief in the achievement of the outcome of the exchange must be taken into account (Lefebvre and Flora, 1988). Related to the subject of consumer orientation is the strategy with social marketing of formative research in the following section.

It is necessary for social marketers to spend time listening to the consumers before the social marketing strategy is designed (Andreasen, 1995) and this is linked to the strategy of consumer orientation and is known as formative research (Lefebvre & Flora, 1988). The social marketer's plan is to understand the consumer's perceptions, beliefs and motivations concerning the targeted behaviour. The key philosophy in social marketing is based on learning about the consumer and formulating plans based on the knowledge of the consumer (Epstein, 1999). In an intervention involving the taking of drugs with a target group of 9-10 year olds qualitative research was implemented at an early stage in the process. The research was carried out in the formative stage of the social marketing campaign to discover the perceptions, beliefs and motivations of the 9-10 year olds concerning their lives at school (ibid, 1999). It was discovered that fears of being bullied and fears of moving to a bigger school were amongst the concerns of the target group. In the context of dietary change the perceptions and beliefs concerning the changing of diet would be

essential information for the social marketer. Formative research is an important tool in formulating marketing tools such as the social marketing mix covered in the next section.

2.4.3 Social Marketing Mix

The original marketing mix was derived from the economic theory, which focused on product and price as the important factors (Baker, 1999). The four P's marketing mix with promotion and distribution added was developed as a set of marketing tools employed as strategies to achieve objectives within a marketing plan (Borden, 1964). The social marketing mix was adapted from the original four P's (ibid, 1996). The social marketing product (Tanguay, 1989) comprises of a product such as a diet, which is appropriate for better health as a short-term outcome and the benefits of the product of better health and feeling better as a long-term outcome. The price of changing to a particular social behaviour or product involves different sacrifices for each person within their social context such as giving up activities like eating in fast food restaurants with friends (Baker, 1999). The perception of the price of behaviour change evolves as an individual makes the decision to change their behaviour and at the implementation of change the price is acceptable (Peattie and Peattie, 2003). Changes involving price are made for example when taking up exercise instead of eating snacks while watching television and maintaining the behaviour over time (Prochaska and Di Clemente, 1983).

Place was originally defined within the social marketing mix as distribution channels such as media, mail or leaflets directed to the consumer who wishes to take part in a voluntary exchange (Kotler & Zaltman, 1971). There are tangible elements with social marketing distribution channels when products such as fresh fruit or condoms are available as part of the distribution strategy (Baker, 1999). Social marketing distribution involves costs of labour, timing, access and convenience such as with attendance at dietician sessions (Kotler & Roberto, 1989). As with generic marketing distribution channels intermediaries such as dieticians and health professionals are part of the process (Baker, 1999). The location for dietary behaviour change distribution might be a location for giving out information within an out-patient clinic or G.P. surgery. It is important that the distribution channels are credible sources (Hastings & Haywood, 1991). Some locations are difficult places to

communicate information, as messages might not be accepted if the channel of distribution is too formal (government policy communications on health behaviours). Variety in promotion is an important issue for social marketers and the delivery of communications is adapted to meet the needs and wants of the target consumer (Andreasen, 1994). Promotion in social marketing is more extensive than advertising and involves well organised interactions with consumers (Peattie and Peattie 2003). For example in the present context complex health dietary messages communicated via mass media could be followed up by explanatory leaflets and information sessions over a longer period of time.

2.4.4 The adoption of the social marketing product

Social products are often intangible and are made up of ideas that involve a belief, attitude or value. For example a belief would be that an individual's health could be improved by change of diet (Kotler and Roberto, 1989). Relevant social products are acts such as undertaking a diet, which involves continuing behaviour changes (Bagozzi, 1992).The Adoption Process Model by Ray (1982) concerns three processes concerning the adoption of social products. The first process is the "do-feel-learn" adoption process, which involves a person trying changes in dietary behaviour. When the results of the change of diet are successful the individual's attitude to diet are positive and they continue to maintain the dietary changes. The "learn do feel" adoption process has been used when many messages concerning the social product have been communicated in the "learn" stage such as with malnutrition campaigns in developing countries (Kotler & Roberto, 1989). The attitudes to the change of behaviour do not happen until after the "do" stage and only then are the benefits seen to be worthwhile.

With reference to the thesis the first and second adoption processes do not involve knowledge of why the social product is beneficial other than the stimulus of better health. The "learn-feel-do" adoption process is the most appropriate adoption process in the present context as it occurs when adopters are highly involved in the desired objective and they understand that the behaviour changes will be beneficial (ibid, 1982). Some knowledge of the appropriate healthy diet is required for a change of behaviour to achieve success with behaviour changes (Huffman & Houston, 1993). The "feel do" aspects of adoption are important for the individual making and

maintaining changes after the knowledge has been gained (Ray, 1982). The acceptance of a product such as a diet does not happen until the potential consumer has knowledge of and forms attitudes to the diet by experiencing the effects of a healthy diet (Kotler & Roberto, 1989). The important adoption process for the present work is the 'feel' process which happens during the acceptance of the social product initially but more importantly as a contribution of the present work during the making and maintaining of behaviour changes (Ray, 1982; Bagozzi, 1992). The knowledge gained in the "learn" stage of the adoption process is important if changes are to be maintained (Kotler & Roberto, 1989).

2.5 Behaviour Change theory and social marketing

Behaviour change within social marketing incorporates not just individual behaviour change but also behaviour change amongst policy makers, corporations and government (Andreasen, 1995). Andreasen (2002) discussed other contributors to change such as the media, and potential organisational partners in social policy such as private organisations.

The behaviour change decisions that concern social marketers are high involvement behaviour changes such as those concerning complex issues like physical health (Blackwell et al., 2001). High involvement decisions (Celsi & Olson, 1988) require cognitive processes, research and emotional evaluation (Petty et al., 1984).

Social marketers have discovered that people make high involvement behaviour changes by using a number of short term steps or stages (Maibach & Cotton, 1995). By making the steps part of their habitual eating behaviour such as including fruit and vegetables in their daily diet an individual moves slowly toward the goal of changing to a healthy diet (Andreasen, 1995). Within generic marketing the linear stage concept was introduced as a hierarchical model of consumer decision making when an individual was choosing to buy a product (McGuire, 1976). Wilkie (1990) adapted Roger's (1990) Innovation Adoption Process Model and broadened the scope of the linear staged model within marketing communications to include maintenance (product loyalty) but the communication approach was too limited for the scope of social marketing where behaviour change concerns more factors than communicating with the target audience (Andreasen, 1995). Social marketers chose to utilise the stages conceptualisation from social science with Prochaska & Di

Clemente's (1982) Trantheoretical model as it focused on the stages of behaviour change.

2.5.1 Stages of Change

Prochaska & Di Clemente's (1982) model is suitable for researching difficult and time consuming decisions concerning for example dietary behaviour change (Kotler & Andreasen, 1991). The stages of change used by social marketers are pre-contemplation, contemplation, preparation, action and maintenance. The Stages of Change model (Prochaska & Di Clemente, 1982) is reviewed in part two of this chapter. Pre-contemplation is the stage where the consumer has not considered or does not want to consider the problem behaviour such as poor diet. Within pre-contemplation stage social marketing campaigns concern introducing knowledge by raising awareness of the problem behaviour (Andreasen, 1995). Social marketers take a different approach from educators who distribute information and introduce knowledge. Social marketers follow up the outcome of the awareness campaigns in pre-contemplation stage to confirm that the issue with the problem behaviour has been understood, as this knowledge can be the initiation of an individual's behaviour change (Andreasen, 1995).

Contemplation stage of change is where the consumer is considering a behaviour change and is provided with motivation by the social marketer to make changes. Suggestions are put forward such as healthy options for eating or daily allowances for exercise. Preparation stage of change is where the decision to change has been made and the consumer is beginning to make changes. The social marketer helps with campaigns of support and planning at preparation stage of change. Action stage of change is where changes are implemented and social marketers reinforce messages concerning change (Andreasen, 2003). Complex behaviour changes such as change in diet are difficult to achieve over time and social marketers recommend a slow approach to change in action stage (Andreasen, 1995). It is important that an individual has control over the changes and the social marketer defines the process of gradual control over change as shaping (ibid, 1995). Shaping involves taking changes step by step with short term plans being implemented first of all such as eating healthy foods four days out of seven per week.

Maintenance stage of change (Prochaska & Di Clemente, 1982) means that an individual is committed to behaviour change and has made a further commitment to maintain the behaviour change without relapse (Andreasen, 1995). Reinforcement and reminders are required in maintenance stage in social marketing as consumers often have doubts concerning their thoughts about the decision to change. These questioning thoughts are known as cognitive dissonance (Brehm & Cohen, 1962) and confirmation is needed that the decision to change was the right one. For example reinforcement in dietary behaviour could be from family and social support or by the individual feeling healthier. Consumers make evaluations of the benefits of behaviour change when measuring satisfaction in maintenance stage (Andreasen, 1995). The social marketer is aware that there are influences and barriers such as the temptation to eat rich foods during dietary change that might prevent maintenance of change (Andreasen, 1995). Behaviour modification messages focusing on the rewards for continuing behaviour changes can be implemented during maintenance stage by social marketers (Kotler & Andreasen, 1991). Behaviour modification messages (Andreasen, 1995) are reinforcement communications in social marketing to encourage continuing behaviour change. People will continue with behaviour changes that are perceived as enjoyable or rewarding such as the benefit of a diet that results in better health without painful symptoms. The stages of change conceptualisation is used to segment the target audiences but the individual can only be moved through one stage at a time and the goal of long term behaviour change is a slow process (Andreasen, 1995).

2.5.2 Interventions and stages of change

Intervention techniques in social marketing involve behaviour change theories (Andreasen, 1995). Interventions have been set up within communities in workplaces, community centres and churches. Social marketing campaigns include high risk health behaviours such as poor diet (Glanz et al, 1994, Andreasen, 1995). Glanz et al (1994) carried out a study of diet and cancer (within the U.S.A.) concerning dietary factors and behaviour change in a sample of 17,121 employees in the Working Well Trial. The study was useful in illustrating how social marketing has been used to tackle dietary behaviour change and cancer prevention. Evidence was found that behavioural change interventions utilising the stages of change

construct (Prochaska & Di Clemente, 1982) can be effective in reducing fat intake and increasing fibre and fruit and vegetable intake amongst participants. The study linked dietary stages of change to psychosocial variables such as self-efficacy (Bandura, 1977a). It was found that psychosocial and environmental factors affect the stage of change for an individual (ibid, 1977a). Raising awareness and information concerning nutrition were recommended as strategies for pre-contemplation stage of change before behaviour change messages are introduced in the later stages of change (ibid, 1982). Future research was recommended in the study to incorporate tailored messages for each dietary stage of change (Prochaska & Di Clemente, 1982).

An early intervention (from the U.S.A.) using behaviour change theory (Prochaska & Di Clemente, 1982) to combat high blood pressure was:

The National High Blood Pressure Education Program *(*1972) behaviour change campaign was a lengthy campaign that spanned 15 years and was one of the success stories for social marketing in the U.S.A. In 1972 after extensive research had been carried out it was recognised by the National Heart, Lung and Blood Institute in the U.S.A. that there was a major problem with high blood pressure within the U.S.A. population and that the risk of heart and stroke illnesses was acute (Andreasen, 1995). In 1973 the campaign involved the objective of raising awareness of the risks of high blood pressure and informing people of the links between high blood pressures and serious illnesses such as heart disease and strokes.

The first campaign involved an estimated 23 million of the U.S. population but the definition of high blood pressure became more clearly defined during the 15 years of the campaign and the targeted group changed and increased to 60 million people (ibid, 1995). At the start of the campaign only 29 per cent of the U.S.A. population were aware of the risks of high blood pressure and 24 percent of the population made the link between HBP and other diseases. The results were successful and by 1983, 59 per cent of the population had knowledge of the risks of HBP and strokes and seventy one per cent knew the links between HBP and heart disease. Furthermore 92 per cent of people knew that there was no remedy for HBP other than a continuing plan of behaviour changes in diet and exercise.

By 1985 the targeted population had moved into contemplation stage of change (Prochaska & Di Clemente, 1982) and were considering what to do about the problem of HBP. The second phase of the project (1988-1991) had a different objective and introduced a campaign with changes in behaviour by controlling dietary intake and taking more exercise. The success of this stage of campaign resulted in 73 per cent of the population making changes in their dietary and exercise behaviour. Ninety five per cent of those with HBP cut salt and sodium from their diet, 89 per cent undertook slimming diets and 86 percent took up exercise (Rocella et al, 1986). After the two initial campaigns the aim more recently is to provide reinforcement messages and to concentrate on maintenance stage of change (Prochaska & Di Clemente, 1982). It was recognised that people have difficulty in maintaining behaviour changes such as changing diet for health and the campaign continued with maintenance of change campaigns throughout the 1990's with specific high risk groups in the U.S. being targeted (Andreasen, 1995).

The HBPEP campaign used a typical social marketing framework (Andreasen, 1995) and this was considered to be a contribution to its success:

- focus on behaviour by using techniques with stages of change such as raising awareness, information on how to change behaviour and reinforcement messages
  - ❑ use of a consumer orientation strategy
  - ❑ community campaigns rather than mass marketing
  - ❑ emphasis on behavioural change outcomes
  - ❑ understanding of social influences involved
  - ❑ making access available through distribution channels such as HBP checks in homes and shopping areas (Andreasen, 1995)

2.5.3 Social psychology theoretical links within social marketing

When an individual changes their behaviour they use cognitive processes such as perceptions, beliefs and attitudes and emotional processes such as motivation (Conner & Norman, 1998). The cognitive and motivational processes are understood through knowledge of social psychology literature. Social psychology theories are utilised as tools by social marketers to understand the internal thought processes and environmental influences within the social context of their target audience (ibid,

1998). Models such as the Health Belief Model (Rosenstock, 1966), Social Learning Theory (Bandura, 1977a), Theory of Reasoned Action (Fishbein & Ajzen, 1980) the Theory of Planned Behaviour (1991) are used by social marketers. The Theory of Trying (Bagozzi & Warshaw, 1990) which is goal directed theory has also been adopted as a relevant theory in behaviour change within social marketing (Andreasen, 2003). The first of the social psychology models, the health belief model is linked to social marketing in the following section.

The Health Belief Model (Rosenstock, 1966) has been applied to a broad range of health behaviours such as health promotions of diet exercise and health risk behaviours including diet and smoking (Conner & Norman, 1998). The health beliefs concerning the positive or negative consequences of the behaviour changes are contained within the model and are important factors in social marketing (Andreasen, 1995). The perceived benefits are the belief that dietary behaviour change will reduce the likelihood of illness and the barriers to behaviour change are the beliefs that the behaviour change will result for instance in psychological problems with loss of contact with peer groups. Communications concerning the benefits of change link to the cues to action within the Health Belief model (Rosenstock, 1966). Social marketers provide cues to action by raising awareness in the early stages of behaviour change in pre-contemplation stage of change (Prochaska & Di Clemente, 1982). When raising awareness the social marketer can provide knowledge concerning the perceived susceptibility to or severity of an illness (Rosenstock, 1966). When promoting behaviour change (Andreasen, 2003) social marketers are careful not to relate to any barriers to change such as the lack of acceptance of the behaviour changes by significant others when individuals are in contemplation stage of change (Prochaska & Di Clemente, 1982). The use of the Health Belief model helps social marketers to understand the attitudes, knowledge and intentions of individuals within a target group and how they carry out behaviour changes (Lefebvre et al, 1995; Andreasen, 2003). The Theory of Reasoned Action (TRA) and Theory of Planned Behaviour (TPB) (Fishbein & Ajzen, 1980; Ajzen & Fishbein, 1991) help social marketers to understand how an individual's socio-cultural environment can affect behaviour change (Lefebvre et al, 1995).

The social norms construct from the TRA (Fishbein & Ajzen, 1980) and the influence of geographic location, family work-mates and friends are important in understanding the experience of behaviour change and maintenance of change. Social support can act as facilitator or barrier to behaviour change and these influences are researched and taken into account by social marketers (Andreasen, 1995). Many of the studies using social norms and influences have related to social marketing such as studies on use of birth control (Baker, 1999). Hornik (1992) found that if the community social norm is to adopt behaviour changes then this action affects individual uptake of behaviour change. Perceived behavioural control in the Theory of Planned Behaviour (1991) involves the perception of control an individual will have over the behaviour changes (Ajzen, 1991). The social marketer needs to be aware of the perceived difficulties, for example in gaining acceptance for the consumption of a more healthy diet amongst peer groups or family. Research is carried out concerning such perceptions using consumer orientation strategies throughout the social marketing campaign (Andreasen, 1995). The two theories by Fishbein and Ajzen (1980, 1991) help the social marketer to derive meaning from interactions that individual's have with others (Lefebvre et al, 1995).

Kirby et al's study (1995) carried out three interventions funded by the National Cancer Institute with primary school children in the U.S. The objective was to increase fruit and vegetable intake in school children. The national objective was for an individual to consume five fruits and vegetables per day. Focus group work was undertaken with children, parents, teachers and school caterers in three regions. Environmental, personal and behavioural influences (Fishbein & Ajzen, 1980) were explored to examine differences and personal characteristics between regions. The results demonstrated that there were differences in consumption between socio-economic groups. The outcome was that middle to high socio-economic groups had a large variety of fruits and vegetables within their homes. The children within poorer SES groups perceived fruits and vegetables as "adult" foods and often were left to prepare their own meals mostly without considering the inclusion of fruit and vegetables. The results showed that there were differences in SES and social norms in intake of fruit and vegetables and it was recommended that social marketing campaigns should target the poorer SES where there was little awareness of fruit and

vegetables and their benefits within the diet (Kirby et al, 1995). Hayfield's (2005) ethnographic study of nursery children in the U.K. and the socialisation processes concerning food branding found that socio-economic status was a significant factor in the recognition of healthy foods such as fruit and vegetables and fast food brands. Self-efficacy is the belief that the behaviour changes carried out will lead to the achievement of the goal for example of better health (Bandura, 1977). Bandura's Social Learning Theory (1986) underpinned some social marketing interventions with the construct of self-efficacy (Glanz et al, 1994). Self-efficacy was supported as a factor in behaviour change in studies such as weight loss (Netemeyer, Burton & Johnston, 1991) problem drinking and exercising (Ajzen, 1991). Self-efficacy involves two thought processes which are beliefs about what behaviour changes to make (action) and the consequences of making the behaviour change (achieving a goal). Action efficacy according to Bagozzi & Warshaw (1990) concerns these two beliefs in performance of the behaviour changes such as eating a healthy diet (action) and the achievement of the consequences of eating the healthy diet (better health). The CANDI (Cancer and Diet Intervention) study by Potter et al (1990) utilised social marketing strategies as they provided a plan and management structure using consumer orientation and segmentation strategies. The model of Social Learning Theory (Bandura, 1977a) was utilised to understand the health behaviour beliefs in terms of whether dietary behaviour change was achievable within a specific social environment in a rural U.S. community (Potter et al, 1990). The campaign took the form of a large scale multi-community project. Focus groups and surveys were used in the formative stage of research and implementation involved mass media campaigns within grocery stores (labelling of foods) and home based education courses on eating patterns. The outcomes were to increase knowledge, change attitudes and change practices related to diet and risks of cancer. The developments within the campaign of using a prescribed eating pattern approach were of value but more evidence that the eating pattern would produce long-term dietary change was required to justify further larger scale interventions.

Bagozzi & Warshaw (1990) in the Theory of Trying made distinctions between the implementation of behaviour changes and the continuation of striving to change behaviour over time that happens after initial behaviour change. These developments

in theory are important influences for social marketing studies (Andreasen, 2003). Bagozzi and Warshaw (1990) demonstrated that behaviour change is a continuous process that is implemented after initial behaviour change and throughout maintenance stage of change and the continuing process will involve factors that will facilitate or prevent maintenance of change which is the focus of the thesis (ibid, 2003).

2.6 Summary of social marketing section

Social marketing provides a marketing context for the thesis within this chapter. The theoretical development of social marketing and its values and limitations have been discussed (Andreasen, 2002). Behaviour change theories, models from social psychology and goal directed theory are essential underpinnings within social marketing (Andreasen, 2003). Social marketing interventions have already been carried out using the stages of change conceptualisation (Prochaska & Di Clemente, 1982) and social cognition constructs such as health beliefs (Rosenstock, 1966), attitudes, social norms, perceived behaviour control (Ajzen, 1991) and self-efficacy (Bandura, 1977). Goal directed theories (Bagozzi & Warshaw, 1990) have indicated that there is more to develop within social marketing concerning the maintenance of change and the continuing experiences of people maintaining change within a social context (Andreasen, 2003).

The behaviour change and goal-directed theories form a basis of scholarship within the subject of social marketing (Andreasen, 1995). Relevant conceptualisations from the stages of change model (Prochaska & Di Clemente, 1982), the social cognition models (Rosenstock, 1966; Bandura, 1977a; Fishbein & Ajzen, 1980; Ajzen, 1991) and goal directed theories (Bagozzi & Warshaw, 1990) are developed beyond the present findings of social marketers concerning behaviour change and maintenance of change in Chapter Three. Chapter Three begins by presenting the conceptual framework for this thesis (Creswell, 1994).

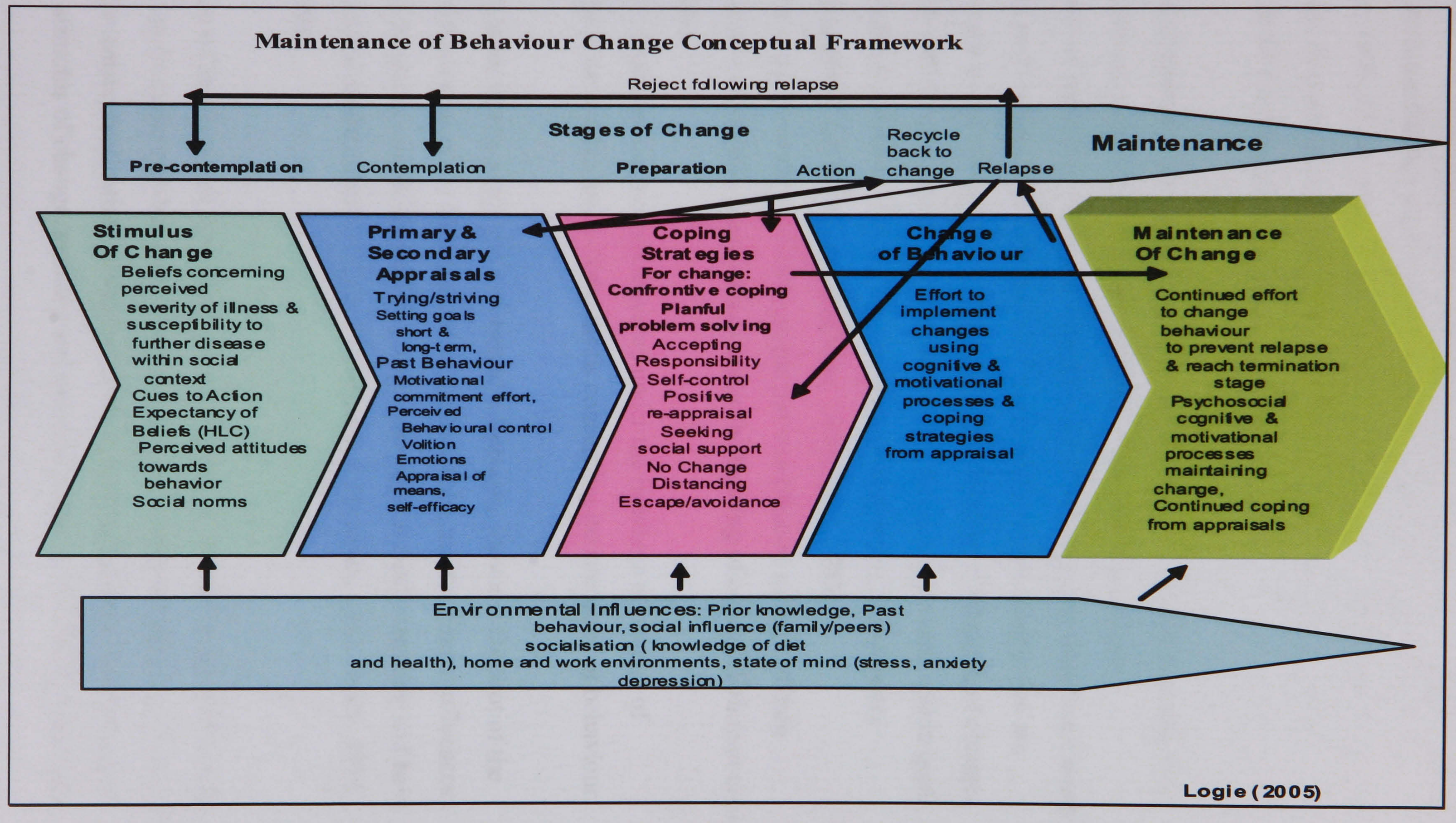
3 Literature Review - Behaviour Change

3.1 Introduction

The thesis concerns dietary behaviour change and maintenance in relation to dietary change when triggered by a serious bowel illness. The marketing context of social marketing has been reviewed within Chapter Two. Within Chapter Three it is necessary to perform a review of the relevant literature and it is appropriate to focus upon behaviour change with the stages of change model as it is established within social marketing (Prochaska & Di Clemente, 1982), the social cognition models (Fishbein & Ajzen, 1980), goal directed behaviour theory (Bagozzi & Warshaw, 1990) and coping (Folkman et al, 1986). The literature develops behaviour change concerning repeat behaviour which is vital in the maintenance of long term health and introduces more theoretical underpinning for social marketing (Andreasen, 2002). The relevant constructs from the literature are presented in the conceptual framework drawn from literature (Miles & Huberman, 1994). The relevant constructs from the literature are presented in the conceptual framework drawn from literature (Miles & Huberman, 1994). The conceptual framework is presented as an illustration of what happens after a stimulus of change occurs concerning a minor illness; how behaviour change follows on from the stimulus of change and what psychosocial factors link behaviour change to maintenance of change. The conceptual framework is illustrated as a complete diagram in the following section to explain how the framework was built (Creswell, 1994). A comprehensive description of the constructs within the conceptual framework that are reviewed in this chapter is presented in the section following the illustration of the total conceptual framework.

Figure 3.1-1 provides an illustration of the conceptual framework of literature.

Figure 3.1-1 : The Conceptual Framework



The following section outlines a comprehensive introduction to the conceptual model:

1/ The conceptual model commences with the holistic framework of stages of change which is a well-established model of behaviour change within social marketing (Andreasen, 1995; Glanz et al, 1994). The stages of change are displayed in the top section of the diagram underpinning the whole conceptual framework from Prochaska & Di Clemente's Transtheoretical Model (1982).

2/ The central section of the model beginning at the left side demonstrates the four theoretical processes covered in the second part of the literature review:

-the first section concerns the thoughts and attitudes people experience when they receive a stimulus of change. The social cognition models that are relevant to the thesis are reviewed under the heading of stimulus of change.

-The reflections concerning the stimulus of change are covered within goal-directed behaviour which is the section headed primary & secondary appraisals in the framework (Bagozzi, 1990, 1992, 1993).

-The coping strategies, which people put into place as a result of their response to the test, are reviewed under the heading of coping (Folkman et al, 1986).

-The final two sections are covered under the headings of change of behaviour and the focus of the thesis concerning maintenance of behaviour.

3/ The additional theme of the environmental influences, shown at the foot of the diagram are reviewed in the final section of the literature review. These influences from the participants' social context play a role throughout the framework and have an impact on the maintenance of change (Huffman & Houston, 1993; Ward, 1974; Cooper, 1998).

Each section of the literature review of behaviour change theories is presented with an illustration from the relevant part of the conceptual framework diagram (3.1-1). In summary the conceptualizations presented in the following sections concern stages of change, stimulus of change, primary and secondary appraisals, coping strategies

and environmental influences which build towards the conceptual framework of change of behaviour illustration in the following section (Prochaska & Di Clemente, 1992; Ajzen, 1991; Bagozzi, 1992) and maintenance of change (Prochaska et al, 1994; Rothman, 2000).

The first section provides a critical review the stages of change, which provides an underpinning for the goal-directed theories and introduces the central theme of maintenance of change (Prochaska & Di Clemente, 1982).

3.2 Stages of Change

3.2.1 Prochaska & Di Clemente's Transtheoretical Model (1982)

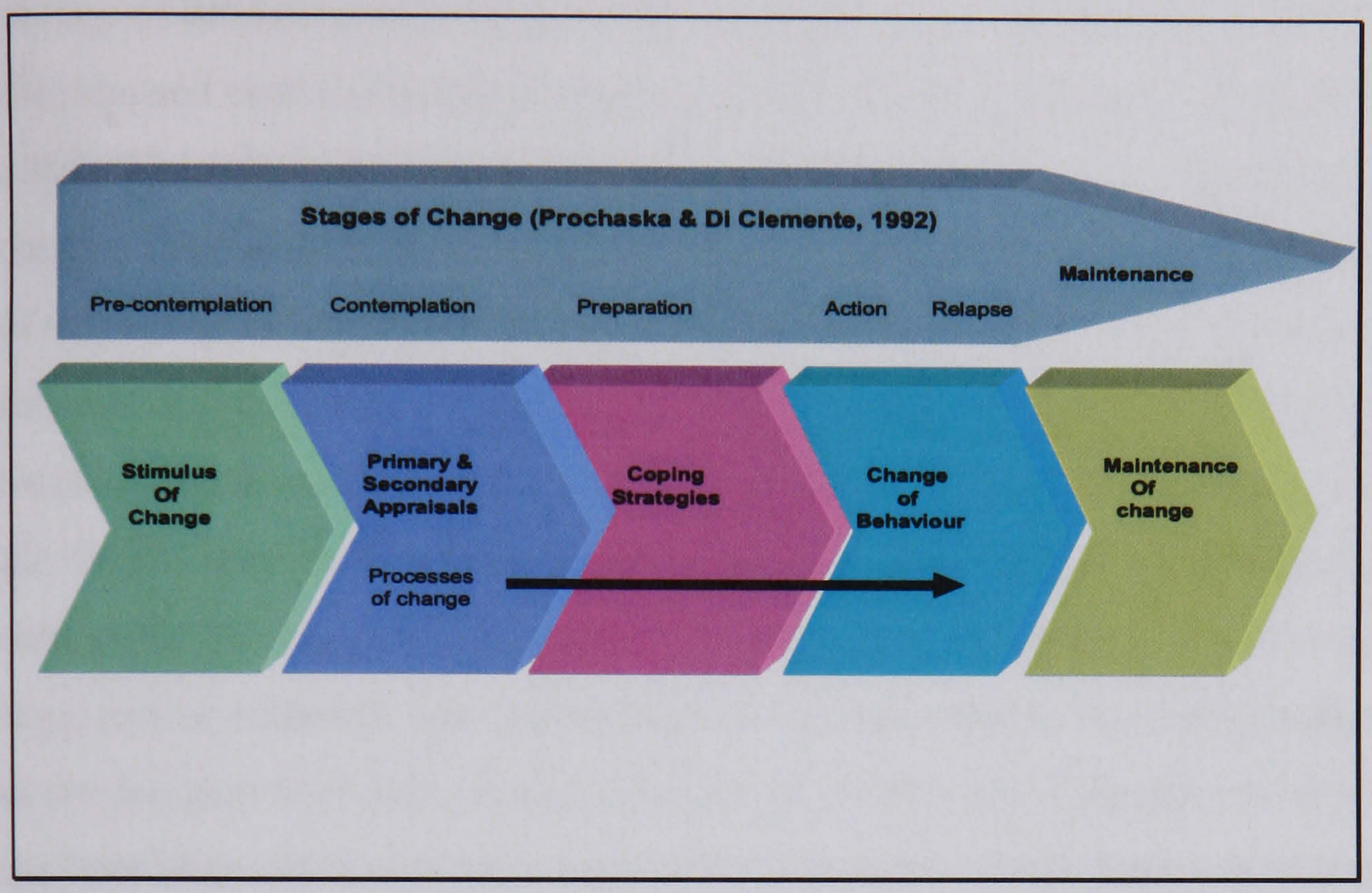
The transtheoretical model by Prochaska & Di Clemente (1982) is chosen because it has been a strong theoretical influence within the subject areas of health psychology and behaviour change (Greene et al 1999). The term transtheoretical implies that the model provides a comprehensive coverage of behaviour change theory than includes other explanations of behaviour change (Prochaska & Di Clemente, 1992). The research studies undertaken by Prochaska and Di Clemente have focused on specific subject areas of health behaviour change (Bunton, 1999). The previous published research studies investigated behaviour change in smoking, dietary behaviour, breast screening, drug use, sunscreen use and exercise to name a few examples (Prochaska & Di Clemente et al 1982, 1983, 1988, 1992, 1993,1994). The scope of the transtheoretical model includes the central constructs of the stages of change, self efficacy, decisional balance and the processes of change (Greene et al 1999). The five stages of change present a time framework to represent when an individual makes a behaviour change. The stages of change are pre-contemplation, contemplation, preparation, action and maintenance. The processes of change provide explanations as to how a person makes a behaviour change such as utilising family support or taking up other activities (Prochaska & Di Clemente, 1992).

The Transtheoretical model incorporates constructs to explain cognitive processes that link to behaviour change such as self efficacy, which concerns a person's belief that they are capable of carrying out behaviour changes and controlling actions that might inhibit change (Bandura, 1991: 257). Decisional balance is another cognitive

process that is included within the transtheoretical model. Decisional balance is the evaluation of the benefits of and barriers to change (Greene et al, 1999).

The figure 3.2-1 in the following section provides an illustration of the key constructs from the Transtheoretical Model (Prochaska & Di Clemente, 1982).

Figure 3.2-1: Constructs for Stages of Change



The five stages from Prochaska & Di Clemente's (1992) model and the termination stage (Prochaska et al, 1991) are outlined in the following section.

3.2.2 The Five Stages of Change

3.2.2.1 Pre-contemplation

Pre-contemplation denotes the stage of change where the person is not aware the problem behaviour. An individual in pre-contemplation stage of change could have no intention to change their behaviour as they have tried to change on several occasions and failed (Prochaska et al, 1994). In this situation the person does not intend to make any changes in the immediate future. A person might not be aware that the harmful aspects of their behaviour such as the times they eat an unhealthy diet prevail over the helpful times such as when they eat a healthy diet (Prochaska & Di Clemente, 1992). In order to facilitate progress in the cycle of change, people within pre-contemplation stage of change have to admit or accept responsibility for the behaviour problem. During a study concerning excessive dietary fat intake it was discovered that participants in pre-contemplation stage of change were not aware of

their excessive fat intake and did not think they had a problem (Greene et al, 1999). The goal with people in pre-contemplation stage is to persuade them to reflect on the difficulty with the behaviour (Prochaska et al, 1994).

3.2.2.2 Contemplation

Contemplation involves a deliberation concerning what is at stake concerning a change of behaviour according to Prochaska and Di Clemente (1992). Evaluation of the pros and cons of changing a person's behaviour will take place (Velicier et al, 1985). The individuals within this stage of change have not made the decision to change. Decisional balance concerns human motivation and relates to the probability of success or failure, the reasons for change and the strength of the desire or commitment to change. Greene et al (1999) concluded that Janis & Mann's model of Decisional Balance (1977) introduced the construct of decisional balance, which is the weighing up of the advantages of behaviour change against the disadvantages. At contemplation stage the pros have to outweigh the cons completely before action stage can be achieved. The gap between the positive factors and the negative factors in the decision to change becomes smaller as people move from pre-contemplation to the later stages of change (Prochaska & Di Clemente, 1992). Decisional balance facilitates change in the early stages of behaviour change (Greene et al, 1999).

Prochaska & Di Clemente discovered that people could remain in contemplation stage for up to two years (Di Clemente & Prochaska 1988; Prochaska & Di Clemente 1984). It was noted also by Steptoe et al (1996) that what someone might have to forfeit in lifestyle terms and how easy the changes would be to implement are important decision factors in contemplation stage. It is important within contemplation stage of change that individuals begin to carry out small changes towards a goal, for example of eating less fat, and decide that change is within their grasp (Greene et al, 1999).

Sporny & Contento (1995) in their study on dietary fat consumption noted that there were cues to action in contemplation stage of change. These cues were related to social modelling which was picking up knowledge of how to change by observing people who were already consuming low fat foods. These people could be family, friends or co-workers. In this way people could improve their knowledge concerning low fat foods. Within another study on fat and fibre intake in the diet in Holland

(Van Wechem et al, 1997) social influence was found to be a result of observational learning. Cox et al (1998) found family influence and socialisation (the acquisition of skills, attitudes and knowledge that are relevant to the situation) are important factors in a study of barriers and incentives to change eating habits with fruit and vegetables.

3.2.2.3 Preparation

People in preparation stage of change are intending to change their behaviour in the near future and have already made some changes to their problem behaviour (Di Clemente et al, 1991). Sporny & Contento (1995) carried out a study using the stages of change construct and an association of psychosocial factors such as self-efficacy in 615 adults in New York. The study found that variables concerning psychological readiness such as self-efficacy to change increased between contemplation and action stages of change at preparation stage. Cues to action had taken place at contemplation stage and the "cons" of the behaviour change in terms of decisional balance diminished during preparation stage before action stage took place. In preparation stage participants were eating less food with fat content and more food containing fibre.

3.2.2.4 Action

Action stage of change according to Prochaska & Di Clemente (1992) is the stage of change where implementation of behaviour change takes place. Action stage involves effort in making changes of behaviour so that a pattern of behaviour is established (Ajzen, 1991). When an individual modifies their behaviour the changes are measured by the risks that remain to health after the changes have taken place, cutting the number of cigarettes smoked (Prochaska et al, 1994). Actual behaviour in action stage of change is difficult to predict with dietary behaviour (Steptoe et al, 1996). The recommended dietary guidelines for a healthy diet are documented within published research and guidelines by health professionals (Prochaska & Velicier, 1994). For example for a healthy diet it is recommended that five portions of fruit and vegetables should be consumed per day (U.I.C.C., 2002). Brug et al (1997) found in their study on dietary change concerning fruit and vegetable intake people who had reported in self-assessment questionnaires that they were in action stage of change had fruit and vegetable intakes that were lower than recommended guidelines. It was found that people often deceive themselves as how healthy their

diet is as part of social acceptability (ibid et al, 1997). The other reason for misclassification according to Brug et al (1997) is lack of awareness of risk behaviour in terms of dietary intake (Weinstein, 1988). The misclassification demonstrated the limitations of the stages of change approach and the need for more awareness on the definitions of healthy diet (Steptoe et al, 1996).

Behaviour in action stage of change is a descriptive term for intake of food and was found not to be as strong a predictor of change as cognitive (social norms) and motivational factors (Steptoe et al, 1996). Psychosocial cognitive factors such as attitudes (Fishbein & Ajzen, 1991) and self-efficacy (Bandura, 1977a) within a social context will have an influence on the amount of effort expended in making behaviour changes (Steptoe et al, 1996). Attitudes were found to be high when contemplating changes in consumption of fruits and vegetables but lower as action stage developed into maintenance stage and healthy food intake increased (Brug et al, 1997). Self-efficacy was found to be highest between preparation and action stage of change (ibid et al, 1997). In the context of a dietary change study by Sporny & Contento (1995) people in action stage demonstrated behaviour changes in food intake and were found to have high levels of self-efficacy which promotes the mental energy to make changes (ibid, 1995). Both cognitive and motivational processes were found to have importance in action stage of change (Steptoe et al, 1996). The aim during action stage of change (Greene et al, 1999) is avoidance of setbacks (relapse) and the effort of making the change needs to be well planned so that changes can be sustained into maintenance stage of change.

3.2.2.5 Maintenance

Maintenance is the stage of change when people work hard to continue behaviour changes and avoid set backs. During maintenance of change plans that have been made concerning changes that become part of the routine of peoples' lives and resolutions of change are reinforced (Prochaska & Di Clemente 1992). Within previous studies concerning risk reduction in cardio respiratory disease maintenance of change was focused upon as an important process in itself rather than the last stage of change (Wing, 2000). Many previous models in social cognition (Health Belief model 1977a, Theory of Reasoned Action, 1980) focused on the outcome of making a behaviour change and not on the continuing process of maintenance of behaviour

change. The Theory of Planned Behaviour Ajzen (1991) provided no explanation of how attitudes, motivational commitment and the support of subjective norms are retained over time as the behaviour is maintained. The only indication of continuing behaviour is with mention of the success of prior behaviour before change (Bagozzi & Warshaw, 1990) which may predict future maintenance (Rothman, 2000). Self-efficacy is claimed to be an essential factor in the maintenance of change from the studies by Glanz et al (1994) and Brug et al (1997). If people are successful in maintaining change then they might feel more positive in terms of the confidence to continue with the changes (Schwarzer, 1992). The making of appraisals using thought processes including self-efficacy and behavioural plans will help with the maintenance of change and prevent the occurrence of relapse (Marlatt & Gordon, 1985). Relapse can occur and prevention of relapse has been studied as part of maintenance of change (Marlatt & Gordon, 1985). Prochaska and Di Clemente (1992) believed that relapse was a continuous problem during maintenance of change but that eventually permanent change (termination) would occur. If relapse occurs new strategies for change adopted after relapse are not part of maintenance as the individual reverts to a new action stage of change (ibid, 1985).

The difference between action stage of change and maintenance stage is that maintenance stage begins at a period of six months after action stage and behaviour changes have been implemented (Prochaska & Di Clemente, 1992). As maintenance stage of change is a continuation of action stage people need to consider whether the outcomes they set in action stage are sufficiently beneficial to sustain in the longer term (Rothman, 2000). The degree of personal fulfilment with the outcomes is therefore important (ibid, 2000). Over time peoples' experiences with behaviour change may change as a response to changes in the environments around them (Leventhal & Cameron, 1987). No provision has been made for changes such as responses to the environment in maintenance stage in the behaviour change theories (Rothman, 2000). Assumptions have been made that more effort is required in action stage than in maintenance stage when behaviour changes are new and more effort is required (Prochaska & Di Clemente, 1992). Daley & Zuckoff (1999) considered that a person's beliefs concerning the problem behaviour, and the social context of the individual were important if long-term maintenance was to be achieved. The general

finding from various studies is that relationships with family or friends who contribute to the problem behaviour should be discouraged. In a case study on drug addiction it was found that discontinuance of friendships that encouraged drug use was beneficial to change (Granfield & Cloud, 1996). Strong relationships with family are important factors in recovery and maintenance of change from drug addiction and the support from family was found to be a strong factor in behaviour change (ibid, 1996) Support from family and friends was also found to be strong within a study on fat intake on 615 people for those in maintenance stage of change (Sporny & Contento, 1995). Strong support from family was found to be a factor in coping with behaviour change in another study concerning recovery from drug addiction after detoxification was carried out (Saunders, 1995).

Satisfaction and fulfilment of goals are indicators of success in behaviour change and this can be determined by positive emotions, ability to be more active and sharing in normal pursuits with other people (Ibid, 2000). In a study by Rothman & Jeffery (1998) women who lost weight and maintained the weight loss felt they had achieved more benefit than women who lost weight but did not maintain their weight losses. From the few studies to date in the area of maintenance of change recommendations are made that more work is needed specifically on this stage of change (Wing, 2000). Orleans (2000) suggested that future studies into behaviour change should consider the relationship between behaviour change and maintenance of change focusing on specific behaviours and using theories from interdisciplinary areas.

3.2.2.6 Termination Stage

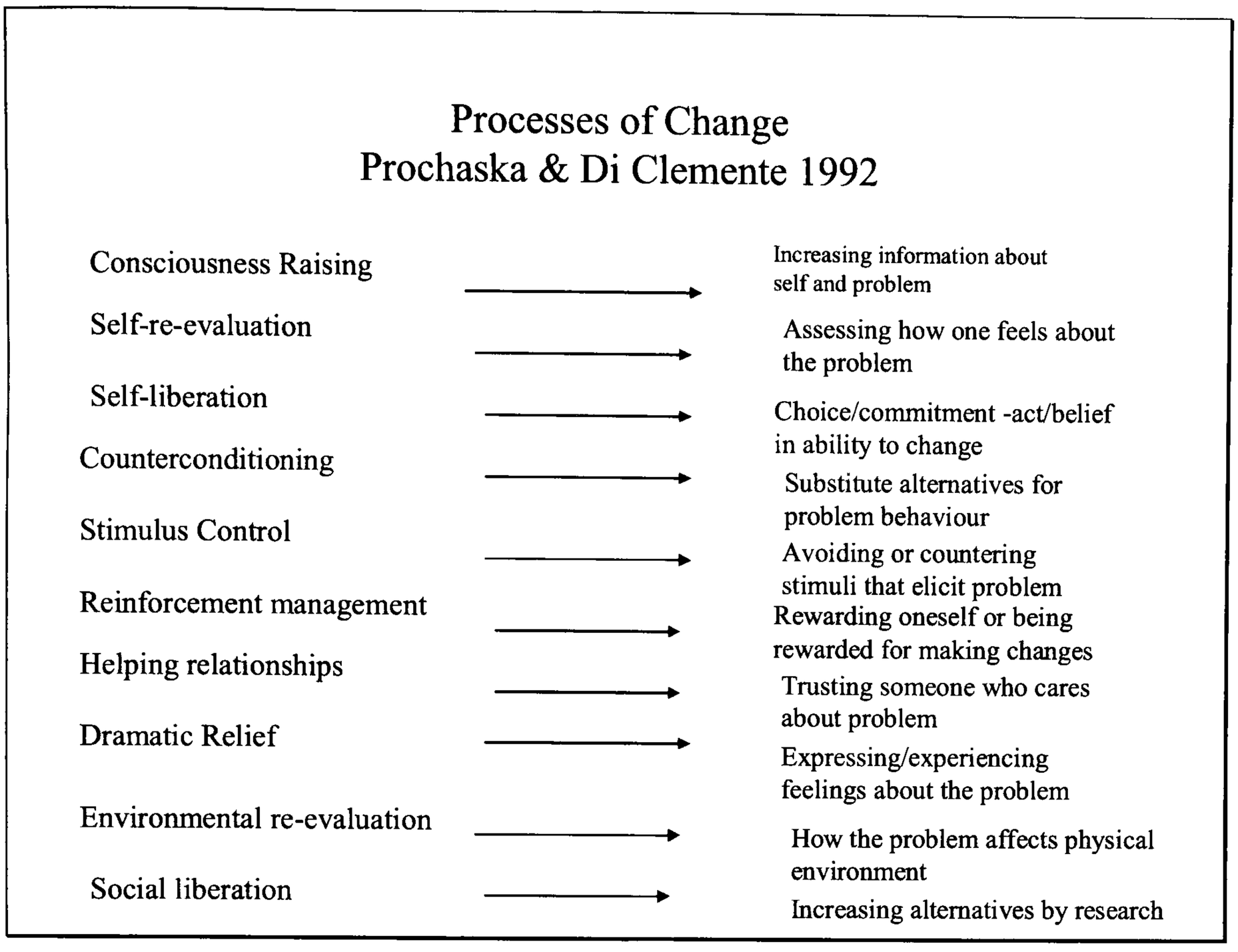
The ideal state with behaviour change is termination stage where there is 100% self-efficacy in maintaining change and no possibility of relapse from change (Prochaska et al, 1994). No negative emotion such as anger can cause regression to contemplation stage and the problem behaviour. Prochaska et al, (1994) did not emphasize termination stage of change as only 20 per cent of people with problem behaviours such as alcohol or smoking had reached termination.

3.2.3 The Processes of Change

The processes of change enable us to understand how people make behaviour changes. By integrating the processes of change with the time dimension of stages of change, a more comprehensive model of behaviour change may be developed

(Prochaska & Di Clemente, 1992). The processes of change enables the model to transfer from a tool to measure the long-term effort of behaviour change to a model that can provide the underpinning for communities on how people make behaviour changes in diet physical activity, and fat intake (Glanz, 1997, Brug et al , 1997). Figure 3.2-2 provides an illustration of the processes of change (Prochaska & Di Clemente, 1992).

Figure 3.2-2 Processes of Change



Verbal processes concern the information and education that is available with reference to a particular behaviour and how this information and education affects the individual and facilitates with change. Verbal processes are relevant in raising awareness and issues with the problem behaviour. Individuals who are aware of their problem behaviour can move from pre-contemplation to contemplation stage of change and sometimes into preparation stage of change (Prochaska & Di Clemente, 1982). The second processes are the commitment processes which concern examining how to overcome barriers in behaviour on a daily basis such as changing daily meals, taking exercise (short-term goals) and achieving better health (longer-term goal). Prochaska and Di Clemente (1982) described commitment as being part of the action process.

The third category of process is the behavioural process such as taking up alternative activities other than the unhealthy eating behaviour. Behavioural processes are more important after the commitment to change has taken place. The final processes are contingency management processes that link back to the plans made with the commitment processes and the processes such as helping relationships (Prochaska &

Di Clemente, 1983). Support from social norms (significant others) in maintaining behaviour changes are important factors with helping relationships (Brug et al, 1997). Behavioural processes and contingency processes are important in the context of maintaining a complex behaviour such as dietary change.

3.2.4 The Spiral Effect of Relapse

Figure 3.2-3 provides an illustration of the key constructs for relapse (Prochaska & Di Clemente, 1992)

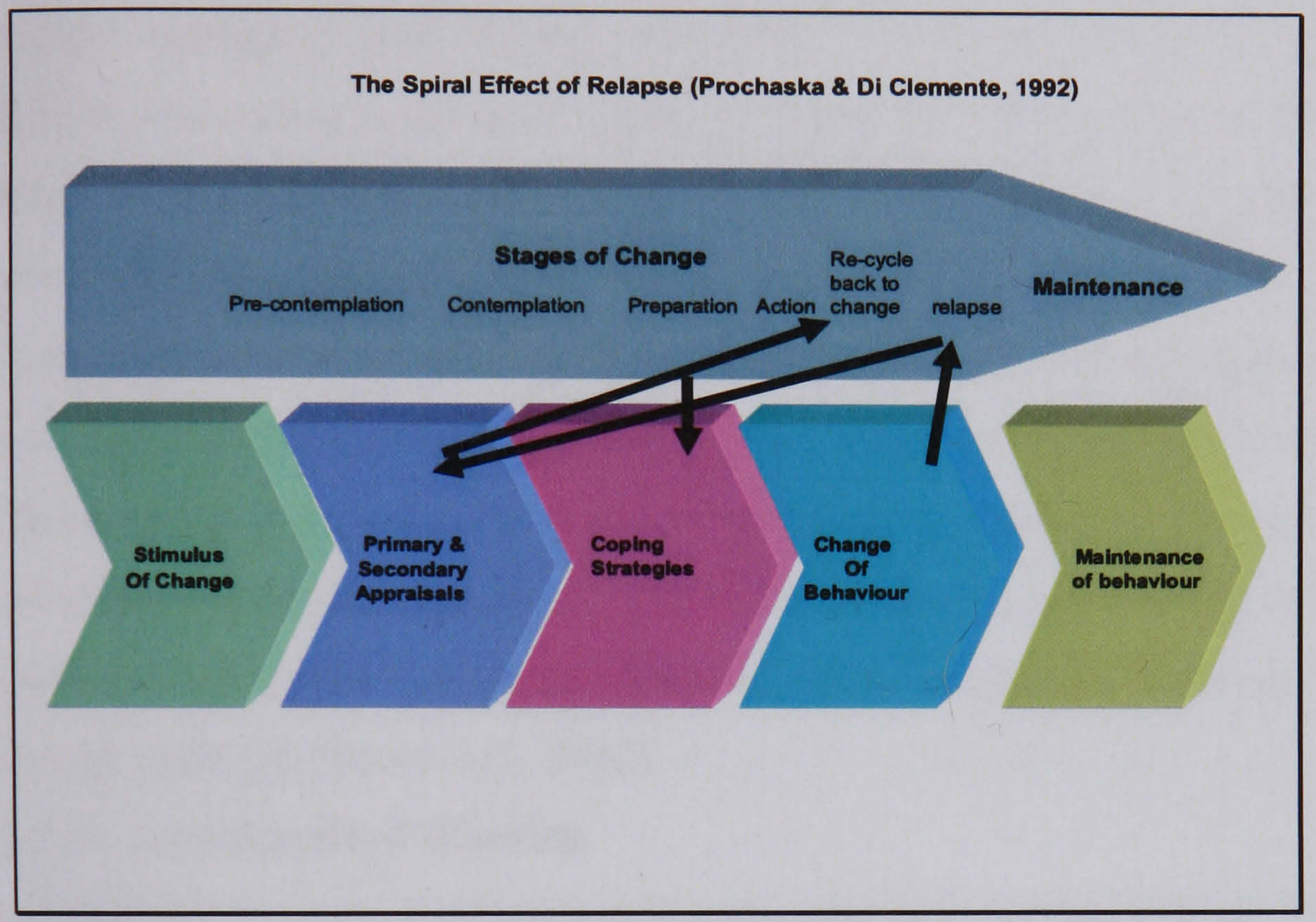


Figure 3.2-3: The Spiral Effect of Relapse

The trans-theoretical model was originally developed as a linear model and could be applied to self-initiated or professionally initiated behaviour change. The linear stages were introduced during a study in 1982 investigating cessation of smoking. The main criticism of the model (Bunton, 1999) was that it did not allow for movement back and forth between the stages of change. Therefore the introduction of a regression cycle of change means relapse is an important construct to consider. Relapse was originally known as the sixth stage of change but in 1994 Prochaska & Velicier defined it as a form of regression. People can progress through the stages of change but frequently they will relapse in their behaviour and regress back into a previous stage of change. (Prochaska & Di Clemente, 1994). According to Prochaska & Di Clemente (1992: 1104) "some relapsers feel like failures – embarrassed

ashamed and guilty". In their 1994 paper the authors showed that people could relapse to pre-contemplation stage but they also noted that many people go onto recycle back into action stage of change.

Marlatt & Gordon (1985) introduced a model of the relapse process in an attempt to understand maintenance of change. Relapse involves urges and cravings for the behaviour the individual has given up by making behaviour changes. The cravings have been caused by an imbalance within the person's lifestyle between the activities that are necessary; eating healthy foods like fruit and vegetables (shoulds) and the activities that are enjoyable; eating foods such as chocolate or other snacks (wants). When there is a situation where there is a high risk of relapse the person wants to satisfy the cravings (Ibid, 1985). The problem behaviour that has been changed is often seen as attractive and comforting in times of stress and especially if the individual has feelings of being a failure, feeling depressed or having low self-esteem (Wanigaratne et al, 1999). Stress occurs when there is a clash between an individual and their environment (Baglioni et al, 1990) and if a person is trying to make or maintain a behaviour change the effects of stress could result in relapse from that change (Striegel-Moore et al, 2002).

3.2.5 Longitudinal Studies

It is difficult to measure behaviour change over short periods of time. Therefore the Transtheoretical model has been utilised in longitudinal studies. Prochaska et al (1992) discovered that patterns of behaviour had emerged in a longitudinal study of smokers. The people who sustained behaviour change for two years were in a stable pattern. If an individual had moved to a stage nearer behaviour change they were in a progressive pattern. People moving into a stage further from the achievement of behaviour change were in a regressive pattern. Finally if people moved through the five stages of change twice or more they were in a recycling pattern (Prochaska et al, 1992). The patterns of behaviour are important within a study of dietary change as the behaviour is complex and by measuring patterns of change more understanding can be gathered concerning why people make and maintain change.

The processes of change were also researched within the same study and Prochaska et al (1992) found that many people in the stable pattern did not use the processes to modify their behaviour. Those people who moved from stage to stage used the

processes. The processes become less salient as maintenance progresses as a routine of behaviour change is established. Ibid (1992) in a weight control programme utilising longitudinal research concluded that people were substituting poor eating behaviour by using processes of change. Ibid (1992) found that if the processes were introduced too early or too late often there was regression in stages of change. The transtheoretical model provides some important constructs for the literature framework but a critical review of the model and relevant studies is necessary in the context of the present work.

3.2.6 Reviews and Studies concerning the model

Critical reviews of the transtheoretical model depict the model as being descriptive rather than explanatory (Bunton, 1999).The model is transtheoretical and makes use of important constructs for behaviour change such as self-efficacy (Bandura, 1977a) and decisional balance (Janis & Mann, 1977). Bunton (1999) asserted that the model was an umbrella for other theoretical constructs but did not employ them. The following studies demonstrate the value and limitations of the Transtheoretical Model in dietary change research. The additional constructs of attitudes, motivations and self-efficacy are introduced as other factors that can be measured in behaviour change.

Glanz et al (1994) utilised the stages of change model to measure dietary fat reduction. In previous works (Curry et al, 1992; Rossi et al, 1993) the stages of change measure had been used successfully to measure gender differences and fat reduction with successive stages of change indicating that people could be divided into consistently selected stages of dietary change. Glanz et al, 1994 carried out a study from the Working Well Survey (1990) applying the stages of change construct to dietary behaviour. A staging algorithm was utilised as with the previous study by Curry et al (1992). Dietary behaviour change is different from other behaviour changes, as diet requires modification not abstinence (ibid, 1997:501). The gathering of information is important in measuring dietary changes and a food frequency questionnaire was utilised.

An important factor was the self-rating aspect of the survey, which could lead to inaccuracies. Self-rated factors included psychosocial factors such as self-efficacy, motivation to change and weight loss history. The findings demonstrated that

participants who were older, female and well-educated were more likely to be measured in action or maintenance stage of change. Those participants in action and maintenance stages were shown to have higher self-efficacy, motivation and previous success in weight loss. Glanz et al's study of 1994 supported the previous studies by Curry et al (1992) and Rossi et al (1994) in demonstrating that the stages of change and the transtheoretical model were constructive in categorising dietary changes using a staging algorithm. Its limitations were that it concentrated only on cognitive processes and behaviour change. Other influences such as social norms and the environment were not taken into account although their effects were estimated to be similar to the cognitive processes (Glanz et al, 1994).

Steptoe et al (1996) developed a study using Prochaska & Di Clemente's model concerning fat reduction in diet. Three hundred and sixty six adults were surveyed by post in London. Attitudes and motivational processes increased through the stages of change but the actual behaviour of the participants in terms of food intake were not found to be an accurate measure in terms of stages of change especially action and maintenance stages of change The finding highlighted the limitations of the stages of change approach and the fact that psychosocial factors could be more accurate in indicating behaviour change (ibid et al, 1996).

Brug et al (1997) also carried out a dietary fat consumption study. Using the measure of the stages of change and psychosocial factors such as attitudes, social support and self-efficacy, a study was carried out amongst 507 adults in the Netherlands. Self efficacy was found to be useful in helping people to understand the means they needed to make behaviour changes (De Vries & Back bier, 1994). In Brug et al's study in the earlier stages of change (pre-contemplation) fat consumption was found to be high. As the participants reached preparation and action stages of change their attitudes and social support increased. Self-efficacy was lowest in contemplation and preparation stages of change. There was no evidence that the respondents who were self-rated as maintenance stage of change used motivational factors such as attitudes or social support. The finding was surprising as psychosocial factors were found to be important motivating factors in making behaviour changes and self-efficacy was found to be strong in maintenance stage. The answer lay in the fact that because the participants' intake of fat was under control their attitudes and motivational

processes were integrated into the routine of maintenance of behaviour and were not apparent as part of their daily efforts at behaviour change.

Moreover the use of self-assessment testing of dietary stages of change was found to be subjective as was found in previous studies by Curry et al, (1992) and Glanz et al (1994). Brug et al (1997) found many participants claiming to be in maintenance stage of change were underestimating their levels of fat consumption and 74 per cent of respondents who claimed to be in maintenance stage of change had higher than recommended fat intakes. Within the context of dietary behaviour change it is difficult to measure the complex intake of dietary fat, as some fat is required in all diets (ibid et al, 1997). Brug et al's finding demonstrated that there are difficulties in measuring behaviour change and that there are limitations with the measurement of stages of change. It was recommended that a staging algorithm is used as a more accurate measure of dietary behaviour change because of the previous misclassifications in stages (Brug et al, 1997). In the stages leading to action stage however attitudes and motivational processes were found to be more accurate methods of measuring behaviour change and should be included in further studies.

3.2.7 Overview of the Stages of Change Model

The evidence from the studies such as Glanz et al (1994) and Brug et al (1997) demonstrate that there are limitations to the Stages of Change model (Prochaska & Di Clemente, 1992). The model has some value in categorising people into behavioural stages of change when a staging algorithm is utilised (Curry et al, 1992). Self-assessment procedure using stages of change have proved to be difficult when people are misclassified (Brug et al, 1997). Stages of change do not predict change accurately they only describe the behaviour such as the actual food intake. The factors from a person's social context that affect action stage and affect maintenance stage are not included. The model has tried to incorporate cognitive processes such as attitudes (Fishbein & Ajzen, 1980) and self-efficacy (Bandura, 1977) which more accurately predict behaviour change and they must be included in any study concerning how people make behaviour changes. The stages of change approach is a valuable tool to categorise stages of behaviour change; but it must be used with cognitive and motivational psychosocial processes in order to understand the experience of behaviour change more fully (Brug et al, 1997).

As Prochaska & Di Clemente's model of behaviour change was found to have limitations Hunt and Martin's qualitative model of Health Behaviour Change (1988) was considered for use within the thesis. Hunt and Martin, researchers from Edinburgh University, studied health behaviour change in the context of peoples' lives. These authors claimed that a trigger event can interrupt and change the context of everyday life. Their model of health behaviour change was tested in a study on the intake of high fibre foods (1988). The applied qualitative study using Hunt & Martin's (1988) model was by Currie et al (1991). The study researched five health related behaviour changes and found that facilitating factors in change were concern about health and family support. The study found that lack of self-efficacy, poor family arrangements for eating meals, comfort eating patterns and work stress were inhibiting factors to behaviour change. Although Hunt and Martin's behaviour change model (1988) was an appropriate model for studying behaviour change with an interpretive stance it was not considered for the thesis as it was not well established and was similar to the models that measure behaviour change implementation (Ajzen, 1991). The focus of this thesis is on making and maintaining behaviour change. Motivational processes of change have been used within stages of change studies and these constructs need to be developed further to provide a deeper approach to behaviour change and maintenance of change (Bagozzi & Warshaw, 1990). The social cognition models that are relevant to behaviour change are critically examined within the following section on stimulus of change.

3.3 Stimulus of Change

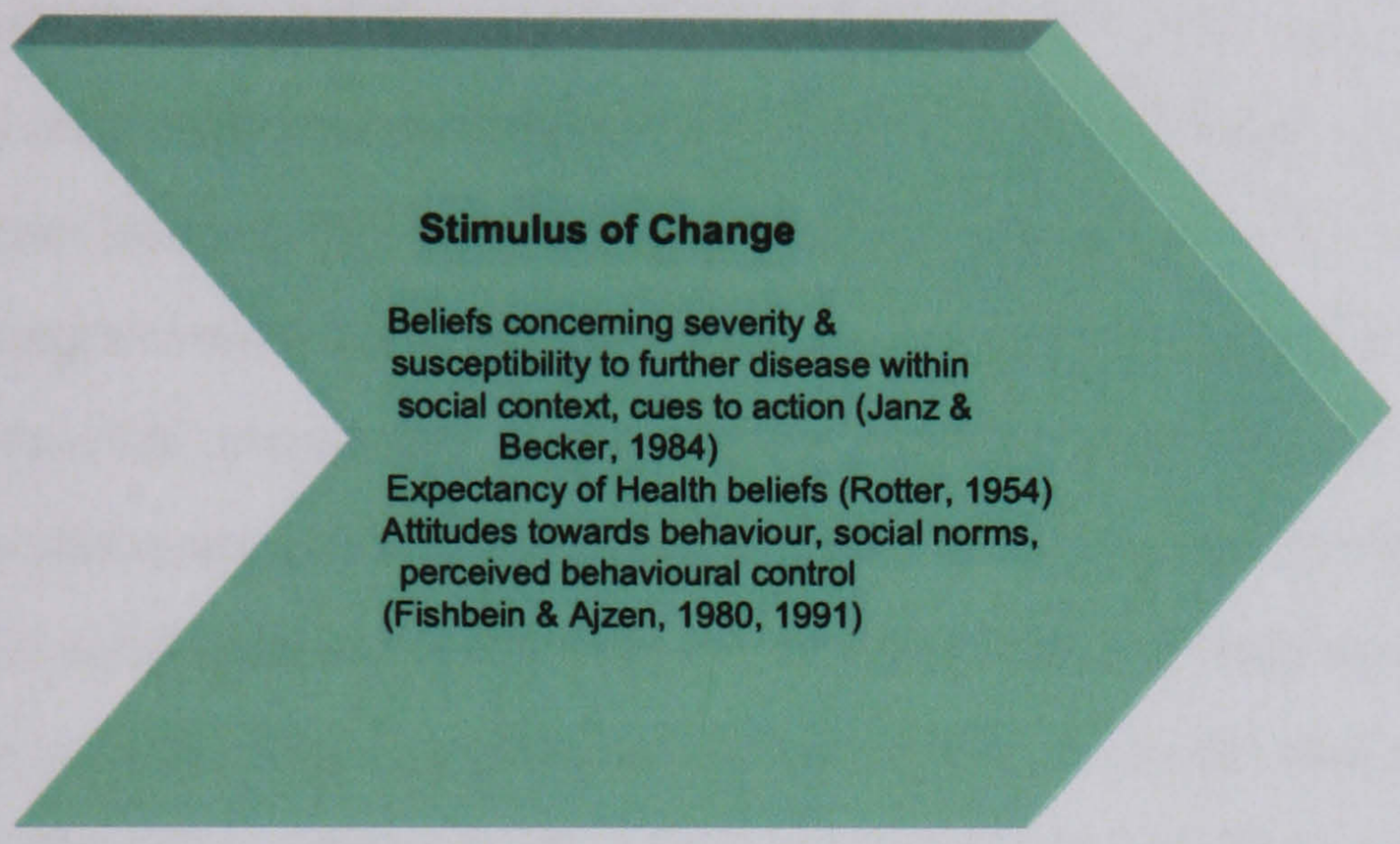
3.3.1 The social cognition models

Social cognition concerns the thoughts people have concerning social stimuli related to themselves and to other people and the responses to the stimuli (such as new information and social pressure) within the context of their lives (Fiske & Taylor, 1991). Within the present context of dietary behaviour change social cognition focuses on how people respond to the social stimuli using self-regulation (Conner & Norman, 1998). Self-regulation involves behaviour change and the re-evaluation of social environments using appraisals or plans such as family or lifestyle in order to achieve a personal goal. The relevant social cognition models are the Health Belief Models (1974, 1977a), the Health Locus of Control Model (1978), the Social

Learning Model (1977) and the Theory of Reasoned Action and Theory of Planned Behaviour (1980, 1991).

Figure 3.3-1 provides an illustration of the key constructs from the social cognition models

Figure 3.3-1Constructs concerning the Stimulus of Change



3.3.2 Constructs from selected social cognition models

The following section provides a review of the social cognition models, which provide the cognitive processes for behaviour change to take place. The review commences with the Health Belief Model.

The Health Belief Model was introduced in 1958 by Hochbaum to aid understanding concerning tuberculosis and preventative behaviours such as the uptake of screening for the disease. The framework that is generally used within behaviour change is that of later models by Rosenstock (1966, 1974), Becker (1974, 1977a) and Janz and Becker (1984). The relationship between health beliefs and behaviour change is related to the present context of diet and the incidence of minor illness. Health beliefs are learned during the socialisation processes and can vary from person to person. Socialisation is defined as the acquisition of skills, attitudes and knowledge from past experiences such as childhood or education (Ward, 1974). If health beliefs are held, a

perceived threat to health can result in behaviour change (Conner and Norman, 1998). But the social context of an individual such as demographics, family, socioeconomic status, gender and age were found to be important qualifying factors in predicting health behaviour change following on from health beliefs (Rosenstock, 1974). Janz & Becker (1984) developed a model for health behaviours using the perceived threats of the illness and the benefits of making a behaviour change as motivating factors.

In the context of a test for cancer the two beliefs that are relevant are the health beliefs concerning susceptibility to the illness and the severity of the consequences of the illness (Becker, 1977a). Cues to action (Hochbaum, 1958) can change beliefs concerning problem behaviour and can be stimulated by a person's perception of how severe the consequences of a disease might be (Conner and Norman, 1998). Cues to action are events which can be physical such as the symptoms of a disease or environmental such as family illness or health publicity (Rosenstock, 1966).The evaluation of the illness and the action taken after the evaluation are determined by belief in the successful outcome of the behaviour chosen. Few studies have been carried out concerning cues to action (Conner & Norman, 1998). Physical symptoms of an illness have not been found to be an accurate predictor of cues to action (Kelly et al, 1987) but family illness of a similar nature (Grady et al, 1983) and doctor's advice (Weinberger et al. 1981) have found to be predictive factors with cues to action. The perceived barriers and benefits to achieving the action are crucial in the decision to modify behaviour. Self-efficacy (adapted from Bandura, 1977a) was later introduced into the Health Belief model (Becker, 1977a). Self-efficacy concerned the belief that a person can successfully carry out the desired behaviour change. Robert B Kelly et al (1991) utilised key constructs from the Health Belief Models (1974, 1977) of health beliefs, social support and self-efficacy in their study on lifestyle factors. The elements of the model were used in a predictive test to evaluate how motivation was determined with various lifestyle behaviours such as smoking, stress, diet, use of seat belts and exercise. The findings showed that there was a significant prediction in motivation from health beliefs and self-efficacy in most of the lifestyle behaviours. Perceived benefits and self-efficacy were the strongest predictors of

motivation. Behaviour change itself was not predicted strongly by health beliefs unless motivation was added when the prediction of behaviour change was strong at a classification rate of 71 per cent. The conclusion was that motivation is an important factor when evaluating how behaviour change takes place. Becker (1974) argued that some people may be predisposed to cues to action because of the value they place on their health. The Health Locus of Control Model developed this idea further.

The Health Locus of Control theory, originally introduced by Rotter in 1954, is based on a hybrid of other social cognition constructs such as Bandura's 1977 construct of self- efficacy. The Health Locus of Control theory states that one's actions are instrumental to goal attainment. The Multi-dimensional Health Locus of Control Scale (MHLC) is used as a measure in expectancy of beliefs (Walliston et al, 1978). Expectancy of beliefs is the perceived belief concerning control over health and that control over health will lead to a goal of better health. Individuals believe that they are responsible for the control of their own health, or individuals believe that others (doctors) have the only control/ knowledge concerning their health. Finally individuals believe that their health is within the control of divine fate (Norman, 1995). People who take control of their own health have been found to have stronger resistance to barriers to change and have strong beliefs that there is value in achieving better health (Rotter, 1966). In the context of the present work on dietary change people may take control of their dietary health with the expectancy that they will achieve better health. The Health Locus of Control Model is relevant to the making and maintaining of behaviour change (ibid, 1966).

Walliston (1991) noted that much of the research undertaken in the health behaviour change area only looks at the actual health behaviour and not at the values people place on their health. The Health Locus of Control Model was utilised in a dietary behaviour change study entitled Heartbeat Wales (1985) concerning Health Locus of Control and dietary choice (Bennett et al, 1995). The study assessed health and lifestyle factors linked to heart disease and cancer such as intake of fat, sugar and salt. The MHLC scale was used with two instruments of frequency and food choice. The findings from the study demonstrated that a strong link existed between Health

Locus of Control, health value and dietary choice with a five per cent of variance on the MLHC scale. In the context of dietary behaviour change this result has significance for HLC in predicting dietary choices concerning health. There was no evidence that showed that participants associated diet with long term health. Short-term outcomes such as weight control or appearance may be stronger influences on dietary choices than future health (Hayes & Ross, 1987). The next models to be considered within the social cognition section are the two theories by Fishbein & Ajzen (1980, 1991).

3.3.3 The Theory of Reasoned Action (1980) and Theory of Planned Behaviour (1991)

The Theory of Reasoned Action by Fishbein and Ajzen (1975, 1980) was utilised when behaviour change was a single behaviour such as going to a health screening appointment. The theory contains two important components the attitude towards the behaviour and the subjective norms. An attitude concerns an individual's belief concerning the desired behaviour change evaluated in terms of the consequences of the behaviour change. The attitude towards the behaviour was developed by the introduction of behavioural intention from the expectancy-value framework (Peak, 1955) where behaviour change is judged by the values of the outcomes of making the behaviour change. Subjective norms are a measure of the influence of family or significant others whose views are of importance (Conner & Norman, 1998). The influence of subjective norms can operate either in support of the anticipated change of behaviour or against it (Andreasen, 1995). In the context of dietary behaviour change the Theory of Reasoned Action is not appropriate as the model applies to single behaviours where intention predicts behaviour such as attending an appointment with a dietician. With more complex behaviour change such as carrying out dietary changes to improve health diet intention is not a predictor to behaviour change. With dietary changes to improve health, strategies and means are required to carry out behaviour changes over time. The Theory of Planned Behaviour (1991) introduced a more appropriate construct for complex behaviours in perceived behavioural control.

Perceived behavioural control (Conner & Norman, 1998) concerns how the individual predicts the ease or difficulty of implementing the desired behaviour. PBC

is the perception of control that an individual has over the desired behaviour. The expectations of how difficult the behaviour change will be depends on the expectations of significant others (normative beliefs) and beliefs in factors that will facilitate or impede change (control beliefs). In a study on the Theory of Planned Behaviour using exercise behaviour with 114 participants in Greece, Bozionelos and Bennett (1999) found that perceived control is difficult to measure. Behavioural control will depend on factors that include influences outside the control of the person and the perception of control cannot always be a realistic predictor in terms of actual control of the behaviour (Ajzen & Timko, 1986). The passage of time influences the intention behaviour link (Fishbein & Ajzen, 1975) and although PBC is predicted with short term behaviour changes, with long term dietary change the behaviour control is more difficult to predict. The Theory of Planned Behaviour enables the study and provides an explanation of more complex behaviours that are dependent on other behaviours. When studying complex behaviour changes it is important to study people within the context of their daily lives. People who make behaviour changes often experience events that occur within the natural context of their lives that brings the problem behaviour into focus (Hunt & Martin, 1988). The fact that complex behaviour changes (such as diet) can involve impediments in maintaining change (Ajzen, 1991) means the social context (influences) within a person's life can help or hinder their ongoing participation in a behaviour change (Hunt & Martin, 1988).

Despite their extensive use in studies attempting to explain and understand health behaviour, the TRA and the TPB are not suitable models for long term process behaviours such as changing eating habits (Bagozzi & Edwards, 2000). These attitude models are deliberative in nature and outline rational planned behaviour. Dietary changes for health are by necessity long term, are often inadequately planned, and involve complicated opposing behaviours. For example the need for the hedonistic pleasure from foods such as chocolate is balanced with the utilitarian benefits derived from healthy foods such as the rewards of feeling better (Hewstone et al, 1996). Bagozzi & Warshaw (1990) developed theories that were suited to the understanding of behaviours that were more complex and longer term and these are presented in the following section of literature concerning goal directed theories.

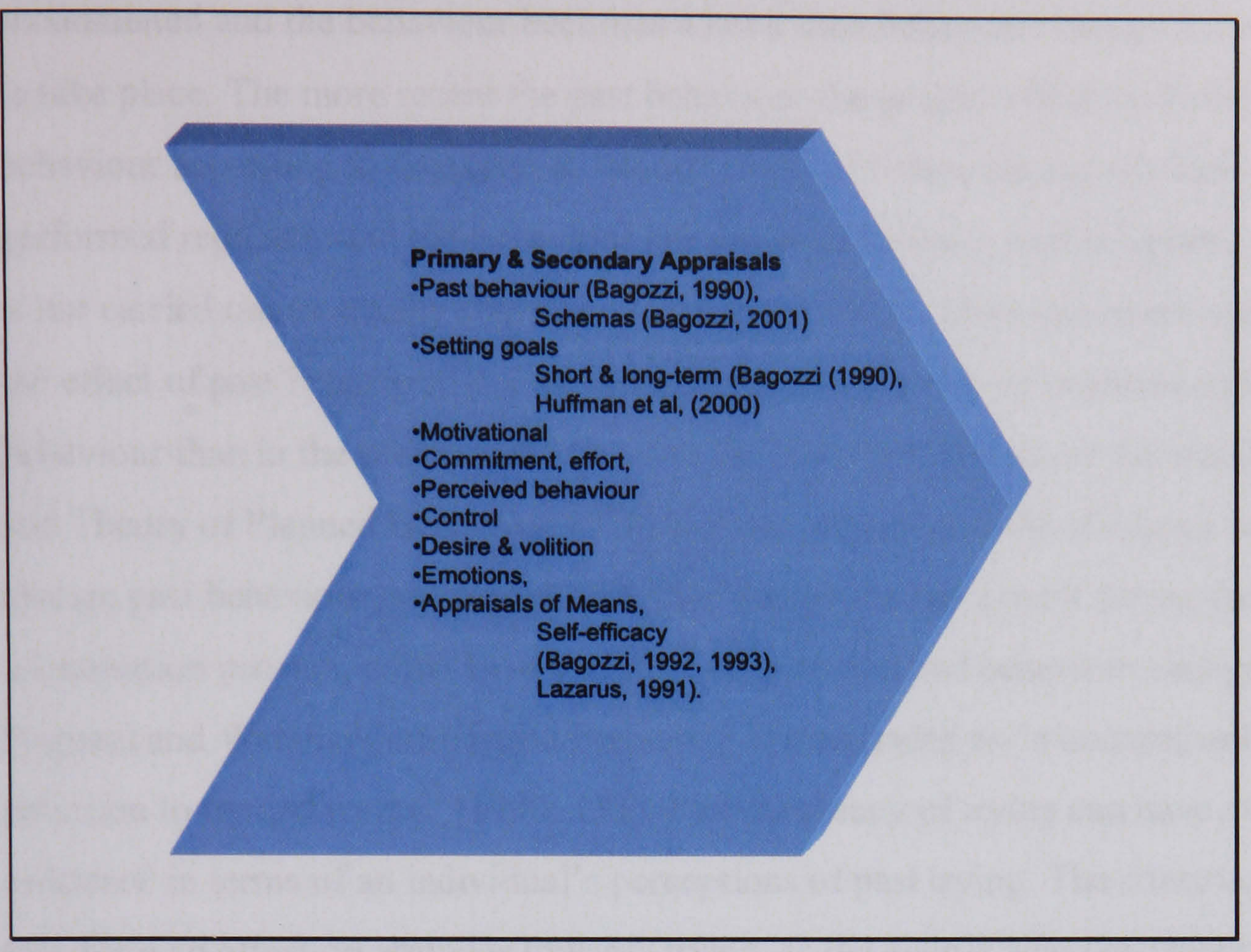
3.4 Primary and Secondary Appraisals

3.4.1 Goal Directed Behaviour

Bagozzi & Warshaw (1990) claimed in the in their paper outlining a Theory of Trying that the Theory of Reasoned Action (1980) and the Theory of Planned Behaviour (1986) examined behaviour change assuming that behaviour change was the culmination of effort and decision-making and that it was inevitable from the implementation of behaviour changes that long-term goals would be attained. The TRA and TPB are rational theories and present attitudes to and contexts of behaviour as unchanging factors. In fact attitudes and social environments vary amongst people depending on the social context of their lives and are not static influences. Bagozzi & Warshaw (1990) found that complex behaviour occurred before and after behaviour change and efforts to change had to continue after behaviour change. The Theory of Trying (1990) changed the outcome from that of behaviour change and introduced short-terms goals that were attained through an outcome variable of trying and long-term goals that were achieved by maintaining change (Bagozzi & Warshaw, 1990). The Theory of Trying arguably is an appropriate model for the context of making and maintaining dietary behaviour change (Bagozzi &Warshaw, 1990). Bagozzi (1993) concluded that trying had a similar definition to effort as a motivational factor in goal directed behaviour (effort earlier defined by Heider, 1958). Trying is defined as the planning and effort required to put plans into action and includes the resources needed to pursue a goal of behaviour change (Bagozzi, 1993). Developing the construct of attitude toward behaviour leading to perceived consequences of behaviour (Fishbein & Ajzen, 1980), Bagozzi (1992:181) noted, "success and failure, trying but failing, and the process of striving were three concerns in striving towards a goal".

Figure 3.4-1 provides an illustration of the key constructs from the Theory of Trying (Bagozzi & Warshaw, 1990), the goal hierarchy and framework approach (Huffman et al, 2000) that are incorporated within the conceptual framework.

Figure 3.4-1 Constructs concerning Primary & Secondary Appraisal



Bagozzi and Warshaw (1990) recommended that Fishbein and Ajzen's model of 1980 should be modified. Bagozzi and Warshaw argued that the amount of control that the person has when making a behaviour change is important. Control is a conscious plan related to the goal itself and can determine whether a change of behaviour can lead to success or failure. Trying to change behaviour means reaching an intermediate goal (behavioural) and ultimately the achievement of an end state (consequential) goal. The attainment of these goals depends in part on influences that are beyond the person's control such as the social context of family or work (Bagozzi & Warshaw, 1990). Intention to change behaviour links to trying rather than to goal attainment itself. The relevant constructs that lead to the making of primary and secondary appraisals are reviewed in the following section.

Past behaviour (introduced into the Theory of Trying, 1990) comprises of information concerning past experiences of the behaviour or according to Triandis (1977) prior knowledge of the behaviour that is essential in making decisions and carrying out behaviour change (Ajzen & Madden, 1986). Past behaviour was found to predict intentions and/or behaviour in a study on goal directed behaviour and behaviour change in bodyweight regulation and studying with 122 Italian students

(Perugini and Bagozzi, 2001). When frequent knowledge concerning the behaviour is accumulated and the behaviour becomes a habit then behaviour change is more likely to take place. The more recent the past behaviour the greater affect on intention and behaviour according to Ouellette & Wood (1998). If behaviour has not been performed regularly and the behaviour has not been learned, then behaviour change is not carried out so readily (Perugini & Bagozzi, 2001). There was more variance in the effect of past behaviour in goal directed models in terms of intention and behaviour than in the previous findings on the Theory of Reasoned Action (1980) and Theory of Planned Behaviour (1991). In the present context of dietary behaviour change past behaviour concerning diet, that was learned as a habit during the socialisation process, could have an effect on intention and behaviour change. Bagozzi and Warshaw introduced frequency of past trying as "a determinant of both intention to try and trying" (1990: 131). Past frequency of trying can have an influence in terms of an individual's perceptions of past trying. The construct can also have an effect on attitudes towards trying, as the people who have made many attempts at changing, for example diet, and have failed in their attempts would find it more difficult to contemplate change. The expectations of success or failure are diminished by frequency of past trying and after many failed attempts an individual may not believe that a behaviour change goal could be achieved. In the case of dietary change Tversky and Kahemann (1974) found that knowledge could lead to bias towards a previous behaviour that had been recalled recently because of salient events. Prior learning according to Triandis (1977) is more available in memory. Prior learning is made up of schematas of knowledge comprising of patterns of learned motives values and goals (Wilkie, 1992). The clear recall of recent memory often affects expectation of behaviour change (Bagozzi & Warshaw, 1990). Perceptions of self-efficacy for trying to adopt the behaviour or make the behaviour can also be stronger the more recent the experience (Cervone & Peake, 1986). Further support is added by Bagozzi and Kimmel (1993) who studied diet and exercise and found that both frequency and recency of trying added significantly to predictions under the goal-directed theories for diet and exercise. In addition the memory of previous achievements and how it felt to attain a goal (Huffman et al,

2000) such as improving diet for better health is dependent on the number of times the dietary behaviour had been attempted in the past (Srull & Wyer, 1986).

Little is known about what consumption goals consist of in terms of how they are recorded in memory. There is little information on how they are set up or how the process of goal achievement works (Ratneshwar, Pechman and Shocker, 1996; Huffman et al, 2000). When considering goals in the context of behaviour change, maintaining change and the making of appraisals, goal setting should be examined (Gollwitzer et al, 1990).

3.5 Goals

The goals set within goal directed behaviour are short-term and long-term and are part of the processes of making and maintaining behaviour changes (Bagozzi & Warshaw, 1990). Previous writers in social cognition did not define goals appropriately for health behaviour change (Fishbein & Ajzen, 1975). The goals that were described in Fishbein and Ajzen's early models did not provide explanations for behaviours (beyond initial behaviour change) that involved impediments in the process of making or maintaining change and were long term activities (Ajzen & Madden, 1986).

Figure 3.5-1 illustrates the categories of goals presented by Bagozzi & Warshaw (1990) and Bagozzi & Dholakia (1999)

Figure 3.5-1 Goals

Goals (Bagozzi & Warshaw, 1990, Bagozzi & Dholakia, 1999)

• Intermediate (behavioural) goals (1990)	• Perceived barriers to reaching end state goals affects how decisions are made by individuals in making and maintaining behaviour change. Actual difficulties in reaching end state goals affects the prediction of outcomes of decisions and efforts made in making & maintaining changes.
• End State (consequence) goals (1990)	• End state goals help in the anticipation of the outcome for an individual when the intermediate goals are problematic to achieve. End state goals can lead to deeper psychological goals (self-esteem).
• Focal goals (1999)	• Focal goals relate to the central question of what the person strives for
• Subordinate goals (1999)	• Subordinate goals are means to achieving the focal goal
• Superordinate goals (1999)	• Superordinate goals the ultimate question of why do I want to achieve the goal?

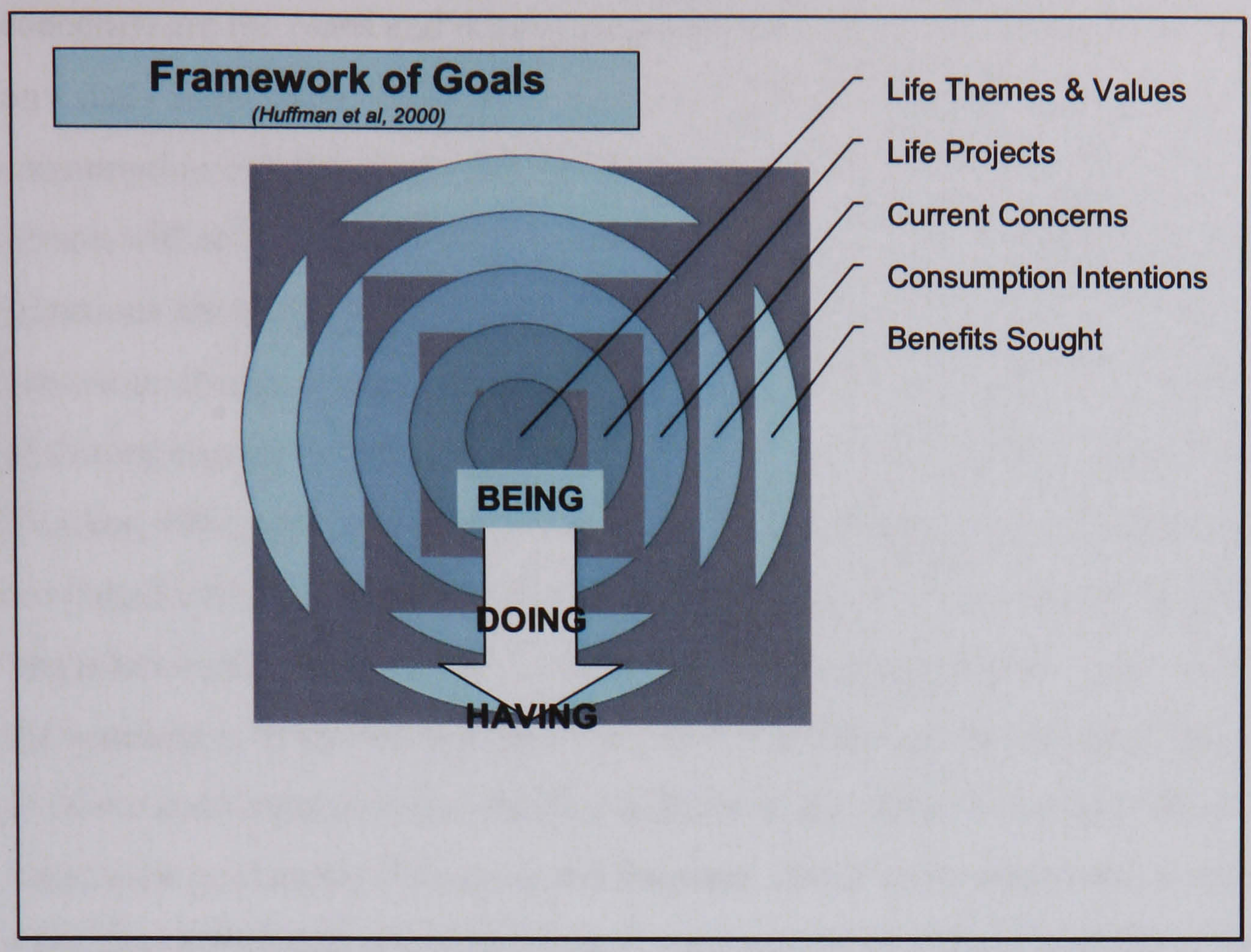
Within the Theory of Trying (1990) the end state goal refers the individual to the idea of success or failure. The process of striving links to consequences encountered during the intermediate goal (behavioural) of attaining the end state goal. Three levels of goals were later developed by Bagozzi & Dholakia (1999) focal goals, subordinate goals and super-ordinate goals. The hierarchy of goals are important in self-regulation of behaviour where plans to make behaviour changes are important (according to Carver and Scheier, 1996; Pieters, 1993; Vallacher & Wegner, 1987). For example Bagozzi and Dholakia (1999) presented an example of weight control. The focal goal in weight control would be amount of weight the person needed to lose, the location on the body, and time period for loss of weight. The subordinate goals would be exercising (types of), sports (types of), diet (cutting down, lighter meals, diet medications). The super-ordinate goal would be losing or maintaining weight and the reasons for doing so (Bagozzi & Edwards, 1998). Bagozzi and Dholakia's (1999) goal hierarchy is based on Wittgenstein's (1961) cognitive structure based on feasible and visionary images of how the goals might be attained. A person's actions and evaluations can be justified with the use of language and mental images of the goals.

3.6 Huffman et al's framework

Huffman et al (2000) introduced a further framework of goals including six levels of goals. Goal alignment within the framework known as incorporation is where the goals that are higher in the hierarchy provide guidance to the goals that are part of the daily routine (Huffman et al, 2000). Lower level goals can have an affect and may add constraints to higher level goals, which is known as abstraction. The adaptation process is the adapting of the goals to the individual's social context. The contextual influences include socio-cultural, environmental, social and spatio-temporal aspects and the context of available choice alternatives. Huffman's goal levels reflected Sartre's (1956) three levels of existence. The fact that a person exists is one level of existence, what a person does in life is a second level and the final level links to what a person might acquire in life. The two levels of what a person does (social context of family, occupation, and lifestyle) and what a person acquires (knowledge) are important concepts within Huffman et al's conceptualisation and in the context of dietary change. Only five goals of this study apply in the present context.

Figure 3.6-1 provides an illustration of the framework of goals (Huffman et al, 2000).

Figure 3.6-1 The Framework of Goals



Life themes and values are known as a terminal values in the goal framework (Huffman et al, 2000). Life themes and values represent higher level goals in life such as to enjoy good health, happiness with family and relative freedom. The terminal goal has its foundations within childhood experiences, family relationships, love and support, educational experiences, people who nurture aspirations and choices made with career and personal relationships (Csikszentmihalyi & Beattie, 1979). Life projects are part of the building of life themes and values and these themes form the parts or identity a person plays in life such as a child, pupil, student, parent or grandparent. The roles people enact involve responsibilities to others such as a parent to child responsibility. Life projects can change as people develop within their careers or relationships and these changes can help with understanding more concerning life themes and values (Huffman et al, 2000).

Current concerns are short term or daily routines such as tasks, leisure activities or journeys that people take part in (Klinger, 1977). Examples of current concerns are shopping, preparation of meals or short-term projects that are taking place at the present time. If current concerns such as shopping for healthy foods are not incorporated with higher level goals such as life projects or life themes and values then behaviour change cannot be achieved long-term (Huffman et al, 2000). Before

reaching the level of current concerns consumption intentions (sub-goals of current concerns) are the plans and desires to change behaviour and maintain the behaviour on a daily basis (Belk, 1987; Belk 1988; Ratneshwar & Shocker, 1991). If the consumption intentions are not incorporated with the higher level goals then the person will not be likely to make a change of behaviour. But if the consumption intentions are linked with higher level goals this is known as abstraction and behaviour change is more likely to be achieved (Huffman et al, 2000). In the context of dietary change benefits sought are the benefits of eating healthy foods (Myers & Shocker, 1981; Olson & Reynolds, 1983; Young & Feigin, 1975). If benefits sought are linked with the other relevant longer term goals then better health is attainable. The relationships between the different levels of goals presented above are linked to the acquisition of knowledge over the years. A person can use the knowledge gained to create and maintain better health (Huffman et al, 2000). Some individuals may reach their goal easily (Dholakia and Bagozzi, 2002) while others find it difficult to overcome difficulties. Goal intention is a measurement of how committed a person is when choosing to pursue a goal after they have formed the decision to act (Ibid, 2002; Gollwitzer, 1996). The implementation intention causes an individual to have more awareness concerning the environmental cues that might lead to temptation and regression. The implementation intention continues for people even after a relapse in behaviour and they go on to pursue the goal (ibid, 1996). In a study of dieting by Bagozzi & Edwards (1996) the goals of dieting (lower level goals) came before the ultimate goal of weight loss (longer term goal). They found that the decision to lose weight was not sufficient and implementation processes were needed in goal pursuit. After intention the setting of goals is the next step to behaviour change covered in the next section.

3.6.1 Goal Intention and Setting

When an individual discovers that there is a need to change behaviour the selection of goals for the desired behaviour change are important (Bagozzi and Dholakia, 1999). Motivation concerns issues with the planning, commencement and control of goal attainment (Wilkie, 1992). Motives differ from goals as motives are internal stimuli that drive an individual to make and maintain behaviour changes which have associated goals (ibid, 1992). In the context of dietary change an individual may be

influenced by family and friends (social norms) to lose weight for health reasons. The motive is the drive to lose weight. The goal structure may operate at a number of levels e.g. short-term weight loss and feeling good and longer-term weight maintenance and good health. Motives, values and goals are known as 'cognitive schemas' (Bagozzi, 2001) which are all the parts of knowledge that an individual uses as a framework to build an understanding about a specific behaviour e.g. diet. The knowledge can be built from word of mouth, past experiences (efforts to adopt a healthy diet) and thoughts that link together to form meaning (ibid, 2001). Cognitive schemas influence attitudes to the behaviour, choices made concerning the behaviour and what needs to be done to carry out the behaviour. Schematic knowledge of the goal (from images in the memory) is helpful in the maintenance of actions towards the goal (ibid, 2001). The ability to visualise the goal and forecast the outcome is known as trajectory image (Beach & Mitchell, 1998). Bargh & Barndollar (1996) introduced the idea that goals can be set in motion by environmental stimuli and once this occurs cognitive and behavioural processes automatically implement the goal pursuit (the auto-motive model). Goals arise from external stimuli or from internal stimuli such as result from memories and thought processes concerning past behaviours (Bagozzi and Dholakia, 1999).

In a study on diet and exercise by Bagozzi & Edwards (1996) the cognitive schemas were examined in 197 students and 12 subordinate goals were found to exist in a hierarchical structure towards the goal of losing or maintaining body weight. Huffman, Ratneshwar et al (2000) presented evidence concerning goals and noted that goals are evaluated in terms of their relevance to the person. Goals can be set consciously after the decision to pursue the goal or unconsciously because of learned reactions to environmental stimuli such as moral, ethical or biological responses (Bagozzi & Dholakia, 1999). Howard & Sheth (1969) introduced "extensive problem solving" situations where more than one level of goal is required in the setting of goals (ibid, 1969). Behaviour change will not take place with goal setting and intention alone and the desire and commitment to change are the crucial factors as outlined in the following section.

3.7 Self-Regulation and Volition

The intention to change described in Fishbein & Ajzen's theories of Reasoned Action (1980) and Planned Behaviour (1991) does not demonstrate the motivational aspects leading to a behaviour change. Although Ajzen (1991) does indicate that intention concerns working hard and putting effort into making a change the motivation, desire or volition to change is not understood as a motivational process from the Theory of Planned Behaviour (Bagozzi, 1992). To understand the relationship between cognition, motivational processes and emotions the self-regulation of behaviour was considered (ibid, 1992). Self-regulation is a key part of goal attainment as it involves appraisals involving cognitive, motivational and emotional processes, the monitoring of plans made after appraisals and the coping strategies which people use when confronted with decisions concerning behaviour change (Bagozzi, 1992).

Goal efficacy is a cognitive process that is required before the motivational process of desire takes place (Bagozzi & Edwards, 1996). Goal efficacy is unlike self-efficacy introduced by Bandura (1977a) as self-efficacy involves a cognitive process concerning the belief that an individual has the means to carry out behaviour changes. Goal efficacy concerns the more complex belief that if a person can carry out for example changes in diet then the changes will lead to the attainment of better long term health. Goal efficacy also is different from perceived behavioural control (Ajzen, 1991) as the ability to achieve the implementation of the behaviour changes and to reach a goal is considered with goal efficacy and not just the means to carry out the behaviour using control (PBC).

3.7.1 Desire and Volition

The motivational process of volition was introduced in the Theory of Volitions (1992) and is defined as a process linking to thoughts (determining influences) and more specifically motivations (the will to act) towards the pursuit of a goal (Bagozzi, 1992). The desire to carry out the behaviour is the important factor that is needed along with attitude and intention (ibid, 1992). For example while one may hold a favourable attitude towards a healthy diet, the desire to incorporate such a change may not be present because no motivational commitment is present (ibid, 1992)

Volitive desire is the result of thought processes and a decision to make a behaviour

change (Bagozzi, 1992). Volitive desire is described as wanting or wishing to make a behaviour change based on the perceived success or failure of achieving a goal (Bagozzi & Warshaw, 1990). Subjective norms are part of volitive desires as the need to have the support significant others are important (Bagozzi & Edwards, 1996). An example of volitive desire is when a person changes to a healthy diet even though the prospect of eating some of the recommended foods is unappealing but the goal of better health is stronger and therefore they strive to achieve that goal.

For dietary change motivational commitment can be the desire a person has to incorporate a more healthy diet into their daily eating habits to improve health. Commitment is the decision to make a behaviour change and maintain it by carrying out daily changes and being bound emotionally to those changes and long-term goals of better health completely (Bagozzi, 1992).

Bagozzi & Kimmel (1995) found that desire and intention were important factors for students with dieting and exercise. Their study found that if a person has the desire to regulate their diet to lose weight then the decision to carry out the diet is made very quickly. With exercise more thought is required after the desire to make a behaviour change is present and cognitive processes such as planning, monitoring and control will take place as part of the intention to change. In the present context of dietary change for health reasons the desire to change diet may be more to similar to exercise in Bagozzi & Kimmel's study as planning, monitoring and control need to be part of intention if the dietary behaviour change is to be maintained.

Bagozzi & Edward's (1996) study of diet and exercise found that goal intention was similar to the term trying with effort, planning and control being important factors. The authors also found desire as a motivational process to have a significant influence on the intention to change for both exercise and diet. Goal efficacy subjective norms and attitude towards the success of the goal had an indirect effect on intention (Bagozzi and Edwards, 1996: 25). In the present context it was found in the same study that behaviour change that involves habitual and constantly changing goals such as dietary change were difficult to sustain.

Further evidence to support the importance of desire was found by two other studies firstly on bodyweight regulation by 108 Italian students in the University of Rome

and secondly on 122 students in the same university concerning effort expended on studying (Perugini & Bagozzi, 2001). Perugini & Bagozzi discovered that desire was a function of anticipatory emotions. Desire provided the incentive for intentions to be formed and was an important motivating factor in the decision to make a behaviour change. Anticipatory emotions are part of the motivation for a person to desire to achieve a goal and emotions such as these are examined in the following section.

3.7.2 Anticipatory emotions

Emotions are felt when the evaluation of possible behaviour changes are perceived as problematic or beneficial (Oatley & Johnson-Laird, 1987). During the implementation of behaviour changes people feel different emotions dependent on whether the planned changes go well or badly (Stein et al, 1996). Goals can be valued such as health but events can occur to change the planned goal-directed behaviour and this can lead to a change in emotions from positive to negative emotions such as fear. These are called precipitating events and the events and the emotional responses that they cause can lead people to maintain or change their goals. Events can obstruct or facilitate the attainment of the goal by evoking strong emotions that affect a person's motives, feelings and goals (Frijda et al, 1986, 1993). The expectation of the consequences of success or failure is a balance of positive and negative emotions. A person can feel happy about the end state goal of better health but unhappy about the intermediate goals of changing their dietary habits (Bagozzi & Warshaw, 1990). The more relevant or personally rewarding the anticipated behaviour is, the stronger the emotion is concerning the goal (Frijda, 1996). For example if the benefits of changing to a healthy diet are improved fitness and a healthier lifestyle, an individual will feel positive emotions towards the behaviour change (Bagozzi et al, 1998). Anticipatory emotions can lead to the desire to change and then to evaluations and appraisals towards change and goal attainment (Bagozzi 1992).

Bagozzi, Baumgartner and Pieters (1998) discovered that positive and negative emotions influenced volitions, (intentions, plans and anticipated effort) to exercise and diet. In Bagozzi et al's 1998 study the participants were given a goal to lose or maintain body weight. The subjects responded to the goal with anticipatory emotions (positive and negative). The positive anticipatory emotions then were shown to

influence the desire to change diet and exercise. From the desire and then the intention to change the subjects made plans so that the diet and exercise could be incorporated into their lives. The emotions act indirectly to produce action in behaviour change by stimulating desire to change and promoting activities that lead to goal attainment (Bagozzi et al, 1998).

Normative influences have relevance to anticipatory emotions in the fact that people making changes may have support from significant others (or not) and emotional responses related to the views of significant others links to the emotions of achievement of the behaviour change. The reaction of family or significant others can be resentment and this reaction is anticipated by some people when considering behaviour change (Bagozzi, 1992). An individual perceives the antipathy felt by a significant other about their proposed behaviour change and this causes feelings of guilt linked to the perceived reaction of resentment. In terms of normative influence (the opinion of a significant other) if a person feels that they have disappointed the perceived expectations in respect to shared moral and social meaning then their negative feelings are expressed as guilt shame, and self-reproach. On the other hand if a person feels that they have gained the respect of their normative influences then they may have feelings such as pride and self-respect.

3.7.3 Appraisals

The Theory of Self-Regulation (1992) by Richard Bagozzi builds on the work of Smith and Ellsworth (1985) and Lazarus (1991) and introduces appraisals within the definition of self-regulation. Self-regulation involves three processes of monitoring, appraisal and building coping strategies towards goal attainment (Bagozzi, 1992: 183). The first stage of goal pursuit is the appraisal of means available to the person that will help or hinder them in their efforts (ibid, 1992).

Appraisal processes of internal and external factors involve emotional responses and the responses can lead to coping processes (Lazarus, 1991). Appraisal comprises of an evaluation of what is known concerning the desired behaviour and how this knowledge could with other factors (environmental) lead to better health (Lazarus, 1991, Folkman et al, 1986). The personal significance and relevance of the event in terms of what the person already knows or believes about the proposed behaviour affects their commitment and aims towards behaviour change (Park & Folkman,

1997). The important point is that the amount of benefit perceived to be derived from carrying out the plans relates to how worthwhile or important the goals are perceived to be (Dholakia and Bagozzi, 2002). The different choices a person could make towards behaviour change are easier when goals are planned (Payne et al, 1988) but the task of planning is complex as the new behaviour (dietary changes) and other supporting activities can vary daily (Dholakia & Bagozzi, 2002). The task of appraisal and planning is therefore complex with dietary change.

3.7.4 Self Efficacy

Self efficacy is important in the process of appraisal (Bandura, 1977) and the participants consider the change of behaviour a challenge with the self-efficacy belief that they can achieve the goal rather than a daunting task (Park & Folkman, 1997). Self -efficacy is part of self-regulation (Bandura, 1991: 257) and can determine how the processes of self-regulation such as thoughts, moods, motivations (internal stimuli that drive change) facilitating or impeding events function. The appraisal of self efficacies was included in the Theory of Volitions (Bagozzi, 1993) and is the point when an individual makes a carefully judged choice based on the belief concerning their ability to carry out the behaviour change and the whether the method chosen to carry out the changes are achievable (Bagozzi, 1993). According to Bandura (1977) if a person has high self-efficacy they are more likely to take preventative action in terms of their health because they believe they can succeed in changing their health behaviour.

VanWechem et al (1997) carried out a behaviour change study concerning the importance of self-efficacy when changing to a low-fat diet as it can help people overcome barriers to change. Those participants with strong self-efficacy managed to change to a low fat diet and more importantly for the current study to maintain it. Another evaluation of self-efficacy (Greene et al , 1999) discussed the fact that self-efficacy manifested itself as an inner self- confidence people had in certain situations that enabled that person to carry out a change in behaviour. Brug et al (1997) completed a study on stages of change in consumption of fruit and vegetables and integrated the construct of self-efficacy. The main finding from the study was to facilitate progress from contemplating behaviour change to behaviour change. People have to be secure in their ability (self-efficacy) to make the behaviour change (Brug

et al, 1997). Self-efficacy was found to be an important construct in making a behaviour change. Bagozzi and Edwards (2000) discovered that self-efficacy was a strong factor in both dieting and exercise in their study. Self-efficacy was found to be a factor in reliance on social support provided by family and friends towards a change of behaviour and the carrying out of behaviour (Shannon et al, 1990). Within a field study of body weight maintenance for 141 university students (Bagozzi & Edwards, 2000) three appraisal processes were examined. The results showed that goal-directed dieting behaviours for men and women and goal-directed exercising required self-efficacies in particular.

Self efficacy involves the belief that behaviour change can be carried out with effort and that the effort made will sustain behaviour changes (Schwarzer, 2001). Self-efficacy is usually measured using quantitative scales such as that developed by Schwarzer (1992).

3.7.5 Primary & Secondary Appraisals

Primary appraisals relate to an evaluation of the benefits or disadvantages involved in carrying out the proposed behaviour change. The commitments and the goals that should be set are evaluated and related to the person's existing beliefs and values. For example a change of diet for health reasons could be evaluated in terms of future health and responsibilities and effects to family or loved ones. The benefits to the individual through behaviour change in terms of beliefs about health and feelings about their self-worth are also evaluated. By responding to the appraisal with action a form of control over the situation takes place (Park & Folkman, 1997) especially when the perception is that the event has indicated some risk for the future. In a primary appraisal according to Bagozzi (1992) the relevance of the environmental conditions are considered along with the conditions that will help or hinder the behaviour change and maintenance afterwards. In a study by Folkman & Lazarus (1986) concerning coping with stressful encounters it was found that the judgements made during primary appraisal had an effect on how the 85 couples in the study coped with stressful encounters in their lives but equally during the coping process the decisions made in primary appraisal were often re-appraised as influences from the social environment affected the behaviour changes.

Secondary appraisal (Folkman et al, 1986) was a consideration of the means that would be employed to change the behaviour. A person would consider what resources would help them change their behaviour such as family, finance or other activities and knowledge for example in the present context of dietary health (Bagozzi, 1993; Park and Folkman, 1997). The options for coping are considered and the success and failure of possible coping options are evaluated (Lazarus, 1991). In the study on stressful encounters by Folkman & Lazarus (1986) secondary appraisal was found to have a stronger effect on the outcome of a stressful encounter than primary appraisal. In the present context of dietary behaviour change where the behaviour changes are complex secondary appraisal only has an effect on short term outcomes such as changing diet when conditions are predictable such as during the first week of a planned diet (ibid, 1986). When conditions change and more complex dietary options are involved such as with special events secondary appraisal is not a predictor of a successful outcome of dietary behaviour change. Putting coping strategies into place follows on from primary and secondary appraisals and the relevant theories for behaviour change are reviewed in the following section.

3.8 Coping Strategies

3.8.1 Coping Strategies

Coping strategies are processes that help with stressful situations involving personal and environmental factors. The strategies were introduced by Lazarus (1991) and developed by Folkman and Lazarus (1986). Coping involves the practical implementation of changing behaviour (Folkman et al, 1986). The processes that follow appraisal involve thoughts and behavioural efforts to manage behaviour changes or to avoid behaviour change. Coping strategies are contextual and depend on the actual circumstances of the situation and could involve dealing with impediments to behaviour change from the environment (ibid 1986). There are two main functions of coping, firstly coping serves as a problem focused function where changes are made to the person's problem environment to alleviate stress (Lazarus, 1991). Problem focused coping (Bagozzi, 1992) in the present context concerns where action is taken to alleviate stress; making changes to relationships with work, home or significant others to facilitate with dietary change. The second function of

coping facilitates involves keeping emotional reactions under control and is known as emotion focused coping.

Two studies by Folkman and Lazarus in 1980 and 1985 provide evidence that both functions of coping are necessary. In 98 per cent of stressful situations in a study on middle-aged men and women (Folkman & Lazarus, 1980) both functions of coping were present and in 96 per cent of stressful situations in a study with students (Folkman & Lazarus, 1985) both functions of coping were evident. The functions of coping were described in a study on race-related stress with regard to black men (Crockett et al, 2003). The findings demonstrated that both problem-focused responses and emotion-focused were used in responding to racial discrimination. Emotional control was created as a coping strategy with the use of humour as a response to stressful encounters. A third dimension to the functions of coping was highlighted within the study in social support (Pearlin 1989; Folkman and Lazarus 1988). Social support had been discounted in previous studies on the functions of coping because it was not support generated by the individual suffering the stress but support from people such as family, friends or work colleagues (Pearlin, 1989). Social support was found to be a facilitating factor with stressful situations (Crockett et al, 2003). Coping strategies were presented in a study by Folkman & Lazarus (1986) on stressful encounters with 85 couples. The relevant strategies are outlined within the next section.

3.8.2 Coping

Coping refers to the way in which individuals respond to situations that cause them stress involving personal and environmental factors (Lazarus & Folkman, 1984b; Folkman et al, 1986). Problem-based coping includes confrontive coping, planful problem-solving and accepting responsibility. Emotion-based coping is where people either alter the meaning of the source of distress by using self-control or positive re-appraisal coping strategies or deny that a threat exists by distancing themselves from the threat or by avoiding thinking about it; (Folkman et al, 1986). Cultivating, seeking and using social support is also used a coping strategy which offers emotional, tangible or informational support.

Figure 3.8-1 illustrates the constructs for the literature framework emerging from the stress and coping literature (Folkman et al, 1986).

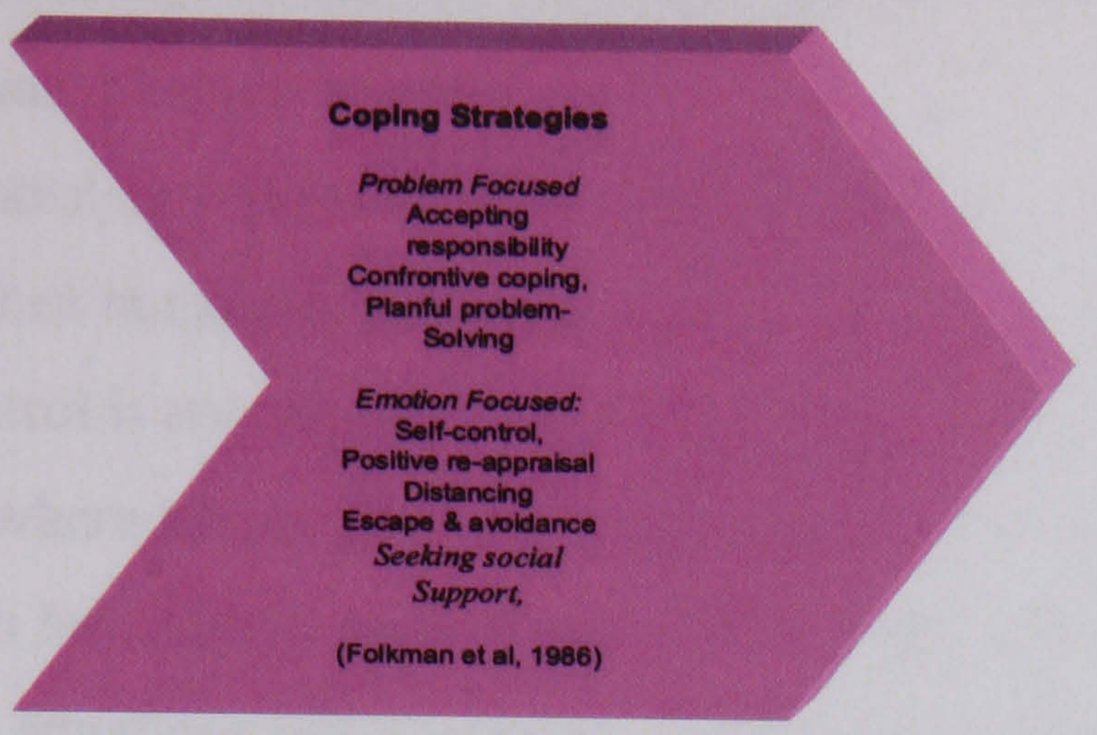


Figure 3.8-1 Constructs for Coping Strategies

3.8.3 Coping strategies relevant to people making and maintaining changes

In problem focused coping the strategy of accepting responsibility concerns the acknowledgement by the person that the responsibility for the problem lies with them (Folkman et al, 1986). Some blame is accepted by the person and the ways to improve the problem behaviour are considered for the next time the problem occurs. In the context of dietary change accepting responsibility or attributing blame to oneself for relapses in behaviour is relevant as diet is a complex behaviour change situation where changes to the environment evolve and accepting responsibility can initiate problem focused coping functions (Janoff-Bulman, 1979).

Confrontive coping as a coping strategy concerns aggressive efforts to alter the situation or taking a risk with a new behaviour for example when family or peers do not agree with the dietary behaviour changes. Planful problem solving describes the efforts to create problem focused efforts to alter the situation couples with an analytic approach to solving the problem for instance to make a plan of action and follow it. Sometimes there can be contingency plans within the strategy to deal with difficulties that may occur for example when temptation to revert to previous behaviour arises (Folkman et al, 1986). The planful problem-solving strategy is used when the behaviour changes need to vary (such as with diet). This problem-focused

method of coping is used in the appraisal period when preparation is taking place and through the implementation and maintenance of change period when adjustments to the original plan are required.

Self-control as a form of emotion focused coping concerns the regulation of feelings and actions in making and maintaining a behaviour change (Folkman et al, 1986). If self-control is accompanied by seeking social support it leads to problem-focused coping where advice is sought to understand more about controlling the stressful situation for example having strategies in place when unhealthy foods are tempting. In other situations self-control is combined with escape-avoidance coping strategies where the situation needs to be managed. Delaying tactics are employed using emotion focused coping functions such as making excuses for not making dietary changes or asking for more information (ibid, 1986). Positive re-appraisal is important as part of the impact that the change of behaviour has on peoples' emotions when goals (maintaining better health) are achieved. The feelings involved as change is maintained are uplifting and euphoric (Folkman et al, 1986). Positive re-appraisal can be used as an emotion focused coping strategy as a facilitating factor in changing people to positive management of dietary behaviour (Aldwin et al, 1980). Social support applies to informational and tangible support, for example from professionals. The interesting point about informational support for those who do not change their behaviour is that the support is received but may not be not accepted (Folkman et al, 1986). People who feel embarrassed and have low self-esteem concerning their behaviour seek less social support (Sarnoff and Zimbardo, 1961).

3.8.4 Strategies relevant to those people who do not make changes

Distancing emotion focused coping strategies involves not talking or thinking about the problem or the behaviour change (Folkman et al, 1986). People use distancing to consider the positive aspects of the situation and to control with their emotions (I didn't have cancer and so I don't need to think about my health at the present time). The coping strategy of escape is one where the person wishes the problem such as the symptoms of a minor disease would go away. By refusing to accept the problem behaviour a person can control accepting information or advice about the problem behaviour (Kuhl, 1984). By using escape strategies a person will be motivated not to change their behaviour and will demonstrate little emotion concerning the problem

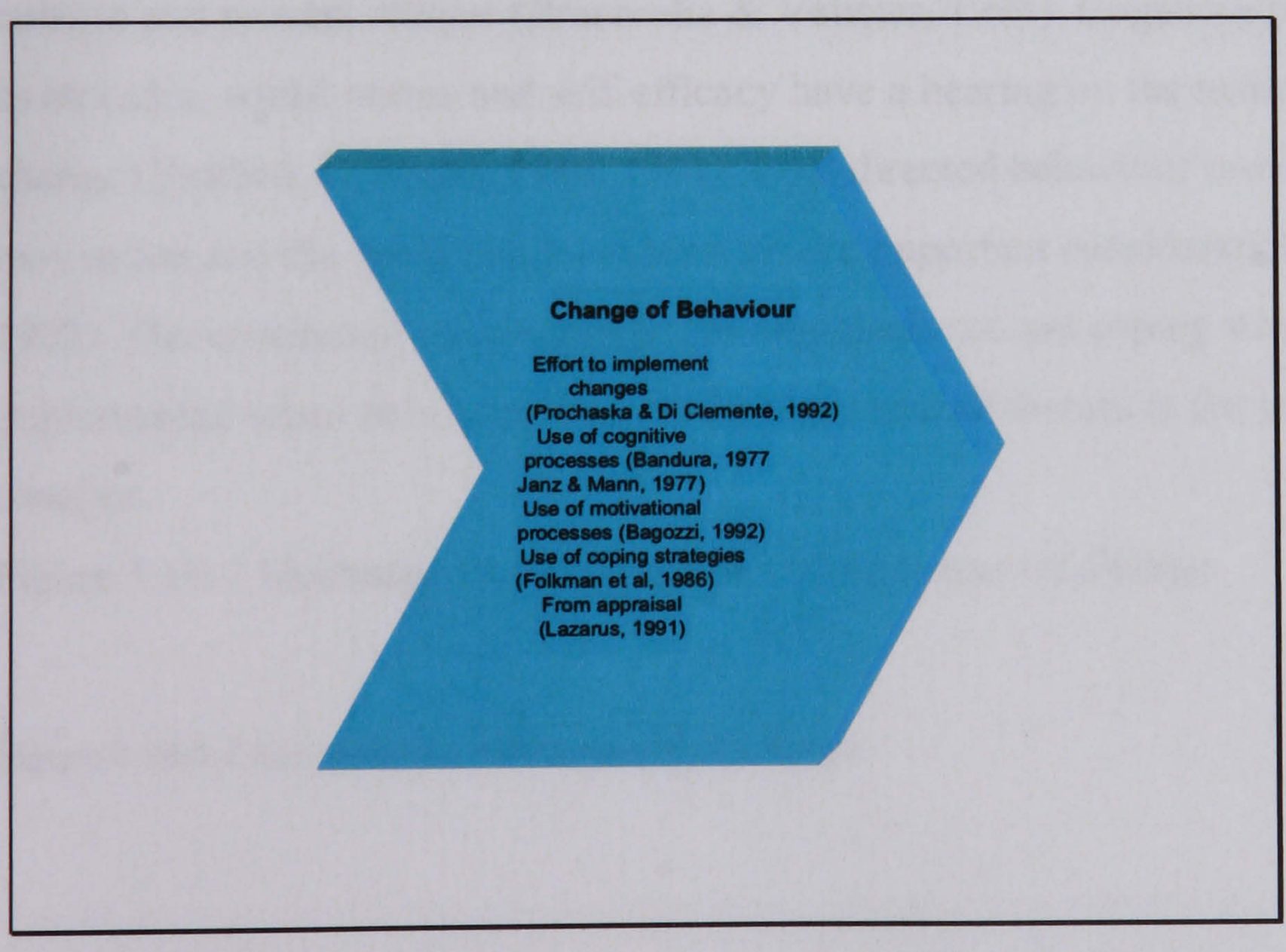
behaviour (Bagozzi and Dholakia, 1999). The strategy can be manifested in avoidance strategies where the person takes comfort from other compensatory eating behaviour instead of facing up to the problem (Folkman et al, 1986). The other behaviours can include drinking, and smoking, using drugs or medicine (Woodruffe-Burton, 2003). The culmination of the previous sections is the implementation of behaviour change which is reviewed in the following section.

3.9 Change of Behaviour

The stages of change model by Prochaska & Di Clemente (1992) has value as a tool to measure the temporal stages of change including the decision making processes utilised in contemplation stage of change (Janz & Mann, 1977) and the actual behaviour that is implemented when people make behaviour changes (Steptoe et al, 1996). Behaviour is a descriptive term only concerning the amount of food intake in the context of dietary behaviour change (Steptoe et al, 1996). There are issues associated with the accuracy of self-assessment techniques (Glanz et al, 1994) and staging algorithms (Curry et al, 1992) where awareness of the risks associated with the amount of food intake are not known (Brug et al, 1997).

Figure 3.9-1 illustrates the constructs concerning change of behaviour.

Figure 3.9-1 Constructs for Change of Behaviour



Other psychosocial cognitive processes such as attitudes (Fishbein & Ajzen, 1980) and self-efficacy (Bandura, 1977) are found to be better predictors of stages of

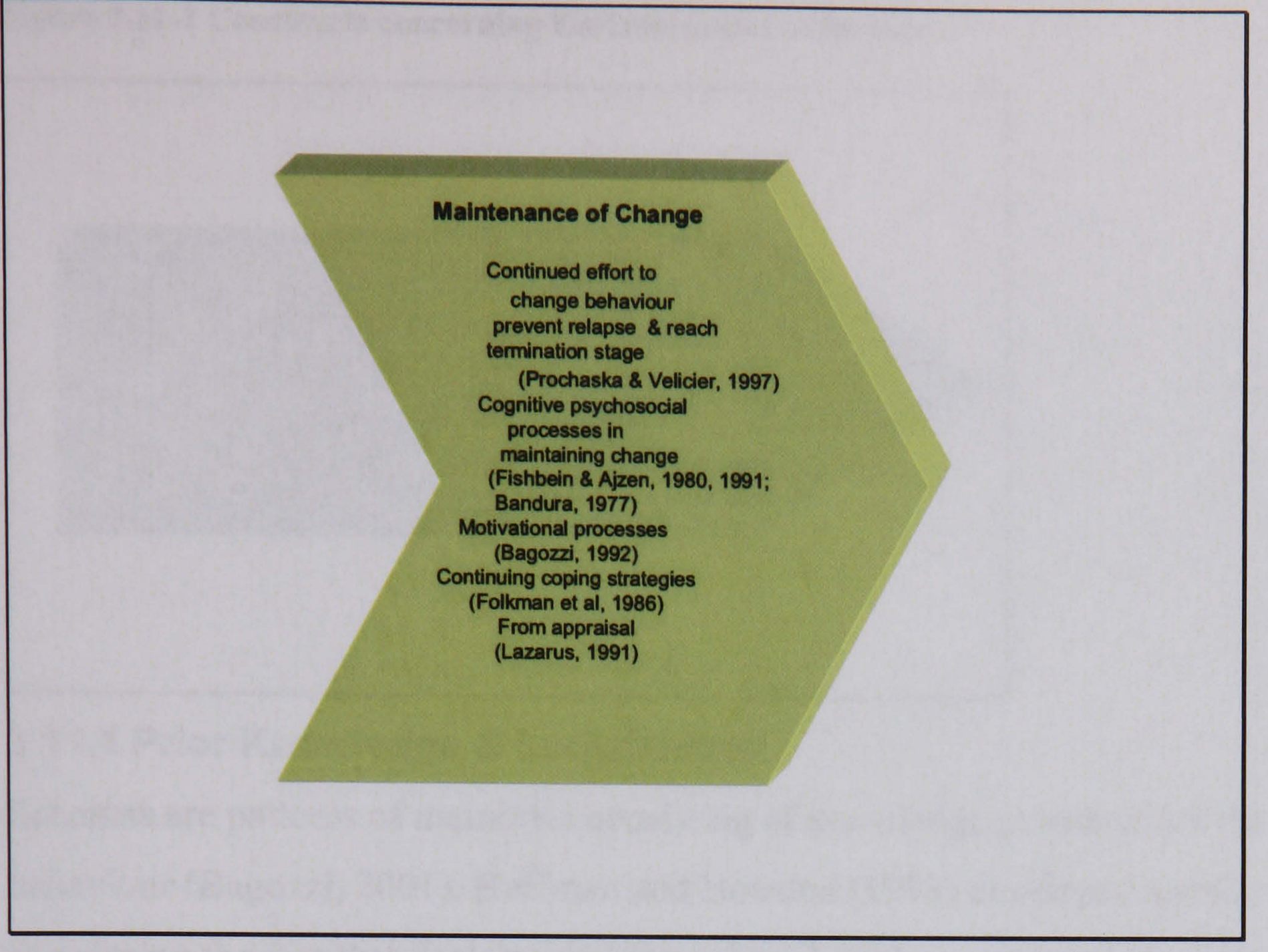
change than behaviour (Steptoe et al, 1996). Motivating processes have also been found to be predictors of behaviour change and stages of change (Brug et al, 1997). But motivating processes are not examined clearly by authors such as Ajzen and Fishbein (1991) as they do not clarify the effort involved in implementing changes to include motivating as well as cognitive processes. There is a need to review goal directed theory when considering motivating processes such as the constructs of desire and volition (Bagozzi, 1992). Goal directed behaviour evaluates effort to make behaviour changes as an ongoing complex process that does not finish with behaviour change but continues throughout maintenance of change (ibid, 1992). Change of behaviour needs evaluation and planning therefore appraisals (Lazarus, 1991) and coping strategies are required (Folkman et al, 1986) when considering a study of change of behaviour. These processes are continued into maintenance of change outlined in the following section.

3.10 Maintenance of Behaviour

Maintenance of change begins six months after action stage of change (Prochaska & Di Clemente, 1992). Maintenance of behaviour is the focus of the present study and involves the continued effort by individuals to change behaviour within their social context and prevent relapse (Prochaska & Velicier, 1994). Cognitive processes such as attitudes, social norms and self-efficacy have a bearing on the maintenance of change (Fishbein & Ajzen, 1980, 1991). Goal directed behaviour involves the motivation and the goals that have been set are important considerations (Bagozzi, 1992). The continuing monitoring of the appraisals set and coping strategies implemented when behaviour was changed are crucial factors in the maintenance of changes.

Figure 3.10-1 illustrates the constructs for Maintenance of change.

Figure 3.10-1 Constructs for Maintenance of Change

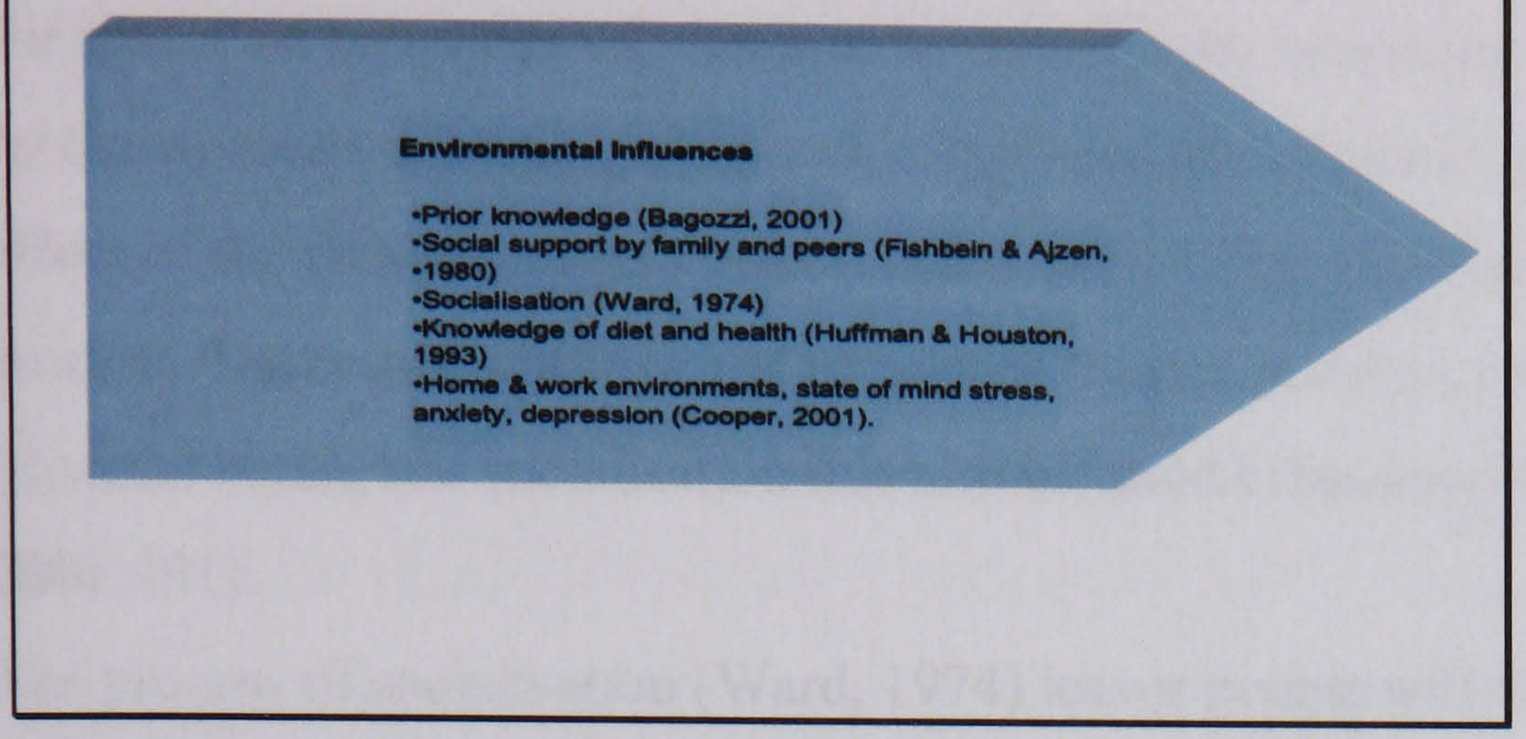


The outcomes that are planned when behaviour change takes place will need to have flexibility with complex behaviour changes such as diet (Rothman, 2000). The environmental contexts of peoples' lives change constantly and this must be taken into account within a study on maintenance of change (ibid, 2000). Finally the environmental influences are considered in the following review section.

3.11 Environmental Influences

Environmental influences concern a number of internal and external stimuli that can effect the decision to make a behaviour change and to maintain change. The constructs for environmental influence are illustrated in Figure 3.11-1.

Figure 3.11-1 Constructs concerning Environmental Influences



3.11.1 Prior Knowledge & Socialisation

Schemas are patterns of memories consisting of knowledge gained about the behaviour (Bagozzi, 2001). Huffman and Houston (1993) developed a study concerning the fact that decision making is based on the sensitivity of a consumer's knowledge. When a consumer has the goal of changing behaviour they have some acquired knowledge of the behaviour concerning valuable features of that behaviour and how these features can bring benefit. (Huffman & Houston, 1993). It has been claimed that a goal works by providing a structure to work towards and by which to determine relevant incoming information (Ehrlich & Johnson-Laird, 1982). Prior knowledge concerns having prior learning concerning why short-term behaviour such as diet leads to longer-term goals of better health (ibid, 1993). According to Huffman and Houston (1993) if a consumer is aware that there is a connection between the goal of better dietary health and a particular behaviour (consuming foods containing more fibre) this is not sufficient knowledge for behaviour change. The consumer requires to have acquired a functional knowledge concerning why and how foods containing fibre are helpful. A functional knowledge of dietary health in the present context would be helpful in structuring appraisals and plans for behaviour change (ibid, 1993). Similar to Bettman (1979) with the idea of sub-goals, Barsalou (1991) introduced goals that form 'frames' which are made up of previous knowledge gained and other evaluations. For example the 'frame' of better dietary health could include, exercise, cutting down on alcohol, changing one's diet, getting regular health checks and taking more time to relax to avoid stress (Bagozzi &

Dholakia, 1999). Taylor et al's (2001) study on gender differences in the self-regulation of hypertension found that the determinants of effort of 102 women in making a behaviour change was linked to subjective norms (such as family and friends). Past memories of efforts as to make health behaviour change were recalled by the women concerning their own efforts and the efforts of family and friends. The effect of the memory of past efforts had a direct effect on behaviour change for the women. The responsibilities and responses learned in early childhood were a result of social bonds and socialisation this also affected behaviour change (Taylor et al, 2001:481).

The process of socialisation (Ward, 1974) leaves people with the ability to choose information and retrieve relevant knowledge from their past social environments before changing their behaviour (Mangleburg et al, 1997). If a goal of better dietary health involves daily food routines which are carried out without thought (i.e. habitual behaviour) then the new behaviour must be learned as a part of the pattern of daily life (Bagozzi & Dholakia, 1999). In the present context of dietary behaviour the learned dietary behaviour originates from conditioned responses learnt from socialisation during childhood. Classical conditioning (Pavlov, 1927) comprises of incentives learned and repeated often that help with the recall of prior experiences of the behaviour and aid in change of behaviour.

In the same study by Taylor et al (2001) for the 105 male respondent's attitude towards success, perceived behavioural control and other motivational processes were more significant rather than the cognitive processes such as subjective norms linked to socialisation that had been significant for the women. However past efforts at changing behaviour were remembered and were important for both gender groups. The influence of family and peers is part of the stimulus of change (Fishbein & Ajzen, 1980). Subjective norms and normative influences continue throughout the stages of change and form part of the environmental influences within primary and secondary appraisal and coping strategies (Bagozzi, 1992; Folkman et al, 1986).

Social support such as family and friends can facilitate or inhibit dietary change and continues to have influences during maintenance of change. A relevant environmental influence for a thesis on behaviour change and maintenance is the work environment that a person experiences and this is reviewed in the next section.

3.11.2 Work environment

Conditions such as stress, low self-esteem and anxiety can have an influence on people who are trying to make or maintain behaviour changes. When an individual is suffering from stress (Barrier 1984) psychological and physical problems can occur and during periods of stress it is important to maintain a healthy diet. In terms of dietary behaviour change studies have been developed concerning the link between stress and dietary health.

Relationships in the work environment between manager and employee have been cited as important in terms of work stress. A bullying management style is becoming more prevalent as a cause of stress when employees are under pressure at work (Cooper, 2001). Cusack (2000: 2118) noted "there is an increasing recognition that workplace bullying occurs". Bullying and stress related disorders have been linked to eating disorders such as binge eating (Striegel-Moore et al, 2002) which could have an effect on maintaining dietary changes.

Today Magazine (2002: 6) claimed in an article "during times of stress people often turn to traditional "comfort foods". The consuming of foods that are high in sugar, fat and salt as a reaction/comfort after or before stressful situations is known as compensatory consumption (Woodruffe-Burton, 2003). The McKinlay Health Center (2004: 1) noted that "irritable bowel syndrome can be controlled by avoiding foods that might cause symptoms and reducing stress". Anxiety, depression and stress related illnesses have been associated with IBS (Digestive Disorders Foundation, 2004). Individuals can feel undermined and have low self-esteem and feelings of being low as the result of stress at work (Cooper, 1998).

3.12 Conclusion of Chapter

Within part one of the chapter social marketing provided a marketing context for the thesis with the focus on behaviour change (Andreasen, 1995). As social marketing has developed it was demonstrated that behaviour change models were essential tools in understanding high involvement decisions to make dietary changes. Andreasen (2003) highlighted that goal directed theory (Bagozzi & Warshaw, 1990) was a doorway to more understanding concerning what happens after behaviour changes are implemented and maintenance of change begins.

Building on the knowledge gained from social marketing (Andreasen, 2003) in part two of the chapter, a conceptual framework was constructed (Creswell, 1994) from the constructs deriving from behaviour change theory (Prochaska & Di Clemente, 1982) and goal directed behaviour (Bagozzi & Warshaw, 1990). Stages of change were reviewed as the underpinning for the conceptual framework in Prochaska & Di Clemente's Transtheoretical Model (1992). The thoughts and attitudes that occur when stimulus of change happens have been critically analysed using social cognition models (Becker, 1977, Rotter, 1954 & Fishbein & Ajzen, 1980, 1991) in the stimulus of change section. Goal-directed literature (Bagozzi, 1990, 1992, 1993) and the studies on stress and coping (Folkman et al, 1986 Lazarus, 1991) were reviewed in the sections concerning primary and secondary appraisals and coping strategies. Change of behaviour and maintenance of change in the present context were examined critically to include all the constructs necessary for a study on dietary behaviour change (Fishbein & Ajzen, 1991; Bagozzi, Folkman et al, 1986; Rothman, 2000). Environmental influences such as socialisation processes and previous knowledge have been taken into account as well as the emotional and psychological influences from the work environment. (Huffman & Houston, 1993, Ward, 1974; Cooper, 2001). In the next Chapter (Three) the methodology for the thesis will be analysed using a qualitative application (Carson et al, 2001).

4 Research Methods

4.1 Introduction and Aims of the Research Methodology Chapter

The purpose of the research methodology chapter is to critically analyse the philosophical position of the research design in order that the design and methodological approaches applied within the study are clearly explained and argued. The aim of the first part of the chapter is to present the research problem and the methodological approach utilised in addressing the problem. The second part of the methodology chapter reviews the implementation of the research methodology concerning the ethical issues, data collection and analyses. Also included in the second part of the chapter is the analysis of the validity of the research and the methodological issues.

4.2 The Purpose of the Study

The focus of the research in the thesis is behaviour change and the purpose of the study is:

- To develop understanding and explanations of the different ways in which people make and maintain behaviour changes when a significant personal stimulus (such as a test for bowel illness) is present.

The research strategies for the thesis are concerned with.

- Developing a conceptual framework drawn from literature to explain how people respond differently to a stimulus of change (Creswell, 1994).
- Categorising participants according to stage of change, and monitor this across the study period (Prochaska & Di Clemente, 1982)
- Using an interpretive approach (Hudson & Ozanne, 2001), for each individual, characterise the main factors impacting on their lives throughout the behaviour change period, based around:
  - Psychological factors (e.g. goals, emotions, attitudes, coping strategies)
  - Social (e.g. family, friends)
  - Environmental and situational factors (e.g. work life, access to information about diet and health, provision of healthful foods)

- Influence of behaviour change on their lives, social environments and well being.

During the literature review it was revealed that the subject of behaviour change requires further development (Ajzen, 1991; Andreasen, 2003) beyond the study of the implementation stage of behaviour change (Bagozzi & Warshaw, 1990). The psychosocial and environmental factors such as social norms and attitudes (Ajzen, 1991) past behaviour, emotions, self efficacy (Bagozzi, 1992), appraisals and coping strategies (Lazarus, 1991; Folkman et al, 1986) are selected with the methodological approach adopted. The choice of methodological approach is presented in the following section. It was essential to choose a paradigm that allowed the psychosocial and environmental factors involved in making and maintaining a dietary behaviour change to be researched adequately and more understanding of these factors to be derived (Hudson & Ozanne, 2001).

4.3 The Interpretivist Paradigm

There are two main philosophical stances within social science from which methods should be applied (Easterby-Smith, 1997). Creswell (1994: 4) noted that the first of the two paradigms was positivism which is termed "the traditional, the positivist, experimental or the empiricist paradigm. The positivist paradigm was established by authors such as Compte (1853), Mill (1959), Durkheim (1982) Newton (1997) and Locke (1991)". The second paradigm according to Creswell (1994: 4) is the interpretivist paradigm which is known as "constructivist, naturalistic, interpretive, or post-positivist paradigm". The interpretivist paradigm has been selected for the thesis. The key beliefs of the interpretivist paradigm are illustrated within Figure 4.3-1

Figure 4.3-1 Interpretivist Approaches

A SUMMARY OF THE INTERPRETIVE APPROACHES

Assumptions	Interpretive
Ontological: nature Of reality	Socially constructed Multiple, holistic contextual
Nature of social beings	Voluntaristic Proactive
Axiological Overriding goal	"Understanding" based On *Verstehen*
Epistemological Knowledge generated	Idiographic, time-bound Context-dependent
View of causality	Multiple, simultaneous shaping
Research relationship	Interactive, co-operative No privileged point of observation

Hudson & Ozanne (2001:509) "Alternative Ways of Seeking Knowledge in Consumer Research".

The reason for choosing an interpretivist stance is that there is a need to understand the experiences of the people making behaviour changes and the meaning the changes have brought in their lives as they continue to maintain them (Anderson, 1986; Creswell, 1994). The thesis focuses on the meaning of a stimulus to people who could potentially make a behaviour change because of an illness. The second important point within the focus is how a stimulus can lead to them making a behaviour change. Once the changes have been made the link between the reminder of the stimulus and how behaviour changes are implemented and then sustained can be explored.

The methodological approach applied impacts on what people find in research (Anderson, 1986). The positivist paradigm has been utilised in previous behaviour change studies (Prochaska & Di Clemente, 1992) with success. Within the thesis some categorisation based on previous learning from behaviour change studies (ibid, 1992, Schwarzer, 2001) was utilised to confirm and support the interpretivist paradigm and this approach added value to the findings. Interpretivists believe that their world is constructed within society. Individuals create devices such as theories and categories to help them make sense of their world (Burrell & Morgan, 1979). The interpretivist researcher needs to understand both the social context of the

stimulus and the behaviour change itself to clarify why people change within a given set of circumstances. Therefore people should not be studied out of the social context of their lives (Hudson & Ozanne, 2001). The viewpoint taken by interpretivism was applied within the current study as the participants were studied within the social context of their lives both in the clinic where they received the diagnostic test and in their home environment. It is important that the study took place where the participants could relate to the situation being researched and help them construct their thoughts and responses in relation to the subject (Ibid, 2001). In the following sections the ontological, epistemological and methodological positions are considered within the interpretivist paradigm.

4.3.1 Ontological Position

Ontology represents reality (Carson et al, 2001) and reality assumes different forms within each paradigm. Within the present thesis the chosen paradigm is interpretivism which involves much interaction and many subjective views of reality explored through the experiences of the participants taking part in the study (Hudson & Ozanne, 2001). The ontology of interpretivism concerns unique perceptions of the real world (within a social context) gained through using different tools within interpretivist research (Carson et al, 2001). The present study takes the world view of the interpretivist paradigm and assumes that there are many realities.

4.4 Epistemological Position

Epistemological positions are principal components of philosophy after ontology and these positions confirm much of the knowledge claims within a group of subjects (Anderson, 1986). Epistemology involves the links between the researcher and the subject they have chosen to study (Creswell, 1994). The interpretivist epistemology involves subject areas where situations such as observation and communication with the participants take place (Creswell, 1994). There are axiological questions raised with the interpretivist epistemology. Axiology (axiom) involves "a proposition that can be accepted without proof or evidence and may occur as a premise" (Colman, 2003:73). The qualitative researcher provides the main vehicle for data collection and within the thesis the researcher carried out the in depth interviews (Creswell, 1994). Phenomenological researchers cannot be separated from the research process (Easterby-Smith, 1997) and it was important to establish the role of the researcher

with the participants (Kopala & Suzuki, 1999). Within an interpretivist study the reporting of the situation is by necessity intertwined with the values and opinions of the researcher and so biases will occur (Creswell, 1994). The prior knowledge and experience of the researcher brought value to the research and it was important that the views of the researcher were not used to influence the participants (Carson et al, 2001). It is acknowledged that the interviewer may have impacted on the behaviour of the participants during the period of research although only one participant highlighted the fact that his changes to behaviour had been influenced in some part by the first interview (Easterby-Smith, 1997). In order to overcome this difficulty the participants were interviewed within their social context to provide a natural setting and less bias (Hunt & Martin, 1988; Daley & Zuckoff, 1999). Non directive questions were asked and active listening techniques such as nodding were utilized rather than verbal evaluations of responses during the interviews (Carson et al, 2001). The researcher focused on the accounts of the participants rather than influencing the topics for discussion.

Interpretivist research does not present axioms (self-evident facts). Interpretivists have been criticised for being too vague and abstract in their reporting of realities (Anderson, 1986). The reason for the lack of distinctive facts when taking an interpretivist stance means that the researcher can be open to the different responses of the participants and no set premises are fixed concerning the expectations of the emergent data.

4.5 Methodological Approach

From the ontological and epistemological positions within an interpretivist paradigm a qualitative methodology is carried out. The qualitative approach interprets the language that people express and the meanings derived from their responses (Hudson and Ozanne, 2001). Theories are chosen for their relevance to the study within interpretivism. Within this study the stages of change (Prochaska & Di Clemente, 1982) was selected as a behaviour change framework and goal directed behaviour (Bagozzi, 1992) was built upon during the present work as a developing theory of behaviour change and maintenance of change. (Hudson & Ozanne, 2001). These

theories were not qualitative in nature and this was taken into account when applying the methodological approach (Anderson, 1986). If the emphasis of the research is qualitative then induction is applied (Carson et al, 2001). Within the thesis inductive research meant that theoretical constructs were selected and built into a conceptual framework (Miles & Huberman, 1994) and the theoretical framework was led by the findings in the data. In this way the explanations of why people make and maintain dietary behaviour changes were made and further theoretical outcomes were presented (Carson et al, 2001: 12). The particular interpretivist methodological approach used in the present study was phenomenology utilising semi-structured interviews and some factors are outlined concerning this approach in the following section.

4.5.1 Phenomenology

Phenomenology can be regarded as philosophy of science (Creswell, 1994). It is more readily recognised as a basis for a methodological approach to qualitative research within interpretivism according to writers such as Husserl (1931), Heidegger (1889), Schuler (1990), Sartre (1965) and Merlau-Ponty (1963) (Nieswiadomy, 1993). Phenomenological studies (Creswell, 1994) involve examining the detailed experiences of the participants' lives so that for example in the present context comprehensive descriptions of the impact of making and maintaining behaviour changes can be explored. The participants in a phenomenological study are studied in terms of their experiences and lifestyle using detailed descriptions of their lives in terms of dietary habits. The phenomenological method involves exploring the lives of a sample of people for a considerable period of time (Creswell, 1994). In the present context the participants were studied over a period of one year. The longitudinal nature of the study lends itself to a clearer understanding of the patterns and experiences that people go through during the behaviour change and the beginning of the maintenance period (Dukes, 1984, Oiler, 1986). The work of the phenomenological researcher concerns exploring not only the relationships within peoples' lives but also their deeper thoughts and psychological responses to behaviour change (Atkinson, 1972).

There is no exact methodology for carrying out phenomenological research (Chamberlain, 1974, Miles, 1979). Phenomenology produces open and unreserved responses concerning the human experience of reacting to a stimulus and putting behaviour changes into place (Sanders, 1982). In depth interviewing techniques are utilised to collect comprehensive accounts of participants' experiences. Themes emerge from the data collected and these themes substantiate the evidence from literature (Sanders, 1982). The present study utilised the method of semi-structured interviews in a longitudinal piece of work using phenomenological principles.

4.5.2 Phenomenological proposals linked to the thesis

When carrying out a phenomenological study there are no preconceived ideas forced onto the participants. Therefore there are no restrictions concerning the emergence of rich and significant data that paint an intricate picture of the participants' lives (Moustakas, 1994). The first important point for the phenomenological researcher to discover is what the experiences of the participants have been concerning behaviour change and maintenance of change. The second point is to have the ability to explain the experiences fully within the research findings (ibid, 1994). The cognitive processes that people use when choosing to change their behaviour has significance within phenomenology as the appraisals made (Lazarus, 1991) are the first step in making a behaviour change (Fewtrell & O' Connor, 1995). An individual making an appraisal uses knowledge of previous situations and stimuli to evaluate what options are on offer (Bagozzi, 1992). During the process of appraisal (Lazarus, 1991) the stimulus of change becomes less important and the evaluation of the consequences of behaviour change is anticipated (Fewtrell & O'Connor, 1995). To continue with this point thoughts and emotions (Lazarus & Folkman, 1984a) are often integrated at times of important decisions such as when a stimulus of change occurs (Izard, 1979). Schemata are the organisation of the thoughts and emotions that are used when judgements are required such as a stimulus of change event (Belk, 1988). The participants within the study made sense of the situation concerning the test they had experienced by ranking the schemata and the circumstances with regard to their personal social norms and criteria (Kelly, 1955).

Many of the theoretical constructs adapted within the literature review have previously utilised quantitative approaches as research methods within their studies.

Hunt and Martin's behaviour change model (1988) was considered for the thesis but their work did not develop behaviour change beyond implementation and was only applied in one other study (Currie et al, 1990). Hunt and Martin (1988) adopted a qualitative methodology as a secondary approach after an initial quantitative study within their work on the intake of high fibre foods. These authors criticised the quantitative laboratory research that was routinely carried out to measure behaviour change and advocated that participants should be studied within the social context of their lives. Currie et al (1990) applied Hunt and Martin's model to another study on five health related behaviours using qualitative research. Prochaska & Di Clemente's stages of change model (1982) was chosen for the thesis as it is well established in behaviour change literature and has been utilised in a qualitative study concerning obesity and behaviour change (Cioffi, 2002). If behaviour change models have been previously used with quantitative methods this does not prevent them being utilised within a phenomenological study as such a study can be strengthened by quantitative models and add to previous findings.

4.6 Theoretical Limitations

Quantitative methodological approaches have traditionally been utilised with attitude models (Ajzen, 1991) and behaviour change models (Prochaska & Di Clemente, 1982). Interpretivist approaches were not been traditionally considered until the newer paradigm had developed (Easterby-Smith, 1997; Hudson & Ozanne, 2001). It is recognised that use of similar theoretical and methodological approaches is beneficial (Denzin, 1994) and if the theory and methodology support each other they will provide strong validity and justification for the research (Hudson & Ozanne, 2001). Within this thesis as quantitative models were utilised with an interpretivist approach. Anderson (1986) highlighted that quantitative methodological approaches are evolving and more utilisation of interpretivist approaches is being introduced with quantitative models. As behaviour change involves multi-disciplinary scholarship (Andreasen, 1995) alternative means of deriving the meaning of carrying out behaviour changes is explored using interpretivist approaches (Hudson & Ozanne, 2001) which can add value to the previous quantitative findings. Within qualitative methodology quantitative theories are utilised in scholarship and research (Hudson & Ozanne, 2001). During the literature review quantitative models were

found to be the most appropriate for the study of maintenance of behaviour change (Bagozzi & Warshaw, 1990). It was therefore important that the underlying meaning and assumptions made within the theories were understood and incorporated into the research as different theoretical and methodological approaches were used (Anderson & Thatcher, 1986). Valuable knowledge and insights were gained into the experiences of making behaviour changes by using different theoretical and methodological approaches (Hudson & Ozanne, 2001). Although the theory and methods derived from different schools of thought it was possible to create a deeper understanding using an interpretive approach (ibid, 2001).

The Transtheoretical Model (Prochaska & Di Clemente, 1982) for instance was researched originally with quantitative methods utilising the stages of change construct. The model has been criticised for utilising a single method (Bunton, 1999). There was value in using quantitative methods in early studies as this gave accuracy in terms of initial research questions concerning behaviour change (Hudson & Ozanne, 2001). Now that the Transtheoretical Model (Prochaska & Di Clemente, 1982) has been established within quantitative research, interpretivist research methods that explore the social context of behaviour change will provide more insights to understanding the factors that effect behaviour change. In this way the environmental and psychological influences that effect behaviour change can be developed further (Hudson & Ozanne, 2001). The present study utilised the Transtheoretical Model as a holistic framework within an interpretivist approach in the conceptual framework and also used the model to categorise and assist in content analysis.

4.7 Building a Conceptual Framework

Within the interpretive approach a conceptual framework drawn from literature (Section 3.1-1) and was utilised at an early stage in the research process (Miles and Huberman, 1994). A conceptual framework provides a diagrammatic or textual illustration of the chosen constructs from the literature reviewed and concerns how these constructs link to the focus of the thesis (Creswell, 1994). The scope of the conceptual framework was to suggest signposts to help with the framing of the open questions and in depth prompts for the interview schedules and to provide guidelines

for coding the data (ibid, 1994). Analysis of the findings involved utilising the constructs from the conceptual framework built from theory as a starting point. The analysis was then guided with the use of the theoretical themes by the data in the findings (Carson et al, 2001).

4.8 Data Analysis – links to the paradigm

In recent years studies have been carried out concerning the methods of analysing qualitative data (Spiggle, 1994). Interpretivist research was studied by Hirschman (1986), phenomenological research by Thompson et al (1990). Some other guidelines in interpretivist research were provided by Belk (1988), McCracken (1988) and Wallendorf & Belk (1989). Qualitative approaches have been criticised as not being as thorough as scientific methods. Calder (1977) pointed out that qualitative research was never intended to have rigor or scientific value. When analysing qualitative data there is no correct technique (Creswell, 1994). A phenomenological approach involves exploring the individuals' understanding and knowledge concerning what is involved in behaviour change (Sanders, 1982). Each individual in the study will have a different perspective on the knowledge and understanding concerning dietary change as they will have different levels of consciousness concerning the problem related to dietary behaviour change. Certain strategies will be similar for individuals and these themes are merged and formed for interpretive analysis.

The phenomenological approach involves exploring the experience of a set of people and presenting those experiences (Calder, 1977). Qualitative research is an excellent way of bridging social distances and comparing different group of consumers. Phenomenology studies actions and what has been learnt by individuals during everyday life when trying to make changes (ibid, 1977). Qualitative analysis concerns trying to understand what the participants have said concerning the situation in context. The use of some categorisation in the form of tables and illustrations are necessary as is the emphasis on new emerging ideas that appear while analysing the data (Spiggle, 1994).

Within the data gleaned from qualitative research the consumers' involvement with behaviour change and the impact of changes concerning the specific psychosocial responses within a social context are analysed (Bergadaa, 1990; Heisley & Levy, 1991; Hirschman, 1986; Mick & Buhl, 1992). Within qualitative analysis inferences

can be drawn first of all from the theories built within the conceptual framework and then from the data (Spiggle, 1994). Further the interpretations of themes and patterns arising from the participants' responses can provide clear pictures of the experiences for the conclusions of the work (Ibid, 1994).

Previously writers concerning themselves with research methods omitted qualitative analysis within their textbooks (Bryman and Burgess, 1994). Other writers have focused their writing on a specific area of qualitative data analysis such as Miles and Huberman (1994) with coding and matrix illustrations, Strauss and Corbin (1990) with grounded theory analysis and Silverman (1998) with interview conversations and discourse analysis. Tesch (1991) recommended a qualitative approach using description and then interpretation of the data which was adopted within the present study. This approach was comprehensive as descriptive research was backed up with a holistic interpretive approach (Bryman & Burgess, 1994).

Tesch's (1990) approach recommends using the categories from literature and from the interviews to form initial categories for analysis. These categories for analysis are expressed in segments of text which when analysed form common ideas and beliefs and are merged to form themes. The segments of text are de-contextualised from the large amount of data and are re-contextualised by multiple amendments and cutting and pasting. This process is part of the induction process in qualitative analysis. The re-contextualised themes are merged and form 'pools of meaning' for the findings (Tesch, 1990:118). The images described by the participants are used to reflect the situation of the illness and ease or difficulty of making and maintaining the behaviour change. Using the data from the participants and the reflections developed by the researcher from the analysis a deeper picture is revealed (Dandridge et al, 1980). Phenomenological research in studying human experience has filled a vacuum in research as researchers now understand more about how people carry out behaviour changes (Sanders, 1982). As the findings emerge they can add to or criticise existing models and previous works.

The first section of the chapter covered the purpose of the study and how it relates to literature, the chosen paradigm for research and methodology approaches selected for

the thesis. The next section of the chapter will develop the subject of data analyses and the implementation of the data collection.

4.9 Implementation of Methods

The purpose of the second part of the chapter is to provide an overview and evaluation of the methodologies and data collection techniques that have been chosen to support the thesis. The outline of the techniques utilised in analysis is presented and a discussion of the validity and methodological issues of the research is presented. The section commences with the criteria for selecting the sample of participants for the study.

4.10 The Sample of Participants Selected for the Thesis

The choice of a sample of participants was linked to the focus of the present study concerning a stimulus of change (Sanders, 1982). The participants chosen were a small sample of forty people who had received a stimulus to change to their behaviour with a diagnostic test for bowel health. The sample of forty participants all suffered from minor bowel disease. As the disease was minor it was assumed that the participants were capable of making rational decisions concerning their future health (Ibid, 1982). The sample was stratified as it is necessary in qualitative research that "specific characteristics are specified in the sample" according to Creswell (1994: 120). The characteristics of the sample chosen were that they had all had a diagnostic test for cancer and the result of the test demonstrated that they did not have cancer but were suffering from minor bowel disease. The fact that the sample was carefully focused provided rich case study material (Patton, 1990). Within qualitative research a limited sample of participants was more appropriate so that each of the participants would provide detailed information concerning their daily experiences with behaviour change (Carson et al, 2001). Fifty six participants were interviewed for the study overall. Ten participants were interviewed during the pilot stage of interviewing. There was a drop out of six participants in pilot stage and four participants continued onto the main study. From the drop out of six participants in the pilot study:

- three participants had serious bowel disease where a change of diet was not possible
- two were difficult to contact by letter or telephone
- one had suffered a close bereavement.

Forty six further participants were interviewed at the first interview stage along with the four pilot participants. There was a drop out of ten participants after the first stage of interview.

- Eight of the participants who dropped out after the first stage of interviewing were suffering from more serious bowel diseases.
- Two participants from the first interview had suffered a close bereavement (Babbie, 1990; Fowler, 1988).

Sample details are summarised in the table below.

Total Participants interviewed		56
Completed Pilot interview	10	
Completed First interview	46	
Dropped-out		16
Dropped-out after Pilot interview	6	
Dropped-out after First interview	10	
Total proceeding beyond First interview to Main Study		40

4.11 Criteria for Consideration with the Sample Group

4.11.1 Age

The age of the participants was considered from previous research on bowel disease (Harris, 1998). The mean age for the incidence of minor bowel disease was 50-59 years. The sample of participants ranged in age from 30-83 years. The mean age for the sample fell within the mean age for incidence of minor bowel disease (ibid, 1998). It was anticipated that a quota age range might be predicted who would participate in the research of people aged of 40-60 years of age. This quota range was not possible to achieve due to the small numbers of possible participants within the clinic. The wider age range provided more information on the younger age groups aged 30-40 years of age and this data proved to be of value in the findings.

4.11.2 Post Code Area/ Socio-Economic Status

The Carstairs Scores for Scottish Postcode Sectors was used to categorise the post code areas for Edinburgh (McLoone, 1991). The scores did not prove to be accurate as there was a wide mix of socio-economic classes in some post code areas. This did not make it easy to be accurate when providing an estimation of deprivation

categories. The analysis of the first stage of interviewing however demonstrated that some patterns were appearing in the postcode and deprivation categories. When the participants were visited in their homes the post code indication did not always match up with the actual standard of accommodation or type of area that the participant was living in.

4.11.3 Gender

The gender split within the sample was an even mix of male and female participants.

4.12 Semi-structured interviewing

In order to allow the research to develop slowly and build from earlier knowledge gained from theory a qualitative approach was chosen for the data collection (Carson et al, 2001). Interviews provide a deeper dimension to the answers to the research questions (Easterby-Smith, 1997). When designing the semi-structured interviews the issues within the research topic and how the data collection would adapt within the time scale of the research were taken into account (Carson et al, 2001). Sanders (1982: 356) noted that "in-depth semi-structured oral history interviews with the subjects that are tape recorded and transcribed" are appropriate for a phenomenological study The semi-structured interview was chosen because the participants' experiences of behaviour change and maintenance of change could be compared clearly (Patton, 1990). Because the interviews were semi-structured there was more allowance for flexibility with open ended questions (Carson et al, 2001). Qualitative methods such as group work and participant observation were not applicable within an in depth interview methodology that was confidential and sensitive in nature such as with this group of participants (Easterby-Smith, 1997). Diaries were not considered as part of the qualitative research. The participants were not asked to keep a record of their dietary routines or their reflections concerning their dietary experiences. The reasoning behind this decision was that it was considered that some participants might not be able to communicate their dietary incidents or experiences so clearly in writing. More importantly diaries might be construed as a way of encouraging or supporting the participants in changing or maintaining their diet (Stewart, 1982). The rich oral descriptions of the participants' lifestyles were gleaned in the interviews and this methodological approach was more appropriate for a phenomenological methodology (Easterby-Smith, 1997). In the

present study the first objective was to discover what stage of dietary behaviour change the participants were in after their diagnostic test. The second objective was to explore the experiences of the participants concerning their test, their minor bowel disease, their social environment and their daily dietary habits. Finally if the participants had made a dietary behaviour change the objective was to investigate what environmental influences had facilitated or inhibited the maintenance of behaviour change. There were three interview schedules within the longitudinal study carried out with the same set of participants.

4.12.1 The Coding Frame

The conceptual framework of literature (Creswell, 1994; Carson et al, 2001) was designed and built at an early stage in the study using the chosen models from literature. The conceptual framework was drawn from some of the constructs in the models and the chosen constructs were utilised to formulate categories for the series of staging questions/open questions and prompts for the three interviews.

Figure 4.12-1 illustrates the conceptual framework drawn from literature in diagram format (Creswell, 1994).

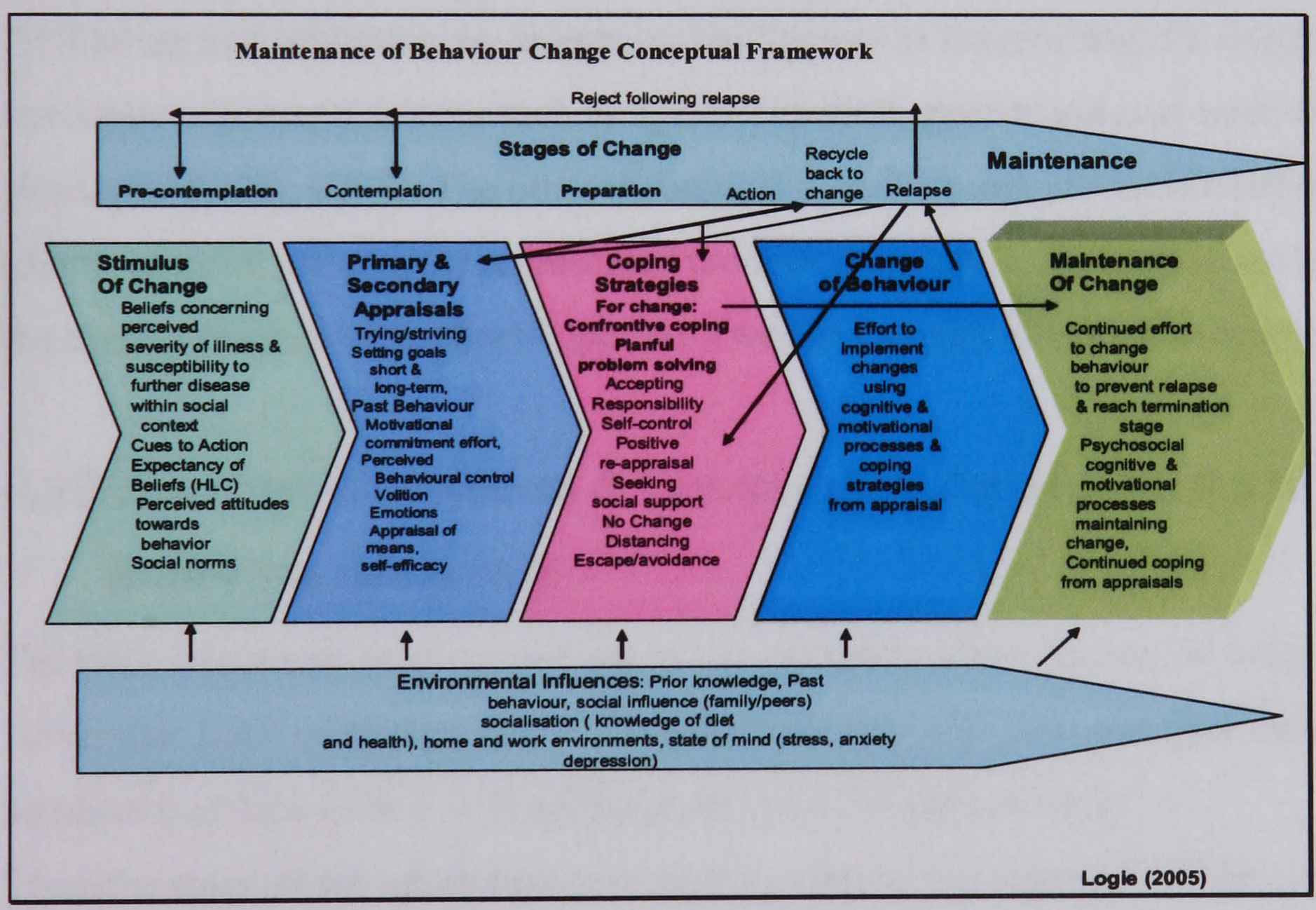


Figure 4.12-1 Conceptual Framework

When designing an interview schedule the questions should relate to the literature chosen for the thesis (Moser & Kalton, 1971). The initial pilot interview schedule

contained concerned the views of the participants concerning the stimulus of change and stages of behaviour change. The questions were made up of a series of closed questions (requiring a one word answer). The staging questions were designed to ascertain the stage of change the participant was in (Prochaska & Di Clemente, 1992) and questions concerning the likelihood of change within 30 days for those who have not changed. The stage of change model was reviewed within the literature and facilitated with the categorisation of participants concerning dietary their stages of behaviour change (Prochaska & Di Clemente, 1982).

Responses to the open ended questions which made up the main part of the interview concerned primary and secondary appraisals such as the circumstances surrounding the treatment, reflections on the situation, when the participants had carried out the changes, influences and thoughts about change and the ease or difficulty of making and maintaining the change (Bagozzi & Warshaw, 1990; Ajzen, 1991). These questions contained prompts and allowed the participant to respond freely. Other open-ended questions concerned how the participants coped with change and the facilitating and inhibiting environmental influences in maintaining the changes. Final questions concerned factors such as age, occupation, gender and post-code area (Easterby-Smith, 1997). The other theoretical processes and one additional theme (environmental influences) represented the four main categories for the analysis in the thesis (Tesch, 1990). (See Appendix Two for the pilot interview schedule).

4.13 The Pilot Interviews & Subsequent Amendments to the Interview Schedule

Ten pilot interviews were carried out in the outpatient clinic within the hospital in November 2000 to January 2001. The pilot interview and first interviews were administered face to face with participants in an out-patient clinic.

The pilot stage of ten interviews was slow to start, as the processes of the outpatient clinic required to be understood and there were less participants with minor bowel disease than predicted. The analysis of the pilot interviews was carried out using "hard copy" transcriptions to interpret the findings. An interpretive analysis was

carried out and themes started to emerge that could be used in the first interviews in the main study. After initial analysis the interview schedule was amended.

A self-efficacy scale was introduced (Schwarzer, 1992). The scale was a measure of self-efficacy that could be utilised to measure how participants felt in terms of self-doubts, optimism and perseverance in times of difficulty when changing their health behaviour. The scale (Schwarzer, 1992) took the form of a Likert Scale (1-7) of closed questions in a continuum (Easterby-Smith, 1997). The participants were asked to mark one answer category indicating the strength of agreement or disagreement with the initial statement (See Appendix Three).

Another amendment concerned stages of change and this section was altered by the introduction of an algorithm (Curry et al, 1992 see Appendix 11). An algorithm is a series of closed questions than form a path towards the answer (Colman, 2003). Issues arise with the validity of self-reported dietary changes. Staging algorithms without a specific behavioural goal are not appropriate for changes in diets that contain several food intake factors (Curry et al, 1992). In a study on dietary fat reduction it was concluded that the staging algorithm could provide some measure for patterns of behaviour in life such as how food is prepared and eaten (ibid, 1992). Self-classification would be more accurate with participants who had knowledge of which foods were suitable for them within a healthy diet for the bowel (Steptoe et al, 1996).

Some of the questions in the pilot interviews were repetitious. One closed question was added to the interview schedule to cover the circumstances concerning a situation where a participant had not made changes but might make changes within thirty days (contemplation stage of change). After the pilot interviews categorisation would be used to measure the stages of change, the levels of self efficacy and eventually to carry out comparisons of participants who had made a change and those who were in other stages of the behaviour change cycle (Prochaska & Di Clemente, 1992).

4.13.1 Advantages of the Pilot Interviews

The pilot participants were contacted again in July 2001 as a follow-up phone call to ask if they would like to take part in the main study. Four participants remained for

the main study. There were many benefits in carrying out this first pilot stage of research:

- there was more awareness of language and content in the interview schedule.
- knowledge was gained about how the clinics worked in practice.
- the categorisation of stages of change was substantiated (Curry et al , 1992)
- a Likert Scale was introduced to categorise self-efficacy (Schwarzer, 1992)
- Demographic variables will be measured in terms of deprivation categories.

4.14 The Main Study

4.14.1 First Stage of Interviewing within the clinic

There were fifty original participants who contributed in the main study including the four pilot participants who were continuing to participate. Ten of the fifty participants were not included in the study. There were forty interviews from the first interview stage used in the main study and these forty interviewees were interviewed three times. It was found to be helpful to produce a leaflet to hand out to patients as the consultants and nursing staff were often busy and did not have time to introduce the study to the participants in the waiting room. The purpose of the leaflet was to introduce the research (See Appendix Four). To help speed up the process of meeting with the chosen sample of participants at the first stage of interview in the outpatient clinic it was necessary read over the participants' medical notes. Advice was given to the researcher as to how to select the appropriate participants who were suffering from minor bowel disease by the consultants. The appropriate files were marked with a note for the consultant and this helped the consultants to remember to highlight the study. The consultants were supportive of the study and thought it would make a valuable contribution.

In Section One of the first interview schedule open questions were posed concerning the experience to taking the diagnostic test to establish the result of the test. In section two staging questions concerning previous behaviour changes with diet were asked to establish when behaviour change had taken place before or after the test and how long the behaviour changes had been implemented. In section three open questions were asked concerning participants who had not made any changes to their diet. The participants were also asked about the influences that had an effect on them not making behaviour changes. In section four if behaviour changes had taken place

open questions concerning the factors that made the behaviour changes easy or difficult to make or maintain were also posed with prompts in the first stage of interviewing. In section five relapse was considered if participants had made changes but then regressed to their former eating habits. In section six the participants who had relapsed or not made changes were asked about the likelihood of changes taking place within the next thirty days after the interview. Section seven contained the participants' details such as age, income bands, post code area and gender.

4.14.2 The Second Interview by Telephone

The second interview was carried out by telephone six months after the first stage of interviewing in the clinic. The first section of the interview concerned the stage of change and whether there had been any change since the first interview. The participants were asked if they had kept a diary of the behaviour changes they had made in section two with open questions and prompts. In section three if the participant had continued with their change they were asked with open questions about any helpful or inhibiting factors to sustaining the change. They were also asked a series of open questions concerning the maintenance of change and how easy or difficult it had been. If the participant had relapsed from action stage of change or had not made a change a series of prompted questions were asked in to ascertain the factors that had led to the relapse or no change in section four. The participant was asked in if they planned to return to change or to make a change in the near future. If the participant had not made changes to their diet at the first interview they were asked if they had made any behaviour changes in the last six months. If the participant had not made changes within the six months they were asked why they had not carried out any behaviour change in section five (schedule included in Appendix Three)

4.14.3 The Third Interview in the Participants' Homes

The third interview was arranged in the participant's home one year after the first interview and six months after the telephone interview. The interviews were carried out over a period of one year (June-2001-September 2002). It was intimated to the participants before the appointment that it would be beneficial to have the input of a significant other such as a partner or family member but it was not always possible for this to take place. Some of the participants did not have a significant other living

in their home. In twelve of the forty interviews a significant other was present during the interview. The interview schedule contained four sections. There was also an opening section with some general open questions about the participant's health, home circumstances and eating habits to put them at ease. Section One contained the stage of change question and similar to interview two if they had maintained or made a change then the questions continued into section two with open questions on how easy or difficult the changes had been to maintain. Section Three contained the helpful and inhibiting factor questions and prompts concerning influences from the environment that had affected their behaviour changes. Section Four was for those participants who had relapsed or who had not made any changes. This section was to ascertain why they had relapsed and when they planned to return to their changes or to make changes in the first instance (See Appendix Three).

Open ended questions were used within all three interviews and within these there were probe topics to ensure more particular issues with diet and behaviour change were covered (Easterby-Smith, 1997). It was important to make the interviewee feel at ease and to carry out a conversation with them and at the same time to cover topics relating to the issue of the research. The issues can be explored at a deeper level using probes carefully so that the interviewee does not realise that the questioning is specific to the research (Carson et al, 2001).

New ideas and accounts were added into the discussion by the participants as they described the events within their particular social context (Easterby-Smith, 1997). The knowledge that resulted from carrying out the interviewing provided rich and significant data for the present research problem (Stewart, 1982). The researcher was able to view the difficulties and strategies of behaviour change through the vivid accounts of the participants (Bryman & Burgess, 1982). Interviews occupy a lot of time and there were periods of waiting between interviews (Easterby-Smith, 1997). The fact that the interview was time consuming was advantageous as more information was gleaned and new insights were gained into the real life events of the participants' personal lives.

4.14.4 Taping the interviews

Procedures are necessary when information is recorded during an interview (Creswell, 1994). Some researchers do not utilise tape recording equipment as this is

perceived as being disruptive during the proceedings (Wolcott, 1990). Some authors however strongly recommend the use of tape recordings so that the data can be transcribed accurately (Patton, 1990). In the present study a voice tape recorder was used as the amount of data collected was considerable. Notes taken at the interview are also essential to capture the conversation that took place, the environmental situation and any particular peculiarities or events that took place (Creswell, 1994). Field notes were utilised in the present context along with the tape recordings for each interview. Reflective notes (Bogdan & Biklen, 1992) were entered after each interview which included background observations and considerations of each interview (Creswell, 1994). The notes were not used directly within the analysis as personal opinion could cause bias. Finally demographic information was recorded concerning the day, time and venue for the interview (Ibid, 1994).

4.14.5 Ethical Considerations

There was a requirement by the Ethics Committee within the hospital to provide information to the participants concerning the nature of the research as part of the informed consent procedure so that they could decide whether they wished to take part in the interviews (Kopala & Suzuki, 1999). Formal letters were presented to the participants at the start of the interview. There was an information leaflet which was a short letter explaining who the researcher was what was involved in the study and that the study was approved by the Senior Consultant within the clinic. The letter outlined the fact that the participants' responses would be confidential and all quotes used would be anonymous. Kopala & Suzuki (1999: 69) raised this issue in their work on ethics in qualitative research. "It is important that the researcher obtain consent from participants to have their words published (in quotes)". The second document was an information sheet for the participant to take away with them (including a contact telephone number for further information). The third document was a consent form that the participant was required to sign during the first interview. Amongst the information distributed to the participants in the clinic during the interview was a letter for the participant's GP. The researcher wrote to the GPs to inform them that the participant was taking part in the study as a requirement of the Ethics Committee. For example one of the participants was withdrawn from the study after the first interview (on the advice of the GP) as he had experienced a

family bereavement. It was agreed as part of the ethical contract with Lothian Trust Ethics Committee that the researcher should be aware of sensitivities concerning the patients' lives (documents are illustrated in Appendix Four). The acknowledgement of the nature of the research and the confidentiality of the participants' interviews was concluded by the participant's signature of consent to participate (Carson et al, 2001)

4.14.6 Location of the Interview

The place where the interview takes place and the environmental and cultural setting are important within research (Easterby-Smith, 1997). The fact that the interviews took place in a consulting room in a clinic was significant. At other times when a consulting room was not available it was possible to use a staff office. On one particular occasion there were no rooms available and the only available place to interview the participants was a changing cubicle. The cubicle was not a suitable location to interview participants, as it was a curtained area next to an examination room and the participants had little privacy. It was interesting to note the differences in the environment when the third set of interviews took place in the patients' homes as the environment was much less formal. There was a more natural context (Hudson & Ozanne, 2001) for the participants and they responded with more in depth information about the factors in their lives that motivated or inhibited them in sustaining a healthy bowel diet. The participants remembered taking part in the first interview at the clinic and were receptive to the questions.

4.15 Organising the Data

One hundred and twenty interviews were transcribed. The interviews were kept in hard copy form and also input into the NUD.IST software package in a Word document online for analysis (QSR NUD.IST, 1996). Prior to carrying out the interpretive analysis it was necessary to examine some of the categorisations from the content analysis to illustrate the characteristics of the participants. The carefully focused group of participants provided rich case study material (Patton, 1990). The forty participants in this qualitative study were aged between 30 and 83 years of age with a mean age of 51 years similar to the mean age of 51-59 years for minor bowel disease (Harris, 1998). Self-efficacy concerns a person's belief in their ability to achieve behaviour change (Bandura, 1997a) and for the purposes of this thesis,

maintenance of change. Self-efficacy was categorised in the first interview using a self-efficacy scale (Schwarzer, (1992) in appendix three). The results demonstrated that 33 out of 40 participants had high self-efficacy at the start of the study. The scale did reflect the self-efficacy of the participants at the first interview but did not explain why each participant was experiencing self-efficacy. The charts of the categorisations of age and self-efficacy are illustrated in Appendix Five. The stages of change each participant experienced during the year of interviewing were categorised. Four groups categorised by stages of change (based on the algorithm) were coded in NUD.IST through the node of stages of change and the sub-nodes of the five stages of change pre-contemplation, contemplation, preparation, action, maintenance and relapse. The charts of the stages of change are shown in Appendix Five.

4.16 Analysing the Qualitative Data

With qualitative analysis the transcribed data requires to be categorised and finally presented in narrative form as analyses of the findings (Creswell, 1994). The present study involved exploratory research using interpretive techniques and therefore required strong research objectives: The learning cycle is an important guide in this type of research (Kolb, 1986) and this involves four processes which are illustrated in Figure 4.16-1:

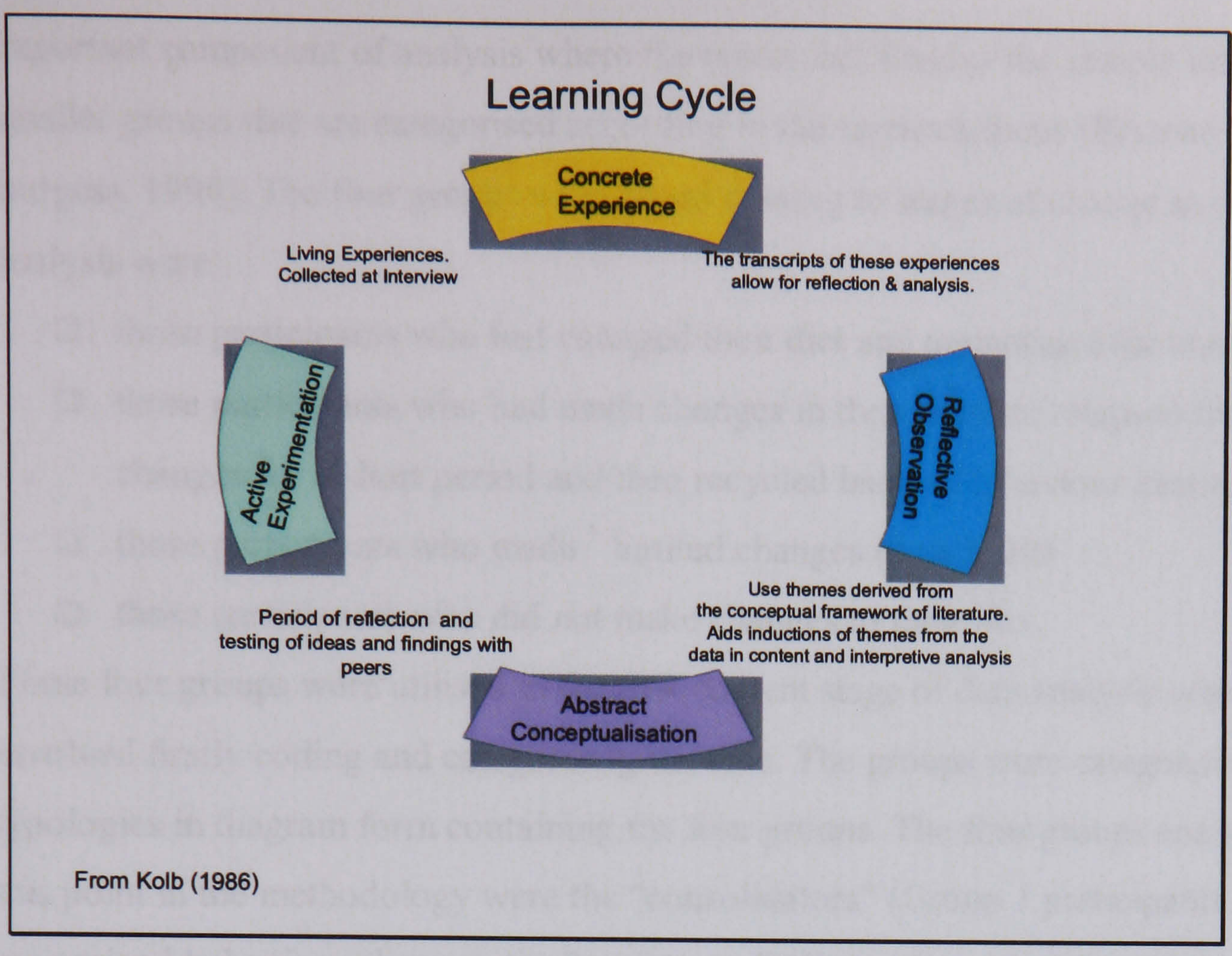


Figure 4.16-1 The Learning Cycle

The inductive approach is a fundamental part of qualitative research and involves theoretical underpinning but much of interpretivist research is better suited to theoretical criticism through reflection (Heath, 1992). In this way new ideas and concepts can be created (Brinberg & McGrath, 1985; Hunt, 1983). Different approaches can be used in analysis of interviews within qualitative research either with coding and content analysis or by interpreting the text (Mick and DeMoss, 1990).

4.17 Comparisons in Data

There was a need for categorisation of the data collected using content analysis to support the interpretive analysis as there was a large amount of transcription material. A staging algorithm (appendix eleven) provided the categories to divide the sample into groups by stages of change in the interview schedules during the period of the three interviews (Curry et al, 1992). This made it easier to analyse the data and set up codes in the content analysis (using NUD. IST) for the stages of change and then process themes for each group for the interpretive analysis. Comparisons could then be made with groups of participants (Atkinson & Hammersley, 1998; Spradley, 1979, 1980; & Woods, 1986). The building of typologies or taxonomies is an

important component of analysis where the researcher divides the sample into smaller groups that are categorised according to the research focus (Bryman & Burgess, 1994). The four groups were found relating to stages of change in content analysis were:

- those participants who had changed their diet and maintained the change
- those participants who had made changes in their diet but relapsed from the changes for a short period and then recycled back to behaviour change
- those participants who made [1] limited changes to their diet
- those participants who did not make changes to their diet.

These four groups were utilised in the first content stage of data analysis which involved firstly coding and categorising the data. The groups were categorised into typologies in diagram form containing the four groups. The four groups analysed at this point in the methodology were the "consolidators" (Group 1 participants who maintained behaviour change), the "performers" (Group 2 participants who relapsed from behaviour change), the "incubators" (Group 3 participants who made changes to lose weight but not for health) and "the disclaimers" (Group 4 participants who made no behaviour change). The typologies of the four groups, used as part of the development of the content analysis (Bryman & Burgess, 1994), are illustrated within Appendix Ten.

4.17.1 Coding and Categorising the Data

Spiggle (1994: 3) stated that many researchers describe how they tackled the data by stating that subcategories, perspectives, themes or the interpretation that emerged were revealed by the data". The data from the present study was input into a NUD.IST Software Programme (NUD.IST, 1996). NUD.IST deals with non-numerical unstructured data such as the transcriptions from the forty interviews in this thesis. Index systems are used in NUD.IST in the form of a tree structure with categories (branches) which are known as nodes (See Appendix Six for example of tree diagram). The five nodes for the index trees in the present context were devised

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[1] Limited changes meant that participants made short term changes to lose weight during the interview period. They did not change their dietary behaviour for their bowel health.

from the conceptual framework from literature initially (Chapter Three, Figure 3.1-1) and further data categorisations emerged from the data itself.

The referencing system used in content analysis enabled segments of data to be located and moved around during analysis (Tesch, 1990). For instance theoretical processes that were relevant in the data findings such as stages of change, stimulus of change, primary and secondary appraisals and coping strategies were analysed as initial categories (nodes) and formed the branches of the index tree. Other constructs that linked to the nodes were used to supplement the main nodes which were known as sub-nodes (hanging nodes) for example goals and past behaviour were examined under the node of primary appraisal. According to Spiggle (1994) coding is the categorisation of the data into small sections (Glaser and Strauss, 1967; Lincoln & Guba, 1985; Miles & Huberman, 1984; Strauss, 1987; Strauss and Corbin, 1990).

The segments of text in the word document of transcriptions were highlighted when the passage related to a category from the literature or interviews (Tesch, 1990). The passages that were put into nodes or sub-nodes in NUD. IST were words sentences, or phrases (Spiggle, 1994). These segments of data were signposts and were merged with other segments to form themes within the work (Ibid, 1994; Tesch, 1990). The significance of a theme that emerges can be analysed and interpreted by the way nodes and sub-nodes are linked in the index tree in NUD. IST. The themes are then adapted and changed as the analysis develops. In this way the experience of the participants when making and maintaining a behaviour change can be understood. From the themes identified by the use of nodes (from NUD.IST) patterns and meanings of the data emerges (Spiggle, 1994).

The process used in NUD.IST is summarised in Figure 4.17.1.

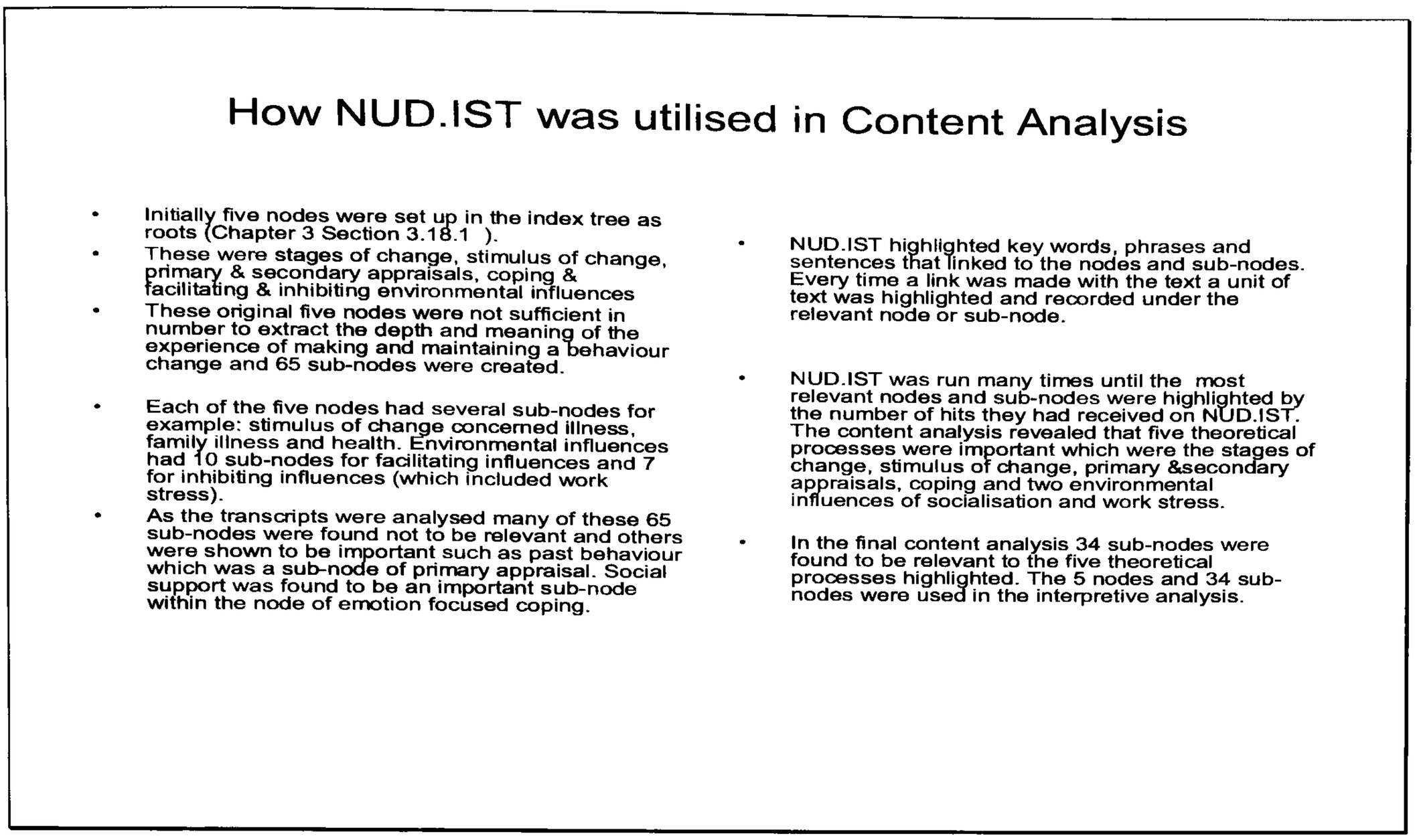

Figure 4.17-1 Nudist Content Analysis

The themes utilised within NUD.IST were also presented in the form of tables of findings (see Appendix Seven). The tables concerned the number of units that were relevant to each participant for each of the conceptual framework themes used in the content analysis. Qualitative researchers often quantify some results to provide some categorisation of factors such as stages of change within the present context (Easterby-Smith, 1997).

4.17.2 Limitations of using content analysis

In content analyses salient words and phrases are categorised and this makes the analysis of the data stronger concerning the forming of themed headings (Easterby-Smith, 1997). The criticism of using content analyses as the only method of data analysis is that the researcher may understand what the key themes are but not why the themes are important to the central focus of maintaining behaviour change. Each participant has a different understanding of how they make and maintain change and the environmental influences that affect their lives (ibid, 1997). The content analysis process was useful as it manipulated the data and organised and categorised the themes but the interpretive analysis enabled the individual's viewpoints to be explained with more understanding.

4.17.3 Interpretive Analysis

The stages of change categorisation from the algorithm used in the interviews (Curry et al, 1992) and then from the categorisation by NUD.IST accurately allocated the participants into four groups based on stages of change. Further analysis of the categorisation with the stages of change model using interpretive techniques by the re-reading of the participants' transcripts identified anomalies within the four groups categorised by the content analysis. The stages of change model did not provide explanations as to why the participants were in those groups and there were discrepancies with the stages of change within the four groups.

The interpretive methodological approach of re-reading the transcripts produced three different outcomes to actual behaviour change which were slightly different from the categorisation of the four groups categorised by stages of change in the content analysis. From the original four groupings the participants who made and maintained change and those who relapsed from change remained as groupings but those participants who made limited short term changes to lose weight were grouped with those participants who had not made a behaviour change for bowel health. As there were only forty participants due to the methodological approach utilised those participants who made limited changes were not explored as a separate group. The three outcomes to behaviour change were based on the three research questions posed initially within the thesis (Chapter One Section 1.3.2). These questions were then developed during the analysis process to represent the findings concerning three approaches to change from each of the three groups of participants. The three outcomes of behaviour change relating to the research questions are illustrated in Figure 4.17-2.

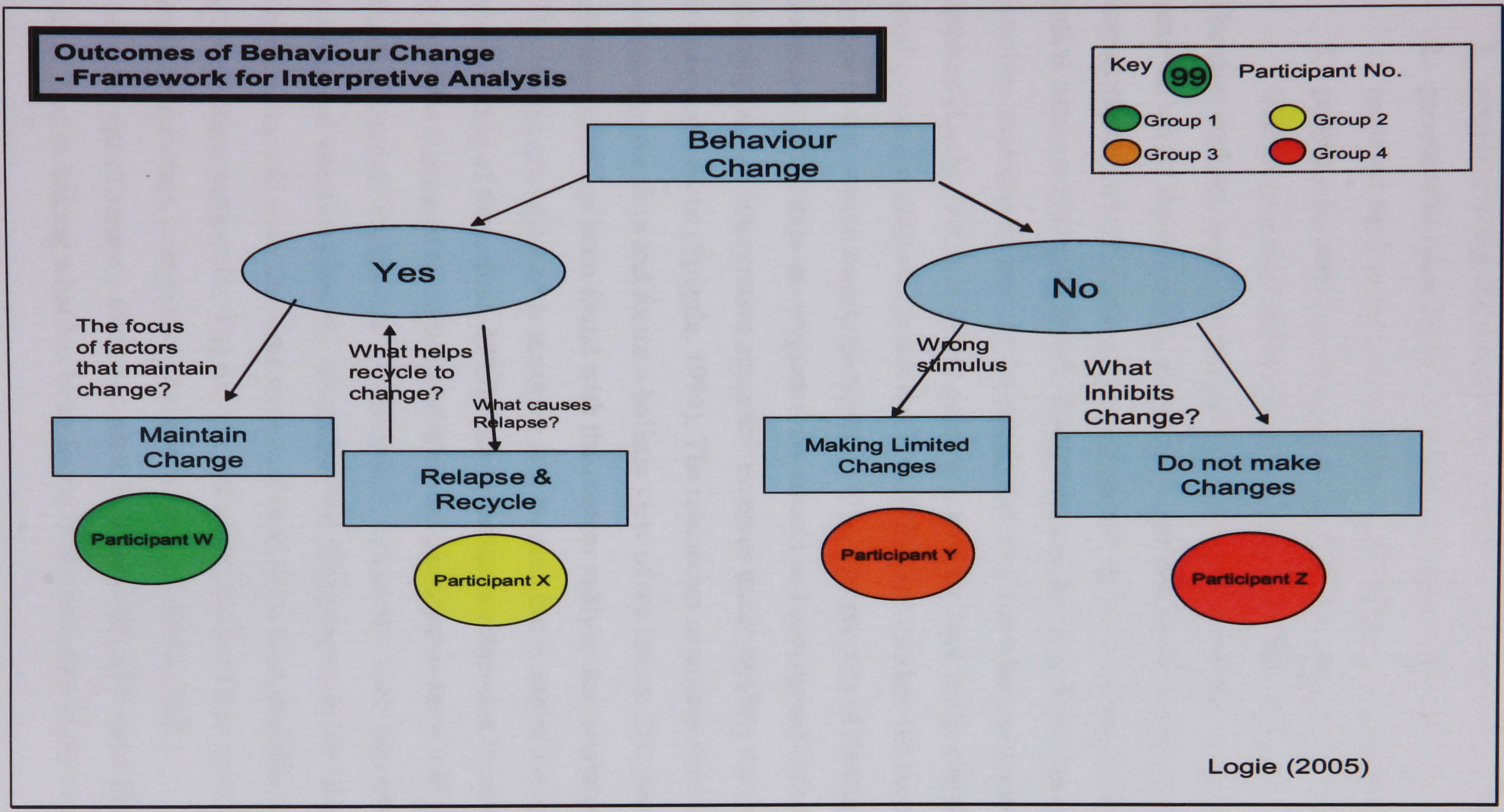

Figure 4.17-2 Framework for Interpretive Analysis

It was possible to make comparisons between the three groups of participants in the interpretive data analysis and to demonstrate the different characteristics concerning the three approaches to behaviour change from the three outcomes in Figure 4.18-4. The three outcomes were:

1. people making and maintaining behaviour changes after a stimulus of change
2. people who made behaviour changes, relapsed in their behaviour and recycled back to behaviour change after a stimulus of change
3. people who made no changes combined with those participants making limited (misinterpreted) changes after a stimulus of change

The data analysis was a continuous process and the content analysis was a stage of analysis which supported the interpretive analysis (analysing the "hard copies" of the transcriptions) which was a process of analysing the text holistically. This process is called iteration (Spiggle, 1994). The process of iteration in interpretive research involves multiple reviews of the transcripts until the whole picture of the experience appears (Carly, 1993). It is also necessary to refer back to the classification systems used in content analysis (nodes from NUD.IST) to validate the themes and how they linked to the overall transcript (Guba, 1978). The process of iteration helped with the induction of the data as categories, constructs and conceptual connections were developed. The interpretive approach involves understanding the data using abstract conceptualisations (Spiggle, 1994). The researcher examines the transcripts containing the data and forms a holistic view of the issues. The interpretive technique clarifies what has been found with the content analysis and explores the data further. The interpretive method is sensitive and focused but is subjective and irrational in its presentation of facts (ibid, 1994). Interpretation is subjective because it is the researcher's attempt to understand what the participants have told us. To understand the participants' experience it is necessary to translate their experiences into the events and situations that the researcher has experienced in life (ibid, 1994). No two researchers will have the same experiences to draw from and this is what makes interpretation subjective. The participant's whole experience (gestaldt) can be understood when interpretive analysis is used (Colman, 2003).

At this point of analysis there is a need for deeper thought and consideration by the researcher in linking what has been found to the literature (Carson et al, 2001).

Emergent theories that expanded from the data in this way and build on the existing conceptual model of literature are known as transcendental realism. Transcendental realism concerns the belief that the true meaning of situations are only derived from the knowledge of the phenomena involved (Miles and Huberman, 1994). It is argued that many consumer research studies utilise analytical techniques rather than the deeper interpretive style of analysis (Spiggle, 1994).

When quantifying and analysing data it is easy to be distant from the findings but with interpretation the researcher becomes concerned with the holistic issues in the research and involved in the evidence that is found (Spiggle, 1994).

4.18 Validity of the Study

Within a phenomenological study validity is the achievement of understanding fully the lived experiences of the participants and what they signify in terms of the research problem (Easterby-Smith, 1997). In the present study this means understanding the experience of making a dietary behaviour change after a stimulus and what factors are involved in maintaining the behaviour change.

When meeting interviewees for the first time trust is an important consideration for the validity of the study (Easterby-Smith, 1997). The role of the research was incorporated and supported within the team of an out-patient clinic. It was helpful when the researcher was seen to have some independence from the environment of the hospital clinic where the first interview was held (ibid, 1997). On one occasion an interview took place before the meeting with the consultant, who as a rule gave support and introduction to the research, and explained the credentials of the researcher and the reasons why the research was being carried out. Confidentiality was assured within the letters supplied to the participants, by the consultant and by the researcher. Face to face interviewing involves the consideration of moral codes within the ethics of research (Fine, 1994). There is a dilemma to be faced in terms of the amount of involvement that the researcher should contribute as this can lead to issues with the validity of the research. The focus of the research was behaviour change and it was important to steer the participants fairly towards the topic at all times during the interview Daly (1992). At times the role of providing support in the form of dietary advice was anticipated by the participants from the researcher. On

these occasions an explanation was given to the participants concerning the nature of the research. No dietary advice was given in the interview other than basic information given out in leaflet form by the clinic (based upon the guidelines by W H O, 1998). If the participants did require more information concerning their diet they were advised to visit the dietician who was on duty in the clinic.

Another question concerning validity is the interpretation of the participants' representations of their experiences in qualitative research (Geertz, 1983). Often qualitative researchers are criticised for being less detached from their respondents and it is difficult for the researcher to remain remote from the study (Easterby-Smith, 1997). By necessity the process of interpretation involves some perceptions, biases and observations and the outlook of the researcher can sway the way the results are understood. The data presented will be subjective in nature rather than entirely objective (Lincoln & Guba, 1985).Within interpretive research however bias is considered constructive and affirmative (Locke et al, 1987; Creswell, 1994). Qualitative methods and analyses are thought to be less artificial and a more natural consequence derived from the research (Easterby-Smith, 1997). Reality in qualitative terms will be predicted by individuals and social groups in entirely different ways. Therefore the supposition is put forward that there is no one reality that can be presented without bias (Hudson and Ozanne, 2001).

Because of the nature of interviewing there are often issues with whether they are a true record of events that can be relied upon (Haralambos, 1985). The reason for this is that there is interaction within an interview and the researcher and the participants may perceive the situation in different ways. The issue with these misperceptions was overcome by the longitudinal nature of the study. Open questions are tools that were utilised to avoid prejudice and provide validity (Easterby-Smith, 1997). Other methods within the interview that helped to avoid bias was the use of more exploratory questioning into a topic (probing) in cases when participants do not respond in a focused manner. Short explanatory statements were utilised when it was apparent that the participant has not understood the question. Silence was an effective method of encouraging the participant to divulge more information without

the researcher prompting an answer. Other tools were the use of reflective examples and utilising clearer, more simplistic language to encourage the participant to consider the problem in more depth. Finally using the repetition of some of the words or phrases that the participants used in their responses emphasized important points and drew out more information (ibid, 1997).

It was essential when interviewing the participants over a period of one year (Kopala & Suzuki, 1999) that the relationship remained professional and that no further contact was made at the end of the research period (May, 1991). There were no ethical problems encountered during the period of time of the three interviews. The participants within the study were helpful and rational during the interviews and did not display any extreme emotions (Rosenblatt, 1995). As the participants within this study were suffering from minor bowel disease their prognosis was of a chronic but minor illness and their outlook was mainly positive. The symptoms of the minor bowel disease were debilitating at times but not life threatening.

An issue with validity with health related research is the challenge to gain access to interview participants concerning their health (Kopala & Suzuki, 1999). The interview schedules for the thesis were approved by the Research Ethics Sub-Committee and access was gained for interviewing (October 2000). The process of gaining admission to the hospital was a rigorous process lasting six months. Clarification was needed as to the expected prognosis of the participants. The prognosis after the diagnostic test had to include a prediction of a lifespan of at least two years (See Appendix One). Permission was granted for interviewing and the interview schedules were approved. The Ethic Committee felt that the research would make a valid contribution to knowledge. There were various procedures in the outpatient clinic that were stipulated. It was necessary for the research interview to take place after each participant had seen the consultants who gave support to the research. It was necessary that consent was given by each participant as they took part in the research. The fact that the interview schedules were scrutinised and approved by the Ethics Committee along with the procedures the committee requested added to the validity of the research.

4.18.1 Methodological Issues

Purist researchers claim that paradigms and methods should not be mixed; situationalist researchers assert that certain methods are appropriate for certain situations and pragmatists attempt to integrate both methods in a single study (Rossman & Wilson, 1985, Lancy, 1993). There has been a development towards the paradigm of interpretivism as opposed to positivism in recent times and in response to this change some researchers have advocated using methods from both paradigms (Easterby-Smith, 1997). The paradigm and subsequent methods selected for a study should be appropriate to the research questions posed and the subject areas within which the study is based (Carson et al, 2001). The work within the thesis was approached with an interpretivist stance. The reason for this was that the questions posed within the thesis necessitated an interpretivist approach. Heath (1992: 114) admitted "the inductive approach is better suited to theory generation than theory testing". This was taken into account when using the theories that were previously tested using quantitative methods (Anderson, 1986). The virtue of the interpretivist approach is that it discovers the individual's world viewpoint (Brinberg and McGrath, 1985, Hunt, 1983). The chosen method for the thesis required theory generation and exploration and therefore a conceptual framework drawn from literature was built. A small amount of categorisation was used within the thesis and this might be regarded as a limitation within the interpretivist approach; but the categorisations utilised developed the study and brought richer meaning to the data findings.

With the interpretivist approach the thesis utilised some staging questions (Curry et al, 1992) and a likert scale (Schwarzer, 2001) within the interview schedule. These categorisations and the use of content analysis were developed as a means to confirm and validate the interpretivist methodological approach (Hudson & Ozanne, 2001). The majority of the interview schedule consisted of open questions and probes that enabled the true experiences of making and maintaining change to emerge (Easterby-Smith, 1997). The context of the interview is important in terms of the limitations of the work as with interpretivist research the context and setting of the research is

crucial to the emergence of the findings (Hudson & Ozanne, 2001). A drawback concerning the first interview was that there was often a limitation of fifteen to twenty minutes of time to interview the participants in the clinic due to the fact that the participants had already been seen by the consultant beforehand. There were car-parking restrictions in force and the participants sometimes had a shorter interview of 10-15 minutes for this reason. The participants had more time to devote at the second and third interview stages when they had more time to talk and explore their experiences of making and maintaining behaviour change.

Content analysis has been utilised within qualitative analysis but the process of organising the data is often messy (Marshall & Rossman, 1990:111). The referencing of the data and merging of themes (Tesch, 1990) was achieved by using NUD.IST and content analysis as an organising process. This part of the methodology may be considered by purist interpretivist researchers as a limitation within the methodological approach but in this thesis added value to the interpretive analysis and findings (Marshall & Rossman, 1989; Spiggle, 1994). Within interpretive research it is important to study the participants within the context of their existence rather than in an unnatural situation such as a laboratory or university interview room so that the patterns for implementing and sustaining behaviour change can be understood (Patton, 1990). The language used to express the experiences of behaviour change by the participants within their social context can provide richer meaning by using interpretive approaches in analysis (Geertz, 1973; Denzin, 1984) and this was achieved by analysing their oral histories with a phenomenological approach (Moustakas, 1994).

4.19 Conclusion to Chapter 4

The methodology chapter contained two sections. The first section presented the paradigm for the research of an interpretivist philosophy. A phenomenological approach was taken to the methods (qualitative). The second section outlined the implementation of the research methodology with the data collection period. The study was longitudinal and the research instrument was a semi-structured interview carried out three times. The ethical issues were presented and the data collection and

analyses were described. The analyses took two approaches of content analysis and interpretive analysis to provide validity for the research. Finally a section was provided concerning the critical analysis of the validity and methodological issues of the research. The following chapter will present the findings analysis and findings for the thesis.

5 Analysis and Findings

5.1 Introduction

This chapter presents the findings from the qualitative analysis of a set of semi-structured interviews conducted with each of 40 participants who suffer from minor bowel disease. All participants were included in the study as being part of a group of people who had received the results of a diagnostic test for colorectal cancer.

- The chapter commences with the conceptual framework developed from the literature (Carson et al, 2001) which is illustrated in Figure 3.1-1 regarding the literature base of behaviour change and goal directed behaviour (Prochaska & Di Clemente, 1992; Bagozzi, 1992). The relevance of the four theoretical processes from literature and the framework of stages of change to the group of participants in the study are explained and their relevance to the analysis.
- The next section of the chapter outlines the data analysis approaches adopted. Initial categories for qualitative analysis were derived from literature (Tesch, 1990). These initial categories were stages of change and the theoretical processes; stimulus of change, primary and secondary appraisals, coping and environmental influences. Following the interviews the forty participants were categorized into four groups based on the algorithm (Curry et al, 1992) and these results were highlighted in the initial categorization of stages of change. These initial categories were used during the first stage of NUD.IST analysis. From this analysis many sub-themes (sub-nodes) emerged from the data during content analysis (Tesch, 1990). Interpretive analysis was then utilized to provide deeper understanding of individual behaviours.

- Following the content analysis the first stage of interpretive analysis revealed anomalies with the four groups established by stages of change in the content analysis. Three modified groups were formed from the three outcomes of behaviour change (Section 4.17-2) related to the research questions set at the start of the thesis (Section 1.3.2). The second stage of the interpretive analysis explored the three approaches to behaviour change that lead to the three outcomes of behaviour change (Spiggle, 1994). The four theoretical processes

from the literature framework (Figure 3.1-1), merged as themes in the content analysis results, were utilised in the second stage of interpretive analysis.

- The analysis was completed with a summary of three conceptualisations which identify the three approaches to behaviour change: 1/ behaviour change and maintenance of change, 2/ behaviour change, relapse from change recycle back to change, and 3/limited change or no behaviour change. A new model of maintenance of change developed from the interpretative analysis of the group of participants is produced and illustrated. The conceptual framework and the relevance of the theoretical processes to the analysis are outlined in the following section.

5.2 The Conceptual Framework and the Original Themes Derived from the Literature Review

The conceptual framework consisted of the key issues from literature that explain what happens in behaviour change (Miles & Huberman, 1994 – section 3.1-1). The main theoretical models informing the thesis emerged from behaviour change (Prochaska & Di Clemente, 1982) and goal directed theory (Bagozzi & Warshaw, 1990) within a marketing context of social marketing (Andreasen, 2003). The literature framework consisted of the holistic framework provided by Prochaska & Di Clemente's Stages of Change Model (1982) of four theoretical processes of stimulus of change, primary and secondary appraisals, coping strategies and one additional theme of environmental influences.

5.2.1 Relevance of the Four Theoretical Processes & the framework of Stages of Change to the Group of Participants

The Stages of Change framework (Prochaska & Di Clemente, 1982) was useful concerning the setting of research questions for the thesis. The model was relevant in categorising the participants initially into a stage of change (Curry et al, 1992) and tracking their progress concerning behaviour change throughout the three interviews. Stages of change were also helpful in organising the group of participants in content analysis. The stages of change model included significant processes that were sustained in the three conceptualisations of change found in the interpretive analysis.

Stages of change are illustrated in the new model derived from the interpretive findings on maintenance of change in the thesis.

Four additional theoretical processes from the literature on behaviour change were found to be relevant to the group of forty participants who received a stimulus of change from a diagnostic test for cancer. The first theoretical process concerns the way the participants respond to the stimulus of change involving the diagnostic test. The stimulus of change is related to the health beliefs participants developed concerning their susceptibility to the illness and the severity of the consequences of the illness (Becker, 1977a). The stimulus of change also concerned the attitudes the participants had towards their social norms and normative beliefs concerning their potential behaviour changes (Fishbein & Ajzen, 1980). Primary and secondary appraisals (Bagozzi, 1992) are beliefs and evaluations made by people considering making a behaviour change (Bagozzi, 1992). The appraisals are made up of the individual's consideration of their past dietary behaviour (Bagozzi & Warshaw, 1990). Three other contributing factors to the making of appraisals are perceived behavioural control; that is how easy or difficult it will be to carry out behaviour changes (Ajzen, 1991); self-efficacy (Bandura, 1977a) regarding the belief in the achievement of short and long term goals (Huffman et al, 2000) and volition which is the will/desire to carry out the behaviour changes (Bagozzi, 1992). Coping involves the strategies participants use to cope with the stress factor of the stimulus of change such as utilising the positive responses of social support to make changes or distancing themselves from the problem (Folkman et al, 1986). Environmental influences are the social, emotional and psychological responses and the environmental and situational influences that can affect people making and maintaining change. These four processes and the stages of change framework were found to be important when carrying out comparisons with the participants in the qualitative analysis in the following section.

5.2.2 The Sub-Division of the Sample into Four Groups by Stages of Change

A good starting point in organising the data was to categorise the group of 40 participants into smaller groupings. Stages of change (Prochaska & Di Clemente,

1982) were measured during the three interview stages with a set of algorithmic questions (appendix 11) derived from the work of Curry et al (1992). Utilising the method of categorisation an initial pattern was shaped for each participant's stage of change (Bryman & Burgess, 1994). Four distinct groups of participants emerged from identification of the stages of change. These were: Group "1" (12 participants), Group "2" (15 participants), Group "3" (6 participants) and Group "4" (7 participants). The four groups are illustrated in Figure 5.2-1.

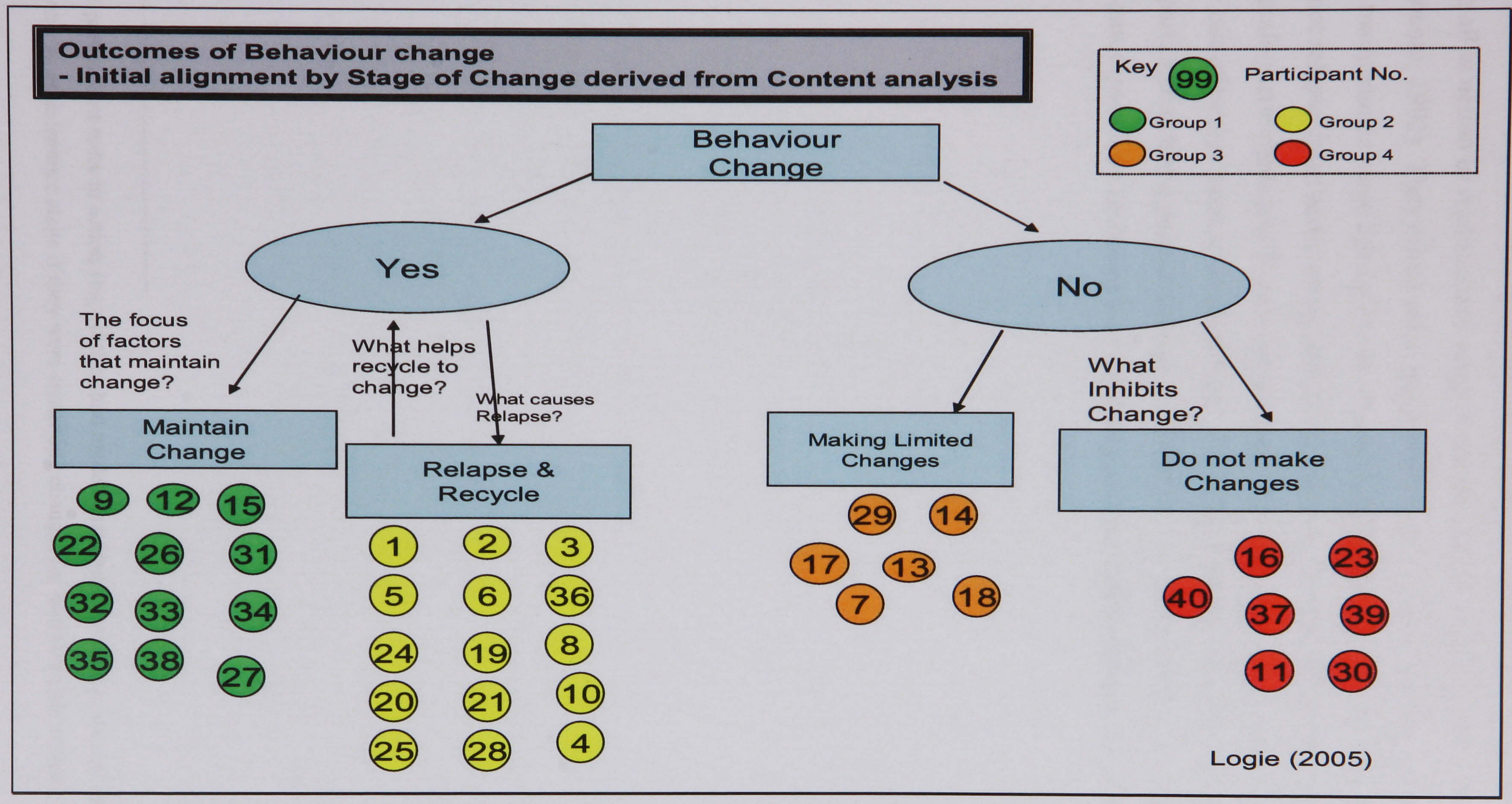

Figure 5.2-1 Outcomes of Behaviour Change – Initial Assessment

The four groups are outlined in the following section.

5.2.3 Group 1 Action/Maintenance

Group 1 participants made changes to their diet at the onset of their bowel disease or just after receiving the result from the diagnostic test for cancer.[2]. These participants were all in action or maintenance stage at the first interview (Prochaska & Di Clemente, 1992). They remained in maintenance stage or moved from action forward into maintenance stage during the interviewing period. Participants within this group did not relapse from action stage during the interview period of one year. There were 4 female participants and 8 male participants. The socio-economic range was mixed. Five out of twelve participants had been educated to further education level. All of the participants had a partner living with them in their home with the exception of one participant who had been recently bereaved (six months before the study began).

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[2] The participants were in action stage if they had made behaviour changes for one day before the first interview or maintenance stage if they were sustaining changes for more than six months.

Group 1 Participants – Action/Maintenance

Number	Gender	Age	SES[i]
9	M	51	LSE
12	F	75	HSE
15	M	49	LSE
22	M	42	MSE
26	M	68	HSE
31	F	68	LSE
32	M	83	HSE
33	F	63	HSE
34	M	76	MSE
35	F	57	LSE
38	M	47	MSE
27	M	67	LSE

Key

[i] SES = Socio-Economic status (McLoone. Philip (1991))

LSE – Lower Socio-Economic status

MSE – Middle Socio Economic Status

HSE – Higher Socio Economic Status

5.2.4 Group 2 Change/ Relapse/Change

Group 2 participants had all made changes to their diet and had all relapsed from that change for a period of one day to one month during the year of interviewing. All of these participants moved from action/maintenance stage of change regressing to preparation stage during the period of interviewing. Three participants had recently relapsed at interview three (Participants 4, 8 &10). These three participants stated that they were intending to return to action stage after their relapse (participant 4 & 10 (wives' illnesses and lack of support), participant 8 (period of work stress/ eating at work). The age range within Group 2 was from 35 years to 78 years. There were four participants over 60 years of age. There were five members of the group between 35 and 43 years of age. There were 6 participants from higher socio-

economic groups and six from lower socio-economic groups. Seven participants had been educated to further education level.

Group 2 Participants – Change/Relapse/Change

Number	Gender	Age	SES[i]
1	F	40	HSE
2	M	56	MSE
4	M	70	MSE
5	F	60	LSE
6	F	76	HSE
8	M	57	HSE
3	M	51	MSE
19	F	40	LSE
20	M	35	LSE
21	F	43	HSE
24	F	37	LSE
25	M	51	HSE
28	F	51	LSE
36	M	72	HSE
10	M	78	LSE

Key

[i] SES = Socio-Economic status (McLoone. Philip (1991))

LSE – Lower Socio-Economic status

MSE – Middle Socio Economic Status

HSE – Higher Socio Economic Status

5.2.5 Group 3 No Change/Action/Preparation

Group 3 participants consisted of two female and four male participants. Group 3 consisted of a group of participants who at the first stage of interview had made no change to their diet. They were in pre-contemplation or contemplation or preparation stages of change (Prochaska & Di Clemente, 1992). During the period of interviewing (one year), all of the participants within this group had moved forward by one stage of change for instance two participants had moved forward from pre-

contemplation to contemplation stage of change (Participant 18) and from contemplation to preparation stage (Participant 7). These two participants did not make any changes to their behaviour during the study. Four of the Group 3 participants were in action stage of change by the end of the study. Only one of these four participants within Group 3 made changes and maintained changes that were related specifically to bowel illness (Participant 17). The changes in diet carried out by the three participants (13, 14, 29) who reached action stage during the study within Group 3 were limited short-term changes. Little commitment to maintenance of change was made by these three participants and they had a history of previous relapse. The age range of the group was from 33 years to 65 years. Three of the participants were from higher socio-economic groups and three from lower socio-economic groups. Only one participant was educated to further education level.

Group 3 Participants – No Change/Action/Preparation

Number	Gender	Age	SES[i]
7	M	51	LSE
13	F	67	LSE
14	F	55	HSE
17	M	65	HSE
29	M	57	HSE
18	M	33	LSE

Key

[i] SES = Socio-Economic status (McLoone. Philip (1991))

LSE – Lower Socio-Economic status

MSE – Middle Socio Economic Status

HSE – Higher Socio Economic Status

5.2.6 Group 4 No Change

Group 4 contained a group of seven participants who had not made any changes to their diet throughout the study. They remained in the same stage of change of pre-contemplation or contemplation throughout the year of interviewing. Group 4 participants had no plans to make any changes to their bowel diet. Some of the participants did not accept that there was a need to change their bowel diet. The age

range within this group was 54 to 80 years of age. Four of the participants were over 70 years of age. There were three female and four male participants. The majority of the group were from middle socio-economic backgrounds. One participant had been educated to further education level.

Group 4 Participants – No Change

Number	Gender	Age	SES[i]
11	M	71	MSE
16	F	80	LSE
23	M	51	MSE
30	F	59	MSE
37	M	54	MSE
39	M	80	MSE
40	F	80	MSE

Key

[i] SES = Socio-Economic status (McLoone. Philip, 1991)

LSE – Lower Socio-Economic status

MSE – Middle Socio Economic Status

HSE – Higher Socio Economic Status

The charts and tables referring to the analysis of stages of change and the tables relating to the four groups can be found in Appendix Five.

5.2.7 Content Analysis

Content analysis using NUD.IST had a variety of useful outcomes and was a necessary tool for categorising the theoretical processes from the literature framework and merging them with the data emerging from the interviews. The stages of change groupings were analysed using NUD.IST and this added to the categorisation carried out by use of the algorithm (Curry et al, 1992). Self-efficacy was categorised using a likert scale at the first interview stage and was analysed as a sub-node within NUD.IST successfully as it was shown have relevance within the thesis. The five theoretical processes from the conceptual framework were confirmed as being important in the responses from the interviews through content analysis in NUD.IST. Each node and sub-node relating to the node was based on a theoretical process and themes from the interviews were analysed in NUD.IST. An illustration of one of the sub-nodes (tables in appendix 7) past behaviour (node primary appraisal) is illustrated in Figure 5.2-2.

NUDIST FINDINGS: Hanging nodes: past experience of diet, past experience of lifestyle.

Group	1		2		3		4	
Theme: Past Behaviour	**Participants referring to theme**	**No. of References**	**Participants referring to theme**	**No. of References**	**Participants referring to theme**	**No. of Responses**	**Participants referring to theme**	**No. of References**
Concerning Diet	9	9	10	11	1	3	1	1
Concerning Lifestyle	0	0	0	0	1	1	1	1
Total	9	9	10	11	2	4	2	2
Mean (Responses per Participant in Group)		0.75		0.73		0.66		0.28
No. Participants in Group	**12**		**15**		**6**		**7**	

Figure 5.2-2 Nudist Findings

The example of past behaviour demonstrates that there were two hanging nodes of past experience of diet and lifestyle within the sub-node. Each node or sub-node was categorised in a table with the number of references made by each participant in each of the four groups by stages of change. The NUD.IST tables (Appendix Seven) are part of the analysis and support the findings in the interpretive analysis. Some of the processes such as environmental influences had produced many sub-nodes during content analysis and the relevance of these sub-nodes was refined by NUD.IST as the themes were merged (Appendix Six shows the breakdown of nodes and sub-nodes in Tree Diagrams). The sub-nodes of work environment and work stress were identified as important. Word searches and the results of recurring word searches demonstrated that words were repeated such as the word "trying" by those people who made behaviour changes but relapsed from change. The word trying was not highlighted within the transcripts of those participants who maintained change.

Utilising content analysis was not sufficient to give the depth of meaning required to answer the research questions posed within the thesis. The main concern related to the matching process in content analysis was that although phrases or sentences within the text appeared to be similar in NUD.IST, the words might be taken out of context of the particular individual's environment, and this would provide different inferences (Carly, 1993). NUD.IST highlighted sentences of phrases and linked them to a theoretical process such as self-efficacy but it was important to read the text

around the sentence to understand the context of what was being said. Interpretive analysis was required to explore the deeper meaning of what the participants experienced. Interpretive analysis is outlined in the following section.

5.2.8 Interpretive Analysis

Content analysis despite its weaknesses added value to the interpretive approach that was used based on textual analysis of the transcripts in hard copy form (Spiggle, 1994). Although the stages of change model categorised people it did not help with the understanding of actual behaviour change (Prochaska & Di Clemente, 1982). For example if two people change their behaviour one for health and one for appearance the stages of change model will not provide an in depth understanding of what made the people different in terms of change and maintenance of change (Prochaska & Di Clemente, 1992). Anomalies were apparent in the categorisation of the four groups according to stages of change. These were revealed when the transcripts were given multiple reviews using interpretive analysis (Hudson & Ozanne, 2001). The anomalies led to a re-grouping into three outcomes of behaviour change based on the three research questions for the thesis (Section 1.3.2). The anomalies are illustrated in Figure 5.2-3.

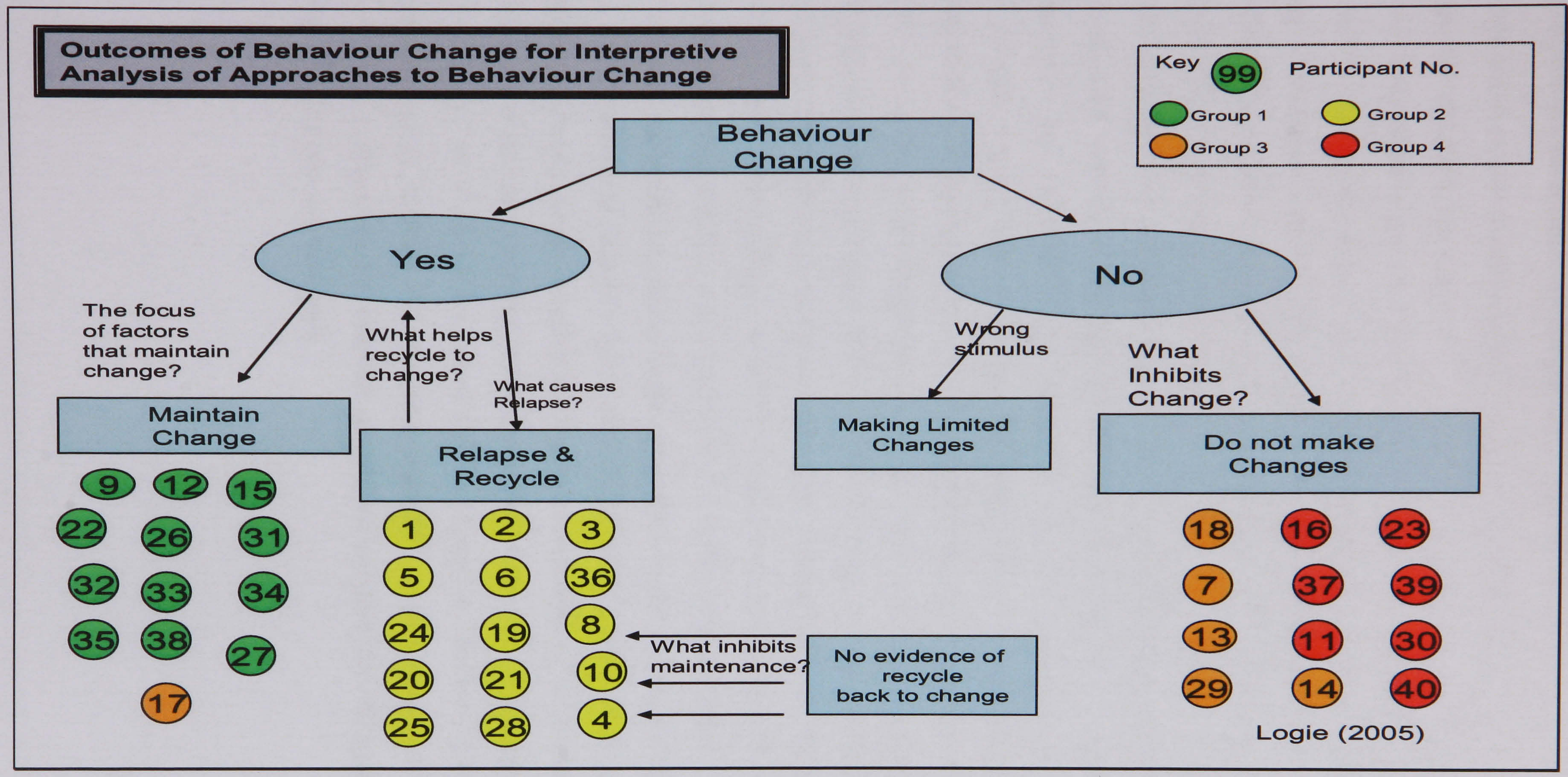
Outcomes of Behaviour Change for Interpretive Analysis of Approaches to Behaviour Change
Key
99
Participant No.
Group 1
Group 2
Group 3
Group 4
Behaviour Change
Yes
No
The focus of factors that maintain change?
What helps recycle to change?
What causes Relapse?
Wrong stimulus
What Inhibits Change?
Maintain Change
Relapse & Recycle
Making Limited Changes
Do not make Changes
9 12 15
22 26 31
32 33 34
35 38 27
17
1 2 3
5 6 36
24 19 8
20 21 10
25 28 4
18 16 23
7 37 39
13 11 30
29 14 40
What inhibits maintenance?
No evidence of recycle back to change
Logie (2005)

Figure 5.2-3 Outcome of Behaviour Change for Interpretive Analysis

The anomalies mostly concerned participants categorised into Group 3 for stages of change. For example, Participant 17 was originally in Group 3 with participants who did not change their behaviour. After the initial interpretive analysis, Participant 17 was moved to the group of participants who changed and maintained behaviour change. Participants 7 and 18 were found to have made no behaviour changes and remained in preparation and contemplation stage of change and therefore were affiliated with the group of participants who do not make changes. Participants 13, 14, and 29 made limited changes to their behaviour but the changes were not made as the result of the stimulus of change (the diagnostic test) and were changes to lose weight rather than for bowel health. They were allocated into the no change group. Participants 4, 8 and 10 (from the original Group 2) did not recycle back to change at the end of the interviewing period like the rest of their group and were different from the other participants who relapsed and recycled back to change but were not moved but highlighted as being slightly different from the other members in the group of participants who relapsed from change. The anomalies reflected the nuances concerning the context of actual behaviour change and these differences were highlighted through the use of interpretive analysis (Hudson & Ozanne, 2001).

By exploring behaviour change using an interpretive analysis driven by the three outcomes of behaviour change a more meaningful understanding of the approaches to behaviour change can be established. The three outcomes of behaviour change (making and maintaining change, making change relapse and re-cycling to change and no change) are analysed in terms of the four conceptual themes from literature of stimulus of change, primary and secondary appraisals, coping strategies and environmental influences. The relevant sub themes adopted from the results of the content analysis are also analysed.

5.3 Findings from the Interpretive Analysis - Outcome One: Why do people make behaviour changes and maintain behaviour change after a stimulus of change?

5.3.1 Stimulus of Change

The first theoretical process to be analysed is stimulus of change. After the test for cancer, the participants within this group known as the **maintainers** made behaviour changes and maintained the changes in behaviour throughout the study. One participant (17) who moved into the maintainer group from a previous stage of change grouping made and maintained behaviour changes after the first interview. These participants made changes to their diet because of their bowel illness and its consequences such as discomfort and pain on eating certain foods and their long-term bowel health. In the analysis of the interviews concerning stimulus of change (See Appendix Seven) it was found that three of the participants from this group had made changes to their diet before the test for cancer because of their health beliefs concerning diet and illness (Becker, 1974). They reinforced these behaviour changes after the result of the test.

> *"For ten years or more I have changed my diet and I don't eat many fatty foods. Yes, I have tended to change my diet to eat more roughage especially after the test. I feel I have a reasonable diet. I eat fibre, brown bread and fruit and vegetables", (Participant 38, male aged 42 years)*

These participants made the link between dietary factors and illness through their health beliefs (Becker, 1974). Their health beliefs were linked to their socialisation concerning their diet and health but more importantly, they knew why healthy foods were good for their health (Huffman & Houston, 1993). One of the participants had direct experience of familial bereavement due to colorectal cancer and this was part of the stimulus of change for him (Grady et al, 1983).

> *"There is a risk of cancer. My mother had cancer it was very quick. People who haven't suffered it don't realise how quick it can be", (Participant 22, male aged 75 years).*

This participant had experience concerning the fact that illness could affect the bowel and this was a threat to future health so the test for bowel cancer and the memory of his mother's illness was a stimulus of change (Rosenstock, 1966). Participant (17) claimed in his first interview that his health was the responsibility of divine fate (Norman, 1995). At the second interview, he had made changes and demonstrated health beliefs about diet and illness that the other participants within this group had shown. He perceived the interview as a sign to change. Participant (17) had read information concerning diet and bowel health and advised his wife and family about the changes in his diet and they supported him in the diet.

> *"I have had symptoms of diverticulosis for 13 years now. Chronic disease I think. Dietary advice – I had none. More or less, I know about diet and its effect on health. I never thought of changing anything. We have our customs. (Interview One)*
>
> *I do make these changes to things like brown rice and brown bread and other foods. This was since I saw you I changed my diet and thought about my lifestyle", (Participant 17, male aged 65 years Interview three).*

Although this participant was initially categorised as being in contemplation stage of change, he changed his behaviour after the first interview because the discussion was a stimulus of change concerning his health beliefs and knowledge of diet (Becker, 1974).

The participants made judgements concerning the outcomes of carrying out behaviour changes (Peak, 1955; Fishbein & Ajzen, 1980). This theme also concerned the opinions of significant others such as family and peer groups concerning dietary change and whether it was important for the participant to comply with their wishes (ibid, 1980). Participants expected that they would be supported by their partners at home and put changes into place with this attitude to social norms. The significant others living with the participants were positive in their emotional response to the behaviour change (Bagozzi, 1992). When the participants met with their friends who did not agree with their behaviour changes the maintainers displayed strong attitudes towards keeping the behaviour changes and the consequences of sustaining the changes.

> *"I don't have any difficult problems in my life. I don't have much to drink now at all. If my friends have more than one or two, I have a tomato juice. I feel quite positive about my changes in diet. My wife had been helpful" (Participant 9, male aged 51 years).*

Participants within this group believed the outcome/consequences of the behaviour change would be positive (Fishbein & Ajzen, 1980). In this example, it was found that the anticipation of the positive response received by his wife (Bagozzi, 1992) to his behaviour changes and maintaining change was important. These positive responses helped participants maintain their strong attitudes towards change. This belief in the positive response of others to behaviour change was not evident with the other groups in analysis.

5.3.2 Primary Appraisal

Primary appraisal involves the weighing up of the risks and what is at stake in terms of health if behaviour change is not carried out (Lazarus, 1991). The participants knew about possible risks of more serious disease from their own knowledge concerning diet and its links to illness.

> *"I was tested for cancer as there is quite a lot in my family. Well obviously I thought about all the things I was eating or the things I wasnae eating I should say. I still think about my life and how lucky I am" (Participant 15, male, aged 49 years)*

The participants evaluated the risks of further illness and in this case, the participant found that he remembered the health beliefs concerning diet and illness at the time of the test because of previous family deaths due to cancer. He made primary appraisals concerning the risk of illness (Lazarus, 1991) and made changes to his diet and realised the benefits that the changes would bring to him (Rothman, 2000).

Past behaviour is the prior knowledge concerning previous behaviour that helps when making decisions concerning behaviour change such as primary appraisal

(Ajzen & Madden, 1986). The prior knowledge concerning a healthy diet that was good for the bowel was an important factor in behaviour change and maintenance of change (Huffman & Houston, 1993). The participants remembered and talked about their diet as children (Ward, 1974).

> *"Oh aye in saying that it starts in childhood. I was brought up in wartime. It was extremely healthy then and we had lots of vegetables; apples and pears home grown. I didn't think about it at the time but I realise it was healthy now" (Participant 31, female aged 67 years).*

The findings concerning their memories of a healthy childhood diet was different from the findings for the participants who did not change their diet. The patterns of memory of the taste of home-grown vegetables were part of their health beliefs and attitudes to behaviour change. Missing meals especially breakfast was a factor that was a constant feature of past behaviour, especially during early working years for the majority of this group.

> *"I didn't have breakfast at all. When I got up, I didn't want breakfast. But I did have a good idea about diet really. I eat breakfast now and have introduced brown bread, vegetables and pasta. I believe that diet will help others too. It has helped me with my symptoms now" (Participant 27, male aged 67 years).*

These participants remembered their poor diet in the recent past before the test but had past experience of healthy diet from childhood (Bagozzi & Warshaw, 1990). Their previous knowledge of diet was part of their attitude towards behaviour change as part of their social norms (Fishbein & Ajzen, 1980). The benefits that this participant experienced by changing his diet encouraged him to continue with the changes.

5.3.2.1 Goals

Short-term goals were set up during primary appraisal and they involved making plans to change daily eating habits (Bagozzi & Warshaw, 1990; Huffman et al, 2000). All the participants in this group put short-term goals into place to change their diet for their bowel health.

> *"Yes I wanted to do something more. I wanted to get back to health. I am now not doing anything wrong with my diet as I want to get back to normal"*
> *(Participant 33, female aged 63 years)*

The participants found that behaviour change involved focal goals (Bagozzi & Dholakia (1999) such as where the diet would benefit them in terms of their discomfort (bowel health) and they chose the foods they ate daily according to these short term current concerns (Huffman et al, 2000).

Medium term goals involved the specific changes to diet such as cutting out certain foods or having lighter meals (Bagozzi & Warshaw, 1990; Belk, 1975). Often favourite foods were eliminated from the diet as the participants tried to stick to their daily goals and did not eat unhealthy foods that would cause the symptoms of the bowel disease.

> *"I have been more careful and cut out quite a few things and limited what I have been eating. Curries for instance I have limited these and they are few and far between. I have cut out Brazil nuts, which I love completely. I know they are good for you but I think they caused me problems", (Participant 31, female aged 67 years).*

The subordinate goals (Bagozzi & Dholakia, 1999) for this participant meant planning what foods would be irritating to her bowel. She had support from her husband and did a lot of reading concerning foods and their benefits to health (Huffman & Houston, 1993). She adapted her goals to her social context (Huffman et al, 2000).

The participants considered their long-term health and illnesses that they could prevent by making behaviour changes and kept these longer-term goals in mind (Bagozzi & Warshaw, 1990; Huffman et al, 2000). One participant remembered how his family had been affected by illness.

> *"My family has to watch with health – heart problems. I want to get back to normal. I don't like to feel ill all the time. I accept that there is light at the end of the tunnel" (Participant 34, male, aged 73 years).*

Short term goals were only part of the success in maintaining change for this group of participants and the important point for the maintainers was that the long term goals provided guidance (incorporation) for the short and medium term goals which was crucial to maintenance of change (Huffman et al, 2000). Short and medium term goals required thought processes and the maintainers adapted the goals to their social context. The longer-term goals required motivational processes concerning better health and longer life expectancy (Bagozzi, 1992) and linked the health beliefs that had occurred at the stimulus of change as in the case of this participant who had a positive outlook concerning maintenance of change.

5.3.3 Secondary Appraisal

Secondary appraisal relates to the means that will be available to the individual to overcome the difficulties in changing behaviour and prevent the risk to health (Folkman et al, 1986). Secondary appraisal processes were very important in explaining the behaviour of this group as they had all re-evaluated their lifestyles (goals, intentions, attitudes and self-efficacy) including their living and working environments (Bagozzi & Edwards, 1996). These participants put plans into place during secondary appraisals concerning the foods they would consume and the people who would help with supporting their changes.

> *"I live alone but spend a lot of time with my girlfriend at her flat and she influences my diet. I decided to eat fibre and have a packed lunch but must watch that I don't eat too much. I avoid fatty foods. I eat loads of fish and use*

olive oil to cook. Yes I also drink more water" (Participant 38, male aged 47 years)

The participants re-evaluated their lives and tracked the times when the disease was worst such as when they ate too much. One participant found that his children living at home caused him to eat unhealthy foods but that at work it was easy to eat a healthy diet.

"When my children lived with us we did eat a lot of fried food and quick meals. Both my wife and I work. It was difficult to make the changes at first I used to eat a lot of crisps and cheese but at work, we have cooking facilities. Now the kids are gone we don't eat convenience or go to McDonalds. We do think of our health" (Participant 22, male aged 45 years).

Participants set their objectives and recognised that they ate unhealthy foods at certain times and they needed to prepare packed lunches or provide and cook healthy food at work. This was part of their secondary appraisal that included their short and medium term goals, which they had set in primary appraisal (Bagozzi, 1992). This also linked to the health beliefs they had and knowledge of diet.

The concept of perceived behavioural control is central to secondary appraisal and concerns the ease or difficulty in making behavioural changes in the short term (Ajzen, 1991). Participants in this group found it easy to maintain behaviour changes in the short term (PBC). Although they recalled how work stress had affected them before making the changes, they now managed work stress very well.

"It can be stressful from time to time. Now I have changed my life as soon as I walk out of the door I forget it. It is only a job and someone else would soon fill the job" (Participant 35, female, aged 57 years)

Perceived behavioural control affected how much effort the participants perceived they would have to put into the behaviour changes. For example the participants within this group were aware that there was stress at work but that the difficulties

could be overcome and changes maintained by management of work stress. It was significant that less mention was made concerning effort from this group of maintainers than from those participants who relapsed from change as the maintainers had effectively planned their management of change. This was part of their secondary appraisal (Lazarus, 1991).

Volition is part of both the primary and secondary appraisal processes. Volition is the desire to carry out the behaviour changes and volition links the thoughts and the will to act in the pursuit of both short and long-term goals (Bagozzi, 1992). Willpower follows on from volition as it is the control exercised (behaviour carried out) after the decision to change has been made and is part of the efforts in maintaining change (ibid, 1992). The participants in this group who have made behaviour changes have strong desires to make the effort to maintain change and these desires were remembered in times of temptation.

> *"I don't have any difficult problems in my life now. I stopped eating curries. I often walk past curry houses and I have to take a deep breath and walk past. I have strong willpower. I have kept my drinking low and drink fresh orange only" (Participant 9, male aged 51 years)*

In this case, the participants recognised the factors that caused him problems from previous knowledge of healthy diet relating to their illness. His desire to change incorporated more than an attitude or intention to change which were thought processes. The desire involved the motivational desire to act and the use of self-control (Folkman et al, 1986) and these factors led to maintenance of change (Bagozzi, 1992).

The participants within this group did not demonstrate many negative emotions concerning the result of the test but one participant commented on the concern he felt before the result was given out.

> *"There are people a lot worse off than me. I was concerned when I thought it might be more than a minor illness", (Participant 22, male, aged 45 years).*

Most of this group demonstrated strong positive emotions about their behaviour changes and the positive emotions they demonstrated concerning their ability to maintain change was apparent. They expressed some thoughts about negative emotions they had had in the past.

> *"I feel great now I have made the changes. It has not been easy but worth it" (Participant 34, male aged 73 years)*

Their emotions reflected the amount of effort they had put into making the behaviour changes. They recognised that they felt better since they had made the changes (Rothman, 2000) and this encouraged them to maintain change. The intensity of the positive emotions were strong because of the personal reward the participants perceived they had achieved (Fridja, 1986; Bagozzi, et al, 1998).

Self-efficacy differs from perceived behavioural control as with PBC the perceived ease or difficulty of control applies to the short-term goal of changing behaviour and not so much to the longer-term goal of maintenance of change. The appraisal of self-efficacies is the belief a person has that they can achieve the behaviour changes and more importantly for this thesis, the maintenance of behaviour changes (Bagozzi, 1993). For this participant within the group there was a strong belief in his own ability to sustain the change of dietary behaviour.

> *"When I originally got my bowel disease I had a lot of stress at work. Since I have changed my diet, I have found no problem with stress or maintaining my diet. I am a positive person so nothing really influences me. I would decide what is suitable for me. I never drink wine and my exercise helps me to be positive" (Participant 26, male, aged 70 years).*

This participant had a very positive attitude to life made during the primary and secondary appraisals (Bagozzi, 1993). His strong self-efficacy (Bandura, 1977a) was linked to the goals he had set which were both short and long term. He linked

cognitive, motivational and emotional processes to reach goal efficacy (Bagozzi, 1992). He has the support of his wife and this and other strategies kept him from being upset by temptations due to work stress or worries. He was strong in his belief that his goals could be achieved.

> *"If there wasn't a sweetie or a biscuit in the house I wouldn't crave them. I am not held back by other people now. Before I was always conscious if something wasn't going right it was on my mind." (Participant 15, male aged 49 years).*

The participants within this group managed to overcome feelings of low self-belief by their sustained goal efficacy and the changes they made in appraisals (Bagozzi, 1992). Three of the participants in this group did not display high self-efficacy in the findings from the likert scale (Appendix Four). It was through interpretive analysis that the experience of self-efficacy and goal efficacy was revealed. Goal efficacy was one of the areas where the maintainers differed from those who relapsed from change as both short and longer term goals were set. As well as the appraisals, set by participants who maintained change there were three coping responses put into place. Coping refers to the way in which an individual responds to situations that cause them stress involving personal and environmental factors (Lazarus & Folkman, 1984b) and the coping strategies are outlined in the following section.

5.3.4 Problem focused coping

The participants within this group utilised problem focused coping where action is taken to alleviate the source of distress (confrontive coping, planful problem solving and accepting responsibility). Sometimes the participants had to be strong and assert their position in terms of changing their behaviour. One participant had criticisms from his family concerning the behaviour changes.

> *"My youngest daughter criticises me a lot. My son is a chef and he makes comments on what we are eating. They don't complain they only pass comment but we do try to eat a healthy diet" (Participant 9, male, aged 51 years).*

Being able to say no to unhealthy foods or drinks, was an important part of implementing the coping strategy of confrontive coping and maintaining change. The

participants felt positive with their coping strategies as they were based on their health beliefs and knowledge concerning diet. The social support received was a factor that helped with this coping strategy. Sometimes it was more difficult to change as one participant found when her partner did not keep to the changes she had made. But she asserted herself and continued with her efforts to change.

> *"I will say I don't have this and don't have that to eat to him but he has a sweet tooth and brings home blackcurrant pies and ice cream. Even when you don't want them to do this, they do it anyway. I eat what I think is healthy" (Participant 33, female aged 63 years)*

Many of the participants within this group maintained changes by asserting their health beliefs concerning behaviour change to their friends, family and work colleagues and these coping responses helped sustain their commitment to change. The communication concerning the behaviour changes was important and so was the response of the significant other in providing support for the strategies (Bagozzi, 1992). These responses were revealed through interpretive analysis.

Participants implemented their plans made during secondary appraisal. They continued with these plans by coping with planful problem solving. Participants ate specific foods on a daily basis to discourage the symptoms of their bowel disease and the discomfort they had experienced from eating too much food (Folkman et al, 1986). This participant remembered the pain and discomfort from previous experiences and used planful problem solving to cope with this problem. She made a list of specific foods that she could not enjoy with the disease and eliminated them from her diet.

> *"I just stay on the brown bread, high bran, Weetabix, fruit and vegetables. I remember which foods from experience. If I have been out to a restaurant and I have had quite a full meal. It is an hour or two later that it starts griping"; (Participant 12, female aged 75 years).*

The effect of eating certain foods that resulted in the pain of the bowel disease had made the participants consider the physical symptoms that were involved with bowel disease. The participants recognised that the efforts to make change and put coping strategies such as planful problem solving into place were a continuous process. They set goals and made appraisals that would last.

> *"It's a way of life. If you continue to drink or eat badly after a set-back with health it will have a bad effect" (Participant 32, male, aged 83 years).*

All the participants made their behaviour changes part of their lifestyle and realised that the changes were beneficial and should be sustained even when temptations arose. The references in the interviews showed that many of the participants had routine plans put into place.

The theme of accepting responsibility concerned the participant's own role in making a change to their poor bowel dietary behaviour (Folkman et al, 1986). For example, participants realised that their low self worth contributed to their bouts of eating or drinking.

> *"I have always had low self-confidence but this has made me feel better about myself and my wife can see the changes in me. I didn't like myself before and I was on a destruct programme of eating and drinking too much" (Participant 9, male, aged 51 years).*

None of the participants were shown to rely entirely on their partner in terms of responsibility for dietary health either within the content or interpretive analysis (Rotter, 1954). The participants did work together with their partner to maintain changes. One highly symbolic example of the direct action was the removal of a cooking utensil by one participant with the support of his partner.

> *"We threw out the electric chip pan because I used to eat chips a lot. At one time, I ate a load of chips aye. Well virtually every night I would have fried*

food of some type which I don't have now" (Participant 15, male aged 49 years).

It was not simply the getting rid of the chip pan that changed this participant's behaviour but the support that he was offered by his wife (Bagozzi, 1992). The findings from the interviews revealed that there was an equal balance of work in shopping and preparing food between partners in this group. Although the participants took on the responsibility for behaviour change for themselves (Rotter, 1954) the responsibility in making dietary change s they received from their significant others was a major factor in maintaining change (Folkman et al, 1986).

5.3.5 Emotion Focused Coping

Emotion focused coping involves keeping emotional reactions under control. For this group of participants emotion focused coping involved self-control and positive re-appraisal (Folkman & Lazarus, 1984b)

Self-control involved regulation of desires and emotions (Folkman et al, 1986). The means of keeping self-control was often contained in the appraisal plans that the participant had set up.

"I make myself busy. I have been working on my fish pond. I paint quite a lot. I like to do those things when things are getting me down" (Participant 32, male, aged 83 years)

Planned activities were used to alleviate feelings of boredom, stress or loneliness. Participants took up a variety of pursuits and recognised the times that they would be required as substitutes for unhealthy eating behaviour.

"I sit and cross stitch, go out in the car for a run. At first when my husband died I just got out of the house, jump in the car and drive. I'd phone my daughter. Now I have other things such as being an active member of the church and this helps with the diet" (Participant 35, female aged 57 years).

The changing of activities for this participant also meant peer and family support was in place and this was another coping strategy as the positive responses from people at the church and her daughter helped her maintain change.

The participants found that positive re-appraisal (Folkman et al, 1986) was a good coping strategy in maintaining change (Rothman, 2000). They focused on their achievements in maintaining changes.

> *"I have been keeping positive about the diet and there is no point in straying away from it. I feel so much better when I don't eat lots of red meat. I have felt awful and now there is not much more I can do" (Participant 12, female aged 75 years).*

The participants recognised the benefits behaviour change had brought to them in terms of feeling better. Their physical health improved as the discomfort subsided and the participants also remembered the way they had felt before the changes and compared those periods of pain with the feelings of being well.

5.3.6 Seeking Social Support

Seeking social support (Pearlin, 1989; Folkman & Lazarus, 1988) was a coping strategy that involved the positive help and responses of family, friends or professionals. The participants found that the professional advice offered added to their existing knowledge and they used this information to help with behaviour change.

> *"Since I met with consultant who encouraged me, I have changed my diet due to my illness. I have had no more episodes. I knew about diet but he helped me with motivating advice" (Participant 31, female aged 67 years)*

Family support included partners, parents and children mostly living at home but when living elsewhere was visiting regularly. The participants in this group received a positive emotional response from significant others (Bagozzi, 1992). Partners offered support by pointing out times when the participant was eating foods that were poorer for diet. This provided additional emotional responses for the participant and helped them with the belief that they could achieve maintenance of change.

"My girlfriend lives with me some of the time. She encourages me to eat a packed lunch with roughage such as fruit and vegetables instead of my usual habit of eating the food at work" (Participant 38, male, aged 47 years)

The partners who lived with these participants made changes to their diet to help the participant. Support was also given in the form of the boosting of self-efficacy and the partner and family supported every decision that was made concerning the changes in eating (or drinking) to maintain change.

"I will go with my wife on this as she started me on a healthy diet. Our daughter is a big influence but with common sense. People say I look well –it must be working" (Participant 34, male, aged 73 years)

Partners helped with steering the participant towards activities that would be more beneficial to their health. They also helped with motivating the participant to continue with the diet by instilling confidence into what they were doing. Teamwork was important. The support was strong because the family member knew the temptations that the participant was likely to have and demonstrated positive responses to the changes. Together with family support participants put a plan into action to prevent further disease. Within this group there was no question about maintaining the diet as it was part of their daily lives and the partner was part of this daily routine and worked with them. When one partner resented what was required concerning the participant's commitment to change it was frustrating and brought out strong emotions for this participant as she made efforts to maintain change (Bagozzi, 1992).

"There is no a lot of support – well there is support but added work. I get very uptight. My husband does not understand me and my diet" (Participant 33, female, aged 63 years).

Other support that was offered came from the participant's peer group. Relationships with peer group can be an influence on attitudes and beliefs and can have influence

on a person's behaviour. In general within this study the male participants worked with their family or partner for support. The female participants made changes with their family but also had support from friends where they received a positive emotional response.

> *"Yes I have friends and one friend in the Women's Guild who has been through the same thing as me" (Participant 35, female, aged 57 years)*

Often the peer support helped the participant communicate their emotions concerning the disease and the changes they were carrying out. If the peer group knew the foods to be avoided the participant felt at ease when they met their friends as they had support in their dietary changes. Within the interviews it was found that all the participants in this group referred to family/peer support, helping relationships and professional support. This theme produced strong findings within content and interpretive analysis.

5.3.7 Summary of Key Findings for the Maintainers

One of the key findings for this group of participants was that the stimulus of change involved the health beliefs and attitudes of the participants towards dietary behaviour based on knowledge of diet gained during childhood and dietary links to illness. The knowledge and perceived beliefs in the consequences of change led to the participants making primary appraisals and secondary appraisals with the important link of emotional processes, perceived behaviour control (for the short term goals such as daily diet) and self-efficacy beliefs in the longer term achievement of better health. This was known as goal efficacy (Bagozzi, 1992). One crucial point was the volition relating to the long term goals of better health gave guidance to both the short and medium term goals. The coping strategies were problem and emotion focused and because of the strong volition and appraisals set the strategies helped the participants sustain change. The two important findings for this group concerned the functional knowledge of diet with the coping strategy of social support and the positive emotional responses received (Bagozzi, 1992). This enabled the participants to have self-control and management of environmental influences such as work stress (Folkman et al, 1986).

5.4 Analysis of Outcome Two –Why do people make behaviour changes relapse and recycle to behaviour change after a stimulus of change?

Members of this group were in action stage or maintenance stage of change at the 1st interview but relapsed between the 1st and 2nd or 2nd and 3rd interview. This group are known as the **relapsers**. These participants relapsed to preparation stage of change only as they had made commitments to make behaviour changes with appraisals and coping strategies they had set. They stayed in preparation stage of change for a short time (days or weeks) and did not regress into contemplation stage. Three participants 4, 8 and 10 relapsed into contemplation stage at the third interview stage but were intending to recycle back to behaviour change.

5.4.1 Stimulus of Change

The participants within this group had experienced a stimulus of change, which seemed similar to the maintainers group and made changes because of their bowel health and the diagnostic test. The participants used their health beliefs (Becker, 1974) and knowledge concerning the risks from illness and made changes in their diet.

> *"I am quite a methodical person so I read up on IBS. I monitored what I was eating. I eat quite a variety of healthy foods"* (*Participant 24, female aged 37 years).*

In this case the knowledge that was gained from learning about the illness and how it linked to diet and this was a factor in the stimulus of change but the knowledge of diet was different from the maintainers (Bagozzi & Warshaw, 1990). Social support anticipated by the participants was not continuous and but was a factor in the stimulus of change for three participants as they received a positive response (Bagozzi, 1992).

> *"I am living with my partner. I did make some changes two years ago when the symptoms began. I changed my diet more after the test and he changed*

too. It was a new experience to be ill for me." (Participant 21, female aged 43 years).

In this case, the support of the partner initially helped with changes in diet (Bagozzi, 1992). One of the participants had experienced the death of his wife from colorectal cancer. His wife had died three months before his test for colorectal cancer and he reflected on the link that the cancer and his bowel illness might have to diet (Grady et al, 1983).

"I have changed my diet over the last few months because of the problems I am having with my disease. Also the fact that my wife died of bowel cancer made me think about things" (Participant 2, Male aged 56 years).

The knowledge concerning cancer and his health beliefs concerning diet and illness (Becker, 1974) was a stimulus of change for this participant and he remembered the experience dealing with his wife's illness and then death. The stimulus of change appeared to have a stronger affect on this group than the maintainers in the interviews but their perception of maintenance of change included the possibility of failure (Bagozzi & Warshaw, 1990) even though their health beliefs were strong. For one participant the perceived consequences of better health was a stimulus to change but he also recognised the fact that he could be tempted to eat unhealthy foods. (Peak, 1955)

"I am still keeping to my diet I have been trying to change my behaviour for my bowel disease. I was a butcher and still like the smell of fry up bacon and sausages. I am tempted sometimes with sweet things when I am frustrated with old age and life although I know I should keep to the changes"
*(*Participant 36, male aged 76 years).

The difference with the relapsers and the maintainers was that participants for example believed that by "trying" hard on a daily basis they would change their behaviour and achieve success with better health (Bagozzi & Warshaw, 1990). The

difference was that these participants accepted temptations might be difficult to resist and failure to maintain change would take place in the longer term (Huffman et al, 2000). Within the interpretive analysis the opinions of significant others and references to normative beliefs concerning family support with change of diet (Fishbein & Ajzen ,1980) was found not to be so important for participants in this group who did not live with someone continuously.

> *"My downfall is crisps. My room- mate buys crisps in bulk. If I feel peckish, I hang off but on a bad day go for the crisps. I see my mum and dad once a week" (Participant 20, male aged 35 years)*

These participants did not include the significant others within their attitudes to change or health beliefs. In this example the lack of communication meant that lack of social support from significant others was a factor in relapse. This finding was different from the maintainers who did live with a significant others (Bagozzi, 1992).

5.4.2 Primary Appraisal

All of the participants within the relapsers group made primary appraisals (Lazarus, 1991) and they believed that healthy diet was important in terms of their illness and risks to health. One participant believed that if she sustained the changes she might suffer less of the symptoms of bowel disease.

> *"The test is clear. There is nothing wrong. I do have the odd niggle which I sayed before is only when I don't watch what I eat. If I eat the right stuff I am fine, otherwise I am not. I do think that it is what people eat that makes them healthy or not" (Participant 19, Female, aged 40 years).*

This group of participants differed from the maintainers in the fact that they recognised that relapse was possible. The relapsers spoke in terms of trying and failing and striving to change (Bagozzi & Warshaw, 1990) whereas the maintainers made more reference to the risks involved and were more positive about their ability to maintain change and achieve success.

The participants within this group made no specific mention of knowledge gained earlier in life concerning diet. Frequency of eating a healthy diet was not as apparent with this group (Bagozzi & Warshaw, 1990). Their references to diet were not specific in terms of what they ate in the past but were general descriptions.

> *"I lived in Surrey but most of my life was in London. I lived on sandwiches and was too tired to make a meal when I got home. I had breakfast provided if I was up on time. Different priorities then – get up and get out. I had a stressful lifestyle. Most of the people I know are aware of how you ought to eat" (Participant 6, female aged 76 years).*

In this example the participant talked about the poor diet she ate when she was younger and working in a stressful job. She had knowledge of diet in broad terms (no specific foods mentioned) but did not consider her health beliefs at this time of her life (Becker, 1974).

Participants made reference in the interviews to healthy diet but there was little evidence of the link between this knowledge of diet and bowel health. Participants thought that more education on healthy eating would have helped at a younger age.

> *"My diet was rubbish, fried eggs, sausages and pint of beer at 4am. It worked itself off. In two years I went from extreme physical fitness to a couch potato. I am more conscious of what I eat. Perhaps more education at an early age might have helped" (Participant 25, Male aged 51 years).*

The participants in this group did not mention the knowledge gained in terms of diet and health concerning diet from childhood (frequency of trying) whereas the majority of the maintainers recalled their healthy eating habits from childhood (Ward, 1974; Bagozzi & Warshaw, 1990).

5.4.2.1 Goals

The participants within this group followed a daily diet that they had planned to benefit their daily health. They formed consumption intentions (short-term) that led

to the forming of their diet within their medium term goals (Bagozzi & Warshaw, 1990; Huffman et al, 2000).

> *"I have changed my diet for more than a year now. I decided about the foods I would cut out. Kiwis for example are too expensive although they are good for you. I used to eat Crunchy Nuts but thought about taking bran in the morning and changed this. I also decided to drink water everyday and eat more fish" (Participant 10, male, aged 78 years)*

The participants adapted their goals in the context of their lives and included foods that they could afford to buy and that they knew were good for their bowel health on a daily basis.

The participants implemented their medium term goals and followed the diet but they recognised that seasonal events could bring problems. The relapsers focused on short and medium term goals and as with their appraisal of the risks they recognised that they might not maintain the changes (Bagozzi & Warshaw, 1990).

> *"I write down what I eat now. It is trial and error. I read about diet and take it on. But I need to watch though with cheese and cream. I love Christmas and it is coming up soon" (Participant 28, female aged 51 years).*

Participants within this group talked about the foods that were tempting to them more than the maintainers who had committed to the new diet and maintained change. In the interviews these participants were shown to have set some goals but the interpretive analysis revealed that these goals did not include maintaining change long term (Huffman et al, 2000).

The majority of the relapsers group did not incorporate long and short term goals in the same way that the maintainers had done in their appraisals. They did not adapt their goals to their social context at all times. They concentrated more on trying to change their behaviour daily (short term/medium term) rather than looking at a

longer term view of better health. Two of the participants in the interpretive analysis did consider their social norms as important factors (Becker, 1974) in their view of long term goals and life themes (Huffman et al, 2000).

> *"My attitude to health changed completely. I took responsibility for my life at that point. I am worried about my future health as I have three children" (Participant 1, Female aged 40 years).*

The findings in the interviews revealed that participants believed in long term benefits to health from behaviour change but the interpretive analysis showed that only two participants had made specific comments concerning their life goals. The role of a parent was important in terms of setting long term goals for these two participants (Huffman et al, 2000). Their long-terms goals were to prevent further illness and live a longer life. Both of these participants relapsed because of work stress despite this longer term setting of goals.

5.4.3 Secondary Appraisal

The participants within this group realised and accepted the importance of changing their diet and keeping to the changes as part of their daily routine. They evaluated the ways they could change their behaviour (Lazarus, 1991) and considered the healthy foods they knew would help but also foods that would not.

> *"Tomatoes and oranges are not good. I have a yen for chocolate cake. I daren't go near chocolate and I never buy fast food. I only eat chicken and fish" (Participant 6, Female aged 76 years).*

The participants went through the process of appraisal but did not always manage to maintain the plans they had set in place despite their efforts to change. In this example although short term intentions were clear (Ajzen, 1991) as this participant was single there was a lack of social support in the home and relapse with comfort eating took place. One participant wrote down what she ate as a form of control.

> *"I stick to this diet because of health reasons. If you can say or write down what you eat then you know exactly what you are feeling about things", (Participant 5, female aged 60 years).*

Their interview findings revealed that participants did focus on the re-evaluation of their lifestyle but without their longer term health beliefs (lack of frequency of trying) and goals it was difficult to maintain change (Bagozzi & Warshaw, 1990).

The strong emotions that were raised by the diagnostic test affected one participant and changed her views on having good long term health (Fridja et al, 1986). The expectation of the consequences of the behaviour involved emotions such as fear.

> *"I had a big fright. I have made lots of changes over the years, over the last two years. This has been because of my bowel disease. I knew what I was doing" (Participant 1 Female aged 40 years).*

The anticipatory emotion of fear experienced by this participant was a factor in their implementation of behaviour changes in diet and her knowledge of diet. She did not maintain change even though she had set both short and long term goals as she was divorced and had no social support in the home. The participants experienced anticipatory emotions, which resulted in their appraisals and plans to cope with change before the result of the test (Bagozzi, 1992; Becker, 1974).

"You worry yourself sick. But you pluck your courage to go and it is a big relief when he told me it was only minor" (Participant 25, male, aged 51 years)

In this case the emotions diminished after the result of the test and the participant did not have the motivational processes such as belief in the achievement of longer term goals to maintain change (Bandura, 1977a; Bagozzi, 1992). Negative emotions were experienced by these participants when they relapsed from change.

> *"Aye I was feeling a bit down with all this trouble. But the thing is you know that you are going to suffer if you eat the wrong things. I comfort eat with chocolate. I could crave chocolate first thing in the morning." (Participant 28, female 51 years).*

In this example the participant expected to fail in her efforts to change when she experienced negative feelings about their disease (Bagozzi & Warshaw, 1990). This differs from the maintainers who had made long term commitments to maintain change and did not anticipate failure because of emotion.

Because the participants in the relapsers group did not make the link between the short term thought processes and the will to act in pursuit of longer term goals (Bagozzi, 1992) their volitional appraisals were not as strongly committed as the maintainers group. Their attitudes and intentions were to maintain change but their actual desire to change (motivational process) was not evident.

The participants within this group perceived that the behaviour changes were easy to control in the short term (Ajzen, 1991). When they felt motivated to change and the symptoms were not bothering them perceived behavioural control was easy to achieve but when there was a problem the participants could not see how they would maintain change.

> *"I am conscious of what I eat but I lose motivation if I don't feel that the diet is working. I can keep to it when I see a difference. The last few years have become more difficult for me at work too and my industry is under enormous strain" (Participant 25, male aged 51 years)*

The participants who relapsed found it difficult to keep to the changes they had planned. The maintainers group had a stronger perception of how they would make the changes easy to achieve because of their strong links with short and longer term goals and this link included self-efficacy.

The participants within the group experienced beliefs similar to self-efficacy (Bandura, 1977) when they carried out appraisals and made behaviour changes. Although they could perceive how to achieve short term achievements they did not hold the beliefs in the long term achievement of the goal of maintaining better health. They did not link the cognitive, emotional and motivational processes in goal efficacy as the maintainers had done. When these participants relapsed from behaviour change for a short period of time their self-efficacy beliefs dropped.

> *" I am happy when I feel my life's on track and most unhappy when I am under pressure I think a great deal in life, including eating depends on your state of mind"(Participant 24, aged 37 years).*

In this case the participant knew that when her self-efficacy was strong she could manage to maintain changes in dietary behaviour. She used self-efficacy to regain control in relapse by recalling her appraisals (Bagozzi, 1992). Some participants recognised the times when they were not so confident and they realised these were the times when they relapsed in their dietary behaviour due to boredom or pressure.

> *"My self-confidence is really OK but I like to know what I am doing. It's about sticking to the diet and not letting other things get me down like when my mother is ill. I don't suffer from stress but I may put myself under pressure if all my work is not done. I may get a bit anxious then about that kind of thing. I sometimes suffer from boredom but then I tend to go to the gym with my partner", (Participant 21, female aged 43 years).*

Participants recognised the factors that caused them to relapse from their changes in bowel diet and used strategies such as social support and other activities. When things were going well participants felt strong self-belief and positive feelings about making and maintaining change and recognised the factors that helped them keep to the changes. But these positive beliefs were not sustained because of their lack of commitment to long term change (Huffman et al, 2000). The relapsers put coping strategies into place such as problem and emotion focused coping.

5.4.4 Problem focused Coping

The participants within this group used problem focused coping (confrontive coping, planful problem solving, acceptance of responsibility) in a similar way as those participants who went on to maintain change. There were differences in their long term outlook with the coping strategies (Folkman et al, 1986). There was little evidence of the participants using confrontive coping compared to the participants within the maintainers group. One participant spoke of her discussions with her husband concerning what they bought to eat.

> *"Well my husband does the shopping in the household. My husband has never had problems with his diet so we discuss between us what we are going to eat" (Participant, 5, female aged 60 years)*

Although this participant was similar to Participant 33 (Section 4.4.4) in the maintainers group (confrontive coping) she did not assert her views as strongly to get the support of her husband with her changes. The findings within the interviews demonstrated that although the participants seemed to have strong coping strategies within the interpretive analysis it was found that their strategies were not as strong in confrontive situations as those made by the maintainers.

The participants within the relapse group implemented planful problem solving from their appraisals and found it easy to change their behaviour in the short term.

> *"I have been trying to eat more fruit and vegetables because of bowel health; fruit in the morning and I take All Bran. I have been making these changes since May. My wife has gone along with these changes. Our grandchildren come along but I don't eat the pudding any more"* (*Participant 36, male aged 72 years).*

Participants made statements about their plans to solve the problems of their dietary behaviour. Although this participant had some social support this did not prevent relapse for him from change and he did not take responsibility for his plans (Rotter, 1954). Many participants within this group used the word **trying** when describing

their efforts to implement short term behaviour change. This was not so evident with the participants who maintained change.

> *"Recently going to the gym and mountain biking help me. I try to drink more water and I try not to drink fizzy juice now. I have been good not eating chocolate. I have quite a lot in my life to take me back to healthy eating" (Participant 20 male aged 35 years).*

It was evident in many cases that they were striving to change with the use of coping strategies (Folkman et al, 1986). In this case the fact that he had no social support in the home and suffered from work stress prevented this striving to change from being maintained. The participants within the group who were single, widowed or divorced lived alone. They encountered problems with coping by accepting responsibility.

> *"I am probably an extreme example. I am scared of stopping my diet. I did have a cappuccino but I said to myself afterwards that I must not slip. I have an addictive personality. It had required strong willpower" (Participant 1, female aged 40 years).*

The fact that there was no social support in place led this participant to relapse from change. When social support was intermittent it was difficult to maintain change and one participant did not take responsibility for her own diet when her husband was around.

> *"My husband is back at work now so I can choose what I want to eat. It was harder at first because he was doing all the cooking" (Participant 28, female aged 51 years).*

The participants within this group tried hard to accept responsibility for their actions but some found that it was difficult to change with the coping strategy of accepting responsibility without continuous social support in the home (Fishbein & Ajzen, 1980).

5.4.5 Emotion Focused Coping

The participants within this group used emotion focused coping (self-control, positive re-appraisal) but found that it was not always easy to keep to their plans. This was a factor in relapse when the participants used the escape/avoidance emotion focused coping strategy (Folkman et al, 1986).

Participants within this group were aware of self-control as a coping strategy for making behaviour changes (Folkman et al, 1986). Literature with dietary advice and notebooks helped in maintaining self-control for some participants. The emphasis on trying was evident with self control with this group (Bagozzi & Warshaw, 1990).

> *"I have been keeping to the sheet they gave me in the hospital. I have been trying as near as possible to keep to it. I have been keeping a diary" (Participant 5, Female, aged 60 years).*

The activities that the participants took up were part of the coping strategy of self control. This boosted their confidence and beliefs in the fact that they could maintain their lifestyle and dietary changes.

> *"I feel positive and proud of myself. I go swimming five times a week. I have taken up philosophy and have been re-reading some of the works I read previously. I have re-evaluated my life and have more self-control" (Participant 1, Female aged 40 years)*

Within this group most of the participants had taken up activities. These were part of their coping strategy of self-control this helped with the process of keeping to a routine and keeping control. In this case the participant expressed positive feelings about the activities she had taken up as part of her plan for change. Some participants who made behaviour changes found their job was beneficial in helping to avoid poor diet.

"My job at the Leisure Centre helps. Recently the gym has really helped me" (Participant 20, male aged 35 years)

Participants all implemented self-control coping strategies. Coping strategies required continued efforts to change and keeping to short term goals but it was also important to focus on the longer term achievement of better health without relapse. Changes of job also helped with self-control at mealtimes at work as the foods on offer were healthier.

"I changed my job from an agricultural engineer who involved carrying a lot of sandwiches and stuff. I joined the ambulance service and now we have cooking facilities at work. I have access to the canteen and the food there is reasonable and there is always a healthy choice. I used to live on sandwiches and miss meals before" (Participant 22, male 42 years).

The emotion focused strategy of self-control was a key distinguishing category between the relapsers and the maintainers. When the relapsers lost their self-control with diet, relapse occurred. Sometimes there were seasonal events that made it more difficult to employ self-control. The two participants who had set longer term goals (Section 4.5.2.1) found that because of their lack of self-efficacy (belief in longer term achievement) and volition (desire to act in the long term), they relapsed in their behaviour.

"I have re-evaluated my life because of my illness and have more self-control. But at Christmas I just wanted to be normal like everyone else and eat meat and drink caffeine products associated with Christmas" (Participant 1, female, aged 40 years).

In this case because the goals were not long term (Huffman et al, 2000) it was difficult to maintain self-control. Participants who relapsed immediately recognised

these times and only relapsed briefly as they had other activities they had planned to do to counteract their relapse.

> *"I have some niggly bits over Hogmany when it was stressful with all the parties and snacking. I feel bad afterwards and have to try and get back on track again" (Participant 5, female aged 60 years).*

Lack of self-control was a factor that impeded maintenance of change as the self-control coping strategy was not always put into place at times of relapse but was replaced by escape/avoidance. The differences in self-control were not conclusive in the interview findings but more information was understood from the further analysis of the text in interpretive analysis.

Many participants felt better as a result of making the behaviour changes and used positive re-appraisal as a coping strategy. The participants continued to make and maintain change because of the benefits they experienced by making changes.

"Recently going to the gym and mountain biking helped me. I try to drink more water. I have been good at not eating chocolate or drinking fizzy drinks. I have quite a lot in my life to take me back to healthy eating" (Participant 20, male, aged 35 years).

When a participant relapsed they used the coping strategy of positive re-appraisal to cope with their recycle back to change as they remembered the benefits they received in feeling better when changing their diet (Rothman, 2000).

5.4.6 Escape Avoidance in Relapse

The relapser participants used the emotion focused coping strategy of escape/avoidance at times of relapse (Folkman et al, 1986). The maintainers did not use this coping strategy as they managed to maintain change. Temptation from unhealthy foods participants knew would start symptoms of the bowel disease was consumed because of environmental influences. This was a factor in relapse from behaviour change.

"I love the aroma of coffee and I can't do it. I was fed up of meeting people for coffee and having a glass of water. That was my first relapse in 3 years" (Participant 1, Female aged 40 years).

Often temptations could lead to a relapse in behaviour especially when the participant was feeling down. When relapse took place the participants in this group used the coping strategies like escape and avoidance to comfort them at times of stress at work.

"I tend to relapse and have bad things to eat at work like bacon rolls when I am feeling under pressure. I feel anxiety and then I eat all the wrong things. When I calm down I can think more sensibly about what I like to eat" (Participant 2, male aged 56 years).

Coping with the problem at work by comfort eating was an escape/avoidance strategy used by the relapser participants (Woodruffe-Burton, 2003). Relapse was referred to many times in the interviews by this group relating to the escape avoidance strategies adopted at times of relapse. No reference was made to relapse by the maintainers group as they managed to cope with temptations by managing work stress.

5.4.7 Seeking Social Support

Seeking social support involves accepting advice or sympathy from someone who is trusted and respected (Folkman et al, 1986). The professional support given by nurses and doctors was clear from the some of the accounts by participants. The important factor was the resulting behaviour in accepting the support from the professional. The professional support often helped to guide the participants and the professionals helped in recommending the means of controlling their diet.

"The consultant recommended keeping a note of things and eating more fruit and vegetables" (Participant 5, female, aged 60 years).

Within this group the professional support helped to reinforce the existing information concerning bowel diet and the participant used the advice given to help them make changes. Some of the participants committed to trying to change their behaviour but depended on their partner to implement the changes and provide support rather than working together with the partner to change and taking some responsibility themselves. The participants who relapsed from change demonstrated a lack of responsibility for their own health (Rotter, 1954). This was the difference in terms of social support from those who maintained change.

> *"I will try and make changes over the next year. In the past I made no changes but recently since the test my wife has made changes as she is health conscious" (Participant 4, male aged 70 years).*

The participants within this group who relapsed but recycled to change again had support from significant others at times but not all of the participants had continuous support. If the partner and family were supportive and the participant worked with them to change then changes could be sustained. The participant worked with the supporting person to maintain changes as they received a positive response (Bagozzi, 1992) to their need for change and this helped them recycle back to change after relapse.

> *"I had to push myself to eat better. I got help from my daughter though. My daughter and her boyfriend live with me fifty per cent of the time and apart from my new girlfriend they give me support"(Participant 2, male aged 56 years, 2nd Interview).*

The joint responsibility became a facilitating factor in the change of bowel diet but this was only continuous when the significant other was living in the participant's home or visiting regularly. A factor in recycling from relapse was peer support, which relates to the factors that helped the maintainers group maintain change.

> *"My friends are great as they have different personalities from me and help me with my cravings on a bad day. I have a good support network" (Participant 24, female, aged 37 years)*

The friends that these participants relied on were often chosen particularly for their supportive role. Social support linked in this way to self-control for the relapsers.
A factor that was found to be important with relapse behaviour related to the coping strategy of seeking social support (Folkman et al, 1986). Sometimes there was a reliance on a partner/spouse by the participant for the responsibility of a healthy bowel diet. When the partner absent the participant would take the opportunity to eat a poorer diet.

> *"It depends if my hubby is at home. Your see I have two lives here (when he is at home and when he is on the rigs). And if he is at home he makes up my soup and my salad and then I am better" (Participant 19, female aged 40 years, 3rd Interview).*

It was necessary for the support to be part of the routine of the daily life and in this case the support was only intermittent. When the husband was not at home the support was gone. For one participant the normal support offered was not accepted during his period of relapse as his emotions were at a low point (Bagozzi, 1992).

> *"Well if my wife says don't eat so much it's the wrong response for me and I eat even more. My mind consciously thinks of things to eat. I realise this but it has no effect. I am in a real dip just now" (Participant 25, male aged 51 years)*

Relapse often took place when the participant was in their working environment away from their partner and did not have the positive support at hand. They relied on the partner too much for the change in diet.

> *"She does support me a lot. But I am eating at work now and have relapsed a bit as I eat more fatty foods, not the fishy things she cooks for me"(Participant 8, male aged 57 years).*

When a participant did not know what foods were required the family support, knowledge and positive emotions were crucial factors. The difference with the relapsers and maintainers was that the maintainers always assumed responsibility (Rotter, 1954) knowledge of diet (Hufffman & Houston, 1993) as well as the person in the support role (Bagozzi, 1992).

Lack of communication in terms of anticipating social support led to significant others not knowing that the participant had made changes to their diet because of illness. Some of the participants who were single lived away from their parents and did not tell their parents about their dietary needs or found that their parents had forgotten about the foods they should not eat.

> *"My mum and dad try to help with the diet but they also will make things like curry which doesn't always agree with me" (Participant 24, female, aged 37 years).*

The lack of communication and lack of acceptance that participants needed the support of others often led to relapse for those participants who lived alone. This was a difference between the relapsers and the maintainers. The maintainers communicated their needs for a change of diet to the significant other but generally they were present in the home unlike the social context of the participants who were single within the relapsers group.

5.4.8 Environmental Influences

Environmental influences are factors such as cognitive and emotional processes from the social context that a person lives in (Conner & Norman, 1998). These influences can prevent individuals making or maintaining behaviour change. The participants in the relapsers group suffered from periods of stress at work and this led to relapse in their diet. The stressful situations often involved undermining the participant within their role at work and they led to a drop in self-efficacy for change.

"I think my confidence has taken a bit of a battering at the moment. Aye, it's the boss I am working for she gives me a lot of grief. She makes life awkward for me

and almost bullies me. I comfort seek when things are bad with crisps and Kit Kats. If things get so bad I go away like recently when I cycled from coast to coast"(Participant 20, male aged 35 years, 3rd Interview).

It is clear here from this participant's account that relapse was caused by the stress at work. He did put coping strategies into place like exercise to counter his feelings of stress. He did not have support at home when he experienced work stress. Loneliness and anxiety at work was also a problem for the participants.

"I have gone into a dip again and I don't feel comfortable inside my body. I work alone all day. I think it is a work led thing as I suffer from stress with my new job. Yes even more stress than my old job. If I am looking for something to do I eat something. I feel heavy and lethargic after eating or snacking and it's like a cycle. I go crazy without any physical contact"; (Participant 25, male aged 51 years).

The incidents at work caused the participants to have lower self-efficacy in the fact that they could achieve long term change and this often let to a relapse in behaviour for these participants. The participants in this group found it difficult to maintain change when their job was stressful. These participants who relapsed for a short time tended to recycle back into behaviour change within a month by using the appraisals they had set including the perceived behavioural control that change would be easy to achieve with the help of the coping strategies they had put into place previously. Three participants did not recycle back to behaviour change during the period of interviewing.

5.4.9 Relapse in Third Interview

Participants 4, 8 and 10 relapsed at the third interview stage. Participant 8 relapsed because of work stress but realised that his diet was better when he ate at home with the support of his wife. Participant 10 relapsed because of his wife's illness.

"Now that my wife is ill she is forgetful about diet sometimes. I have told my wife to cut out the chips. She does the cooking and I daren't interfere with that" (Participant 10, male aged 78 years, Group 2).

Participant 10's wife took ill during the period between the 2nd and 3rd interviews. His wife took the responsibility for cooking healthy meals for Participant 10 before she was ill. His wife reverted to buying unhealthy foods when she was ill. In order to recycle back to change he would have to take on the responsibility of the cooking of the meals. Although he had some knowledge of healthy foods his knowledge was limited. Unlike the participants in the maintainers group he had not accepted total responsibility for his behaviour changes (Rotter, 1954) but relied on the social support of his wife. At third interview stage he was intending to continue with his behaviour changes.

5.4.10 Summary of Findings for the Relapsers

The relapsers were different from the participants who maintained change in the fact that the majority of the participants did not make long term goals to change at the stimulus of change stage and did not link cognitive, emotional and motivational processes in goal efficacy. These participants perceived that they could relapse from change when temptation arose. Many of the participants did not have knowledge of health and diet built from an earlier socialisation process and had gained knowledge as they changed their dietary behaviour. They set short and medium term goals and had perceived behavioural control but they did not align the short and longer term goals and as a result their volition and self-efficacy were not as strong as the maintainers. The social support they received was not always continuous and the emotional responses were not always positive from the family and friends who might have given support because of lack of communication. The relapses caused the participants to lose self-control and adopt the coping strategy of escape/avoidance. The main cause of relapse with this group of participants was the fact that they suffered from work stress.

5.5 Analysis of Outcome Three - Why do people make limited behaviour changes or make no change to their behaviour after a stimulus of change?

Five participants (Participants 7, 13, 14 18 & 29) from previous groupings by stage of change demonstrated the same behaviour as the **no change** participants and joined the original group of seven participants for the interpretive analysis. Three of these

participants had made limited behaviour changes but did not commit to a bowel health change and had a history of previous relapses (Participants 13, 14 & 29). Two other participants (18, 7) were reluctant to make any behaviour change (had moved forward one stage of change to contemplation/preparation stages). This group of participants within the interpretive analysis are known as the no-change group.

5.5.1 Non Acceptance of the Stimulus of change

One participant who did consider his health beliefs concerning illness and diet made an excuse for not carrying out behaviour changes because of his age. He did not accept any information concerning illness and diet and used his age as a form of distancing himself from change (Folkman et al, 1986). He had moved into preparation stage by the third interview but did not make behaviour changes.

> *"I was concerned at the time of the test. I started to think about myself. It made me become aware of my eating. You can never follow through with what you mean to do now because of my age" (Participant 7, Male aged 51 years).*

These participants did not react to a stimulus of change and change to a healthy diet. They did have some health beliefs concerning diet and illness (Becker, 1974) but did not accept that the little knowledge they had concerning diet linked to bowel disease and better health (Huffman & Houston, 1993). One participant admitted that she did not know much about diet.

> *"I just eat what I have always eaten. I have not changed my diet as this has happened over the last couple of years. I don't know much about diet. I still have white bread for toast. Now and then I might get a wee bit of brown bread but it goes sour. I am pretty content" (Participant 16, female aged 80 years).*

The positive emotional response of this participant was a method used by these participants of dismissing and distancing themselves from the lack of knowledge concerning diet and illness (Becker, 1974). The stimulus of changing to a healthy

diet was misinterpreted by some participants who made limited changes by the third interview as a means to lose weight. They associated the fact that they required to take the bowel test with being overweight.

> *"The colonoscopy was awful. The pain was unbelievable. They said it was very good news. I have not changed my diet because of my health. The test did not make me think about diet at the time. But I did ask myself why I needed this test. I have thought about things. My sister is 22 stone and goes to the toilet a lot so I think maybe that is what is wrong with me that I eat too much", (Participant 14, Female aged 55 years).*

Some participants held health beliefs but confused different types of diet such as low fat with diets for bowel health. There were mixed messages given out to participants concerning how serious the bowel disease was and the need for dietary changes to be carried out. Participants who had only made small changes found it difficult to perceive how they would change their diet in the long term (Ajzen, 1991).

> *"At first the doctor 'just said carry on as you are – it is something that happens to people of your age'. There was no mention of diet or changing foods that I eat. The next thing I got an appointment to go there today. I definitely think I will feel better doing this. I canny see me eating five pieces of fruit and vegetables" (Participant 13, female aged 67 years).*

This participant did not accept that she would be able to make the changes that were suggested by the dietician at the third interview stage. She did not have a functional knowledge of how diet would help bowel health (Huffman & Houston, 1993).

Attitudes to change often depended on how the participant viewed the behaviour such as making dietary changes and the consequences of making the change (Fishbein & Ajzen, 1980). The attitudes that some of the participants demonstrated were that they believed that dietary health was part of the responsibility of a doctor (Rotter, 1954).

> *"Unless I am strongly advised to change by the doctor, I will not change" (Participant 40, male aged 80 years).*

These participants did not accept that there was a need to change and that they should take the responsibility themselves for making the decision to change (Rotter, 1954). This group of participants had not gained the relevant knowledge concerning diet and bowel health and considered that the responsibility for health might be at another level (in the hands of fate).

> *"I think I can make some changes next month. I never really thought about my diet at all. I can manage to make small changes" (Participant 37, male, aged 54 years).*

Some participants were reluctant to make behaviour changes, as their common attitude was that it would be too difficult and they could not perceive positive outcomes from change. They did not consider the normative beliefs/opinions of their family members or partners living with them. Support was not considered by these participants within their attitudes to change and they talked in terms of their own attitudes.

> *"It had been going on for some time. To an extent it didn't bother me. It was a bit of a nuisance. It was quite minor. I have changed nothing in my diet because of my health. The recent episode with my health has not triggered any thoughts about diet" (Participant 29, Male aged 57 years).*

This male participant was going through marriage difficulties at the first interview stage and considered it would be difficult to achieve a positive response to change from his partner (Bagozzi, 1992). Later in the study he made small changes after his separation as his social norms changed (Fishbein & Ajzen, 1980). Two other participants (13, 14) made small changes and perceived that the outcome of dieting

to lose weight would be easy but did not understand the need to change their diet for bowel health would be longer term.

> *"Why can't they give you a drug for changing your diet? I have been slim and I want to be like that again" (Participant 14, Female aged 55 years).*

These participants changed their view of the perceived consequences of change as easy to difficult (Fishbein & Ajzen, 1980) after a short time and relapsed from change. They had difficulty in making behaviour changes because of their attitudes to change and their lack of knowledge about bowel health and diet.

5.5.2 Primary & Secondary Appraisals

The participants did not make a link between the pain of the disease and the risk to future health (Lazarus, 1991). This lack of primary appraisal was demonstrated in the interview findings for this group. Although the participants claimed they knew about eating a healthy diet they did not accept that their bowel health was at risk in eating an unhealthy diet.

> *"I have no intention of making any changes as I have a fairly good knowledge about what foods are good and what are not. I eat anything and everything and have no disagreement at all. I am hoping that it stays that way. I am not worried about my health at all." (Participant 40, male aged 80 years).*

The majority of these participants had little specific knowledge of diet in terms of what was at stake with their bowel health (Becker, 1974). They had little experience of eating a healthy diet (Bagozzi & Warshaw, 1990). Participants did not receive any information concerning diet and the risk to health in the longer term.

> *"They never told me to change my diet. I realise I need to lose weight. I never thought about the risks" (Participant 23, male aged 51 years).*

In one case the participant associated diet with losing weight rather than risk to health. This short term view constrained the longer term view of better health.
One participant did not listen to the warning of the consultant. He did not accept that there were risks involved with the illness even though he had information on diet. The participant could not see that the risks were real and that he would become older. He distanced himself from the problem.

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> *"The nurses and doctors told me I will have a colostomy bag when I am older. Yes but I don't think about being old. I can't imagine being old. I am young" (Participant 18, Male aged 33 years).*

Some of the participants were aware of the risks and some had been warned of the long-term threat of a more serious illness but many participants continued to eat an unhealthy diet because they could not see the link between the information given to them and the longer term risk of health.
At the third interview three participants (13, 14, & 29) started to make primary appraisals of how the change in diet might affect their health but were focused on losing weight in the short term with a new diet. When Participant 13 was told about healthy diet she misinterpreted the information to mean that she was on a healthy diet to lose weight.

"I didn't know the disease was linked to diet at the time of the test but the test was awful. Now I know about the diet thing I will certainly try and change my diet I definitely think I will feel better doing this. Anything to get my health better" (Participant 13, female aged 67 years second interview)

These participants had made primary appraisals concerning the risk of disease at the second and third interview stages and concluded that change was needed to lose weight and this change would be manageable (Lazarus, 1991; Ajzen, 1991). All three participants were unhappy with their lifestyle and considered that a healthier diet would be of benefit but they did not talk about the links to their bowel disease.

The no change participants had rarely considered their health in terms of their diet or their bowel problems during their past behaviour with diet. They did not talk about their knowledge of diet from childhood (Ward, 1974).

> *"I have never changed my diet because of my bowel health. I have really not been aware that diet had anything to do with my bowel health at all. I never realised that diet can help" (Participant 30, male aged 51 years).*

The participants all ate poor diets in the past, which was a similar finding with the maintainers and the relapser participants, as they had no experience of trying to change (Bagozzi & Warshaw, 1990). The difference with the no change group was that they did not have a functional knowledge of why diet could help their bowel health after the stimulus of change and continued to eat the same unhealthy diet, as they had no knowledge from socialisation (Ward, 1974).

> *"I had nothing to eat today. I have not thought about it today. I sometimes have a roll or something. Not much control over my diet. Especially in the past when I worked away from home" (Participant 23, male aged 51 years).*

Participants in this group as with the maintainers and relapsers missed meals such as breakfast and ate late in the morning instead of lunch. They often associated this with past experience of rushing out to work and not having time to eat. Many of the participants did not give regular meal times much thought and because of this did not take responsibility for their own health both during the study and in the past.

> *"I don't have breakfast and generally only eat at lunchtime. I only eat breakfast when I am on holiday" (Participant 7, male aged 51 years).*

These participants had not given their daily eating habits any consideration and had not linked the cognitive processes with the motivational processes to change. Participant 29 retired through ill health after a stress related disease. His past behaviour with diet was poor.

> *"No one has ever advised me about diet. I suppose I probably don't eat a lot of fruit and vegetables. When I was working I lived on coffees during the day" (Participant 29, male aged 57 years).*

This male participant made limited changes at the third interview after he separated from his wife but the dietary change was to lose weight. Past behaviour was only referred to by one participant in the interviews (Bagozzi, 1992). The difference with this group of participants was that they did not have health beliefs linking diet to illness (Becker, 1977a) as they had not built up the functional knowledge concerning healthy diet (Huffman & Houston, 1996)

5.5.2.1 Goals

The no-change participants did not set short term dietary goals. The difference with this group compared to the maintainers and relapsers was that their goals were not defined by their bowel health (Bagozzi, 1992).

> *"It so happens that I had brown bread this morning but I don't normally. I occasionally have a banana or apple now and then." (Participant 11, male aged 71 years).*

The participants made no plans to change their diet and healthy foods were eaten very infrequently. In the interview findings there were only two references to re-evaluation of diet and lifestyle. Three participants who made limited changes set short and medium term goals (Bagozzi & Warshaw, 1990) concerning limited dietary changes. The three participants who made limited changes did so to lose weight.

> *"I go to Weight Watchers with a friend but she is ill now and I don't go" (Participant 14, female aged 55 years).*

These participants had not sustained any long term dietary behaviour changes previously when trying to lose weight. They did not adapt the goals to their social context and because the short and medium term goals were not incorporated with

longer term goals this constrained these participants (Huffman et al, 2000). The goals were subject to abstraction as the lower goal of losing weight constrained the actual long term goal of better bowel health. The analysis from the interview findings revealed that long term goals were illustrated as beliefs that diet would benefit long term health were not made by either participants who made limited changes or the participants who made no changes.

The emotions demonstrated by two of the participants who did not change their behaviour were feelings of being depressed. Within this group some participants had suffered from depressive illnesses.

> *"I had a nervous breakdown and had to retire because of it. I suffer from manic-depression. I have been a depressive and am on medication. It's me and my wife mainly – no relatives really. I have a niece who calls and she cheers us up at times", (Participant 11, male aged 71 years.)*

The periods of low feelings resulted in times where the participants did not want to take responsibility for their health but hoped that somehow fate would solve their problems (Rotter, 1954). Carrying out daily chores like shopping for healthy food or preparing healthy meals would have involved too much perceived effort for them (Bagozzi & Warshaw, 1990). It was easier to distance themselves from their problem.

> *"I feel depressed. I am not as nice a person as I used to be. I am inclined to snap quite easily", (Participant 39, female, aged 71 years).*

The periods of feeling down in mood were often caused by their bowel symptoms and pain. At these times the participants found it difficult to consider eating healthy foods. This theme of loneliness and depression was referred to frequently by participants in the interviews. The participants who made limited changes felt low at times about their weight problems.

"I am totally miserable. I have never been overweight in my life. I have put on three stone since I stopped smoking. I stopped because of my health." (Participant 14, female aged 55 years).

Participant 13, 14 and 29 felt negatively about being overweight but expressed positive emotions when they eventually discussed the slimming diets they would implement although they found it hard to the make the changes (Fridja, 1986). The differences here were that the maintainers only talked of feeling low before they made changes to their diet and maintained them. The relapsers felt depressed when they relapsed from their changes but felt positive when they remembered the appraisals and goals they had put in place to help them recycle back to change. The no change group felt depressed but did not have the health beliefs (Becker, 1974), goals (Huffman et al, 2000), volition (Bagozzi, 1992) or self-efficacy (Bandura, 1977a) to begin making changes for bowel health.

The majority of participants within this group did not hold beliefs concerning perceived behavioural control (Ajzen, 1991) they did not accept the need for behaviour change. The participants who made limited changes perceived that it would be difficult to change their diet at times.

"I feel it was just a little blip now that's how I feel about it. I am a terrible one for pickin and I was pickin a lot of the time – crisps. I am much better if I have meals at a set time. Say today I was a wee bit later – it is difficult to change" (Participant 13, female aged 67 years).

The fact that the three participants who made limited changes found it difficult to change was a reflection on their misinterpretation that diet was concerned with losing weight and not for bowel health. Also their past efforts had been difficult in terms of losing weight (Bagozzi & Warshaw, 1990) so they anticipated failure. Unlike the participants from the other two groups they had not set long term goals for better health as a risk factor so their commitment was not so strong in terms of maintaining change.

The findings in the interviews and the self-efficacy scale researched in interview one (Schwarzer, 2001) demonstrated that some of this group displayed higher self-efficacy than would have been expected for people who had not made changes to their behaviour and were continuing to experience the symptoms of bowel disease.

> *"I can always manage to solve difficult problems and I can manage to stick to what I want to. I don't need to think about my diet. I have had quite a few unexpected events and I have managed to get through them" (Participant 16, female aged 80 years)*

The interpretive analysis revealed that the self-efficacy displayed was part of their emotion focused coping strategies for dealing with their illness (Folkman et al, 1986). By demonstrating a positive attitude they distanced themselves from the problem. This positive denial of the problem is demonstrated in their coping strategies. In this case the responsibility for health was left in the hands of fate and the participant felt that so far her health was fine (Rotter, 1954; Norman, 1995).

5.5.3 Emotion focused Coping

The participants within this group did not use problem focused coping (Folkman et al, 1986) such as accepting responsibility, planful problem solving or confrontive coping unlike the maintainers and relapsers groups. The participants did not take on the responsibility concerning their own dietary health (Rotter, 1954). The participants relied on a significant other for responsibility for dietary health.

> *"My wife says if she was not here I would die of starvation" (Participant 40, male aged 80 years).*

The result of this type of coping was that changes to diet depended not on social support itself but on how much functional knowledge the partner had concerning the specific foods to eat or avoid with bowel disease (Huffman & Houston, 1993). The participants did not use the emotion focused coping strategies such as self-control or positive re-appraisal. Lack of self-control was a factor in the participants not making any changes. The interview results revealed no references to self-control from this

group of participants. These participants used the emotion focused coping strategies of denying that a threat existed to their health or distancing themselves from the problem (Folkman et al, 1986).

Distancing describes the efforts to distance oneself from the situation and become detached from the problem (Folkman et al, 1986: 994). The participants in this group did not accept the fact that they needed to make changes to their diet. They assumed a positive outlook with their health as they had distanced themselves from the illness or thinking about diet. One participant explained that his eating habits were part of a cultural lifestyle.

> *"I would have three or four slices of bread on top of each other. That part of the diet out here – its part of the culture. That's what I have eaten since I was young and I tend to do the same now" (Participant 7, Male aged 51 years).*

Participants believed that their diet was part of their daily routine and it was difficult to change habits even when social support was in place. In this case the participant had lack of knowledge concerning which foods were good for bowel health. Older participants believed that having some vegetables in their diet was all that was needed to change.

> *"I always feel when you have a lot of vegetables in your soup it is nutritional. It's just the way I have been brought up. I really do not want to make too many changes. I will go out of this world with what I came in with. I am 80 years old" (Participant 16, female aged 80 years).*

These participants continued to eat the same diet that they had always eaten (Ward, 1974) and detached themselves from the problem. Their lack knowledge of diet did not help them cope with behaviour change.

> *"I don't think I have made any changes to my bowel diet. No I have made no changes since the test. I have just gone on the same way and never thought*

about diet at all. I had no dietary advice. I like fried fritters and a fried egg once a week and that's ok because I don't suffer from pain or bloating" (Participant 11, Male aged 74 years).

The elderly participants did not believe that a change of diet would prolong their life. Even though they were in discomfort they did not want to change and accept the information on healthy diet. In this case the lack of communication with the participant's wife concerning his illness and diet meant that he continued with the same diet (Fishbein & Ajzen, 1980; Bagozzi, 1992).

Many participants had an indifferent approach to their bowel illness and put up with the days they were in pain as part of their routine. Some participants did recognise that their bowel disease was causing them problems. They did not say that their diet was the problem.

"At least I can work now. I don't take any medication for it. I have doubts if diet would help now as I am in so much discomfort" (Participant 37, male 54 years).

Some participants did not realise that their pain and bloating symptoms would be relieved by a change in diet. In this case the participant did not accept any information on diet (Kuhl, 1984). They compensated for the periods of discomfort with positive thoughts concerning other factors such as being able to work (Folkman et al, 1986). This was a form of distancing and they appeared to have high self-efficacy because of their use of positive compensatory thoughts, which gave the illusion of high self-efficacy.

The escape/avoidance coping strategy described their feelings of wishing that the situation with their bowel disease would go away (Folkman et al, 1986: 994). Participants wished that they did not have the bowel disease and thought that the medication they took to alleviate the symptoms (as a form of self-control) was the solution to the problems they had with their bowels.

> *"I have to take laxatives every day and I find this quite stressful. I do drink water with my medication. No I have not made any changes since the test. I drink a lot of coke and still eat fried eggs" (Participant 11, male, aged 71 years)*

Participants preferred not to think about the illness and wished that it would go away. One of the Participants within the no change group had to discontinue one of her hobbies because of embarrassment concerning her illness. Although she did not accept the illness had affected her life and seek social support, the giving up of the activity was a problem to her (Sarnoff & Zimbardo, 1986).

> *"Oh yes I am quite fortunate and I go walking. I am in a wee walking group. I am in a dancing class – sequence dancing. I don't go bowling now as I have had very embarrassing moment at the bowling with others watching" (Participant 16, female aged 80 years).*

The coping strategy of escape by not demonstrating any negative emotions blocked out any thoughts about their health or risk of symptoms of their bowel disease (Bagozzi & Dholakia, 1999). Participants in the no change group suffered from loneliness and escaped from their loneliness by comfort eating. These participants had no social support and eating comfort foods took their mind off the problem of loneliness.

> *"I don't find it easy to change my diet. I feel lonely even though I have a family of 35 and 28. It doesn't matter how many friends you have you still comfort seek" (Participant 30, Female aged 59 years).*

The participants within this group found it difficult to try to make changes especially when they were suffering from stress, boredom or loneliness. Participants had the association of pleasure with the some of foods that caused them to have symptoms and they comfort ate as a form of escape.

5.5.4 Seeking Social Support

One of the participants who had made limited changes to their diet (13) sought out professional support and used this coping strategy to try to change at interview two. She used her friends as support as she was divorced.

> *"I had professional advice recently and my friends are good and will help me with this. My friends all know about my changes and I go out every Saturday and none of them will try to force me to eat or drink anything I don't want to"(Participant 13, female aged 67 years)*

Some of the participants who did not make changes did discuss diet and bowel health with a professional person such as a dietician and received some support but they did not follow the advice given. The participants were offered support both from partners and professionals but did not accept the support (Becker, 1974).

> *"My consultant said I was to go onto a high fibre diet. He mentioned bran flakes. He did not give me leaflets on diet. I discuss my health with my partner and she has been trying to put me on a better diet but I like white bread and I don't like the bran flakes", (Participant 37, male aged 54 years).*

There was recognition at times for the work of support that the partner provided even thought the participant was indifferent to the changes (Bagozzi, 1992). The problem was that these participants did not accept the social support offered as part of their coping strategy of distancing as they did not have the knowledge of diet from socialisation to affirm the new diet they were being offered (Ward, 1974; Kuhl, 1984).

> *"My partner has bought brown bread and I do have that in the house occasionally but I don't like it. At work I have white bread. I stopped eating the bran flakes in the morning – they were awful. Well it is helpful and she tries to make a difference but I don't take much notice. She has been trying to*

put me on a better diet. She has been putting more veggies on my plate. As I said I have not been a veggie person" (Participant 18, male aged 33 years).

One participant who made limited changes found when she relapsed there was little support from her husband or family even though she experienced low moods after she relapsed. Unlike participants who maintained or relapsed briefly from change she did not receive support of her partner who lived with her (Bagozzi, 1992). She has not made appraisals or put coping strategies into place to deal with times of pressure.

"My husband is bad with diet. He would support me with my health but he prefers to eat a less healthy diet. No one in my family will stop me eating even thought they know it isn't making me happy and me miserable really" (Participant 14, Female aged 55 years).

.Both the other participants who made limited changes (13, 29) had received no support from previous partners and were both going through divorce proceedings. Often partners ate a poor diet and this did not support any changes the person wanted to make.

"They recommended high fibre. But my husband doesn't eat brown bread so we don't buy it. I think I am eating a good bowel diet and I don't mind this diet but my husband objects because he has nothing wrong with his bowel", (Participant 39, female aged 71 years).

Within the no change group there were poor emotional responses from their families and the participants did not communicate their needs concerning diet and illness like the single participants in the relapsers group. Neither the participant nor the partner of the participant had enough functional knowledge of diet linked to health beliefs to make a change. Participant 29 found that after his divorce his different peer group was a factor that helped him make small changes and were more supportive as their lifestyles were healthier.

> *"Now that we have gone our separate ways I have taken up sport and do what I want. I mix with different people in the societies I have joined, who eat healthier food" (Participant 29, male aged 57 years, at third interview)*

However most participants in this group distanced themselves from opinions of their friends concerning their problems (Fishbein & Ajzen, 1980). Some of the male participants did not tell their friends about their illness and continued to be influenced by their friends to consume foods or drinks that were bad for the bowel.

> *"No one leads me astray. I do like to go out when I have the choice and have a drink; I would go out on my own. My work mates drink a lot and I will drink with them", "It's not peer pressure. It's just if you are sitting in the office on site and the others have brought a carry out in. I find it difficult." (Participant 18, male aged 33 years).*

This male participant continued with his lifestyle as if he had never suffered from bowel disease and did not inform their workmates about the illness. His wife gave support but he worked away from home. The lack of discussion of the problems of the illness caused the participants to continue with unhealthy behaviour.

> *"I have still got the same friends who I go out with since the illness. I am not restricted" (Participant 37, male aged 54 years).*

Comparing this to the maintainers who confronted their friends and family it was more difficult for this group to do this with lack of self-efficacy (Bandura, 1977a) and desire to change (Bagozzi, 1992).

5.5.5 Environmental Influences

The participants in the no change group were affected by work stress that caused them not to make changes or only to make limited changes. The fact that the participants had not made appraisals or put coping strategies in place to help with these stresses meant they ate a poorer diet when the pressure was on.

> *"I had to work shifts 12 hour during the night. A lot of people who have done the same work have the same (health) problems" (Participant 37, male aged 54 years).*

The feelings of boredom and low self-confidence come through in the comments they make concerning stress at work. As they had not put appraisals into place they did not have long term goals planned or coping strategies at times of stress.

> *"There was a period when I went through a bad spell with a lot of stress from the beginning of the year from January until April when I was eating a lot of rubbish. There seems to be a problem in general at work with people finding something they liked to eat. I blame the cook. Sometimes there is free food at work and I have to make an effort not to eat it. I am a comfort eater" (Participant 7, male aged 51 years)*

Two of the participants who made limited changes (13, 29) found that work stress was a factor that prevented them from making changes. For these two participants who made limited changes there was a cycle to the comfort eating to escape to avoid change and to make up for feeling bad when under pressure from work (Woodruffe-Burton, 2003). Often the environment around the participant had an effect on their eating habits.

> *"I started on the coffee and the toast and that's what did it. The butter on the toast and then more and more toast. When I feel depressed I eat a sandwich and then I feel depressed even more" (Participant 14, female aged 55 years)*

This participant found that even when she had started to make behaviour changes the stressful environment could prevent her continuing with the changes for periods of time. The fact that only limited appraisals had been made meant that the beneficial problem focused or emotion focused coping did not take place.

5.5.6 Summary of Findings for the No Change Group

The no change group were differentiated from the maintainers and relapsers in the fact that they did not respond to a stimulus of change at the test. They did not have health beliefs concerning risk of further illness or links with diet and illness from childhood as part of past behaviour (Becker, 1974; Ward, 1974; Bagozzi, 1992). The participants who made limited changes had misinterpreted the meaning of healthy diet and did not have knowledge of the link between diet and bowel health specifically (Huffman & Houston, 1993). Their attitudes to the consequences of the illness were that they did not accept any information on diet and illness as they perceived that their health was in the hands of fate or the doctors (Rotter, 1954) and used excuses such as age to distance themselves from the problem. The poor communications and emotional response received by significant others was different from the relapsers who lived alone as many of these participants lived with their significant others and did not communicate their problems to them. The no change group did not plan any primary or secondary appraisals as they did not perceive any risks with their illness. They did not set any goals for bowel health and the participants who made limited changes were limited by their short term goals of losing weight, which constrained the longer term goals. They coped by distancing themselves from /escaping from the problem of the illness and adopting positive emotions (Folkman et al, 1986). There did not have beliefs in the achievement of a behavioural goal by linking cognitive motivation and emotional processes and they did not desire to change their behaviour. Their lack of social support from peer groups and partners prevented them coping with problems such as work stress and depression, which were factors in their lack of change.

The three approaches to behaviour change covered within the analysis were maintaining change, relapsing from change and limited changes/no change. The analysis was based on the conceptual framework from literature (Miles & Huberman, 1994). The three groups analysed showed very different patterns of behaviour (Hudson & Ozanne, 2001) concerning the stimulus of change (Rosenstock, 1966), the appraisals and coping strategies utilised (Lazarus, 1991; Folkman et al, 1986) and the way the environmental influences affected them (Cooper, 1998). The different

experiences of the three groups demonstrated the way problem and emotion focused coping, social support and work stress affected the participants and were important in the making and maintenance of change. In order to illustrate the nuances of the approaches to behaviour change three case studies are presented in the appendices to demonstrate the in depth understanding gained with the interpretive approach with the three approaches to change (Appendix Nine).

The following section summarises the findings from the analysis firstly by the presentation of illustrations of the three conceptualisations of behaviour change from the interpretive analysis.

5.6 Illustrations of the Three Approaches to Behaviour Change

Below the three conceptualisations of behaviour change are illustrated in Figures 5.6-1, 5.6-2 and 5.6-3 which provide explanations of the participant's experience of each of the three approaches to behaviour change. The first approach of making and maintaining change is illustrated in the following section 5.6-1.

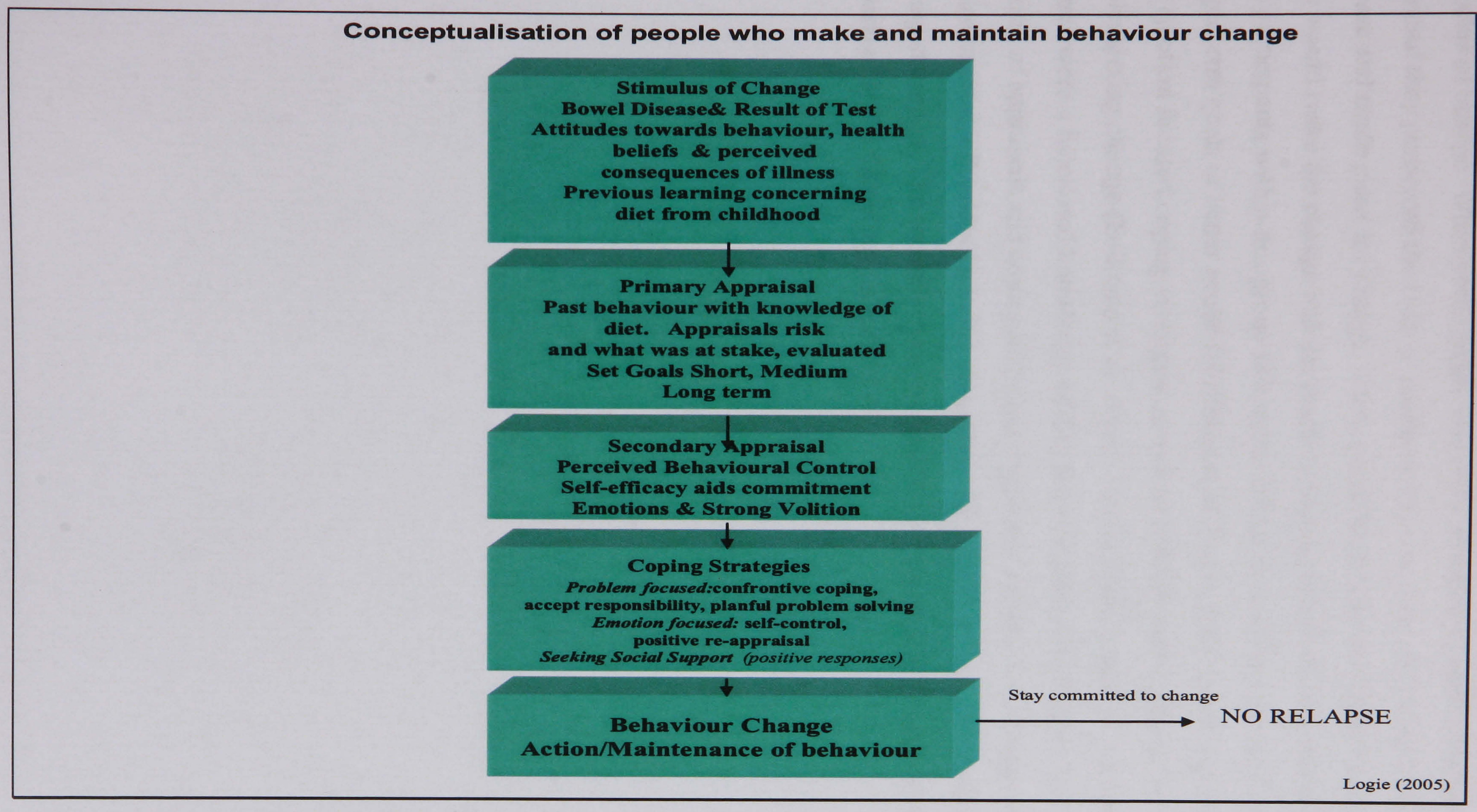

Figure 5.6-1 Conceptualisation - Change & Maintain

Findings for the Maintainers

Participants who made a change to their bowel diet had previous knowledge of diet and its importance with health and serious illness such as cancer and experienced a stimulus of change. When participants who were maintainers made their primary appraisal they perceived the risks to health and the outcome of having a chronic disease and made plans for change. These plans needed the two factors of belief that they would make the change and the desire to change (goal-efficacy and volition). The participants within this group linked the short and medium term goals with the longer term goals of better health (Huffman et al, 2000). Participants used problem and emotion focused coping strategies as well as seeking social support in implementing change (Folkman et al, 1986). The facilitating factors in maintaining change were a functional knowledge of diet from childhood and health beliefs, making of appraisals and coping strategies especially seeking social support. The environmental influences included managing influences such as work stress by using coping strategies. The second conceptualisation is for people who were relapsers illustrated in the following section 5.6-2.

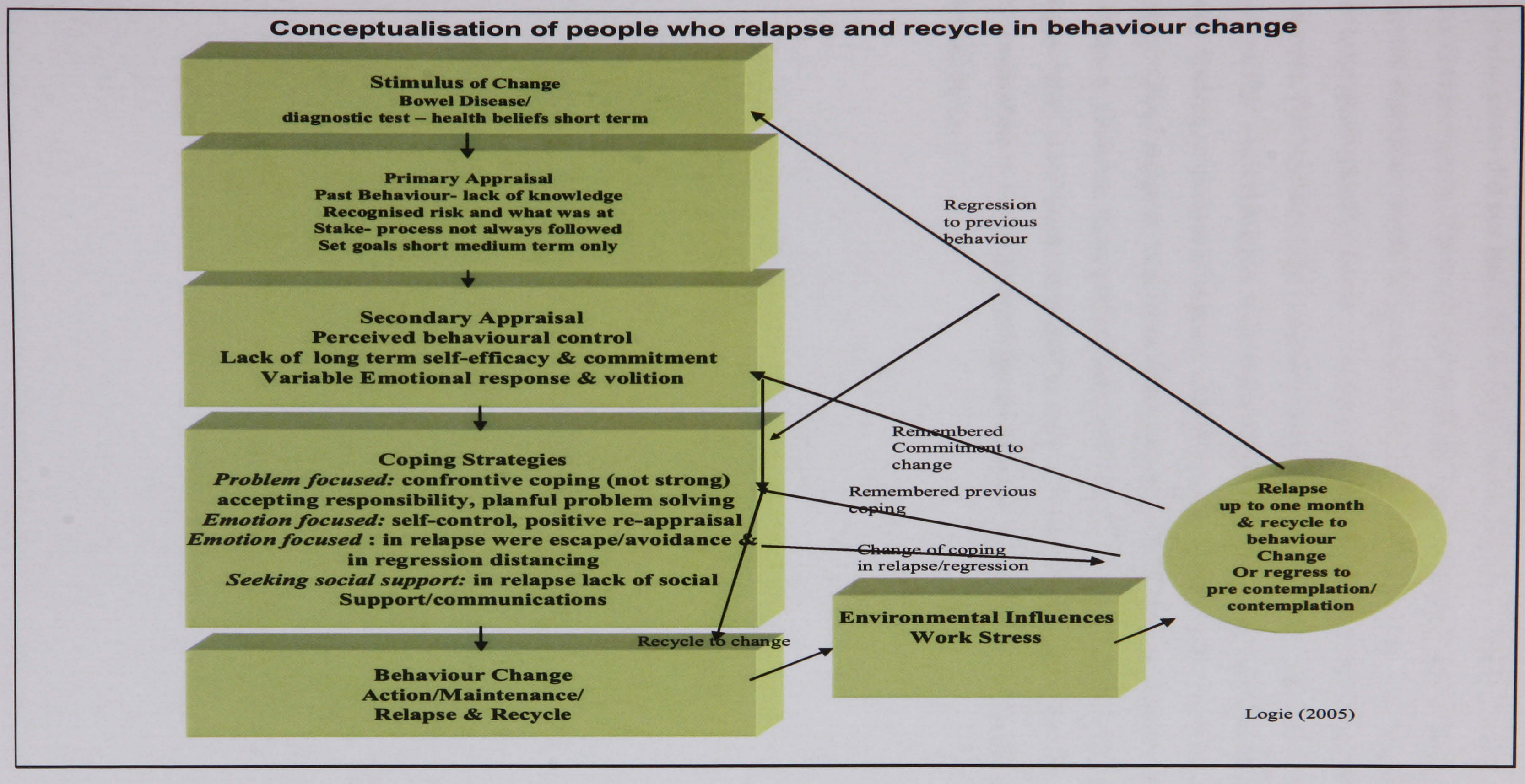

Figure 5.6-2 Conceptualisation - Relapse & Recycle

Findings for the Relapsers

The relapsers group held health beliefs concerning the stimulus of change but many of the participants did not have the in-depth knowledge of diet and health from childhood experiences. They set short and medium term goals and appraisals but anticipated that there would be problems in maintaining change and they did not set longer term goals and had lower volition and self-efficacy/goal efficacy than the maintainers. Participants who relapsed from change found that the environmental influences that caused relapse were work stress, failure in the self-control coping strategy leading to escape/avoidance strategies. Other influences were the lack of continued social support, lack of communication with social support and lowered self-efficacy. Because these participants had carried out some appraisals and coping strategies most participants managed to recycle back to behaviour change. The final conceptualisation is for those participants who made no changes or limited changes illustrated in 5.6-3.

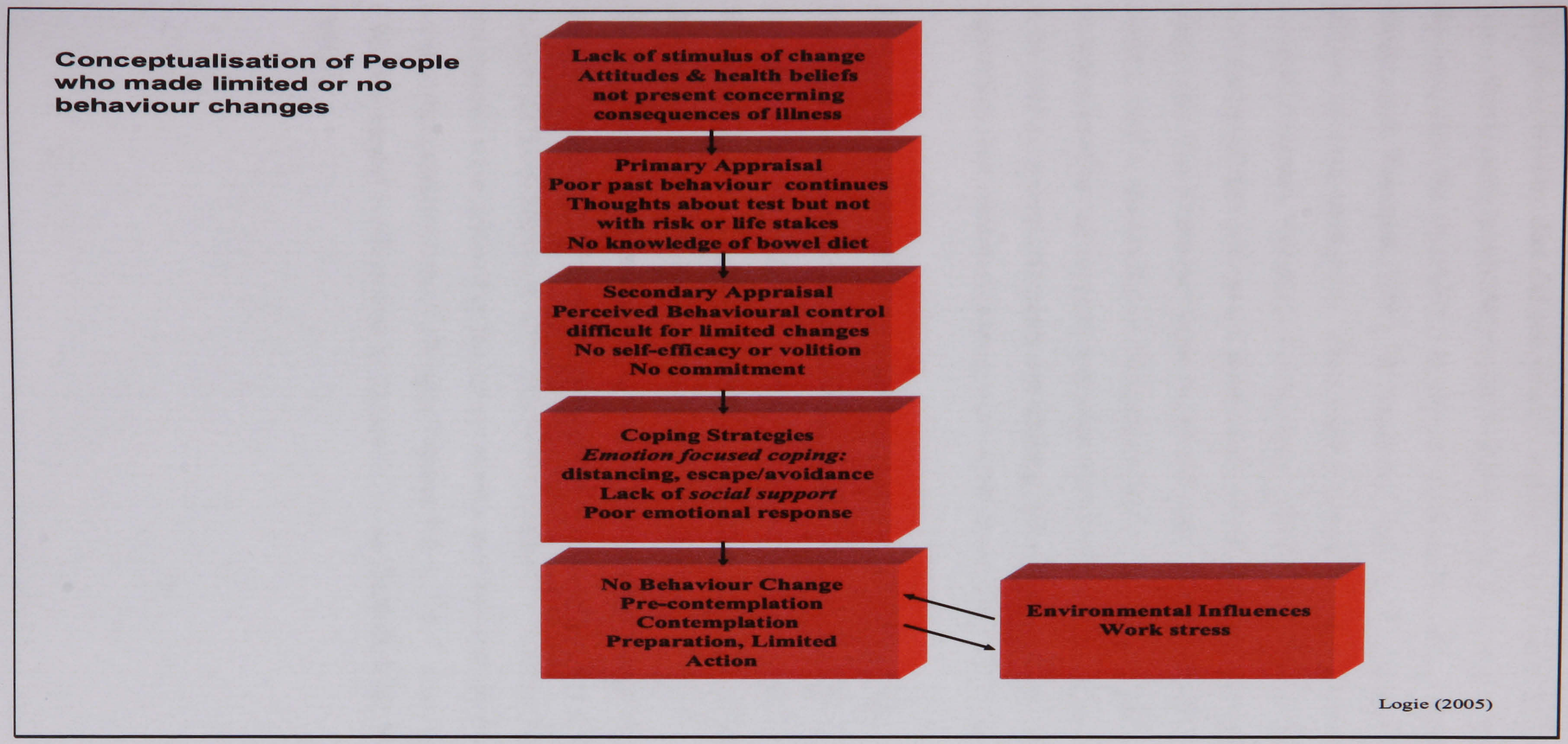

Figure 5.6-3 Conceptualisation – No Change

Findings for the No Change/Limited Changes Group

The participants who made limited changes by misinterpreting the stimulus of change of healthy diet did not receive a stimulus to change at the time of the test. These three participants did not have the knowledge concerning the differences between diets for slimming and diets to improve bowel health in the long term (Bagozzi & Warshaw, 1990; Huffman et al, 2000). They made limited appraisals and did not set long term goals. Their coping strategies were distancing and escape/avoidance strategies. Participants who did not make a change did not have knowledge of diet and bowel health and did not accept a stimulus of change at the diagnostic test. These participants did not make appraisals and used emotion focused coping such as distancing or escape/avoidance coping strategies. The lack of acceptance of social support or a poor emotional response from significant others were factors with participants not making behaviour changes. The environmental influences that inhibited change were work stress and factors such as depression.

5.7 A New Model of Maintenance of Change

From the interpretive analysis and the three conceptualisations of behaviour change a new model has emerged concerning the factors that are important in maintenance of behaviour change. The new model is a development of the original conceptual framework drawn from literature (Miles and Huberman, 1994), which is illustrated in Figure. 3.1-1. The conceptual framework was used to design open questions in the interview schedules. From the data collected in the interviews, the themes and categories from literature were merged in qualitative analysis (Tesch, 1990). Finally the themes were utilised in the interpretative analysis and the findings formed the three conceptualisations of change (Figures 5.6-1, 5.6-2, 5.6-3).

The new model is illustrated in Figure 5.7-1. in the following section and outlined below.

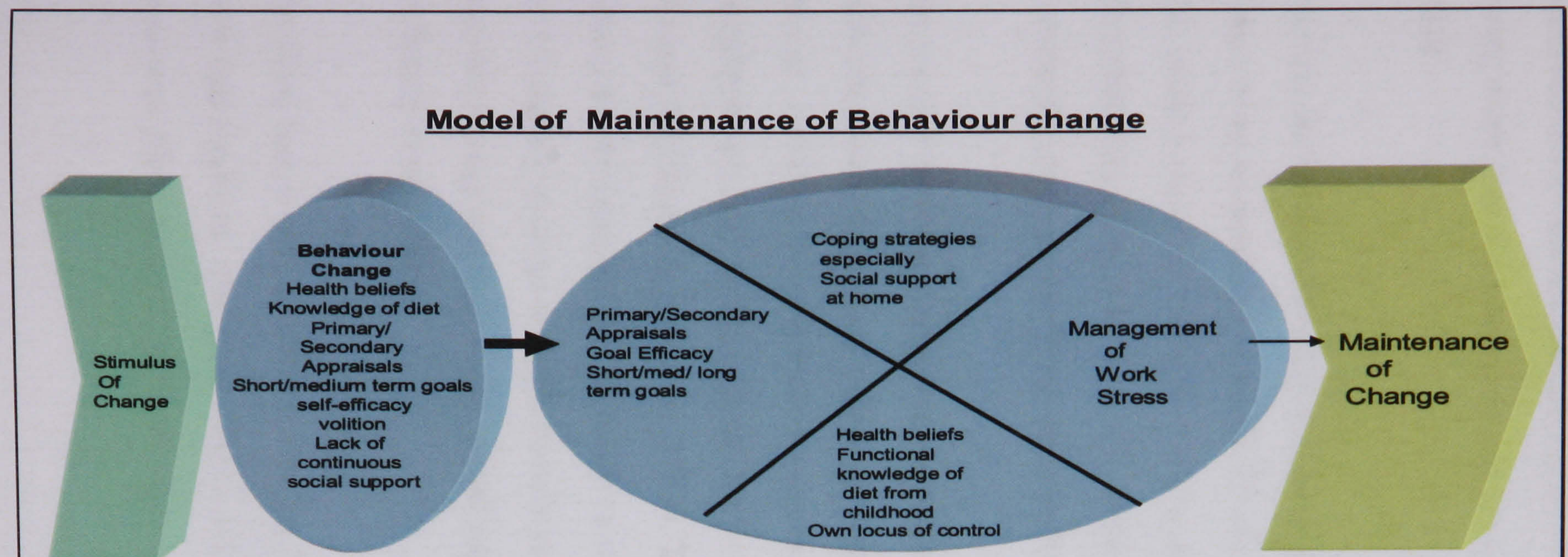

Figure 5.7-1 Factors in Maintenance of Behaviour Change

5.7.1 Outline of the New Model of Maintenance of Change

The stimulus of change for the participants who **made** behaviour changes was their minor bowel illness and the diagnostic test for cancer. The factors that affected whether participants made behaviour changes included their health beliefs concerning the link between diet and illness (Becker, 1974); the taking on of the responsibility for change in diet (Rotter, 1954); the making of primary and secondary appraisals (Bagozzi, 1992); the setting of short and medium term goals (Bagozzi & Warshaw, 1990); the use of perceived behavioural control (Ajzen, 1991); self-efficacy (Bandura, 1977a); the use of coping strategies both to make changes and to recycle back to change (Folkman et al, 1986).

The first factor that demonstrates how participants **maintained** change was knowledge of diet from socialisation (Ward, 1974). This factor was crucial for those participants who made behaviour changes but also maintained change as their functional knowledge of healthy diet (why certain foods were good for the bowel) from childhood helped them to maintain change (Huffman & Houston, 1993).

The second factor in maintenance of change was the anticipation of social support within the home from significant others through normative beliefs (Fishbein & Ajzen, 1980; Becker, 1974) and emotional responses (Bagozzi, 1992). It was important that both the participant and the social support had a functional knowledge of diet for the support to succeed (Huffman & Houston, 1993). The participants took on the responsibility for dietary health changes for themselves with the aid of social support (Rotter, 1954). The use of coping strategies continuously such as problem focused coping, emotional focused coping and especially social support were factors in maintenance of change (Folkman et al, 1986).

The third factor concerned the making of long term goals that were incorporated with short and medium term goals (Huffman et al, 2000). Linked to the making of long term goals was the making of primary and secondary appraisals (Bagozzi, 1992; Lazarus,

1991); the long term belief in the achievement of the goal in goal-efficacy (Bandura, 1977a) and the desire or will to act in the motivational process of volition (Bagozzi, 1992).

The fourth factor was the management of the social environmental influence such as work stress which was important in the maintenance of change. Work stress was an important theme in the findings. Overload of work, shift work, poor canteen facilities, management styles and bullying were all factors that led to problems for participants before they made and maintained change. The participants who maintained change managed their work stress by their use of coping strategies such as self-control and social support (Folkman et al, 1986) goal efficacy and volition (Bagozzi, 1992).

The new model demonstrates the findings concerning the focus of the thesis of how people maintain behaviour change. The new model contains important factors that develop understanding and explanations of the different ways people make and maintain behaviour change when a significant personal stimulus is present.

5.8 Conclusions of the Findings

This chapter presented the findings from the qualitative analysis of 40 participants who had received a stimulus of change. The conceptual framework from literature was a reliable means of providing the four themes for the analysis (Creswell, 1994). The four themes analysed were stimulus of change, primary and secondary appraisals, coping strategies and environmental influences. The content analysis revealed the categorisation of the participants into stages of change using NUD.IST analysis was reliable in allocating the participant to a stage of change but did not reveal their actual behaviour as they approached behaviour change. Anomalies in the groupings for stages of change were demonstrated by interpretive analysis and three outcomes of behaviour change were interpreted rather than the original four groupings by stages of change. The three outcomes of maintenance of change, relapse from change and no change were analysed as groupings (maintainers, relapsers and no change) within the interpretive findings and links were made to the content analysis carried out within NUD.IST (Hudson & Ozanne, 2001). Three conceptualisations of behaviour change and maintenance of change were illustrated and finally a new model of maintenance of change was produced from the findings.

The next chapter outlines the discussion of the findings as they relate to the literature review and the conclusion of the thesis are presented.

6 Discussions and Conclusions

6.1 Introduction

This chapter presents a discussion of the findings outlined in Chapter Four. The findings concern the 40 semi-structured interviews that were carried out with participants who had received a stimulus of change from a diagnostic test for cancer. This chapter pulls together the issues raised by the study and concludes the thesis by drawing the findings together and discussing them in the context of previous work on behaviour change (Prochaska & Di Clemente, 1982; Bagozzi & Warshaw, 1990; Bagozzi, 1992; Hunt & Martin, 1988). The purpose of the study is reviewed and examined in relation to the stages of change model, and the four theoretical processes from the literature framework (Creswell, 1994). The interpretive analysis developed the three outcomes to behaviour change, which led to the three approaches to behaviour change. These approaches to behaviour change are discussed and illustrated with three conceptualisations of behaviour change (Chapter 4.6-1-3). The practical implications of the study follows with explanations of the contribution the work has made to behaviour change and maintenance of change theory with the development of a new model of maintenance of change (Chapter 4.7.-1). The methodological implications and practical contributions for social marketing research and social policy are proposed. Finally the reliability of the research is discussed and recommendations made for future studies.

This longitudinal study (panel study) makes a contribution to the literature concerning maintenance of change beyond the implementation of behaviour change (Bagozzi & Warshaw, 1990, Rothman, 2000). The study provides further insight into the factors that affect behaviour change and maintenance of change (Bandura, 1977a; Ajzen, 1991; Bagozzi, 1992; Hunt & Martin, 1988). The thesis also adds to the work concerning appraisals and coping strategies (Lazarus, 1991; Folkman et al, 1986). The thesis utilised an interpretive approach (Carson et al, 2001) to characterise the factors that affected the participants' lives throughout the behaviour change and maintenance period. This approach enabled the experiences of the participants' attitudes, emotions, goals, appraisals and coping strategies as well as environmental influences to be explored. The qualitative application chosen was a longitudinal process using semi-structured

interviews, which permitted the research to develop slowly (Easterby-Smith, 1997). The previous understanding with behaviour change studies within social marketing is developed further using these interpretive techniques (Weinreich, 1996).

6.2 Review of the outcomes of the study

The purpose of the study was to develop understanding and explanations of the different ways in which people make and maintain behaviour changes when a significant personal stimulus (such as a test for bowel illness) is present.

Specifically the study aimed to provide explanations of the experiences associated with dietary behaviour maintenance. The first research strategy of the study was to develop a conceptual framework drawn from literature (3.1-1) to explain how people respond differently to a stimulus of change (Creswell, 1994). The conceptual framework was constructed around the holistic structure provided by the stages of change model (Prochaska & Di Clemente, 1982). Four theoretical processes were found to be relevant to the main aim of the thesis in the conceptual literature review and these themes were used to design the interview schedule. The four theoretical processes were stimulus of change (Rosenstock, 1966); primary and secondary appraisals (Bagozzi, 1992; Lazarus, 1991), coping strategies (Folkman et al, 1986) and an additional environmental influence theme of work stress (Cooper, 1998). The same four themes (derived from the four theoretical processes) were then utilised in the content and interpretive analysis.

The review of literature revealed that there was a gap in knowledge concerning the different social contexts and experiences that cause people to respond to a stimulus of change. The Theory of Planned Behaviour (Ajzen, 1991) demonstrated how people implement behaviour changes after a stimulus of change but this work did not develop a fuller understanding as to the continued effort to maintain change. The Theory of Trying 1990 was utilised in the thesis to explain these continued efforts that people have to make with behaviour change and maintenance of change (Bagozzi & Warshaw, 1990).

A qualitative model of behaviour change by Hunt & Martin (1988) was considered in Chapter 2.8.7 for the study but was found to have limited value as it was not well

enough established with one applied qualitative study carried out (Currie et al, 1991). Currie et al's (1991) qualitative research did not go beyond the implementation of behaviour change and did not fulfil the requirements for purpose of the study of researching maintenance of change. Some of the factors affecting behaviour change found within Currie et al's study have relevance to the discussion of the findings. In the present study the stimulus of change was considered as a stress factor and the effort involved in making and maintaining behaviour change after such a stimulus of change had occurred was studied rather than behaviour change only. The limitations in the literature on behaviour change were resolved by reviewing the work of Bagozzi in the Theory of Self-Regulation (1992) and the work of Lazarus (1991) and Folkman et al, 1986 concerning stress and coping.

The second research strategy of the thesis was to categorise the participants according to stage of change and monitor this across the study period. The stages of change were pre-contemplation, contemplation, preparation, action and maintenance. The processes of relapse to preparation stage then recycling to behaviour change were also categorised. Patterns of change had been measured using the stages of change utilised by Prochaska et al (1992) in a longitudinal study on smoking and the findings in the thesis added to this work. The staging algorithm was compatible with that used by Curry et al (1992) in a dietary study (see appendix eleven). The stages of change algorithm categorised the stages of change for the participants at each stage of interview and adds to the work of Curry et al (1992) concerning staging algorithms and dietary change. The stages of change categorisations derived during the interviews were found to be useful as a device for grouping stages of change in NUD.IST during content analysis and add to the work of Bryman & Burgess (1994).

When the participants were categorised according to stages of change into four groups during content analysis it was found that the categorisation did not reveal the actual behaviour of the participants and anomalies were found with the four groupings. This finding is different and provides a contribution to the previous work on behaviour

change. The participants were regrouped into three groups of maintainers, relapsers and limited or no change participants after the first stage of interpretive analysis when the anomalies were discovered. It was discovered that those participants making limited changes had not made a behaviour change for bowel health reasons and had not reacted to the stimulus of change. They were grouped with the no change participants for this study. A more coherent method for understanding the experiences of making and maintaining a behaviour change was derived by firstly utilising the content analysis findings from NUD.IST and then analysing three approaches to behaviour change using interpretive analysis (Hudson & Ozanne, 2001).

6.3 The Three Approaches to Behaviour Change

The third research strategy of the thesis was to use an interpretive approach for each individual, and characterise the main factors impacting on their lives throughout the behaviour change period. To facilitate with this strategy three approaches to behaviour change were utilised. The key findings from analysis concerning the three approaches are illustrated and summarised in Figure 6.3-1.

Approaches to Change[4]

	Change Behaviours[3]		
	Maintainers	**Relapsers**	**No/Limited Change**
Stimulus of Change	Test, bereavement, health beliefs; attitudes towards change; subjective norms, normative; knowledge of diet from socialisation/childhood; own locus of control (responsibility for changing diet) linked to positive responses of social support	Test, bereavement, health beliefs; attitudes towards behaviour which lacked subjective norms/normative beliefs; less frequency of knowledge of diet from past behaviour; own locus of control but not linked to social support	No change – non-acceptance of S of C. Limited change - misinterpreted stimulus. LC few health beliefs/attitudes towards change. Little knowledge of diet ;information not accepted. NC- no normative beliefs. LC - some normative beliefs after changes. NC/LC- HLC responsibility for health with doctor or fate
Primary & Secondary Appraisals	Short/medium, long term goals (incorporated) in social context, beliefs in trying and succeeding; PBC, goal efficacy (cognitive, motivational and emotion processes used in appraisals) and volition link goals and appraisals.	Short and medium term goals in social context but no links to long term goals. Perceive trying and failing. Self–efficacy not goal efficacy (no link cognitive, motivational and emotional processes), PBC & SE to recycle	NC - no appraisals. LC short/med goals but short term constrained longer-term goals due to lack of knowledge of diet. LC perceive trying and failing. LC some PBC but no SE, volition. NC no goals, PBC, SE or volition.
Coping Strategies	Problem, emotion focused coping and seeking social support (positive emotional responses received)..	Problem/emotion focused coping, lack of continuous social support due to lack of communication, or links to long term goal.	Emotion focused coping distancing/escape avoidance. Positive emotions and self-efficacy used as a distancing strategy
Environmental Influences	Management of work stress and other influences	Work stress	Work stress

Figure 6.3-1 Findings for the Three Approaches to Change

[3] Developed from the conceptual framework drawn from literature, algorithmic questions in the interviews, content and interpretive analysis.

[4] Developed from the conceptual framework drawn from literature, content and interpretive analysis.

The findings from this interpretive analysis produced three conceptualisations of behaviour change and maintenance of change (Chapter 4.6-1 to 4.6-3) and the findings from these conceptualisations are discussed in the following three sections.

6.3.1 People who make behaviour changes and maintain behaviour change after a stimulus of change

The first conceptualisation was established concerning the people who made and maintained behaviour changes. Comparisons are made to the previous behaviour change model concerning action and maintenance stages of change (Prochaska & Di Clemente, 1982) and to some of the factors affecting change in Hunt and & Martin's (1988) behaviour change model. The four themes from analysis that are relevant to this group of maintainers commence with stimulus of change (Rosenstock, 1966).

6.3.2 Stimulus of Change

The participants within this group held health beliefs concerning their illness and diet where a threat to their health was perceived at the time of the diagnostic test and this resulted in a decision to make a dietary behaviour change (Becker, 1977a; Rosenstock, 1966). This finding links to the work by Currie et al (1991) where concern about health and prevention of disease was found to be a factor in health related behaviour change. Similarly the cues to action which were the health beliefs, self-efficacy and social support (Kelly et al, 1991) for these participants and environmental factors such as family illness (Grady et al, 1983) were identified. The perceived outcomes of the behaviour change were judged relating to whether dietary behaviour changes could be implemented and differ from the work of Fishbein & Ajzen (1980) and Kelly et al (1991) as maintenance of change was considered. The opinions and emotional responses of significant others such as family or peer groups were considered in this groups' attitudes towards the behaviour changes contributed to the studies by Peak (1955), Fishbein and Ajzen (1980). The important factor with the maintainers was the responsibility that the participants perceived they had over their own health (Walliston et al, 1978). The new finding within this study was that the responsibility for health was linked with the normative beliefs that social support would be in place in the home for the maintainers (Bagozzi, 1992). One participant believed that another level of responsibility that of divine fate along with social support would help him maintain change (Section 5.3.1).

6.3.3 Primary & Secondary Appraisals

An important step for the maintainers was the making of primary appraisals and the weighing up the risks to their health (Lazarus, 1991). This was part of the maintainers' efforts to put their behaviour changes into action and supports the work of Bagozzi & Warshaw (1990). A starting point for these participants when making primary appraisals was the fact that they had experienced eating a healthy diet when they were children and remembered the eating behaviours learned during this time (Ward, 1974; Bagozzi, 1992). The study is also supported by the work of Triandis (1977) and Ajzen & Madden (1986) concerning the fact that prior knowledge of diet is essential in making decisions to carry out behaviour. It is also compatible with Perugini & Bagozzi's (2001) later work on bodyweight regulation concerning the fact that the participants in the study had been in the habit of eating a healthy diet in the past. The present study does not agree with Bagozzi & Kimmel (1995) or Ouelette & Wood (1998) concerning the recency of past dietary behaviour for people who are maintainer as these participants had been eating poorer diets in their recent working lives. The knowledge of past diet was frequent but not in the recent past (Bagozzi & Warshaw, 1990) and was recalled because of the stimulus of change for these participants (Tversky & Kaheman, 1974). The findings in this thesis suggest that knowledge of healthy diet (Huffman & Houston, 1993) and how it relates to illness is important in maintenance of change.

The maintainers set short medium and long term goals for behaviour change consistent with the work of Bagozzi & Warshaw (1990) and later Bagozzi & Dholakia (1999). The difference with the findings in this study was that these short and medium term goals were incorporated and guided by the long term goal for better health (Huffman et al, 2000). The goals had to be adapted to the social context of the participant (Huffman et al, 2000). The short term changes the maintainers made with daily diet were linked to the long term goal of better health and this supports the work of Belk (1988) and Ratneshwar & Shocker (1996). This present study is different from their work as it focuses on people who manage to maintain dietary change and therefore brings new insights into the previous work by these authors. The cognitive schemas (patterns of memory) were similar to the thought

patterns found in people by Bagozzi & Edwards (1998) in their study on diet and exercise.

The participants who were maintainers considered the means available to them to change their dietary behaviour in secondary appraisals. They utilised perceived behaviour control for the perceived control of short term goals (Ajzen, 1991). A more important factor for the participants who maintained change within the study was that they held goal-efficacy beliefs in the achievement of the long term goals of better health (Bandura, 1977a; Bagozzi, 1993). Self-efficacy was rated high within this group but some participants achieved maintenance of change with lower self-efficacy, which is a different finding to that of Bandura (1977a) and Van Wechem et al (1997) who found that self-efficacy was an indication of behaviour change and maintenance in their measurement of self-efficacy using quantitative methods. The interpretive findings within this study discovered a more intricate pattern with self-efficacy than the established self-efficacy scale (Schwarzer, 2001). The present study supplements the work by Greene et al (1999) and Brug et al (1997) where self-efficacy is found to be an inner self-confidence, which is not always manifested. The volitional appraisals linked the thought processes of attitudes and intentions and the motivational process of desire within this study and this was a factor in maintaining change (Bagozzi, 1992). This finding differs from the work of Ajzen (1991) concerning motivational processes and maintenance of change. The expectation of the success of the behaviour changes was strong and the participants' emotions were positive after they had committed to making behaviour change (Bagozzi & Warshaw, 1990). They expressed strong emotions concerning feeling great with the healthier diet (Fridja, 1986; Bagozzi et al, 1998). The fact that the stimulus of change involved a personal event linking to previous knowledge concerning diet and health was significant in the making of appraisals (Park & Folkman, 1997). This link with knowledge of diet is noteworthy and is different from previous works in the area of appraisals and coping (Folkman et al, 1986). During the making of appraisals the maintainers considered the options for coping with behaviour change (Lazarus, 1991). Folkman & Lazarus (1986) found that secondary appraisals were better indicators of behaviour change than primary appraisals but the findings in this study differed. It was found that it was the memory of both the primary and secondary

appraisals and the setting up and continuation of the coping strategies and that were the strong processes of change when behaviour change was implemented and maintained (Folkman et al, 1986).

6.3.4 Coping Strategies

The participants who maintained behaviour change utilised problem focused coping and emotion focused coping (Folkman and Lazarus, 1980, 1985)). The participants in this group also found that social support was a crucial coping strategy (Pearlin, 1989; Crockett et al, 2003). The social support used by the maintainers was the support of family living at home (Bagozzi, 1992). Currie et al's (1991) qualitative study on five health related behaviours concurred with the fact that social support was a facilitating factor in making dietary changes.

6.3.5 Environmental Influences

This analysis theme did not apply to the maintainers group as these participants made continuous efforts to change in maintenance stage, which differs, from the findings of Prochaska & Di Clemente (1992) who found that people made more efforts in action stage of change when the behaviour was new but became more complacent as maintenance of change was carried out. These participants managed environmental influences such as work stress as part of their coping strategies (Folkman et al, 1986). The participants' health beliefs concerning behaviour change and the social context of the individuals were important factors in maintenance of change (Daley & Zuckoff, 1999).

6.3.6 Behaviour Change/Maintenance of Change

The findings of this thesis concern high involvement behaviour change such as health related change (Maibach & Cotton, 1995). This study agrees with the claim that small steps are required towards behaviour change but found that the setting of longer term goals helps with the shorter term goals in maintenance (Huffman et al, 2000). The findings are different to previous social marketing studies as they concern the experience of maintenance of change (Andreasen, 1995). Comparing these findings to the previous work by Prochaska & Di Clemente (1992), the difference with the present study is that maintenance of change is not only categorised as a temporal stage of change after six months of being in action stage of change. This thesis goes further than these previous studies by exploring the experiences of people

making and maintaining change. The behaviour in action stage for this group is consistent with the findings of Ajzen (1991) but not with Steptoe et al (1996) who found that actual behaviour was difficult to predict in action stage. The findings of Brug et al (1997) that claimed misclassification can occur when lack of awareness of unhealthy foods happens is different to the findings for this group of participants where the maintainers had a sound knowledge of healthy foods for the bowel and why the foods were beneficial (Hufffman & Houston, 1993).

The study agrees with the findings of Brug et al (1997) and Sporny & Contento (1995) concerning the amount of self-efficacy in action stage although some participants did not display high self efficacy from the results of the likert test (Schwarzer, 2001),but demonstrated self-efficacy in the interpretive analysis. The fact that the participants within this group had past experience of healthy dietary behaviour in their childhood was an indication of their maintenance of change (Bagozzi, 1992). Self-efficacy became stronger as the behaviour was maintained by this group (Glanz et al, 1994). This group had made appraisals (Bagozzi, 1992; Lazarus, 1991) and this was a strong indication for maintenance of change (Marlatt & Gordon, 1985). The fact that coping strategies were implemented and needed to be continuously implemented throughout maintenance differs from the findings on maintenance of change (Rothman, 2000) and coping (Folkman et al, 1986).

The participants' responses to environment influences were found to change over time (Leventhal & Cameron, 1987). Relationships with people who discouraged poor eating habits were discontinued or controlled by participants who maintained change. Other relationship with partners and siblings at home were an important facilitating factor in maintenance of change (Granfield & Cloud, 1996). This finding supports Sporny & Contento's (1995) study on fat intake and Saunder's (1995) study on drug addiction concerning social support and maintenance of change.

The theoretical processes within this conceptualisation are illustrated in Figure 6.3-2

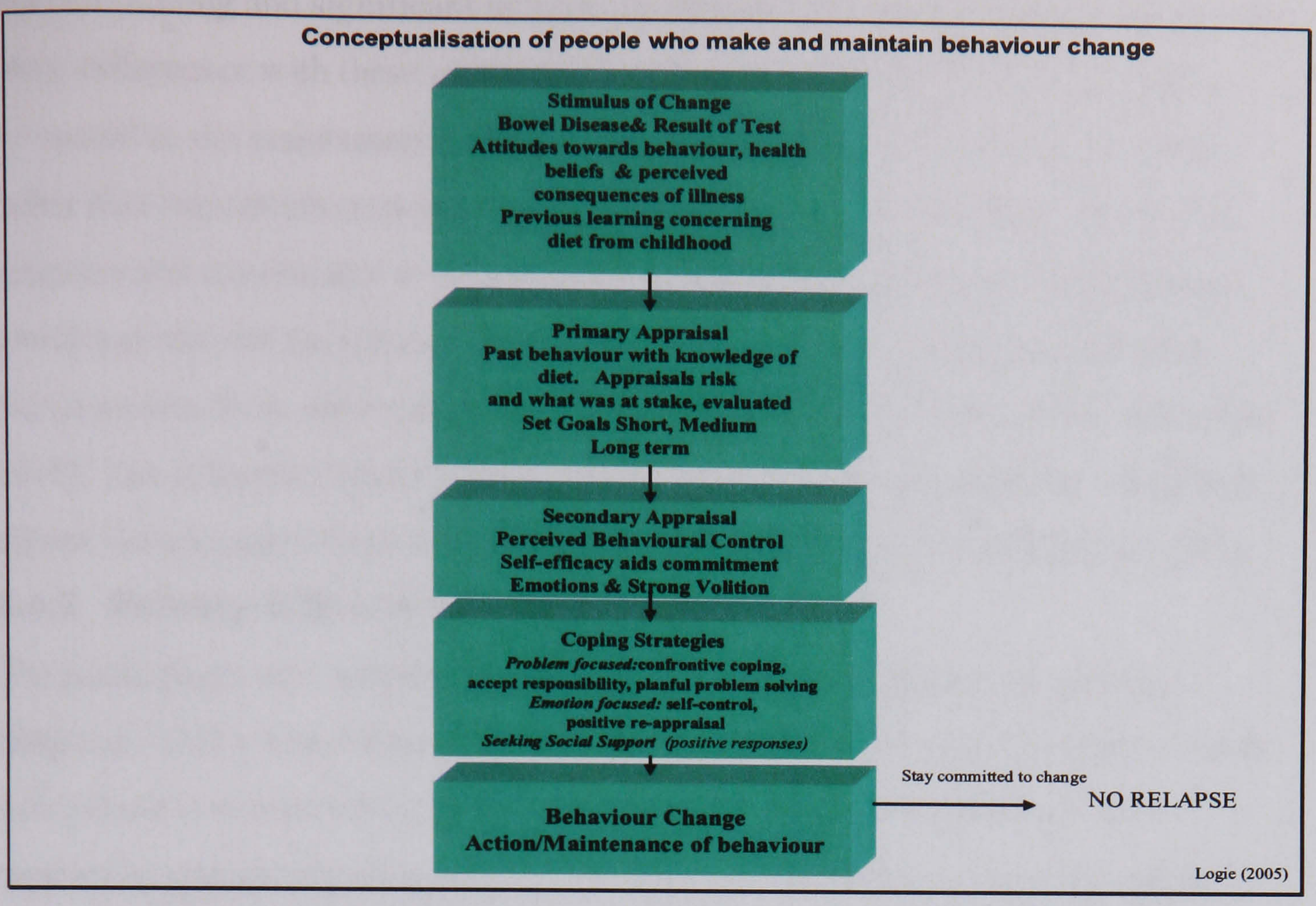

Figure 6.3-2 Conceptualisation – Change & Maintain

6.4 People who make behaviour changes, relapse and recycle back to change

The second conceptualisation established in the thesis concerned people who made behaviour changes, relapsed from change and recycled back to behaviour change during the study. Comparisons will be made to Prochaska & Di Clemente's model (1982) concerning action, relapse and recycling back to change. The first theme was stimulus of change.

6.4.1 Stimulus of Change

The participants within the relapsers group experienced a stimulus of change concerning health beliefs in terms of the perceived threat of illness and related family illness (Rosenstock, 1966, Becker, 1974). With these participants the findings did not concur with Rosenstock (1974) concerning the importance of the social context with the stimulus of change. These findings are different from the previous studies with behaviour change (Prochaska & Velicier, 1995) as the opinion and support of significant others (Fishbein & Ajzen, 1980) was not considered by many of these participants as part of the perceived consequences of their change in behaviour. This

is a new finding and significant in terms of coping with relapse. Similarly there were some differences with these participants attitudes towards the behaviour change compared to the maintainers and there was more emphasis on striving for change rather than the certain consequences of change (Bagozzi & Warshaw, 1990). The relapsers and maintainers differed concerning the responsibility for health (Rotter, 1966) was that the maintainers considered the positive emotional responses they would receive from others along with their responsibility for health (Walliston et al, 1978). The relapsers did not consider the responses from others and this made their efforts to make and maintain behaviour change more challenging (Bagozzi, 1992).

6.4.2 Primary & Secondary Appraisals

The participants who relapsed from behaviour change made primary appraisals (Bagozzi, 1992). The difference with past behaviour was that the knowledge of diet was gained over a period of years in their earlier life and childhood was not mentioned specifically (Bagozzi, 1992). Recency of trying was more relevant to them as a group than for the maintainers (Bagozzi & Warshaw, 1990). These participants emphasized their recent efforts at trying to change their diet more than the maintainers (Bagozzi & Warshaw, 1990). The goals that the relapsers set were at two levels, current short-term goals and medium dietary goals but these participants did not incorporate longer term goals (Bagozzi & Warshaw, 1990). In the interpretive analysis only two participants who relapsed linked the consumption intentions set within the current daily goals. These two participants then linked the short term goals with the longer term goals concerning life themes such as their responsibilities as parents (Huffman et al, 2000). The finding differs from the work of Bagozzi & Warshaw (1990) and Huffman et al (2000) as these participants made behaviour changes but the new finding relates to the fact that this group (including the two participants who made long term goals) did not go on to maintain change. The difference with this group is the fact that the goal intentions demonstrated that they were aware of the environmental cues that could cause them to be tempted to relapse and this concurs with previous work (Gollwitzer, 1996; Dholakia & Bagozzi, 2002).

The relapsers carried out secondary evaluations concerning the means to carry out their plans for change but they did not follow the same of the pattern of evaluation as the maintainers with these appraisals (Lazarus, 1991). The emotions expressed by this group were not as positive as the maintainers and although they perceived that behaviour change would be easy in the short term (Ajzen, 1991); they did not hold strong beliefs about the achievement of change in the longer term (Bandura, 1977a). This group differed from the maintainers in the fact that they expressed fear and despondency at the idea that they might relapse (Fridja, 1986). The relapsers anticipated how they would feel in this situation (Dholakia & Bagozzi, 2002). This finding is noteworthy and links to the work of Bagozzi & Warshaw (1990) on expectancy of success or failure as the maintainers and relapsers had different perceptions of whether they would succeed or fail in their attempts to maintain change. At the point of commitment the relapsers and the maintainers demonstrated different motivational commitments and desire to change (Bagozzi, 1992). This supports the work by Bagozzi et al (1998) on positive and negative emotions influencing volitions (intentions and plans) to carry out behaviour. The relapsers did express the opinion that it was not always easy to make behaviour changes or keep control and it depended on the environmental influences (Ajzen, 1991).

When the relapsers carried out behaviour changes successfully they exhibited self-efficacy (Bandura, 1977a) but not goal efficacy with motivational and emotional processes linked to the original beliefs (Bagozzi, 1992). Their self-efficacy was not always strong and the present study relates to Bandura's (1991) work concerning the fact that these participants found that their self-efficacy diminished when there were impeding influences that might cause relapse. This links to the work of Currie et al (1991) concerning the difficulty in making changes to behaviour involving self-efficacy. The relapsers had varied amounts of reliance on social support and it was not always perceived that a positive emotional response would be received by significant others and this was a factor in relapse (Bagozzi, 1992). This finding related to social support and self-efficacy with participants who relapsed from change was consistent with the work of Shannon et al (1990) who found that receiving support was important for goal achievement and in sustaining self-efficacy.

6.4.3 Coping Strategies

The relapsers used both problem focused coping and emotion focused coping when they implemented behaviour changes and in this way were similar to the maintainers (Folkman et al, 1986). The differences were that some participants did not make the same efforts at confronting people who questioned their behaviour changes. The participants in this group talked of their efforts to make behaviour changes and they implemented other activities such as exercise to help them have more self-control. The relapsers utilised social support intermittently but found that at times this coping strategy was not useful because they did not have the support of a partner living with them or they had not communicated their dietary needs to significant others (Pearlin, 1989). Family patterns and living arrangements were barriers to behaviour change in this study (Currie et al, 1991). The difference with the relapsers and maintainers were that when relapse occurred the relapsers group demonstrated the emotion focused coping strategy of escape/avoidance (Folkman et al, 1986) with the escape strategy of compensatory eating behaviour (Woodruffe-Burton, 2003). The relapsers only used the escape/avoidance strategy in relapse as a temporary solution to their life stresses.

6.4.4 Environmental Influences

Another difference between the maintainers and relapsers was the environmental influence of work stress. The relapsers experienced a bullying management style when they were at work and this is consistent with the work of Cusack (2000). The findings adds to the work of Striegel-Moore et al (2002) who claimed that bullying and stress are linked to compensatory eating. The study also concurs with the work of Cooper (1998) concerning the feelings that participants had of being undermined and experiencing low self-esteem. This finding concerning work stress adds to the work of Cooper (1998) as it adds a new dimension to the subject area with work stress being the cause of relapse when health behaviour change has been implemented and in some cases maintained. Currie et al (1991) found that a person's work situation was a barrier to change in dietary behaviour but the present study has demonstrated a more detailed pattern of work difficulties concerning stress and coping (Folkman et al, 1986).

6.4.5 Behaviour Change

The relapsers carried out behaviour changes in action stage in a similar way to the maintainers group but at relapse cognitive factors such as attitudes and self-efficacy were affected (Fishbein & Ajzen, 1980; Bandura, 1977a). Contrary to the work of Greene et al (1999) it was found in the present study that relapsers had avoided setbacks and they had put appraisals and coping strategies in place and had tried very hard not to relapse from their behaviour changes (Bagozzi & Warshaw, 1990). Relapse took the form of a short relapse to preparation stage of change and most of the relapsers demonstrated this form of relapse (Prochaska & Velicier, 1995); three participants regressed contemplation stage (Prochaska & Di Clemente, 1994). The participants within the group who relapsed had feelings of guilt and shame (ibid, 1994). The participants recycled back to behaviour change when they implemented their appraisals and coping strategies for change (Folkman et al, 1986).). As with Marlatt and Gordon's (1985) work the present study found that the cravings for comfort in times of stress and the feelings of being a failure through work stress led to relapse (Wanigaratne et al, 1990). Stress (Baglioni et al, 1990) was found to be the main factor in relapse along with lack of social support (Folkman et al, 1986).
The theoretical processes within this conceptualisation are illustrated in Figure 6.4-1.

Conceptualisation of people who relapse and recycle in behaviour change

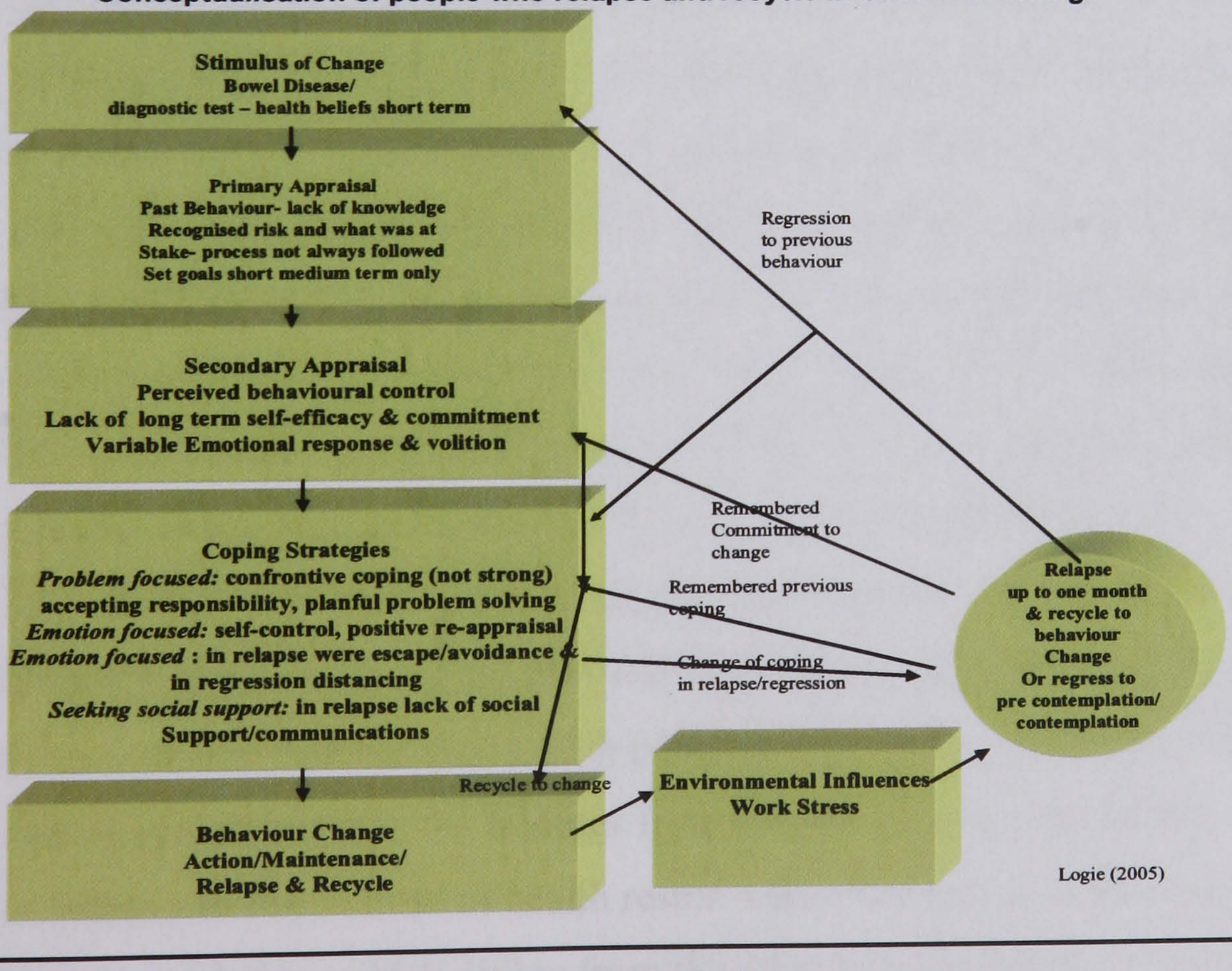

Figure 6.4-1 Conceptualisation – Relapse & Recycle

6.5 Participants who made limited changes or did not want to make a dietary behaviour change

The no change/limited change conceptualisation was established in the study to incorporate those participants who had made limited changes or no changes to their dietary behaviour. The conceptualisation will be compared to the pre-contemplation and contemplation stages of change and action (for those making limited changes). The first theme to be considered is the stimulus of change concerning the test for cancer.

6.5.1 Non Stimulus of Change

The no change/limited changes group held health beliefs concerning the perceived threat of cancer at the test (Becker, 1974). Their health beliefs concerned cancer but their knowledge gained through their social norms or socialisation processes did not include the functional knowledge of diet and illness (Ward, 1974; Huffman & Houston, 1993). This lack of knowledge was a factor for those participants who did not change their behaviour and differs from the work on socialisation and health beliefs (Becker, 1974). The participants did not perceive that their social context such as family response and support could be a contributory factor to behaviour change at the time of the stimulus of change and this was a factor in their no change behaviour (Rosenstock, 1974). Participants who made limited changes linked the need to lose weight to their social context such as family members who had weight problems. These findings demonstrate that there can be a misdirected stimulus of change with a health behaviour change and the cues to action can be misinterpreted by people such as physical symptoms (Kelly et al, 1987). Kelly et al's (1991) study on self-efficacy with health beliefs found that self-efficacy was an important factor in motivating health beliefs with behaviours such as diet. If the health beliefs are misinterpreted, as was found with participants who made limited changes because of a lack of understanding concerning the link with diet and bowel health, self-efficacy is also misdirected. This finding differs from previous work in this area (ibid, 1991). There was some evidence within the findings from the participants who did not change their behaviour that control of health rested with other people in authority such as doctors or with fate, which differs from the other two groups of participants

(Walliston et al, 1978). These participants did not perceive that the control of their own health was their responsibility, as they did not accept that the consequences of behaviour change would be to achieve better health (Fishbein & Ajzen, 1980).

6.5.2 Primary and Secondary Appraisals

The participants within the no change group did not perceive that there was any risk to long-term health (Lazarus, 1991). Although some participants had been advised of the risks they did not accept the need to change. The participants in the no change group had past behaviour of poor diet which they continued (Bagozzi, 1992). The no change group's goals were not determined by bowel health (Bagozzi & Warshaw, 1990). The participants who made limited changes perceived a risk to health by being overweight (Lazarus, 1991). It was found that those who had made limited changes had made frequent previous attempts to lose weight but had failed in their attempts (Bagozzi & Warshaw, 1990). Participants within this group who made limited changes set short term and medium term goals in terms of daily eating behaviour and diets to lose weight but they did not link the short/medium term goals with long term goals and goal setting did not lead to the same level of appraisal as the maintainers had carried out (Huffman et al, 2000; Dholakia & Bagozzi, 2002). The short-term goals made to lose weight were a constraint for the limited changers as the long term goals were for better bowel health and the goals did not link together. Emotions were significant for this group and they experienced little self-belief in their ability to achieve behaviour change (Bandura, 1977a). Low self-efficacy prevented the group who made limited changes from maintaining previous attempts at change (Bagozzi & Warshaw, 1990). The participants who made limited changes and had knowledge of slimming diets perceived that it would be easy to make changes in the short term (Ajzen, 1991). The participants did not evaluate what the means to change would be and significantly did not link any changes to the social norm within their lives as a poor emotional response was perceived towards their attempts to make changes from significant others (Bagozzi, 1992). These no change/limited change participants did not make volitional appraisals and did not have a strong will to act to achieve longer-term goals (Bagozzi, 1992; Lazarus, 1991).

6.5.3 Coping Strategies

The no change/limited change participants implemented the emotion-focused strategies of distancing and escape avoidance (Folkman et al, 1986). Participants who made no changes did not make many changes to their eating habits and displayed positive self-efficacy that the diet they ate would lead to better health (Bandura, 1977a). In the interpretive analysis, it was found that self-efficacy was used as part of the strategies of distancing and escape/ avoidance for the no change participants to distance themselves from the problem (Folkman et al, 1986). They did not accept any information given to them concerning diet as a form of coping (Kuhl, 1984). When they found their symptoms of bowel illness were causing embarrassment they did not demonstrate negative emotions or seek social support but demonstrated positive distancing strategies. (Sarnoff & Zimbardo, 1986). The participants who made limited changes found it difficult to implement any problem focused or emotion focused strategies and used the escape/avoidance strategies when under pressure similar to the relapsers group (Folkman et al, 1986).

The social support coping strategy was implemented by participants who made limited changes later in the study but was not continuous. The support came from the participant's peer group rather than from significant others living in the home (Pearlin, 1989). Those participants who did not make any changes did have support offered at home but did not accept the support offered as these participants were utilising escape/avoidance strategies (Folkman et al, 1986). When support was accepted, the significant other did not have the knowledge concerning a healthy diet for the bowel (Huffman & Huffman, 1993).

6.5.4 Environmental Influences

Work stress was an environmental influence with this group as it was found to be with the relapsers but it was retrospective in some cases as the no change participants were retired from work. The similarity with the work stress described by these participants and the work stress the relapsers experienced was that that both groups recognised that the environment they had worked in caused them to eat an unhealthy diet (Cooper, 1998). Four participants who were still working with this group talked about the escape/avoidance coping strategies they carried out and the lack of social support, which contributed, to the ongoing cycle of work stress and compensatory

eating (Woodruffe-Burton, 2003). This finding adds to the work of Currie et al (1991) who found that cravings for previous unhealthy foods provided a calming influence and were an inhibiting factor in behaviour change.

6.5.5 Behaviour Change

Some participants within the no change group were not aware of their problem behaviour and were in pre-contemplation stage of change (Prochaska & Velicier, 1995). The reason for their lack of awareness was that they did not have health beliefs (Becker, 1974) or knowledge concerning diet (Huffman & Houston, 1993). Some participants were not aware of the harmful effects of their diet and the risks to their health (Greene et al, 1999). These findings link to social marketing concerning behaviour change and the awareness campaigns for pre-contemplators (Andreasen, 2003). Some participants within the study were in contemplation stage of change and were weighing up the risks and the probability of success or failure in making a behaviour change (Bagozzi & Warshaw, 1990; Prochaska et al, 1994). It was difficult for them to make an informed decision concerning their bowel health, as they could not perceive the benefits of long-term change (Huffman et al, 2000; Rothman, 2000).

As Prochaska & Di Clemente (1984, 1985) found people can remain in contemplation stage of change for several years. The findings in the present study add to the work of Sporny and Contento (1995) concerning social modelling where knowledge of how to change diet could be gained from significant others. The difference in the findings in the thesis is that even if the participants tried to follow the support of significant others, the lack of knowledge of the appropriate diet, work stress and the coping strategy of escape avoidance resulted in no change being made or relapse occurring (Huffman & Houston, 1993; Cooper, 1998; Folkman et al, 1986).

The participants who had made some changes to their diet were in preparation or action stage of change. They carried out attempts at primary and secondary appraisals but the lack of self-efficacy (Bandura, 1977) and volition (Bagozzi, 1992) the difficulty in putting coping strategies in place (Folkman et al, 1986). The setting of short and medium term goals by the participants who made limited changes and

no longer term goal setting (Huffman et al, 2000) led to poor appraisals and coping strategies (Folkman et al, 1986). These findings added to the work of Sporny and Contento (1995) concerning the movement between preparation and action stages of change. Even if cues to action have taken place if insufficient appraisals have been made and no coping strategies is in place the commitment to maintain changes will not be present.

For those participants who made limited changes to their diet behaviour change factors were misinterpreted and the participants were not committed to the healthy diet they were carrying out to lose weight. This was also found by Brug et al (1997) in their study on fruit and vegetable intake where self-assessment instruments were used. The new finding is that knowledge of diet can be misinterpreted and participants can think they are eating a healthy diet when they do not fully understand what healthy bowel diet is (Huffman & Houston, 1993). Steptoe et al (1996) also found that definitions of healthy diet could be misinterpreted and that there was a need for more awareness. Although self-efficacy was found to be high in preparation and action stages of change by Sporny & Contento (1995) and Steptoe et al (1999), for the participants who made limited changes perception was low in the study.

The illustration of this conceptualisation of change for people who did not change their behaviour is illustrated in Figure 6.5-1

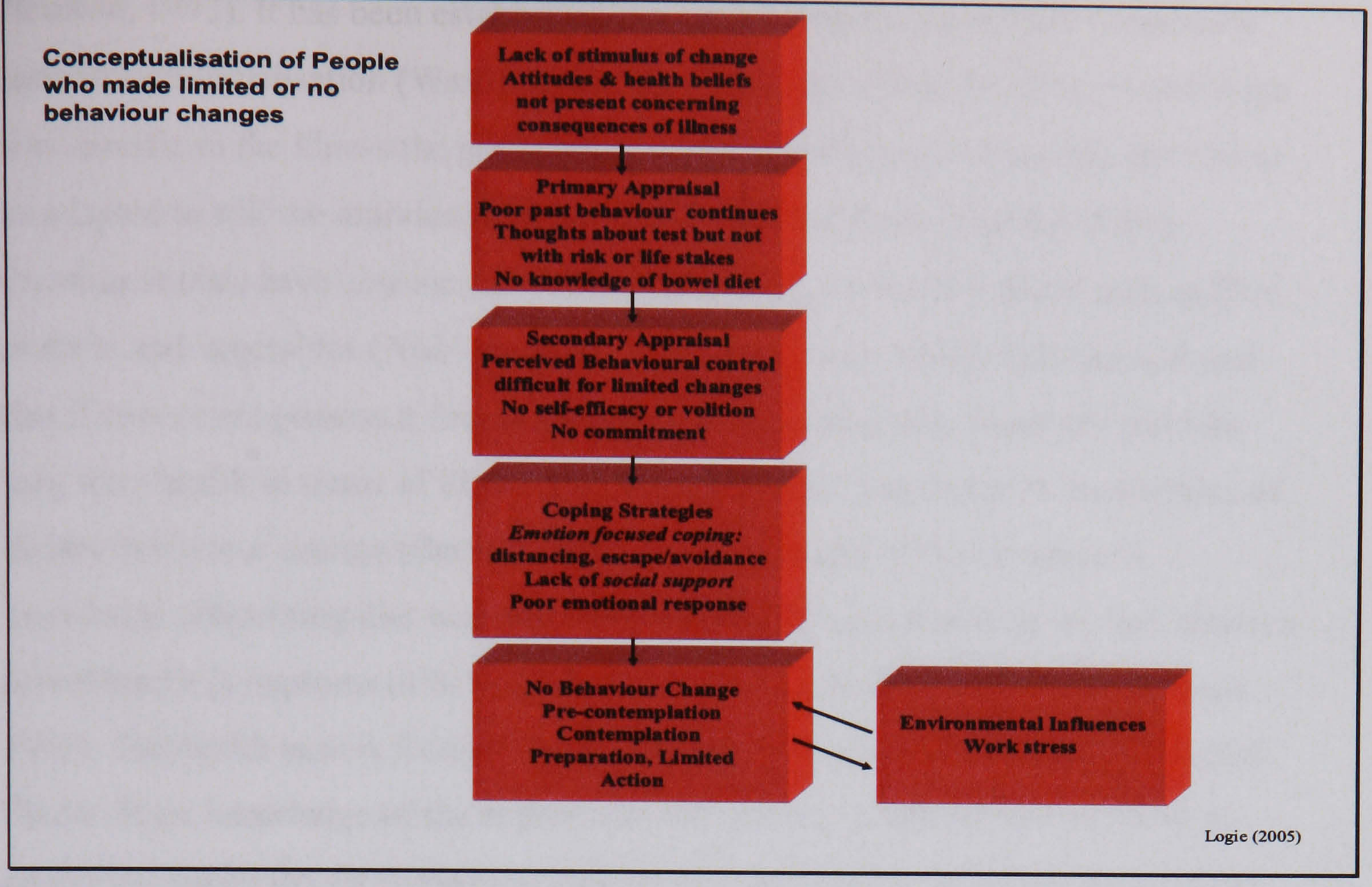

Figure 6.5-1 Conceptualisation – No Change

6.6 Contributions to Future Studies on Maintenance of Change

When examining the three conceptualisations of behaviour change established within this thesis and the discussions from the preceding sections it was revealed that there are several contributions that the thesis has made for research into behaviour change and maintenance of change. Methodological recommendations are made for future studies in health behaviour change. Contributions to social marketing and social policy are suggested concerning social marketing campaigns and better dietary communications with people concerning health behaviour change and maintenance of change. First of all the theoretical contributions for future maintenance of change studies are discussed.

6.6.1 Theoretical contribution concerning maintenance of change

An important contribution of the thesis concerning maintenance of behaviour change was that a functional knowledge of diet learnt in childhood is required (Huffman &

Houston, 1993). It has been established that people acquire knowledge concerning diet through socialisation (Ward, 1974). The thesis found that the dietary knowledge was specific to the illness the participants were experiencing and that the diet had to be adapted to suit the individual tolerances of different foods (Burden, 2001). Previous studies have considered whether consumers eat healthy foods such as fibre or fruits and vegetables (Anderson et al, 1994; Brug et al, 1997). This thesis found that if consumers possess a deeper knowledge concerning why foods are good for long term health in terms of illness; this knowledge is a key factor in the stimulus of dietary behaviour change (Becker, 1974). The sensitivity of the consumer's knowledge concerning diet was important in terms of understanding the link between bowel health (symptoms of bowel disease) and better health (Huffman & Houston, 1993). The health beliefs formed (Becker, 1977a) linked the knowledge of diet and illness. Prior knowledge of the appropriate diet and its beneficial factors learnt in childhood linked the short/medium term dietary goals set in primary and secondary appraisals (Bagozzi, 1992) to longer-term goals of better health and this adds to the work of Huffman et al (2000) concerning the goals set for maintenance of change. The present study found that communications concerning long-term goals of better health through diet to consumers would help with self-efficacy in the achievement of maintenance of change (Bandura, 1977a; Bagozzi, 1992).

It was found that socio-economic status did not have a bearing on the amount of socialisation concerning diet and health that the participant group aged 30-83 years had received within the present study. This finding differed from Kirby et al (1995) and Hayfield (2005) who studied children. Kirby found that SES was an important factor in fruit and vegetable consumption with children in the U.S.A. Hayfield discovered that SES was a factor in recognition of food brands and consumption of healthy food in nursery children in the U.K. This contribution to knowledge could lead to further study with comparisons of different demographic groups of participants to explore how socialisation concerning diet and illness has evolved (Ward, 1974). The health beliefs concerning diet related to SES when a comparision of younger and older age groups is made would reveal whether socialisation concerning diet and illness has changed (Wilkie, 1992). In this thesis it was found

that the value that dietary factors bring to specific types of health are often misinterpreted and this makes a contribution to the work of Huffman & Houston (1993) who considered the functional knowledge of the features of brands and their importance in targeted brand purchase. Further studies would be recommended from this thesis concerning the understanding of positive benefits of dietary factors to both physical and psychological well being by consumers (Ehrlich & Johnson-Laird, 1982).

The importance of social support in maintenance of change was a contribution from the thesis that linked to the need for knowledge of diet (Bagozzi, 1992; Folkman et al, 1986). The important point was that positive emotional responses anticipated from significant others at the stimulus of change and coping by the use of social support in the home were instrumental in maintenance of change. Part of the social support would include the significant other's knowledge of diet. For maintenance of change, knowledge of diet was desirable with the participant and the person providing social support. Social support was based on two-way communication with the participants concerning their dietary needs related to their illness (Huffman & Houston, 1993). Participants who maintained change anticipated the support of significant others within their health beliefs and primary and secondary appraisals (Bagozzi, 1992). The issue of locus of control of health and dietary change was important for people maintaining changes (Walliston et al, 1978). It was found that those participants who maintained change understood that it was their own responsibility or the responsibility of divine fate (in one case) to have (intervene with) knowledge of diet and to make and maintain change. Even though social support was available, it was perceived as support only (Fishbein & Ajzen, 1980; Walliston et al, 1978). When the stimulus of change took place the opinions of significant others was not considered by the participants who relapsed or did not change their behaviour in the study (Becker, 1974; Bagozzi, 1992). The participants who did not make behaviour changes did not accept responsibility for their health but considered that the responsibility for their health lay with doctors, fate or significant others who they perceived knew more about diet and would offer social support (Rotter, 1954). In

some cases the significant others did not have knowledge of the appropriate dietary needs and this led to problems with behaviour changes.

Strong relationships within family have been found to be a factor for maintenance of change in previous studies (Granfield & Cloud, 1996). A contribution to the understanding of behaviour change relapse due to lack of social support was that participants did not communicate their dietary needs to significant others and did not use social support as a coping strategy for recycling back to change (Folkman et al, 1986). It was discovered that participants who did not make behaviour changes did not communicate with social peer groups and family concerning their problem behaviour often because of embarrassment and that peer- pressure was a factor in lack of behaviour and maintenance of change (Granfield & Cloud, 1996). Within the thesis there was a relationship found between the findings concerning anticipated social support (Bagozzi, 1992) and the knowledge of diet and its links with illness significant others held (Huffman & Houston, 1993).

From the findings in the thesis it was established that the stages of change model by Prochaska & Di Clemente (1982) provided a framework for behaviour change but the model did not explain the intricate pattern of cognitive and emotional processes that take place when a person is faced with a stimulus of change. It was found that the re-appraisal of the benefits derived from making behaviour changes are part of a continuous process of adaptation to the environment and this contributes to the work of Leventhal & Cameron (1987), Marlatt, and Gordon (1985). The thesis produced findings concerning a variety of cognitive and emotional processes (Rothman, 2000) that can be continued when maintaining change concerning the benefits of maintaining change (Becker, 1977a; Bagozzi, 1992; Huffman et al, 2000; Folkman et al, 1986). The social context and environmental influences were continually changing for the people who were maintaining behaviour changes (Daley & Zuckoff, 1999) and it was found that discontinuing relationships with people who contributed to the problem behaviour was a factor in maintenance of change (Granfield & Cloud, 1996).

Goal directed theories such as Bagozzi & Warshaw's Theory of Trying (1990) and Bagozzi's Theory of Self-Regulation (1992) were essential underpinnings for a study concerning maintenance of change as these theories went beyond the previous behaviour change models concerning implementation of behaviour change (Ajzen, 1991). Within the theories by Bagozzi (1990, 1992) self-efficacy (goal efficacy) and volition were important factors to consider when studying maintenance of change as they related to the long-term commitment to change (Bandura, 1977a, Bagozzi, 1992). Goal-efficacy related to the long-term beliefs and motivations in the achievement of the goal of not only making but also maintaining change (Bandura, 1977a). Volition made an important link between the thought and emotional processes in appraisal. Volitional appraisals followed the arousal of health beliefs from the stimulus of change (Becker, 1974) and the linking of short, medium and important long term goals for better health (Huffman et al, 2000). The goals were adapted to the social context of the participant. The thesis found that people who maintained change utilised problem-focused, emotion focused and social support coping strategies (Folkman et al, 1986; Pearlin, 1989). In future studies the recommendations from this thesis are to utilise these models by Bagozzi (1990, 1992) and Huffman et al (2000) and Folkman et al (1986) to explore the continuous effort required in maintaining behaviour.

The participants who maintained change within this thesis were found to have put management plans into place to deal with environmental influences such as work stress (Cooper, 1998) and this was also an important factor in maintenance of change. The findings concerning work stress has important implications for issues with work related diseases and human resource management. Work stress has been shown in this thesis to have strong influences on maintenance of change and it was found that people who relapsed from dietary change realised that work stress was a factor in their relapse. During the time of relapse coping strategies such as distancing and escape/avoidance were utilised (Folkman et al, 1986). Compensatory eating behaviours have been documented (Woodruffe-Burton, 2003) concerning the response to work stress as part of escape/avoidance. This thesis made a further contribution the work of Woodruffe- Burton relating to health behaviour changes

such as diet. Strategies for coping with work stress were found to be linked to the factors found to affect maintenance of change such as knowledge of diet and using problem and emotion focused coping as well as social support. Future studies concerning work stress and maintenance of change are recommended for target audiences with a variety of socioeconomic patterns.

6.6.2 Research Questions; responses with a new model of Maintenance of Change

The main findings on maintenance of change developed within this thesis from the conceptual framework of literature, content and interpretive analysis are illustrated in a new model of Maintenance of Change (Figure 6.6-1). The new model illustrates the main contributions of the thesis concerning maintenance of change. The model concerns the key characteristics concerning behaviour change and maintenance of change. The model outlines the factors in behaviour change; the importance of health beliefs (Becker, 1977a), perceived emotional response and normative beliefs (Bagozzi, 1992; Fishbein & Ajzen, 1980), locus of control (Rotter, 1966), self-efficacy (Bandura, 1977a), short and medium term goals (Huffman et al, 2000), making appraisals and using coping strategies (Folkman et al, 1986).

The first factor concerning maintenance of behaviour change concerns the functional knowledge of diet from childhood (Huffman & Houston, 1993). The second factor is the use of the coping strategy of social support in the home (Folkman et al, 1986). The third factor is the making of appraisals (Bagozzi, 1992; Lazarus, 1991) with influences such as the links between short, medium and long term goals (Huffman et al, 2000), goal efficacy (Bandura, 1977a) and volition (Bagozzi, 1992) highlighted as cognitive and motivational processes. The fourth factor concerns the management of work stress within the social environment including health and issues at work such as stress bullying and low self-esteem.

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The new model of Factors in Maintenance of Behaviour Change is illustrated in Figure 6.6-1

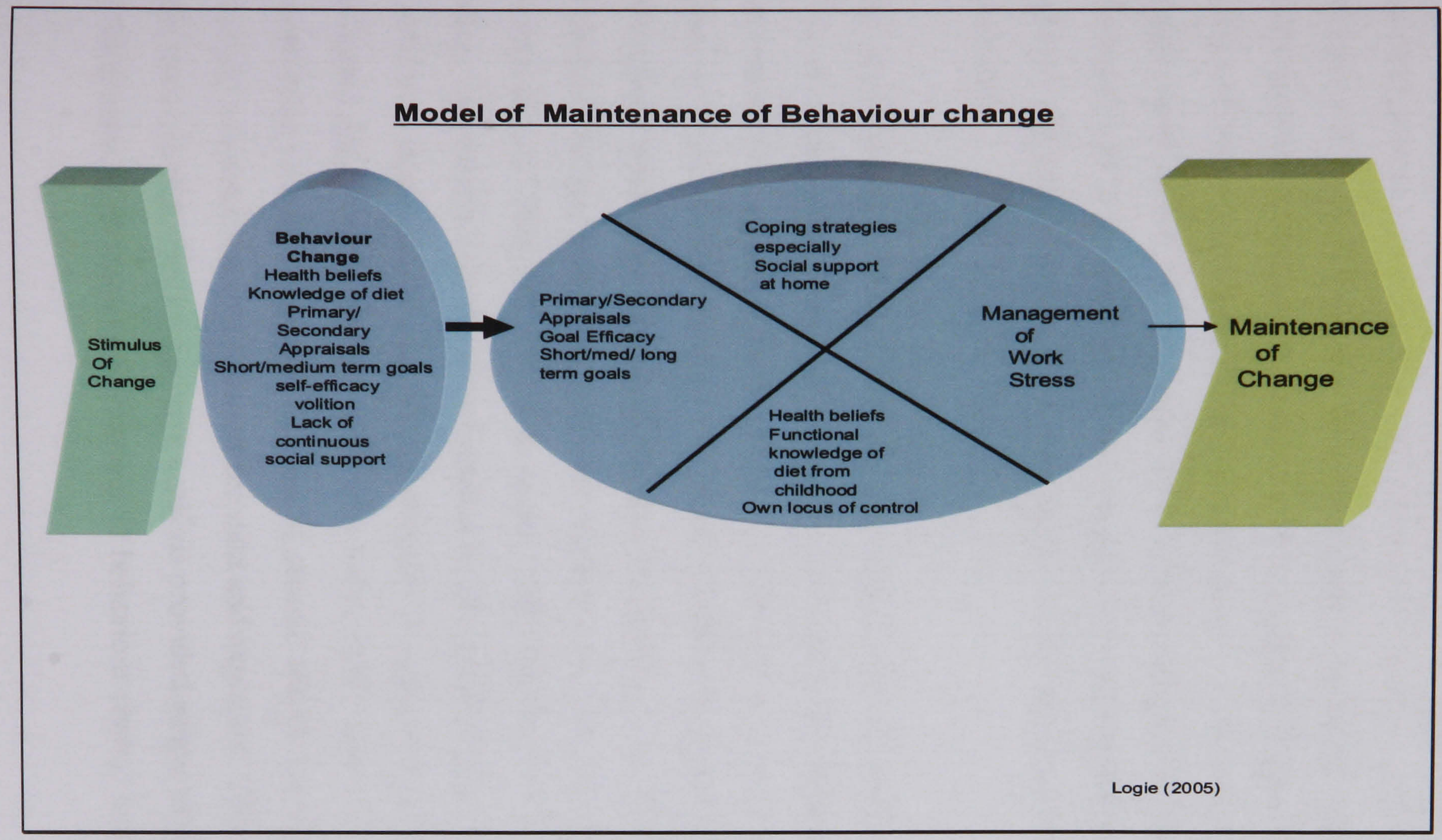

Figure 6.6-1 Factors in Maintenance of Behaviour Change

6.7 Methodological Contribution

This section provides an outline of the methodological contribution of the thesis. It was demonstrated that by carrying out research with an interpretive methodological approach with the quantitative models selected for the thesis that new insights into behaviour change and maintenance of change were gained. Hudson & Ozanne (2001) and Anderson (1992) highlighted that using this type of approach would bring benefit and new insights to a research study. The purpose of the study and the research questions set were interpretive in nature. The employment of a conceptual framework drawn from literature (Miles & Huberman, 1994) was found to be beneficial as part of the interpretive methodological approach. The conceptual framework drawn from literature was found to provide a way of illustrating the relevant theoretical processes used to design questions for the semi-structured interview schedules. The original literature developed and formed categories for analysis after the interview data categorisations emerged and later themes were found as part of the induction process in the content analysis.

The use of NUD.IST software as a referencing system within content analysis was found to be of value to the study. The limitations of content analysis were found within the restrictions of marking sections of text and making assumptions about the context of the sentence or phrase. For instance the content analysis findings showed that all the participants who made behaviour changes (including those who had relapsed from behaviour change) had strong attitudes towards behaviour change (normative beliefs) at the stimulus of change (Fishbein & Ajzen, 1980; Becker, 1974). Attitudes to behaviour change (normative beliefs) were found to be stronger with those participants who maintained change in the interpretive analysis. It is recommended that these interpretive methodological approaches are used with both content analysis and interpretive analysis contributing to richer findings. The use of content and then interpretive analysis provided a holistic interpretation of the data and expressed fully the experiences of behaviour change. The interpretive analysis provided ample understanding for the establishment of the conceptualisations of behaviour change and three case studies (Yin,

1989) which illustrated what happens when a person makes and maintains a behaviour change after a stimulus of change. This contribution to behaviour change methodology culminated with three conceptualisations of change from the interpretive analysis and a new model of maintenance of change, which provided responses to the three research questions, posed for the thesis (5.6-2). This method of using content and interpretive analyses was found to be more powerful in confirming the factors that affected maintenance of change.

The findings within the thesis suggest that measures such as algorithms (Curry et al, 1992) or likert scales (Schwarzer et al, 2001) are useful when categorising stages of change and self-efficacy (Bandura, 1977a). While there is value in finding out what stage of change a person has reached, this categorisation was not sufficient to provide a deeper understanding concerning why a person has maintained their behaviour, relapsed and recycled back to change or not made behaviour changes. It was discovered that the nuances of self-efficacy were such that people who did not make behaviour changes had high self-efficacy because they had distanced themselves from their problem behaviour and this is an important finding relating to the work of Folkman et al (1986). The interpretive approach utilised within the present study enabled a deeper understanding to be gained of the actual behaviour of the participants and the intricate patterns of self-efficacy (Bandura, 1977a). It is recommended that the self-efficacy scale utilised in the thesis (Schwarzer, 2001) is amended to incorporate the findings concerning self-efficacy and behaviour change in future studies. Both the self-efficacy scale and the algorithm adapted from Curry et al (1992) are recommended for use in future qualitative studies of behaviour change as a way of categorising these factors.

A longitudinal phenomenological approach is recommended with the study of maintenance of change because of the continuous effort required in maintaining changes over time. This type of methodological approach has been considered with social marketing and behaviour change (Hastings & Saren, 2003). The new critical thinking concerning long-term relationships in behaviour change strategies within social

marketing encompasses interpretive approaches and introduces new ideas for social marketers. This thesis contributes to these new ideas and goes further by contributing new methodological approaches to exploring not only behaviour change but also maintenance of change.

6.8 Contributions to social marketing and social policy

Social marketing involves helping people to change their behaviour and points towards health improvements implemented through social policy (Lefebvre, 1992). This thesis makes a contribution concerning the problems relating to the making and maintaining of dietary change in the rehabilitation of illness, which is an important issue for social policy in the U.K. (http://www.scotland.gov.uk/Home). Social policies are recommended to co-ordinate the delivery of services and resources through public organisations for example such as with dietary advice linking to illness. Education such as dietary advice or information is adopted by the state for the benefit of the citizens for instance when maintaining dietary behaviour change for health (Lovell & Cordeaux, 1999).

Social marketing has utilised behaviour change theories such as the stages of change model by Prochaska & Di Clemente (1982) which was found to be a useful framework (Andreasen, 1995). This thesis contributes to the work on behaviour change with stages of change in social marketing but develops the work further with insights into how people maintain change. This new contribution adds to the work of Andreasen (2003) who noted that social marketing needed to consider maintenance of change as it was an important factor in long term health behaviour. It was found in the thesis that individuals may not be aware of their health problems and the links to diet (pre-contemplation stage). It is recommended that the links to diet using an awareness campaign can bring some insight into how dietary behaviour change can help. Some participants in the thesis were aware of how diet and illness are related but needed more knowledge about the benefits of change (contemplation stage) in order to make a behaviour change decisions (Andreasen, 1995).

Where this thesis makes a contribution to social marketing relates to the claim that health behaviour change and maintenance of change does not take place without the influence of an individual's social context (Andreasen, 1995). The thesis has gone further in examining theories such as Bagozzi's Theories of Trying and Self-Regulation (1990. 1992) in more depth than previous social marketing studies have done before (Andreasen, 2002). By using goal directed theories, a longitudinal study and interpretive methods a richer picture is presented concerning the approaches that help people maintain change in a social context. The thesis found that various theories could make a contribution when studying maintenance of change. The positive consequences of maintaining change through health beliefs (Becker, 1974), knowledge of diet (Huffman & Houston, 1993), self-efficacy (Bandura, 1977a) and volition (Bagozzi, 1992) enabled participants to make short and long term goals (Huffman et al, 2000), appraisals (Lazarus, 1991) and coping strategies (Folkman et al, 1986) for maintenance of change.

Social influences are important when considering the voluntary exchange that takes place and high involvement decisions concerning health (Rothschild, 1979; Andreasen, 2002). For those participants who maintained change it was found that by using coping strategies (Folkman et al, 1986) the benefits of the outcomes of the exchange (Maibach, 1993) were easier to achieve and the use of the literature concerning coping responses (Folkman et al, 1986) was a contribution for social marketing study into behaviour change. The positive re-appraisal of the benefits of exchange was found to be a central factor in maintenance of change (Rothman, 2000). These findings concerning the benefits of voluntary exchange in maintenance of change are a contribution for future social marketing campaigns. The findings will also contribute to social policy concerning education, health and knowledge of diet and its specific links to illness. Specific interactive methods concerning diet and health are recommended for people suffering from illnesses that are affected by diet such as one to one interviews or support groups. The reward of better health (feeling less discomfort or pain and therefore feeling better psychologically) should be highlighted within these communications.

The thesis contributes to the understanding of consumer orientation concerning target audiences (Lefebvre & Flora, 1988). The findings from this thesis could be utilised as part of the research process to understand what thought and motivational processes and goals people set when intending to make behaviour changes and maintaining change. This thesis suggests that it would be important to utilise the findings concerning self-efficacy, volition and short and long-term goals and coping strategies in such a study (Bagozzi, 1992; Huffman et al, 2000; Folkman et al, 1986). When dietary problems are considered the amount of past experience with diet (Bagozzi, 1992) and previous intentions to change diet needs to be taken into account. In addition, the amount of belief in the achievement of behaviour change is important (Bandura, 1977a). These are all important findings and contribute to more understanding concerning why people maintain behaviour change.

A key contribution of the thesis was that there was a lack of explanation as to the functional benefits of certain foods concerning bowel disease. It is recommended that these benefits should be demonstrated through social marketing campaigns; i.e. in what way the foods benefit bowel health (Huffman & Houston, 1993). It is important that the messages are communicated through a credible source (Hastings & Haywood, 1991) such as social policies or government communications. This finding is an important contemporary contribution to existing social initiatives as there are many questions being raised as to the content of foodstuffs and what their effects are on health (http://www.scotland.gov.uk/News/Releases/2005/03/10143144).

From the findings concerning maintenance of change and knowledge of diet it is recommended that knowledge gained in childhood concerning healthy diet is an important priority for social policy as knowledge retained in memory and can be used to make health behaviour changes later in life (Ward, 1974). The idea of taking small steps to behaviour change and setting short and longer term goals from an early age such as including certain foods as part of a routine diet should be considered in health

communications (Andreasen, 2003; Huffman et al, 2000). Research into school meals is being carried out as part of the initiative to introduce healthy diet to children on a daily basis in the U.S.A. (Rhiner, 2004) and the U.K. This thesis makes a contribution to these ideas for social policy concerning a functional knowledge of diet. Once the individual understands the benefits of a change in diet some knowledge of the types of foods in the health diet is required (Huffman & Houston, 1993). It has been found within the study on children's' diet both at school and in the home in the U.K. that poor diet can lead to bowel problems at an early age and this has significant links to the findings in the thesis (http://www.channel4.com/life/microsites/J/jamies_school_dinners/index.html#).
A contribution to further research in social marketing is recommended to investigate whether it is the information recalled from advertising (Pavlov, 1927; Hayfield, 2005) or prior experiences of food products consumed in early life at school or in the home that aid people in health related changes of behaviour.

The thesis adds to the work of Ray (1982) concerning the 'learn feel do' approach. This theory has been utilised in previous social marketing campaigns (Kotler & Roberto, 1989) and is a way introducing knowledge of diet. It was found that the acceptance of the change of diet can occur after knowledge is gained and attitudes towards the perceived consequences of making and maintaining the diet are formed. Once the social product of changing to a healthy diet is accepted by an individual appraisals can take place (Bagozzi, 1992). The individual's environmental influences(Glanz et al, 1994) will affect whether they maintain any changes set in appraisals and coping strategies (Folkman et al, 1986) and reinforcement messages concerning the knowledge of diet and health are beneficial (Andreasen, 1995).

The present study found that there was an issue with the embarrassing nature of the symptoms of bowel disease that caused people to distance themselves from the problem and not to communicate their dietary needs. The thesis demonstrates that there are issues with peer influence and poor diet and that family and peers can have a detrimental or beneficial effect on behaviour changes for health (Granfield & Cloud, 1996; Currie et al,

1991).This finding contributes to the work concerning bowel cancer being carried out by Cancer Research U.K.
(http://search.scotland.gov.uk/search/pages/search/basic.asp?QuerySubmit=true&Paging=true&Page=1&QueryText=Cancer+UK+Project+on+bowel+cancer)
concerning awareness of bowel disease and colorectal cancer in Scotland. The symptoms of bowel disease are sensitive to communicate but it recommended that information be incorporated into a dietary behaviour change campaign as a pilot study to discover how target audiences respond to these difficult health related issues.

Another contribution to social policy was maintenance of change of diet and its relationship to stress and bullying within the work environment. In 2005 there have been government initiatives addressing the managing of health at work (http://search.scotland.gov.uk/search/pages/search/basic.asp?QuerySubmit=true&Paging=true&Page=1&QueryText=bullying+and+stress+at+work).
The contribution made by this thesis was that environmental influences such as work stress were found to be important in relapse from maintenance of change. It was also found within the group of participants who did not change their behaviour that work stress was the cause of early retirement from employment and that the environment at work had contributed to bowel health. Participants who maintained changes recalled work stress problems and introduced coping responses to manage their work environment. It would be recommended that communications concerning diet and health in the workplace be piloted with emphasis on peer influence concerning poor eating behaviours (Cooper, 1998).

The finding concerning the use of social support as a coping strategy (Folkman et al, 1986) adds to a social marketing study by Kirby et al (1995) concerning the attitudes to healthy foods from family and friends as an important influence. This thesis makes a contribution concerning the fact that knowledge of diet and illness is not only found to be important for the person who experiences the illness but also for the people supporting them. The findings in the thesis demonstrate that the responsibility lies with

the person who is making the behaviour change (Rotter, 1954) but that support is an important way to cope with environmental influences that can occur when people are trying to maintain dietary changes. As part of the issues raised for concerning social support in the thesis nutrition and dietary studies are recommended as a compulsory component in the curriculum for all health related posts such as medicine and nursing as it was found in the present study that there was no set standard or guidelines for dietary advice given to participants with minor bowel disease.

6.9 Reliability of the study and Recommendations

The reliability of a phenomenological study involves explaining the methodological approaches utilised in finding the meaning of making a behaviour change and demonstrating that other researchers would find similar experiences by utilising the same approaches (ibid, 1997). The fact that the chosen paradigm for research was interpretivist is a factor in the reliability of the study. Phenomenological methodology involves studying the complex experiences of a participant's life during the period of behaviour change and particularly during the maintenance of change (Creswell, 1994). When using phenomenological applications reliability may be questioned as the data collection, analysis and use of resources can take up a considerable amount of time (Easterby Smith et al, 1997). Each part of the methodology was recorded carefully to ensure that the method could be acceptable.

It was essential to use previous evidence from qualitative methodological writings when explaining the methods employed to ensure reliability (Murray, 2002; Easterby-Smith, 1997). First of all a literature review was carried out and the relevant constructs from literature built into the conceptual framework (Miles & Huberman, 1994). The constructs from literature were used to design the interview schedules (Easterby-Smith, 1997). The longitudinal design with three semi-structured interviews within the present study brought more of a real reflection of events over the period of one year (Carson et al, 2001). The interviews were carried out using the guidelines for qualitative research (Easterby-Smith, 1997). Ethical considerations were taken into account when designing the interview schedules, planning interview protocol and gaining access into the hospital

(Kopala & Susuki, 1999). The exclusive narrative of events with a specific context was taped using a voice recorder and field notes were taken at the interviews (Easterby-Smith, 1997). The conceptual framework also provided essential themes that were guided by the data in analysis (Carson et al, 2001). The data was transcribed and coded into the NUD. IST software package as a tool in content analysis (Miles & Huberman, 1994). Interpretive analysis was carried out using the results of the content analysis and the hard copies of the transcripts. The holistic viewpoint of the participants' narrative was conceptualised in this way (Spiggle, 1994). Using content and interpretive analysis provides reliability and a bridge between the theoretical underpinning of the subject area of behaviour change and the (lived events) conceptualisations derived from the data (ibid, 1994)

A thorough understanding of the theoretical concepts relating to the research is important for reliability within qualitative research to provide substantiated evidence and underpinning for the study. Previous theories form the building blocks in the present study (Andreasen, 1995; Prochaska & Di Clemente, 1982; Bagozzi & Warshaw, 1990, Folkman et al, 1986) and these theories make the process of qualitative research more reliable (Carson et al, 2001). Because of the limitations of the stages of change model it is recommended that goal-directed theory and the theory of coping are utilised within a behaviour change study. The use of a staging algorithm shown in appendix eleven (Curry et al, 1992) was found to be reliable and was utilised three times during the longitudinal study. The self-efficacy scale in appendix three (Schwarzer, 2001) was only utilised at the first stage of interview. In future studies the self-efficacy scale is recommended at each of the stages of interview for more reliability. The self-efficacy proved to be in need of amendment as it did not reflect the nuances of self-efficacy found in interpretive analysis and a review of the questions posed is recommended.

A recommendation for future studies concerns the access to the group of participants through the Ethics Committee in the hospital. The support of all the staff within the clinic where the study took place was a crucial factor in the participants' trust of the

researcher. Explanatory flyer leaflets were given out to the participants and they were also told about the study by the consultant who recommended them for interview. This support was essential and the only drawback was that more communication was needed concerning the fact that the study was specifically about behaviour change and not dietary advice. The environment for interview was important in establishing the role of the interviewer but there was a limited time for interview at the first interview stage and sometimes the participants took a little time to relax and respond to the open questions asked. The home environment where the other two interviews took place was much more conducive for exploratory research.

A final recommendation from the study is that when behaviour change is studied in a longitudinal work, meaning is derived concerning peoples' strategies for change (Easterby-Smith et al, 1997). As issues and ideas arise from the participants' implementation of behaviour change and their striving to sustain change theories are built into the study to bring deeper understanding of behaviour change. (Lincoln & Guba, 1985) Within qualitative research themes emerge and are applied to relevant occurrences in the data and from these themes patterns form. The longitudinal approach is recommended because it takes time for the richness of the data to emerge from the stories that the participants present.

6.10 Conclusions & Recommendations

The thesis established three conceptualisations of behaviour change based on the three research questions concerning how people make and maintain behaviour change; and maintain the changes; why people relapse and recycle back to change and why people only make limited changes or make no changes to their behaviour. A new model of findings from the analysis of maintenance of change was established. Four main factors arose from these conceptualisations concerning how people maintain change and how their lifestyles and social contexts impact on their maintenance of change. A new model of maintenance of change is presented and is recommended for future studies in behaviour change and social marketing.

The first new concept in the model concerning maintenance of change, involved raising awareness concerning a functional knowledge of diet and specific factors in health (Huffman & Houston, 1993; http://www.scotland.gov.uk/Home). A functional knowledge of diet concerns understanding what specific dietary changes need to be considered when making and maintaining changes and why these changes will be good for the bowel (Huffman & Houston, 1993). The fact that healthy diet is a general term resulted in misinterpretations by participants when considering what changes needed to be made to their diet in the thesis. For example diet for health was understood as a slimming diet for three participants in the thesis. Bowel diet is specific and contains complex information concerning moderation of large amounts of food and avoiding foods that irritate the bowel as well as incorporating a healthy diet (Burden, 2001; Visser & Heikemper, 2001). Social marketing techniques are recommended (Andreasen, 1995), to raise awareness for people who are in pre-contemplation stage of dietary change (where they do not realise or accept they have a problem with their bowel health) and contemplators (who do not know what behaviour changes to make in terms of bowel diet). It is recommended that in future communication for people receiving the result of a test for bowel cancer that the term "bowel" diet is utilised and that the benefits of making a dietary change for the bowel are highlighted. It is important for people who make health behaviour changes to link short term goals of changing their diet and the benefits of the long term goal of better health (Huffman et al, 2000). The long term goals include rehabilitation from minor bowel disease, feeling better emotionally and psychologically and the enjoyment of better health (Bagozzi & Warshaw, 1990; Rothman, 2000; Folkman et al, 1986; Huffman et al, 2000).

The second factor in maintenance of change is the social support received and utilised by people who make and maintain change (Folkman et al, 1986). It is important that person receiving the result of a diagnostic test considers the emotional responses and support they will receive from significant others (Bagozzi, 1992). The recommendations involve consultations with both the person receiving the result of the test and a significant other concerning how social support is delivered and understood. If social

support is anticipated as part of the coping strategies (Folkman et al, 1986) to maintain dietary change then significant others should be given advice concerning the functional knowledge of bowel diet (Huffman & Houston, 1993). If social support is not anticipated then this factor should be discussed with the person receiving the result of the test to ascertain whether some support could be received. Support groups could be set up for people who do not have significant others as a coping strategy to maintain change. The messages concerning dietary change that are delivered should be tailored to the needs of the person concerned as not everyone lives with a significant other. For example if the person is single/divorced or widowed and living alone a parent or close friend who they spend time with regularly should be invited to the dietary advice meeting. The dietary advice given should be followed up to confirm that the information has been understood correctly and that the significant other is supporting the changes (Andreasen, 1995). It is also recommended that support groups either within the community or online should be considered as an added incentive to maintain dietary change after the advice has been received.

The third factor concerning how people maintain change involves appraisals, coping strategies, goal efficacy and longer term goals that are utilised by participants who maintained dietary changes. The findings within the thesis add theoretically, methodologically and practically to the previous works on behaviour change (Prochaska & Di Clemente, 1982; Bagozzi, 1992; Folkman et al, 1986; Rothman, 2000; Weinreich, 1996). There is a theoretical contribution to social marketing theory in terms of a new model of maintenance of change and deeper theoretical underpinnings with goal directed theories (Bagozzi, 1992; Huffman et al, 2000). The new model can be applied to other health behaviours such as obesity, smoking and alcohol problems. The findings add to social marketing methodology with richer meaning derived from the interpretive approach utilised (Andreasen, 2003; Weinreich, 1996). The thesis contributed to the relevant ongoing social policies concerning bowel health and dietary behaviour change (Burden, 2001).

The fourth factor in maintenance of change concerns work stress and its effect on people who are contemplating or making behaviour changes (Cooper, 1998). It was found within the thesis that work stress was a relevant theme as most of the participants found that their health had been affected by stress at work. Even participants who were retired claimed that stress was a cause of their bowel problems because of poor management styles, shift work or canteen facilities. Compensatory consumption (Woodruffe-Burton, 2003) was a common reaction in terms of comfort eating when incidents of work stress occurred (Cusack, 2000). Even when long term goals were anticipated by participants work stress caused low self-esteem and affected self-efficacy and volition (Bagozzi, 1992) and caused relapse. People who maintained change coped with work stress by the use of knowledge of bowel diet, continuing social support and self-control as a coping strategy. More studies in human resource management and collaborations in this field are recommended. There is an ongoing issue of work stress and its effect on people trying to make health behaviour changes (Striegel-Moore et al, 2002).

The thesis has achieved the purpose of the study of exploring how people make and maintain behaviour change after a stimulus of change. The study has addressed the three research strategies and has produced a new model of maintenance of change from the outcome of the findings that can be applied to other health behaviours. The study will contribute to further consumer research studies on behaviour change, human resource management studies and social marketing research for social policy implementation.

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Appendices

APPENDIX ONE: Letters from the hospital

The Lothian University Hospitals NHS Trust

ROYAL INFIRMARY OF EDINBURGH
1 Lauriston Place, Edinburgh, EH3 9YW

RESEARCH & DEVELOPMENT OFFICE

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Mrs Sylvia Cmore

CPS/GO/app1

3 March 2000

Ms L Maciver
Lecturer
Napier University
South Craig
Colinton Campus
Edinburgh

Dear Ms Maciver

LREC No: 1702/2000/4/30
R&D Project ID No: 99/06/08
Title of Research Diet after illness – The factors affecting change of dietary habits triggered by illness

The above project has undergone a review of resource and financial implications by the R&D Office and I am satisfied that all the necessary arrangements have been set in place.

On behalf of the Trust Chief Executive, I am happy to give Trust management approval to allow the project to commence, subject to the approval of the appropriate Research Ethics Sub-Committee having also been obtained.

We would ask you to note that under Section 7, question 34, The Lothian University Hospitals NHS Trust provides indemnity for negligence for NHS and honorary clinical staff where ever research involves patients attending the hospitals. It is not empowered to provide non negligent indemnity for patients or volunteers.

Yours sincerely

Dr Charles P Swainson
Medical Director

cc *Secretary, Research Ethics Sub-Committee*
Professor KC Fearon, Department of Surgery, RIE

L/14

LOTHIAN health

OUR REF. LREC/2000/4/80 YOUR REF.
PLEASE QUOTE THE ABOVE REFERENCE ON ALL CORRESPONDENCE

07 March 2000

Ms Liz MacIver
Napier University
South Craig
Craighouse Campus
Edinburgh EH10 5LG

Dear Ms MacIver,

Research Protocol LREC/2000/4/80 (Formerly LREC/2000/7/6) : Diet After Illness – The Factors Affecting Change of Dietary Habits Triggered by Illness.

Thank you for submitting the above protocol for ethical approval. The Medicine/Clinical Oncology Research Ethics Sub-Committee has discussed this protocol and has agreed to defer consideration pending receipt of the following information:

- Clarification is required regarding the term 'good diagnosis', and what is meant by this
- Please provide information regarding who the contact for the study in the GI Unit of the Hospitals will be
- Initial contact with subjects should be made by the consultant
- Q14 states that there will be no control group, then the answer to Q18 gives details of the control group – explanation is required
- Q22 – As translators are available, it was suggested that the researchers reconsider the exclusion of patients for whom English is not their first language
- The letter of invitation does not contain enough information, therefore the letter and patient information sheet should be combined

The next meeting of the Sub-Committee will be held on 19 April 2000. It would be appreciated if the required amendments could be available prior to that date. Should you have any queries regarding the above, please contact myself on the number below.

Yours sincerely,

Val Stewart
Secretary
Medicine/Clinical Oncology Research Ethics Sub-Committee

LOTHIAN HEALTH BOARD
LOTHIAN RESEARCH ETHICS COMMITTEE
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APPENDIX TWO: Pilot Interview

CHANGE OF DIET AFTER A TRIGGER OF ILLNESS

Introduction

My name is Liz MacIver. I am a researcher currently working with Professor Fearon. My research is in the area of change of diet after a trigger of an illness. I have chosen to work with Professor Fearon as their patients have received a test such as a colonoscopy after symptoms of illnesses such as irritable bowel disease.

I would like to interview you for approximately 20 minutes. I will be asking questions concerning your experiences surrounding the treatment you have received recently. I will also ask you about any changes you have made to your diet. With your permission I will tape the interview and your responses will be treated with confidentiality. Please ask questions about the research at any time during the interview if you do not understand or would like more information.

Liz MacIver

November 2000

SECTION ONE

Before asking you about your experience after the test I'd like to ask you about your circumstances surrounding the treatment.

PROMPTS			
- When did you have the test?			11
- What prompted you to come for the test?			12
- What symptoms/illness experiences did you have in the period leading up to the test?			13
- Had you had symptoms before?			14
- What consultant did you deal with?			15
- How invasive was the procedure?			16
- How long was your stay in hospital?			17
- What is your diagnosis?			18
- Were there any complications?			19

SECTION TWO

Have you ever changed what you eat because of bowel health?	Yes No	☐ ☐	**(21)** 21.1 21.2
Has your recent episode of bowel health problems prompted any change of diet?	Yes No	☐ ☐	**(22)** 22.1 22.2
IF YES **(If NO go to Section THREE)** What changes did you make?	•		23

How long ago did you make these changes? SHOWCARD (24)			24
Thinking back to the time when you made these changes, what was life like for you at that time? **What were you going through?**			25
PROMPTS - Information leaflet - Consultant's advice and recommendations - Concerns shown by family and friends - Concerns for your personal health			25.1 25.2 25.3 25.4 25.5

SECTION THREE

If you haven't made any changes **What changes did you consider?**			31
What kind of things influenced your decision not to make dietary changes?			32
PROMPTS - Lack of knowledge - Lack of influence/control over diet - Cost - Time - Cooking skills - Never thought about it			33.1 33.2 33.3 33.4 33.5 33.6

SECTION FOUR

If relapsed go to Section FIVE

If you have made changes how long have maintained them? **SHOWCARD 41**			41
How easy or difficult were they to maintain? - It has been easy to change some things in my diet - It has been easy to change my diet - It has been difficult to change my diet - I have not been able to make changes to my diet - Don't know			42 42.1 42.2 42.3 42.4 42.5
What things have been helpful in sustaining these changes? **PROMPTS** - Partner prepared to alter diet - Helpful dietary advice from nursing staff - Family members helped to prepare meals			43 43.1 43.2 43.3

SECTION FIVE

IF RELAPSED Thinking back to the time you decided to return to your previous diet			51
PROMPTS Felt better Symptoms improved Difficult to meet food preferences of family Became less anxious about my health			51.1 51.2 51.3 51.4

SECTION SIX

If NO CHANGES MADE OR RELAPSED FROM CHANGE

How likely is it that you will change your diet within the next 30 days?

SHOWCARD

SECTION SEVEN

RESPONDENT DETAILS

Age 50-55 55-59 60-65

Gender Male/Female

Post Code Area

Income Bands

A Under £10,000

B £10-20,000

C £20-35,000

D £35-50,000

E Over £50,000

F Unemployed

G Student

Marital Status

Who else lives in the household?

OPEN OUT THESE SECTIONS

Who do you discuss your health with?

Who does the shopping?

Do you have a choice of what you eat at home?

Do you have a choice of what you eat at work?

THANK YOU FOR TAKING THE TIME TO TAKE PART IN THIS INTERVIEW

APPENDIX THREE: Questionnaires 1, 2 & 3

INTERVIEW ONE - QUESTIONNAIRE

SECTION ONE

1. Before asking you about your experience after the test I'd like to ask you about your circumstances surrounding the treatment.

PROMPTS

- When did you have the test?
- What prompted you to come for the test?
- What symptoms/illness experiences did you have in the period leading up to the test?
- Had you had symptoms before?
- What consultant did you deal with?
- How invasive was the procedure?
- How long was your stay in hospital?
- What is your diagnosis?

  Were there any complications?

  Risk of further disease

- Consultant's recommendations and advice
- Dietary advice
- Leaflets or information given to you

SECTION TWO

Background information

Marital Status

Who else lives in the household?

Who do you discuss your health with?

Who does the shopping?

Do you have a choice of what you eat at home?

Do you have a choice of what you eat at work?

Let's talk about what you eat.

2.0 Staging questions

2.1 Have you ever changed what you eat because of bowel health? Yes/No

Historical information about diet

2.2 Has your recent episode of bowel health problems prompted any change of diet? Yes / No

IF YES

What changes did you make?

Are you eating fibre, fruit and vegetables, fish, and whole grains, drinking water.

Have you decreased fat intake – crisps, fried foods and red meats.

24 hour diet

Food diary

How long ago did you make these changes?

Less than 30 days

1-6 months

7-12 months

Over 1 year

Would you say that you are now eating a good diet in terms of bowel health? Yes/No

SECTION THREE

3.0 Thinking back to the time when you made these changes, what was life like for you at that time?

What were you going through?

PROMPTS

- Concerns shown by family and friends
- Concerns for your personal health
- Lifestyle including travel, work, time of work, meals eaten.
- Life events – bereavements, weddings births divorce etc

SECTION FOUR

4.0 If you haven't made any changes

In the past month have you thought about making any changes in your diet?

Within the next 30 days?

4.1 What kind of things influenced your decision not to make dietary changes?

PROMPTS

- Lack of knowledge
- Lack of influence/control over diet
- Previous attempts to change diet without success
- Cost
- Time
- Cooking skills
- Never thought about it

SECTION FIVE

5.0 If you have made changes how long have maintained them?

Check that you have this information from Section Two

5.1 How easy or difficult were they to maintain?

What was easy? Eating 5 pieces of fruit/vegetables per day, fibre intake, less fat?

Why was this easy? Do you feel good about yourself??

Menus

SECTION SIX

6.0 What things have been helpful to you?

What experiences have you had in trying to keep to this diet?

PROMPTS

- Partner prepared to alter diet
- Helpful dietary advice from nursing staff
- Family members helped to prepare meals
- Feeling motivated/positive
- Belief about the effects the diet will have on your future health
- Other people of influence
- Work lifestyle
- Change to equipment used in cooking.

6.1 What things have been difficult to deal with for you?

- influence of friends or family
- life events/seasonal events
- work colleagues or situations
- lack of willpower
- loneliness
- comfort seeking
- anxiety/stress/depressed feelings
- boredom with diet
- unsure that the diet will help in prevention of further disease

IF RELAPSED FROM THE DIET

6.2 Have you previously changed your diet because of health?

6.3 Thinking back to the time you decided to return to your previous diet

PROMPTS

- Felt better
- Symptoms improved
- Difficult to meet food preferences of family
- Became less anxious about my health
- Lack of willpower to keep to the changes

SECTION SEVEN

7.0 How likely is it that you will change your diet within the next 30 days?

SHOWCARD

RESPONDENT DETAILS

Age 40-49 ..... 50-59..... 60-69 ..... 70-79..... 80+.....

Gender Male/Female

Post Code Area

Income Bands

A Under £10,000

B £10-20,000

C £20-35,000

D £30-50,000

E Over £50,000

F Unemployed

G Student

THANK YOU FOR TAKING THE TIME TO TAKE PART IN THIS INTERVIEW

SELF-EFFICACY SCALE (based on Schwarzer, 1992)

Rate each of the following statements in the following way:

A/ I can always manage to solve difficult problems if I try hard enough.

Not at all true 1 2 3 4 5 6 7 Exactly True

B/ If someone opposes me, I can find the means and ways to get what I want.

Not at all true 1 2 3 4 5 6 7 Exactly True

C/ It is easy for me to stick to my aims and accomplish my goals.

Not at all true 1 2 3 4 5 6 7 Exactly True

D/ I am confident that I could deal efficiently with unexpected events.

Not at all true 1 2 3 4 5 6 7 Exactly True

E/ Thanks to my resourcefulness, I know how to handle unforeseen situations.

Not at all true 1 2 3 4 5 6 7 Exactly True

F/ I can solve most problems if I invest the necessary effort.

Not at all true 1 2 3 4 5 6 7 Exactly True

G/ I can remain calm when facing difficulties because I can rely on my coping abilities.

Not at all true 1 2 3 4 5 6 7 Exactly True

H/ When I am confronted with a problem, I can usually find several solutions.

Not at all true 1 2 3 4 5 6 7 Exactly True

I/ If I am in trouble, I can usually think of a solution

Not at all true 1 2 3 4 5 6 7 Exactly True

J/ I can usually handle whatever comes my way

Not at all true 1 2 3 4 5 6 7 Exactly True

INTERVIEW TWO: PATIENTS TELEPHONE CALLS – January - June 2002

SECTION ONE

Are you still keeping to the changes you have made to your bowel diet?

Yes

No

IF YES continue to section TWO

IF NO

Why have you reverted back to your previous diet?

- pressure of work
- family and friends
- Stress

- Anxiety
- More illness
- Comfort
- Other reasons

Are you planning to resume your diet?

If so when

From now on

In a couple of weeks

In a month

IF YES

SECTION TWO

Have you been keeping a diary or note of what you eat?

Fruit and Vegetables

Meats

Fibre

Fats

Drinking water

How easy or difficult have you found it to keep to this diet?

If easy Why?

If difficult in what way has it been difficult?

SECTION THREE

Has there been anything that was helpful to you in keeping to this diet

Attitude to you health

Worries about further illness

Lifestyle changes – exercise

Different friends

Work / workmates

Learning more about diet

Family

Friends

Partner

Different ways of cooking

Has there been anything that it difficult about keeping to this diet?

Family

Friends

Partner

Comfort seeking

Life events

Stress

Unsure of diet

Boredom

Work or work related diet

Lack of willpower

Loneliness

INTERVIEW THREE

How is your health?

Home circumstances?

How are your changes in eating habits going?

SECTION ONE

Are you still maintaining the changes in diet? (IF NO GO TO SECTION THREE)

How easy or difficult were they to maintain?

- eating fibre in the diet
- cutting down on red meat
- eating fruit and vegetables
- alcohol
- brown bread
- fish

How do you feel about yourself in maintaining the changes?

Do you feel healthier?

Do you feel good?

SECTION TWO

What things have been helpful to you in maintaining the diet?

1/ (Predisposing)

- more information about diet in the media from professionals, friends or family
- Any recent information about the positive or negative affects of diet
- your occupation
- concern with health and fitness
- family or friends
- better appearance
- life events?
- Social aspects/relationships

2/ (Motivating)

- new partner
- social behaviour
- life events
- family circumstances
- occupational changes
- concern about health and feel sure the diet is helping with health

3/ Inhibiting

- Family, peer patterns, pressures or preferences
- Other obligations and living arrangements
- Feeling worse about the disease
- Self esteem
- Cravings
- Comfort seeking
- Calming nerves
- Occupational stress
- Social support poor
- Unrelated illness or injury
- Life events
- Anxiety/stress
- Loneliness
- Lack of willpower
- Unsure of the effects of diet on health

4/ Processes

- conscious raising – any adverts about diet you noticed
- dramatic relief
- self-re-evaluation
- Self-liberation from previous friends and ties now what? New friends and ties
- Measures of commitment to old and new peer groups?
- Counter conditioning – any new pursuits instead of eating
- Re-evaluation of the social and work environments as well as home

Any compensatory behaviour such as smoking, drinking etc

SECTION THREE IF RELAPSED AT ALL FROM DIET

- felt better
- symptoms improved
- difficult to meet the food preferences of the family

- became less anxious about health
- lack of willpower
- anxiety
- loneliness
- stress
- work pressure

THANK YOU FOR TAKING TIME TO TALK TO ME

APPENDIX FOUR: Information on Study

Leaflet for clinic

DIET AFTER ILLNESS

My name is Liz MacIver. I am a researcher currently working with Professor Fearon.

My research interest is within the area of change of diet after an illness. I have chosen to work with patients who have received a barium enema or colonoscopy test after symptoms of illness such as irritable bowel disease.

I would like to interview you for 10/15 minutes during the clinic. I will be asking about any changes you have made to your diet. With your permission I will tape the interview and your responses will be treated with confidentiality. If you do not understand any of the questions during the interview, please do not hesitate to ask for more information at any time.

If you would like to take part in my research please let one of the staff know and you will be interviewed at the clinic while you are waiting to see the consultant.

PATIENT INFORMATION SHEET

Diet After Illness

I would like to invite you to participate in a study about diet after illness. The study will consider the changes people make to eating habits before and after illness.

There has been a lot of research carried out into diet and health in recent years. This study has been designed as part of a PhD thesis. I will be asking questions about diet and lifestyle factors that help or hinder with dietary change after illness. The information gathered will be used to study different ways of communicating information about diet.

With your agreement I will interview you for 15/20 minutes during the out patient clinic today. With your agreement there will be two follow up interviews at your home or other place convenient to you. I will be interested in discussing:

- diet after illness
- factors that limit you with your diet
- people, events or things in your life that have made you change your diet

Your answers will be completely confidential and any information used will be treated anonymously. Taking part in this project is entirely voluntary and neither by participating or withdrawing would it in any way affect your future care by any service provider.

You will be asked to complete a consent form agreeing to be interviewed. You are under no obligation to participate and your treatment will be no different if you do decide that you do not wish to be interviewed. If you do decide to participate you do not need to answer all the questions. If you feel uncomfortable you can withdraw at any time.

If you wish to speak to a person who has information about the research you may contact Douglas Eadie, Senior Research Director, Strathclyde University, at Stenhouse Building, 173 Cathedral Street, Glasgow. He is the researcher's supervisor and can answer any queries on 0141-552-4400. Please do not hesitate to contact me any time if you have any other questions.

Liz MacIver

Napier University

Craighouse Campus

EDINBURGH EH10 5LG Telephone 0131-455-5038

Follow up Letter

«Title» «FirstName» «LastName»

«Address1»

«Address2»

«City»

«PostalCode»

Dear «Title» «LastName»

Diet After Illness

Thank you for agreeing to take part in the above study. You will remember that you met with me at Professor Fearon's/ Mr. McGregor's out patient clinic. We carried out a short interview about your diet. I have sent information about your participation in this study to your GP.

I will give you a call in the near future to arrange another interview. We can meet up at your home or other convenient place to you. The interview will last about 20/30 minutes. I look forward to meeting up with you again soon.

Kind Regards

Yours sincerely,

Liz MacIver

Researcher

Napier University

Telephone 0131-455-5044

STANDARD CONSENT FORM

LOTHIAN RESEARCH ETHICS COMMITTEE

Title of Proposed Research: Diet After Illness

Name of Researcher: Liz MacIver

Address: Napier University
New Craig, Room 731,
Craighouse Campus
Craighouse Road
EDINBURGH EH10 5LG

Further Information: Douglas Eadie
Strathclyde University
Stenhouse Building
173 Cathedral Street

GLASGOW (Researcher's supervisor)

- I agree to participate in this study
- I have read this consent form and the Patient Subject Information Sheet
- I agree for notice to be sent to my General Practitioner about my participation in this study
- I agree to the provision of any clinically significant information to be sent to my General Practitioner
- I understand that I am under no obligation to take part in this study and that a decision not to participate will not alter the treatment that I would normally receive
- I understand that I have the right to withdraw from this study at any stage and that to do so will not affect my treatment
- I understand that this is non-therapeutic research from which I cannot expect to derive any benefit

Signature of Patient:

Name of Patient:

Signature of Researcher:

Date:

Letter to GP

Dear Dr.

MAINTAINING CHANGE OF DIET AFTER ILLNESS

The above lady/gentleman has been asked to participate in a study concerning maintenance of change of diet after illness. The study will examine the factors that facilitate or inhibit change. This study will help to further the research in the area of disease prevention through diet. It will also help with patient rehabilitation techniques after illness.

Lothian Research Ethics Committee accepted the research proposal last year. The researcher interviewed patients after their test of a barium enema or colonoscopy. They have all had an investigation for inflammatory bowel disease. The interviews have three stages. The first interview with the patient took place at Professor Fearon's out patient clinic at the Royal Infirmary where the patients are recruited. Two other interviews will take place at the patient's home or other convenient place for them. The respondent has been fully informed and has signed a consent form agreeing to participate in the study.

If you have any concerns or objections to the proposal your views will be respected. Please do not hesitate to contact me at any time.

Many thanks for your attention,

Yours sincerely

Liz MacIver

Lecturer and PhD Researcher

Strathclyde University (PhD Part-time)

Can be contacted at Napier University in my capacity as lecturer at the address and telephone number below

Liz MacIver

Room 731, New Craig

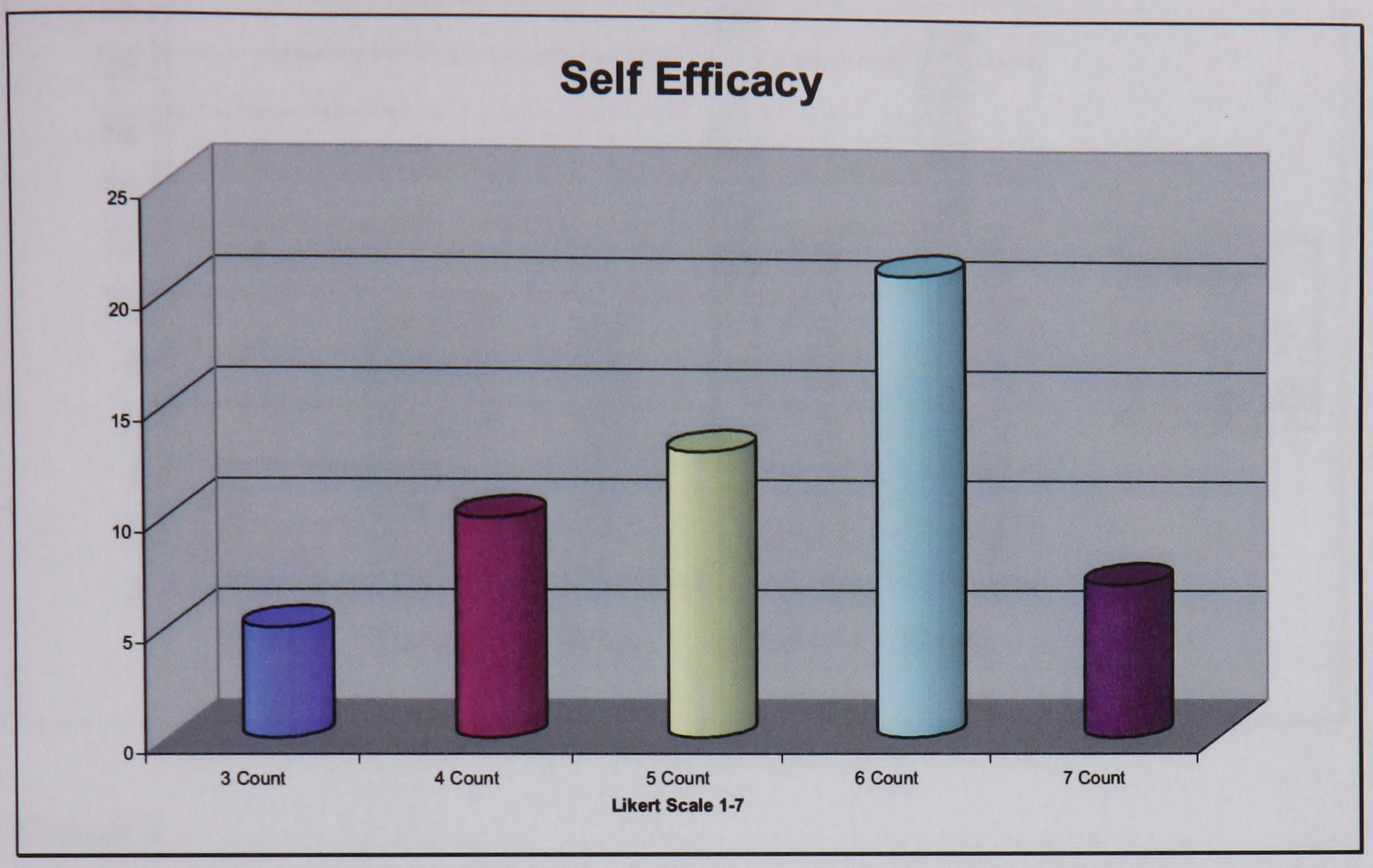
Craighouse Campus

Craighouse Road

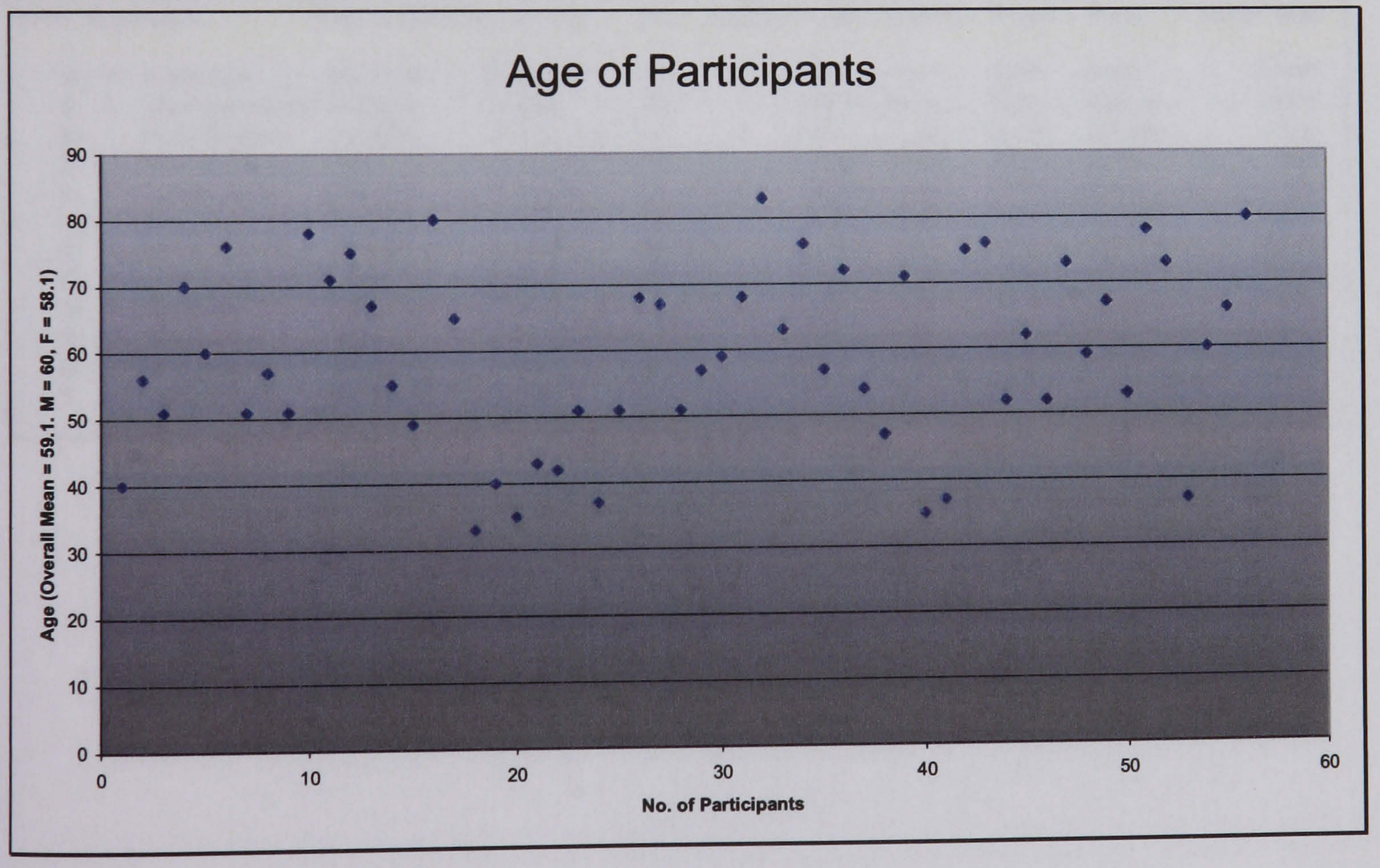
EDINBURGH EH10 5LG Telephone 0131-455-5038

APPENDIX FIVE: Charts

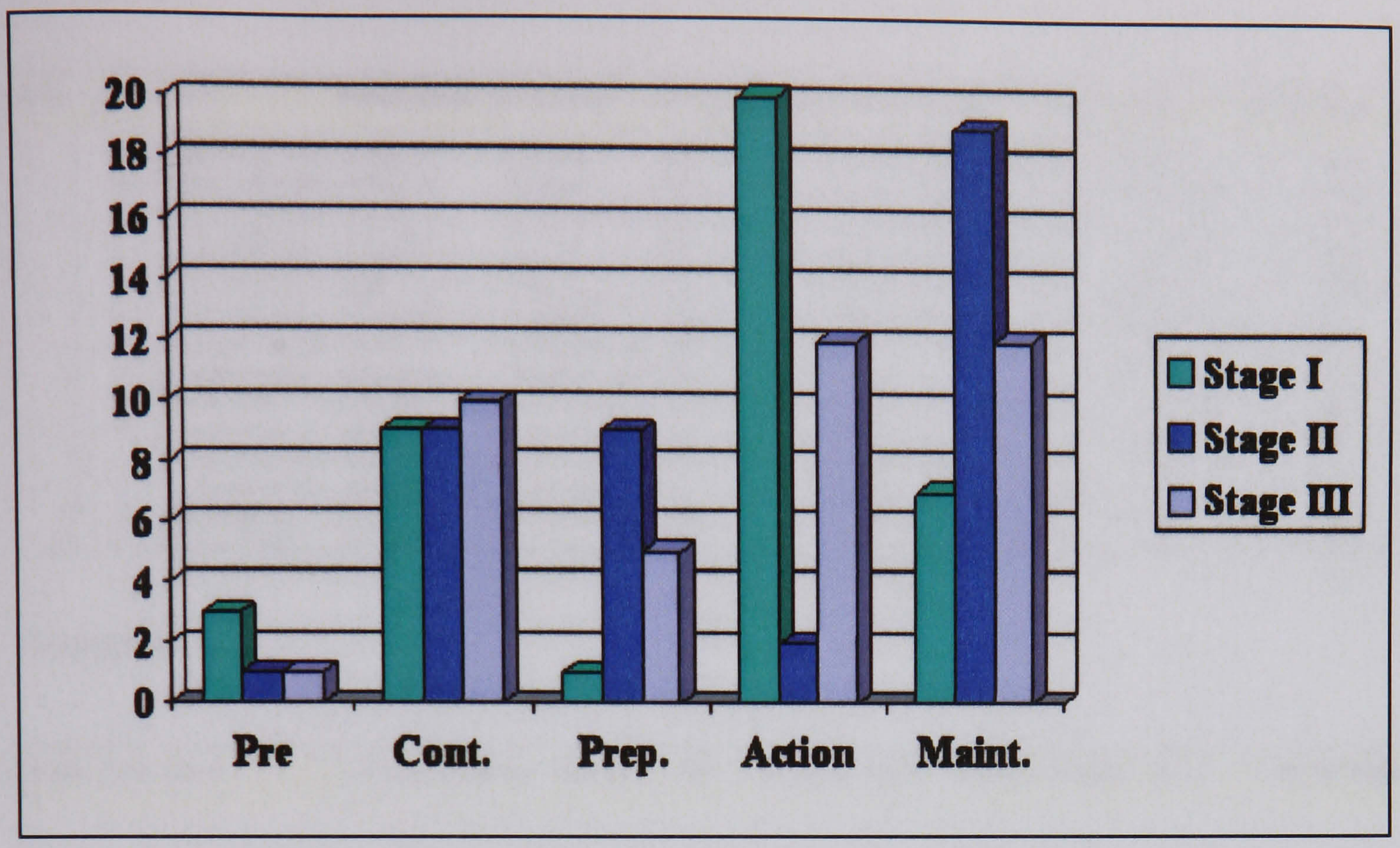
Self-efficacy



Age



Stages of Change



Group 1

Number	Group	Factors	Postcode	Gender	Age	Occupation	SES	Self efficacy	Change	Change2	Change3	Themes	DEPCAT	Trigger
9	1	M wife l. Family	EH22 5LQ	M	51	Call centre	LSE	7	action	Mainten	mainten	alcohol	5	health
12	1	M routine/garden l.husb	EH12 8LH	F	75	Retired	HSE	3	Mainten	Mainten	Mainten	Husband ill	2	illness
15	1	M new job l. Friends	EH11 4SR	M	49	Refuse worker	LSE	7	action	mainten	mainten	new job/wife	5	illness
22	1	M job l. Previous life	TD14	M	42	Ambulance	MSE	7	Mainten	Mainten	mainten	Health		health
26	1	M exercise l. None	EH10 5LB	M	68	Missionary	HSE	7	Mainten	Mainten	mainten	exercise	1	health
31	1	M good relationship	EH23 4UP	F	68	Retired	LSE	3	action	Mainten	mainten	Husband ill	5	illness
32	1	M Wife l. Arguments	EH8 9RR	M	83	Retired	HSE	5	action	Mainten	mainten	Parkinsons	3	illness
33	1	M willpower l.husband	EH9 2NL	F	63	Retired	HSE	5	action	Mainten	mainten	past exper	1	illness
34	1	M wife l. None	EH26 8NU	M	76	Retired	MSE	6	action	Mainten	mainten	Wife	4	illness
35	1	husbands death	EH26	F	57	Edinburgh Crysta	LSE	6	action	Mainten	mainten	Husand dead	4	illness
38	1	M high self-efficacy	EH11 1AH	M	47	Lecturer	MSE	6	action	Mainten	mainten	Fath colon	4	illness
27	4	M wife l. He cooks	EH11 4SR	M	67	Retired	LSE	6	action	Mainten	mainten	non breakfast	5	health

Group 2

Number	Group	Factors	Postcode	Gender	Age	Occupation	SES	Self efficacy	Change	Change 2	Change 3	Themes	DEPCAT	Trigger
1	2	M child r. friends l. Work	EH29 9DY	F	40	Lecturer	HSE	6	Mainten	preparation	Action	To be normal	3	illness
2	2	M Partner l. work stress	EH26 8LD	M	56	Lecturer	MSE	6	Action	preparation	Action	Stress/partner	4	Wife's illn
4	2	M wife l. Fights with wife	EH9 3BR	M	70	Retired sec ouar	MSE	6	Mainten	Mainten	preparation	wife ill/oender	2	illness
5	2	M Diary l. New Year	EH22 4BS	F	60	Retired	LSE	4	Mainten	Preparation	Action	diary/past exce	4	illn/diet
6	2	M Education l. Lonely	EH9 2EB	F	76	Retired	HSE	4	Action	preparation	action	low periods	1	illness
8	2	M wife l. Work stress	EH14	M	57	Meat Merchant	HSE	7	mainten	mainten	preparation	Weight/smoking	2	urbrinoino
3	2	M Wife l. Work pressure	Livingston	M	51	Painter	MSE	6	Contemp	Action	Contemp	wife. job		none
19	2	M husb home l. hus ave	EH114PH	F	40	Marks &Spencer	LSE	5	action	Mainten	preparation	offshore	5	health
20	2	M exercise l. Work str	EH22 4SL	M	35	Leisure Centre	LSE	6	action	preparation	action	Work stress	4	health
21	2	M own l. Mum ill	EH10 5AR	F	43	Medical Sec	HSE	5	action	preparation	action	mum's illness	1	illness
24	2	M parents l. Work	KY11 2SS	F	37	University Admin	LSE	4	action	Preparation	action	work bullying		illness
25	2	M family l. Work stress	EH22 3LX	M	51	Business owner	HSE	7	Action	Mainten	Contemp	work pressure	1	illness
28	2	M check list l. Depress	EH52 6UN	F	51	Housewife	LSE	3	action	Mainten	preparation	Depression	3	illness
36	2	M wife l. Smoking	EH8 7SQ	M	72	Retired butcher	HSE	5	action	preparation	action	Trying	3	illness
10	3	M Wife l. Wife ill/weend	EH22 2AE	M	78	Retired	LSE	6	action	action	Contemp	wife ill	5	Health

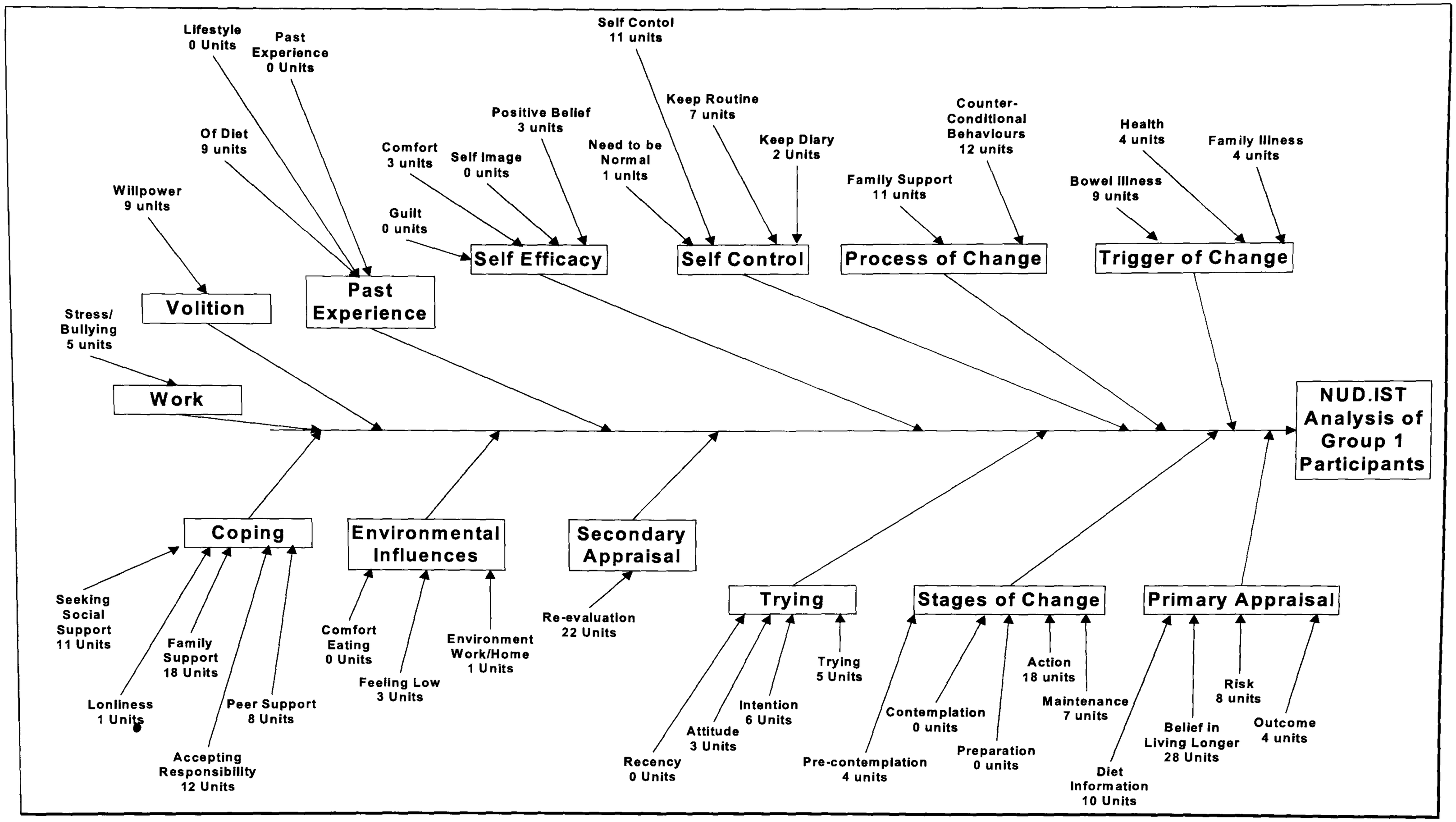
Group 3

Number	Group	Factors	Postcode	Gender	Age	Occupation	SES	Self efficacy	Change	Change 2	Change 3	Themes	DEPCAT	Trigger
7	3	M Wife l. Work stress	EH22 2JL	M	51	Community work	LSE	5	prepar	contemp	preparation	smoking	5	health
13	3	M friends l. Mum died	EH16 5RD	F	67	Retired	LSE	5	contemp	action	action	Comfort eat	3	diet/health
14	3	M daughter l. Husband	EH22 1JE	F	55	Motel owner	HSE	5	contemp	action	action	weight	4	diet/health
17	3	M learning diet l. culture	EH10 6EH	M	65	Business owner	HSE	6	Contemp	Contemp	Action	Interviewer	1	education
29	3	M divorce l. Complacent	EH23 4HZ	M	57	Retired ill health	HSE	6	precontem	preparation	action	Divorce	5	health
18	4	M Wife l. Work stress	EH14	M	33	Labourer	LSE	5	Precont	Contemp	Contemp	Work/peer press	5	none

Group 4

Number	Group	Factors	Postcode	Gender	Age	Occupation	SES	Self efficacy	Change	Change 2	Change 3	Themes	DEPCAT	Trigger
11	4	L Wife diet/depression	EH14 1XQ	M	71	ret costing clerk	MSE	4	contemp	contemp	Contemp	depression	3	none
16	4	M none l. Complacent	EH16 6YS	F	80	Retired	LSE	6	precontem	precont	precont	Daughter	4	none
23	4	M Wife l. Loneliness	EH33 2LB	M	51	retired plant op	MSE	6	contemp	contemp	contemp	Wife/gender	4	none
30	4	M routine l. Comfort eat	EH20 9LS	F	59	Retired	MSE	4	contemp	Contemp	Contemp	widow	4	illness
37	4	M none l. Work/diet	EH11 1PN	M	54	retired engineer	MSE	5	contemp	Contemp	Contemp	Work past	4	none
39	4	L Husband	EH23 4GB	M	80	Retired	MSE	6	contemp	Contemp	Contemp	friends	2	none
40	4	M wife	EH23 4GB	F	80	Retired	MSE	5	Contemp	Contemp	contemp	past exper	5	none

APPENDIX SIX: Tree Diagram



APPENDIX SEVEN: Tables from NUD.IST

Stages of Change Content Analysis

NUDIST FINDINGS: Sub nodes were the five stages of change plus relapse (also linked to compensatory consumption).

Group	1		2		3		4	
Theme: Stages of Change	**Participants referring to theme**	**No. of References**	**Participants referring to theme**	**No. of References**	**Participants referring to theme**	**No. of Responses**	**Participants referring to theme**	**No. of References**
Pre-Contemplation	0	0	0	0	6	6	1	1
Contemplation	0	0	0	0	6	8	1	3
Preparation	0	0	0	0	1	1	0	0
Action	12	18	15	25	3	6	0	0
Maintenance	5	7	3	4	0	0	0	0
Relapse	0	0	15	27	6	7	0	0
Total	17	25	33	56	22	28	2	4
Mean (Responses per Participant in Group)		2.03		3.73		4.6		0.57
No. Participants in Group	**12**		**15**		**6**		**7**	

NUDIST FINDINGS: Sub-themes were stimulus of change: due to illness/diagnostic test, for health reasons.

Group	1		2		3		4	
Theme: Trigger of Change	**Participants referring to theme**	**No. of References**	**Participants referring to theme**	**No. of References**	**Participants referring to theme**	**No. of Responses**	**Participants referring to theme**	**No. of References**
Change because of illness/test	7	9	13	13	5	5	3	7
Change because of health	3	4	11	12	5	6	2	3
Total	10	13	23	25	10	11	5	10
Mean (Responses per Participant in Group)		1.08		1.66		1.83		1.42
No. Participants in Group	**12**		**15**		**6**		**7**	

NUDIST FINDINGS: Sub-nodes: Trying, attitude to trying, intention to try recency of trying.

Group	1		2		3		4	
Theme: Trying	**Participants referring to theme**	**No. of References**	**Participants referring to theme**	**No. of References**	**Participants referring to theme**	**No. of Responses**	**Participants referring to theme**	**No. of References**
Trying	5	5	15	16	0	0	0	0
Attitude to Trying	2	3	7	8	4	6	2	3
Intention to Try	5	6	2	3	1	3	2	3
Regency of Trying	0	0	0	0	6	8	0	0
Total	12	14	24	27	11	17	4	6
Mean (Responses per Participant in Group)		1.16		1.8		2.83		0.85
No. Participants in Group	**12**		**15**		**6**		**7**	

NUDIST FINDINGS: Sub nodes: past experience: of diet, past experience of lifestyle.

Group	1		2		3		4	
Theme: Past Behaviour	**Participants referring to theme**	**No. of References**	**Participants referring to theme**	**No. of References**	**Participants referring to theme**	**No. of Responses**	**Participants referring to theme**	**No. of References**
Concerning Diet	9	9	10	11	1	3	1	1
Concerning Lifestyle	0	0	0	0	1	1	1	1
Total	9	9	10	11	2	4	2	2
Mean (Responses per Participant in Group)		0.75		0.73		0.66		0.28
No. Participants in Group	**12**		**15**		**6**		**7**	

Volition

Group	1		2		3		4	
Theme: Volition	**Participants referring to theme**	**No. of References**	**Participants referring to theme**	**No. of References**	**Participants referring to theme**	**No. of Responses**	**Participants referring to theme**	**No. of References**
Willpower	9	9	15	19	6	7	1	3
Volition	0	0	5	5	0	0	1	1
Total	9	9	20	24	6	7	2	4
Mean (Responses per Participant in Group)		0.75		1.6		1.16		0.57
No. Participants in Group	**12**		**15**		**6**		**7**	

NUDIST FINDINGS on Self-efficacy: Sub-nodes: positive belief in oneself,

Group	1		2		3		4	
Theme: Self-Efficacy	Participants referring to theme	No. of References	Participants referring to theme	No. of References	Participants referring to theme	No. of Responses	Participants referring to theme	No. of References
Belief in Oneself	3	3	9	10	1	3	2	3
Total	3	3	9	10	1	3	2	3
Mean (Responses per Participant in Group)		0.25		0.66		0.5		0.42
No. Participants in Group	12		15		6		7	

NUDIST FINDINGS on Primary and Secondary Appraisals:

Group	1		2		3		4	
Theme: Primary Appraisal	Participants referring to theme	No. of References	Participants referring to theme	No. of References	Participants referring to theme	No. of Responses	Participants referring to theme	No. of References
Primary Appraisal	8	15	4	10	2	3	0	0
Perception of Risk	8	8	5	5	2	2	1	1
Perception of Outcome	2	3	3	5	0	0	0	0
Belief that diet will prolong life	12	28	14	14	3	4	0	0
Total	30	54	26	34	7	9	1	1
Mean (Responses per Participant in Group)		4.5		2.26		1.5		0.14
No. Participants in Group	12		15		6		7	

NUDIST FINDINGS: Sub nodes: Re-evaluation of Lifestyle

Group	1		2		3		4	
Theme: Secondary Appraisal	Participants referring to theme	No. of References	Participants referring to theme	No. of References	Participants referring to theme	No. of Responses	Participants referring to theme	No. of References
Re-evaluation of lifestyle	12	22	15	27	0	0	2	3
Total	12	22	15	27	0	0	2	3
Mean (Responses per Participant in Group)		1.83		1.8		0		0.42
No. Participants in Group	12		15		6		7	

Accepting Responsibility

Group	1		2		3		4	
Theme: Accepting	Participant	No. of	Participant	No. of	Participant	No. of	Participant	No. of

Responsibility	s referring to theme	References	s referring to theme	References	s referring to theme	Responses	s referring to theme	References
Accepting Responsibility	4	6	12	16	1	2	2	2
Total	4	6	12	16	1	2	2	2
Mean (Responses per Participant in Group)		0.5		1.06		0.3		0.28
No. Participants in Group	12		15		6		7	

NUDIST FINDINGS sub-nodes: Recording information in a diary, Keeping to a daily routine with eating.

Group	1		2		3		4	
Theme: Self Control	Participants referring to theme	No. of References	Participants referring to theme	No. of References	Participants referring to theme	No. of Responses	Participants referring to theme	No. of References
Diary	2	2	3	7	0	0	0	0
Routine	6	7	6	7	0	0	0	0
Total	8	9	9	14	0	0	0	0
Mean (Responses per Participant in Group)		0.75		0.93		0		0.85
No. Participants in Group	12		15		6		7	

NUDIST FINDINGS

Group	1		2		3		4	
Theme: Family Support	Participants referring to theme	No. of References	Participants referring to theme	No. of References	Participants referring to theme	No. of Responses	Participants referring to theme	No. of References
Family Support	12	18	15	29	5	9	2	3
Total	12	18	15	29	5	9	2	3
Mean (Responses per Participant in Group)		1.5		1.93		1.5		0.42
No. Participants in Group	12		15		6		7	

NUDIST FINDINGS

Group	1		2		3		4	
Theme: Peer Group	Participants referring	No. of References	Participants referring	No. of References	Participants referring	No. of Responses	Participants referring	No. of References

	to theme		to theme		to theme		to theme	
Peer Group	7	8	7	10	2	4	2	3
Total	7	8	7	10	2	4	2	3
Mean (Responses per Participant in Group)		0.66		0.66		0.66		0.42
No. Participants in Group	**12**		**15**		**6**		**7**	

Group	**1**		**2**		**3**		**4**	
Theme: Depression/Loneliness	**Participants referring to theme**	**No. of References**	**Participants referring to theme**	**No. of References**	**Participants referring to theme**	**No. of Responses**	**Participants referring to theme**	**No. of References**
Loneliness	1	1	10	14	2	5	1	3
Depression/Feeling Low	3	3	14	14	6	12	4	8
Total	4	4	24	28	8	17	5	11
Mean (Responses per Participant in Group)		0.33		1.86		2.83		1.57
No. Participants in Group	**12**		**15**		**6**		**7**	

Social/ Professional Support

NUDIST:

Group	**1**		**2**		**3**		**4**	
Theme: Lack of Family Support	**Participants referring to theme**	**No. of References**	**Participants referring to theme**	**No. of References**	**Participants referring to theme**	**No. of Responses**	**Participants referring to theme**	**No. of References**
Lack of Family Support	1	1	10	14	2	5	6	14
Total	1	1	10	14	2	5	6	14
Mean (Responses per Participant in Group)		0.08		0.93		0.83		2.0
No. Participants in Group	**12**		**15**		**6**		**7**	

Accepting Responsibility

Group	**1**		**2**		**3**		**4**	
Theme: Responsibility for own	**Participant**	**No. of**	**Participant**	**No. of**	**Participant**	**No. of**	**Participant**	**No. of**

dietary health	s referring to theme	References	s referring to theme	References	s referring to theme	Responses	s referring to theme	References
Partner shops for food	3	3	3	3	0	0	0	0
Partner cooks food	3	4	3	3	1	2	1	1
Relies on partner for food	0	0	4	6	0	0	0	0
Total	6	7	10	12	1	1	1	1
Mean (Responses per Participant in Group)		0.58		0.8		0.33		0.14
No. Participants in Group	12		15		6		7	

Support Relationships, Professional Support

Group	1		2		3		4	
Theme: Seeking Support	Participants referring to theme	No. of References	Participants referring to theme	No. of References	Participants referring to theme	No. of Responses	Participants referring to theme	No. of References
Helping Relationships	11	11	13	15	1	2	0	0
Professional Support	10	11	10	17	1	1	0	0
Total	21	22	23	32	2	3	0	0
Mean (Responses per Participant in Group)		1.83		2.13		0.5		0
No. Participants in Group	12		15		6		7	

Distancing

Group	1		2		3		4	
Theme: Distancing	Participants referring to theme	No. of References	Participants referring to theme	No. of References	Participants referring to theme	No. of Responses	Participants referring to theme	No. of References
Distancing	0	0	0	0	6	14	3	6
Total	0	0	0	0	6	14	3	6
Mean (Responses per Participant in Group)		0		0		2.33		0.85
No. Participants in Group	12		15		6		7	

Escape/Avoidance

Group	1		2		3		4	
Theme: Escape/Avoidance	Participant	No. of	Participant	No. of	Participant	No. of	Participant	No. of

	s referring to theme	References	s referring to theme	References	s referring to theme	Responses	s referring to theme	References
Escape/Avoidance	0	0	0	0	3	9	1	1
Total	0	0	0	0	3	9	1	1
Mean (Responses per Participant in Group)		0		0		1.5		0.14
No. Participants in Group	12		15		6		7	

Peer Influence

NUDIST FINDINGS :

Group	1		2		3		4	
Theme: Peer Pressure	Participants referring to theme	No. of References	Participants referring to theme	No. of References	Participants referring to theme	No. of Responses	Participants referring to theme	No. of References
Peer Pressure	4	6	4	9	6	7	4	8
Total	4	6	4	9	6	7	4	8
Mean (Responses per Participant in Group)		0.5		0.6		1.16		1.14
No. Participants in Group	12		15		6		7	

Work Stress

NUDIST FINDINGS:

Group	1		2		3		4	
Theme: Work stress/Bullying	Participants referring to theme	No. of References	Participants referring to theme	No. of References	Participants referring to theme	No. of Responses	Participants referring to theme	No. of References
Work Stress/Bullying	5	5	12	28	6	13	6	15
Total	5	5	12	28	6	5	6	15
Mean (Responses per Participant in Group)		0.41		1.86		2.16		2.14
No. Participants in Group	12		15		6		7	

Work Environment

NUDIST FINDINGS:

Group	1		2		3		4	
Theme: Environment at home/work	Participants referring to theme	No. of References	Participants referring to theme	No. of References	Participants referring to theme	No. of Responses	Participants referring to theme	No. of References
Environment at home/work	1	1	4	5	3	5	4	3

Total	1	1	4	5	3	5	4	3
Mean (Responses per Participant in Group)		0.08		0.33		0.83		0.42
No. Participants in Group	**12**		**15**		**6**		**7**	

NUDIST:

Group	**1**		**2**		**3**		**4**	
Theme: Comfort Eating/Compensatory Consumption	**Participants referring to theme**	**No. of References**	**Participants referring to theme**	**No. of References**	**Participants referring to theme**	**No. of Responses**	**Participants referring to theme**	**No. of References**
Comfort Eating	0	0	7	8	3	4	1	1
Total	0	0	7	8	3	4	1	1
Mean (Responses per Participant in Group)		0		0.2		0.66		0.14
No. Participants in Group	**12**		**15**		**6**		**7**	

APPENDIX EIGHT: Extracts of transcripts

Interview One

Participant 33

Participant 33 (female aged 63 years, Interview one at the clinic)

This female participant maintained her diet over the period of three interviews. She was part of the pilot group.

Before asking you about your experience after the test I'd like to ask you about your circumstances surrounding the test.

My test was taken at the end of last year (December 2000). I was bleeding after being to the toilet. They think it might be haemorrhoids. I am with a consultant although I have not seen him yet. The test knocked me out. I seemed to respond that way. I was dazed and walked up the hill and my husband had to come looking for me. They didn't talk to me about diet. I didn't receive any information about diet from the hospital.

Background Information

I am married and live with my husband and discuss my health with him. I have two daughters who have left home. I lived overseas for twenty years and ate a fairly good diet including fruit and vegetables now and then.

Let's talk about what you eat.

They didn't talk to me about diet. I didn't receive any information about diet from the hospital. I have a wide choice of things to eat at home. I think I have a fairly good diet. I eat more fruit now. When I lived abroad the fruit was cheaper there. The people in South Africa eat a lot of fruit and vegetables in their diet.

Have you ever changed what you eat because of bowel health?

I have changed my diet over the last year because of my bowel problems which were getting worse.

Historical Information about Diet

I knew about diet from an early age but because my parents were separated and my mum left us I was in charge of the cooking at a young age did not eat healthy foods. Now I eat fresh fruit salad for breakfast and occasionally have banana on wholemeal toast. I bought a steamer for the vegetables recently. I make a lot of vegetable soups in the

winter. I did eat healthily when I was younger but tended to go off for a while and eat biscuits and things. I think these times were no good for my health now.

Has your recent episode of bowel health problems prompted any change of diet?

It was not because of the test necessarily. I don't think we get the care that we want from doctors. I think now we are going to have to take care of ourselves. I didn't have much fibre in my diet before the test.

What changes did you make?

I think about eating seeds now. I will go for different foods. I have dried fruits and sunflower seeds but only now and then. I prefer to eat brown bread but my husband prefers white bread. I stick to my changes and he eats the white loaf. I have been told since I was a child that I don't drink enough water and I have been drinking more.
I don't eat beef but will have lamb and pork and chicken and fish. I have a friend who fishes and they give me trout. I am quite aware of my diet. Before I changed my diet because of my illness I did watch my weight and at one time went to a slimming club. At first my diet changes did not improve my bowel problems and I had to make more changes to fit in with my discomfort times.

How long ago did you make these changes?

I have been changing my diet for a year maybe slightly more. I have had quite a lot of stress this year. I visited my daughter overseas and I get very uptight when I travel.

Thinking back to the time when you made these changes what was life like for you at that time?

We had just moved back from overseas. I have two daughters one in South Africa and one in England. The one down south was concerned about my symptoms when I told her as she is in adult education. I used to be so active and now this has slowed me down a little. I needed to have something done. I like to be healthy. We don't have so many friends now that we have come back and so the support in not always there.

If you had made changes how long have you maintained them?

I have maintained this diet for just over a year and it took some adjustments during the year.

How easy or difficult was it to maintain?

Not difficult to eat things like fruit and vegetables but my husband likes to be in control and tries to tempt me with pastry and chocolate desserts for dinner but I have to be strong when he does this as I know I will suffer if I eat these things.

What things have been helpful to you?

My husband is helpful at times (not always) and will eat what I cook but no one really has been responsible except me really. Walking helps I and I often go for a walk when I feel tempted to eat. If I miss lunch I make sure I have something healthy to eat that I can eat fairly quickly so that I don't snack in the meantime so planning has been helpful.

What things have been difficult for you?

Lack of friends has been difficult and this leads to loneliness but I do have one or two old friends who I meet (female friends) and these times are a great help. I am aware of the need to comfort seek with a Kit Kat or something and have only slipped with one biscuit occasionally but go right back to my changes.

Participant 19 (female, aged 40years)

This participants relapsed from the changes in diet and then recycled back to change.

Before asking you about your experience after the test I'd like to ask you about your circumstances surrounding the test.

I had a barium enema test. They thought I had pockets in my bowels. I was going to the toilet every day – 3 or 4 times. The test is clear there is nothing wrong except some irritation from time to time.

Background Information

I am married with two children aged 9 and 13 years. I would speak to my husband first about my health but then my GP. I shop for our household. I find it difficult I often cook four different meals. There is no history of bowel problems.

Let's talk about what you eat.

I did change brown bread and pasta but brown pasta. I eat jacket potatoes and vegetables salads. My husband works away at sea and is away for four weeks. When he is at home I find it more difficult to eat healthy food. My husband likes to eat fries and greasy stuff which I cook for him but don't eat.

Historical Information about Diet

I have had problems with my weight in the past and went to get help with that but this is a different sort of thing and I have to eat what suits my problem and try to make it healthy.

Have you ever changed what you eat because of bowel health?

I stopped eating all the greasy fry ups like chips when I started having problems with my bowels.

Has your recent episode of bowel health problems prompted any change of diet?

I took the diet sheet at the hospital and have followed some of the foods on that. In general I have been eating more healthily since the test.

How long ago did you make these changes?

I have been making changes to my diet for about two years

Thinking back to the time when you made these changes what was life like for you at that time?

I have two different lives when my husband is here or not. I eat salads and good healthy foods Monday to Friday when he is here but then we have meals out and I eat crisps and cream. I sort out the bloating during the week and then I reckon when he is here I can eat what I want at the weekends.

If you had made changes how long have you maintained them?

I maintained the changes for a year but have had some slips when he is here.

How easy or difficult was it to maintain?

It depends on the time of the month for me. We all have these moments when we crave chocolate. For me I am better not having any of it. I am better to say no to crisps. When I am busy it is fine but for instance last time I had a day off and went to the shops I ate chocolate and that was it.

What things have been helpful to you?

If I plan ahead and make a big bowel of salad that I can have on Sunday morning and if I keep going to my aerobics classes. My job involves a lot of exercise and that helps me.

What things have been difficult for you?

If I go to my parents they feed me too much food. Aye Monday was a good example and I had trifle as well. I could feel afterwards that my trousers were tight because my stomach was bloated. I showed my sister and couldn't believe it. I think it is because they don't see me as much now. They tend to eat more with the kids there where at home I eat small meals and I don't eat the same as the kids.

Participant 40 (male aged 80 years)

This male participant had not changed his diet during the interviewing period. Before asking you about your experience after the test I'd like to ask you about your circumstances surrounding the test.

My test was in September and I don't know if I need surgery for this or not. I had a stabbing pain in the groin and got a barium enema. There is a narrowing of the bowel. I also had a colonoscopy with a camera.

Background Information

I am married and I am 80 she is 75 years. We have three children 52, 49 and 38 years. I discuss my health with very few people, a GP if necessary. Both of us do the shopping.

Let's talk about what you eat.

I am not eating much fruit and vegetables, maybe once a week. Occasionally I eat brown bread but mostly white bread. It's my choice I eat anything.

Historical Information about Diet

I have never changed my diet and never think about my diet. The wife sees to that. I have a good knowledge about what is good and what is not.

Have you ever changed what you eat because of bowel health?

There has never been a time I wished to change my diet.

Has your recent episode of bowel health problems prompted any change of diet?

No – no problems and wife is in charge anyway. She is worried I put on too much weight though.

Thinking back to the time when you made these changes what was life like for you at that time?

I can't fault the N.H.S. We don't eat too much chicken and my wife says I can't even boil water. I could get by but she has always been in charge.

If you haven't made any changes have you thought about making changes in your diet within the next 30 days?

No I don't intend to change my diet at all.

What kinds of things influenced you in your decision not to make dietary changes?

I have a good knowledge and that is why I don't need to change. I am happy to play golf eat what I want and drink whiskey every night. I don't feel pain often.

Interview Two (telephone)

Participant 35 (female aged 57 years)

Has maintained her diet in second interview

Are you keeping to the changes you made in your diet?

Seems to be working well. It is easy to keep to it. I am feeling much better. I have just sort of kept to it really. I am eating cereals, apples and lots of healthy foods.

Have you been keeping a diary of what you eat?

No but I plan out in my head what I am going to eat every day the night before. I eat a lot of high fibre now. My husband diet of bowel cancer and this is a reminder to me.

How easy or difficult was it to keep to the diet?

It was easy even though I had a crowd a Christmas and there were tempting things

Has there been anything that was helpful to you in keeping to this diet?

I am more aggressive now in what I want and one of things I want is to be healthy. It is in human nature to try and there are no barriers to me at the moment.

Any difficulties in keeping to the diet?

No my hobbies keep me busy and I am not tempted.

Participant 24 (female, aged 37 years)

Relapsed from diet

Are you keeping to the changes you made in your diet?

Up and down really. I had a relapse this year because I was involved in a disciplinary action at work. I definitely go off the rails as far as my eating is concerned when I am stressed. An indication of this is how much I have to eat in the evenings.

Have you been keeping a diary of what you eat?

No I have been too busy at work to keep to my plans

How easy or difficult was it to keep to the diet?

I am studying at night for a qualification at the moment and it has been difficult. I have to stay positive.

Has there been anything that was helpful to you in keeping to this diet?

When I keep a mental note of what I eat it is fine and I have a good awareness of what I should eat. My mum is a healthy eater but my dad is not and it depends on what we are eating.

Any difficulties in keeping to the diet?

I was asked to leave my job. My sister tried to commit suicide and I tend to want comfort and want things that you are not allowed when I am stressed. Most of the time I have good willpower. If I break the diet I will suffer later and that is an added incentive.

Participant 37 (male, aged 51 years)

Did not make changes to his diet

Are you making changes to your bowel diet?

Health wise I am alright but I keep losing weight and then putting on too much weight. I can set my watch by the time I eat something and I need to go to the toilet.

Are you planning to change your diet?

I am not eating any green stuff – vegetables and that. I like white bread only. I went right off fries bacon sausage and things. I eat most things though. I am not planning any changes in what I eat.

Are you planning to change your diet in the next 30 days?

No I have no plans to change anything and I am happy with what I am doing. I have accepted my illness and just make it part of my life now.

Is there any factor that has made it difficult to change?

I doubt if diet would help me as I am in so much discomfort. I can still work at least and the occupational health keeps me from too much stress. I can come home if I feel ill.

Interview Three

Participant 34 (male aged 73 years)

Maintained his diet

How is your health and your change in eating habits going?

I am not having any symptoms now. I got the all clear. Just a check up now and then. I have been eating fibre and healthy things. I have been eating a lot of vegetables.

Are you still maintaining the changes to your diet?

People say I look well it must be working. Yes we are enjoying our new healthy life.

How easy of difficult was it to maintain the changes in diet?

Easy because of the help I get from my wife at home and my daughter who visits regularly

How do feel as you continue to maintain change?

Yes I feel very well and my mood is lifted.

What things have been helpful in maintaining the diet?

My wife is very particular about my food and supports me. Our daughter has a big influence with common sense. We never eat fries now.

What has been difficult in maintaining the diet?

I do crave sweet things but since my changes I have not been having sweets.

Participant Two (male aged 56 years)

Relapse from the diet.

How is your health and your change in eating habits going?

I am feeling well. I have another woman in my life now as I was lonely before being a widower and this has helped tremendously after I relapsed from my diet.

Are you still maintaining the changes to your diet?

It has been difficult at times. I am eating out a lot more with my new friend but she looks after her diet. She doesn't eat butter for instance and only eats Flora.

How easy of difficult was it to maintain the changes in diet?

I have to motivate myself a lot with the changes and things like work have been difficult from time to time.

How do feel as you continue to maintain change?

My new friend's outlook being healthy and positive has made me the same. My daughter and her boyfriend say that I am much happier and look better.

What things have been helpful in maintaining the diet?

My daughter and her boyfriend have helped as they live with me. They give me support.

What has been difficult in maintaining the diet?

I am working on a distance learning module at work and I have become depressed. I have to work at home alone most of the time and I have eaten for comfort a couple of times. I eat cream cakes and chocolate.

Participant 18 (Male aged 33 years)

How is your health and your change in eating habits going?

I have overindulged with alcohol and that gave me a lot of pain but it is sorted out now. I was in pain for a full week. I eat a lot of carry out meals when I work away. I know I suffer but it doesn't put me off eating the stuff.

Do find it difficult to change you diet?

I find it difficult as I have no willpower and I think I am too young to have this disease.

What is difficult about you life in terms of making changes to your diet?

I am on night shift and I don't drink as much as before but I still drink when I come off shift in the morning and eat all the wrong things. I prefer to pick and snack rather than eat a meal. I live in a caravan and I feel lonely. My stomach is painful but I just ignore it.

What things might help you to change your diet?

My partner is a good influence and she is helpful and tries to make a difference but I don't take much notice. Her mum and my mum and dad try to help too. I really listen to anyone about the diet thing. They have all tried. I need to have my friends and go out for a drink when I get the chance. I do want to try but not now I am working too much.

APPENDIX NINE: Case studies

A participant who has changed their behaviour and maintained the changes

Ben's Experience

Ben was in action stage of change at the first interview and then in maintenance stage during stages two and three of the interviewing period (Prochaska & Di Clemente, 1992). Ben was aged 51 years at the time of interview and was working in a call centre. He lived in a lower socio-economic (semi-rural) area. He was married and had three grown up children who lived away from home. He was educated to school leaver level but did not attend further education. He was shocked when he had to go to hospital for a diagnostic test for bowel disease. At the onset of his disease he had the stimulus to change his bowel diet as he had health beliefs concerning the perceived consequences of the illness (Becker, 1974). The diagnosis after the test was that he was suffering from chronic intestinal disease. The consultant he saw warned him about his health especially his drinking behaviour at the time of the diagnostic test.

"Yes I have cut my diet and made it healthier since my test and my illness".

The bowel disease had brought Ben's health into sharp focus and he made primary appraisals (Lazarus, 1991) and set short and long term goals (Huffman et al, 2000). He realised that his previous behaviour was risking his bowel health and he admitted responsibility. He had the support of this wife from the start as she had a positive emotional response to his need to change (Bagozzi, 1992).

"My wife used to drink as much as me and she had now given up completely. She has given up with me. She has been very helpful. We walk a great deal now. We leave the pub when I say so".

Ben used to go to the pub with his wife every evening to meet up with his brothers and sisters. When he decided to make the changes because of his bowel disease both Ben and his wife stopped visiting the pub for a period of three months. He evaluated his situation and decided to use coping strategies such as self control (Folkman et al, 1986). Visits to the pub would tempt him to drink too much and he avoided this influence. In the meantime he made secondary appraisals and plans to change his behaviour with the

support of his wife. When he returned to the pub he asked for a tomato juice and confronted his peer group and family with his new healthy lifestyle. His wife also drank non-alcoholic drinks as a support to his changes. His brothers and sisters and his son and daughters eventually accepted that he had changed his behaviour and he received support from them.

> *"My youngest daughter criticises me a lot. My son is a chef and he makes comments on what we are eating. They don't complain they only pass comment but we do try to eat a healthy diet".*

He had previous knowledge of healthy diet from childhood (Ward, 1974) although he was not good at sustaining diets in the past. He had no difficulty in changing his behaviour because he believed he would achieve his aim of long term health (Bandura, 1977a). He had assessed the risk and decided that there was a need to make a commitment to change his daily diet.

> *"I now eat five or more portions of vegetables a day. I used to grow them and I know how good they taste. I eat brown bread which I never did before".*

Ben remembered the experience of enjoyment when eating fresh vegetables. Instead of going to the pub he took up other activities in place of drinking such as woodwork. He made many pieces of furniture since he changed his dietary behaviour. He used this other activity as a self-control coping strategy.

> *"I have been doing a lot of woodwork and making pots for the garden. I am in a much better mood now most of the time. I have found it easy to change because I feel so much better now".*

His score in the self-efficacy scale was 7 which represented high self-efficacy (Schwarzer, 2001) and this was a true representation of his beliefs from the interpretive analysis. He suffered the bereavement of his brother between interviews two and three of this study but this did not distract him from his short and long-term goal of keeping to the changes in his diet. His job in a call centre involved stressful situations from time to time as he had to deal with complaints from the general public on a daily basis. He overcame these stressful situations with the help of his wife and his coping strategies such as self-control, and positive re-appraisal of his changes. His previous knowledge of

foods that were good for the bowel were a facilitating factor in sustaining the changes in his diet.

A Participant who had relapsed from the change of behaviour

George's experience

George was single and aged 35 years old at the time of interview. He worked in a Leisure Centre as a manager and had a health and fitness environment around him to provide encouragement for him to change his diet and lifestyle. At the start of the study he had changed his diet and was taking a lot of exercise. George was in action stage of change initially and he relapsed into preparation stage at the second interview. At the third interview stage he was back in action stage once more (Prochaska & Di Clemente, 1982). His stimulus for change was a diagnostic test for cancer after a minor bowel disease (Becker, 1974). During the second phase of interviewing he relapsed because of stress at work. He was being harassed and bullied by another manager at the Leisure Centre (Cooper, 1999).

> *"Aye I think my confidence has taken a bit of a battering at the moment. She makes life awkward for me, almost bullies me. She just keeps pushing more work at me and other people have noticed how much work I have. I get a lot of pressure from the top and no support and I am not able to take holidays due to me. I get angry and feel like punching walls and I am not sleeping".*

He was finding that work was unbearable at times during this period. He was asked to work longer hours to keep up with the extra work that was being assigned to him unfairly.

> *"My way of combating stress is to go to the gym and eat healthy foods. I went into a decline but now I am going to the gym. Fitness helps you feel healthier. It's a cycle really".*

George comfort ate with regular snacks of chocolate biscuits and crisps during a period of a few months (Woodruffe-Burton, 2003). This was a response to the bullying and work stress. He went back to his dietary changes when his stress was under control. He used his coping strategy of exercise and self- control helped to restart his bowel diet (Folkman et al, 1986). He got support from his parents when he went to see them but this was not a regular activity. He had little peer support and his male flat mate at the time of his relapse was in the habit of buying unhealthy foods that were high in fat such

as crisps although he knew that George was trying to avoid these foods. George lived with a partner five years previously who was an alcoholic. He supported her and her children for a number of years and his diet was poor at this time (Bagozzi, 1992). He felt that he missed the company of a partner at times.

> *"I do suffer from anxiety and loneliness with my job worries. There is times when you think it would be nice to be in a stable relationship".*

The need of a relationship was important to George and he believed that it would help him maintain his diet. He had made a commitment to change and implemented strategies that included healthy diet (Lazarus, 1991). His sporting activities, knowledge and changes in his bowel diet (Huffman & Houston, 1993) were facilitators to maintenance of change but his work stress problems were an inhibiting factor to maintaining change.

A participant who had made limited changes but no changes for bowel health

Brenda's experience

Brenda managed a motel with her husband. She was 55 years of age. The diagnostic test showed that she had minor bowel disease but this was not a stimulus to change and she remained in contemplation stage (Prochaska & Di Clemente, 1992). Brenda had tried to change her dietary behaviour to lose weight in the past without success (Bagozzi, 1992). She had poor willpower and found that working with food was particularly tempting. Her job involved the making of meals and she had a tendency to eat when she was preparing and cooking. Her husband was not supportive of her plans to change her diet and she could not rely on his support (Folkman et al, 1986). He was content that she had stopped smoking instead. He believed that smoking was more of a threat to her health.

> *"He is so chuffed that I have stopped smoking that the other thing is not important. No one in my family will stop me once I start eating even though they know it isn't making me happy and making me miserable really".*

Her daughter who was 17 years old was supportive of her and changed her own diet to support her. However this dietary change involved a stimulus to lose weight because of health rather than because of her bowel disease. The mother and daughter had tried other diets together and had read about a new diet in a magazine during the interviewing period. Brenda thought that her bowel problems stemmed from overeating and that she needed to eat less (Huffman & Houston, 1993). Her sister was very overweight and she believed that it was a family problem. She talked with longing about her young days when she was slim.

> *"I think it's all connected to my weight. If you had a doctor who actually knew you and knew you before you put on the weight or had the bowel problems it would be much better. Well definitely when I lost a stone my bowels were a lot better".*

She did not perceive any risk with health apart from those risks associated with being overweight (Becker, 1974). Brenda had not sustained a dietary change for more than a few months in the past. When she felt low (a regular occurrence) she turned to toast and

butter for comfort. She felt low because of her son's separation from his wife. She felt her comfort eating was getting out of control at times of stress. At the second interview she remembered that she felt happier when she was slimmer.

> *"Ehm I get fed up and then the weight goes back on and I go back to my old ways. I have always done things with low fat but they say this is not the way to go. Cuts on fat don't work because no one can stick to it. If you stick to the heart diet for two weeks you can be slimmer. If I am stressed I eat more. Recently well my son and daughter in law split and I think I have eaten more since then".*

Her previous relapses in diets have lowered her belief that she could sustain dietary change (Bandura, 1977). Her work environment, lack of knowledge about healthy foods for the bowel and the lack of support from her partner were the inhibiting factors to her making or maintaining behaviour change.

APPENDIX TEN: Typologies of Four Groups

GROUP 1 The "Consolidators"

Group Demographics

- Aged 42-83 years
- Mix of SES 13/27 educated at FE level
- All with partner/spouse

Trigger of Change

- Have changed their bowel diet and are maintaining the change over the year of interviewing
- Knowledge of bowel diet from previous learning
- Believe there is risk of further poor health
- Committed - believe they can maintain the change of diet

Maintaining Change

- re-evaluation of short term goals -eating habits
- used counter-conditioning behaviours such as exercise or hobbies as part of their plan of change

  stable pattern of change - inhibiting factors ignored - no confusion over goal as desire to keep to commitment to change
- self- regulation and control high

Facilitating Factors

- Past behaviour -good knowledge of bowel diet
- acceptance of helping relationships - close relationships with significant others.
- Taking responsibility for their own health
- Positive appraisal of their feelings after change
- Strong self-efficacy and volitional desire to maintain changes

The "Consolidators"

- " I feel I can do what I want now and I feel I have the willpower to stick with it"

The "Incubators"

- " I am not ready yet. But I am eating a lot less now".

GROUP 3 -The "Incubators"

Group Demographics

- Aged 33-67 years
- Mix of SES -one with FE training
- All with partners

Slow trigger of change - denial confusion

- Have not changed their bowel diet at the first interview
- confusion over knowledge of bowel diet/cancer
- Not confident in their ability to change their behaviour
- Previous attempts at diets (slimming) relapsed
- Very little support from partners

Maintaining Change

- Progressive pattern of change as each person has moved forward in their stage of change by the third interview
- Past behaviour important factor in decision to change as previous failures are in recent memory
- Misunderstanding of what bowel dietary change is
- Concerned with image and weight rather than longer term health
- No acceptance of help offered by significant others
- Distractions from all environments and difficulty in resisting those

Inhibiting Factors

- No knowledge of bowel diet or colorectal cancer
- Confusion between diets for loss of weight or health and bowel diet
- Need for more professional support for a sustained period of time
- Need for support from partner

GROUP 2 - The "Performers"

Group Demographics

- Aged 35-76 years
- Mostly high SES - high percentage with FE education
- Mix of single participants and those with partners

Trigger of Change

- Have changed their bowel diet because of bowel disease or test
- Find it hard to maintain change and compensate for lack of support or confidence with food
- Use strategies to recover from relapse such as counter-conditioning behaviours, volition and self-efficacy

- **Maintaining Change**
- Recycling patterns of change
- Some have family support but not daily
- Work stress and ,depression and loneliness cause relapse
- Inhibiting distractions from work and home environments
- Strong belief in the short and long-term goals

The "Performers"

- "I am working hard to change"

Facilitating Factors

Previous knowledge concerning bowel diet

- Counter-conditioning behaviours

Inhibiting Factors

- Feelings of depression and the need for compensation
- Work Stress

The "Disclaimers"

- "As far as I am concerned I don't have any problems that need changing"

GROUP 4 - The "Disclaimers"

Group Demographics

51- 80 years all retired

- Lower SES - few have FE training
- Most have partners living with them

No Trigger of Change

- Have made no change to their
- bowel diet over the period of one year of interviewing
- Have not progressed in their stage of change
- Feelings of depression, boredom and loneliness
- Distance themselves from making any changes. Wish their bowel disease would go away
- No responsibility for their own dietary health especially male participants

Distancing and Avoiding Change

- Stable pattern of no change
- Little support from family or peer group
- Work stress and poor home environment for making a commitment to change
- No counter-conditioning factors
- Past behaviour of failing to maintain diets
- Compensatory consumption

Inhibiting Factors

- No knowledge of bowel diet
- No perception of threat of colorectal cancer
- Ignored support offered by partners
- Suffered depression at times
- Work stress caused comfort eating

Adapted from Stead et al (2001)

APPENDIX ELEVEN: Staging Algorithms

ORIGINAL STAGING ALGORITHM

Curry et al (1992) Staging Questions

Health Education Research Volume 7 (2):97-104.

1) Have you ever changed your eating habits to decrease the amount of fat in your diet?

Yes 1

No 2

1a) IF YES Are you currently limiting the amount of fat in your diet?

YES 1

NO 2

1b1). IF YES How long have you been limiting the amount of fat in your diet?

Less than 30 days 1

1-6 months 2

7-12 months 3

Over 1 Year 4

1b2) IF YES Would you say you are now eating a low-fat diet?

Yes 1

No 2

2) In the past month, have you thought about changes you could make to decrease the amount of fat in your diet?

Yes 1

No 2

2a) How confident are you that you will make some of these changes during the next month?

Very confident 1

Somewhat confident 2

Mildly confident 3

Not at all confident 4

Staging Algorithm

Stage	**Question**	**Answer**
Pre-contemplation	1,1a	No
	2	No
Contemplation	1, 1a	No
	2	Mildly, Not at all confident
Decision	1, 1a	No
	2	Yes
	2a	Somewhat or very confident
Action	1, 1a	Yes
	1b	6 months or more
Maintenance	1, 1a	Yes
	1b	7 months or more

STAGING ALGORITHM FOR BOWEL HEALTH

Adapted from Curry et al (1992) Staging Questions

1) Have you ever changed what you eat because of bowel health?

Yes 1

No 2

1a) If YES What changes did you make?

Prompts (open out the question) in this thesis.

Are you eating fibre, fruit and vegetables, fish, whole grains, drinking water.

Have you decreased fat intake (prompts – crisps, fried foods & red meat).

If yes 1

If no 2

1b1) If YES How long have you been making these changes?

Less than 30 days 1

1-6 months 2

7-12 months 3

Over one year 4

1b2) If YES Would you say you are now eating a good diet in terms of bowel health?

Yes 1

No 2

OPEN QUESTION AT THIS POINT

Thinking back to the time you made those changes what was life like for you at that time?

What were you going through?

PROMPTS

- concerns for personal health
- concerns by family and friends
- lifestyle; travel, work, meals eaten, time taken by work
- Life events – bereavements, weddings, births, divorce.

2) IF NO In the past month have you thought about changes you could make to your diet in terms of bowel health?

Within 30 days 1

2a) How confident are you that you will make changes during the next month?

Very confident 1

Somewhat confident 2

Mildly confident 3

Not at all confident 4

2b) What kind of things influenced you decision not to make dietary changes?

OPEN QUESTION (why not?)

2b1) Would you consider making dietary changes for bowel health in the future?

No definitely not Pre-contemplation

No, probably not Pre-contemplation

Possibly Contemplation

Yes probably Preparation

Yes definitely Also preparation

3) 1 If you have made changes how long have you maintained them?

More than 30 days 1

1-6months 2

7-12 months 3

Over one year 4

Staging Algorithm

Stage	Question	Answer
Pre-contemplation	1, 1a, 2	NO
	2a	NO
Contemplation	1,1a 1b2	NO
	2	NO
	2a	Mildly confident, not at all confident
Decision	1, 1a	NO
	2	Yes
2a	Somewhat confident or very confident	
Action	1,1a,1b2	YES
	1b,2b	6 months or more
Maintenance	1, 1a	YES
	1b	7 months or more
	2b, 3	One year or more