Exercise and mental health: problems and possibilities

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Exercise and Mental Health: Problems and Possibilities

By

Guy Faulkner

A Doctoral Thesis
Submitted in partial fulfilment of the requirements for the award of Doctor of Philosophy of Loughborough University

September 2001

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Abstract

Despite a sound evidence base, the consideration of exercise as a therapeutic adjunct remains rare in mental health settings. This research project reports a series of studies examining the consideration of exercise as a strategy for promoting mental health in clinical settings. A broad, multi-level and multi-method analysis of exercise and mental health was adopted by focusing on trainers (key stakeholders responsible for treatment dissemination), providers (individuals at the forefront of treatment) and service users (individuals with clinical depression). First, the perceptions of exercise as an adjunctive therapy is qualitatively explored through interviews with Course Directors of UK training programmes in clinical psychology and mental health nurses working in acute, inpatient settings. A range of conceptual barriers are revealed such as the perceived ‘simplicity’ of exercise interventions and the incompatibility of exercise with traditional models of understanding and treating clinical conditions. Second, the nature and extent of exercise promotion are identified within one NHS Mental Health Trust. A lack of training and protocols are the most significant barriers. The Theory of Planned Behaviour variables of attitude, subjective norms, perceived behavioral control, and intention predict stage of change of physical activity promotion in a health care setting. However, the past promotion of physical activity overrides much of these effects. Third, the role of exercise in the lives of individuals with depression is explored in a case study analysis of four participants of an exercise referral scheme. The context of each person’s life is instrumental in understanding adherence and the experiences associated with participation in exercise and/or physical activity. These studies offer insight to some of the conceptual and structural barriers inhibiting the promotion of exercise as well as factors that may contribute to the success of such promotion within mental health settings. Recommendations are offered to enhance the development of comprehensive physical activity provision for people with mental health problems.

KEY WORDS: EXERCISE, PROMOTION, INNOVATION, MENTAL HEALTH, DEPRESSION, BARRIERS, PLANNED BEHAVIOUR
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Book Chapters


Conference Communications


Science (ECSS) Annual Conference, Finland. Fifth Prize in Young Investigator's Award.


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1.0 INTRODUCTION

In the summer of 1996, I conducted an ethnographic study within a hostel for individuals with a history of homelessness and schizophrenia (Faulkner & Sparkes, 1999). In the role of participant-observer, I spent three days per week, for 17 weeks, working in two inter-connecting houses which served as supported accommodation. During that time, I implemented a 10-week programme of twice-weekly exercise sessions for three individuals living in the hostel. Each session consisted of thirty minutes of continuous walking or swimming. Through interviews with participants and staff, and participant observation, it was concluded that the programme had helped reduce disturbing, auditory hallucinations, had increased self-esteem and improved the behaviour of two participants.

Barry was the most visually striking of the participants. He was in his mid-forties, overweight, reeked of dry urine and sweat and permanently had a Walkman blaring in one ear to drown out the voice of his deceased mother. He spent most of the day asleep and roamed the corridors of the hostel at night. He had fond memories of playing sport at school but could not recall doing any ‘exercise’ in the previous twenty years. At the end of the exercise programme, he had adjusted his sleeping patterns in order to be able to participate in the programme. He also took greater interest in his personal appearance given that he was leaving the hostel to go exercising. I was also unaware that towards the end of the programme, he had approached his keyworker about doing some counselling, opened a bank account, made an appointment with his GP about some longstanding health issues and started to wash his clothes more often. Staff at the hostel were also particularly effusive about how beneficial the programme had been for Barry. However, they had no plans to continue the programme once I had completed my study. As the assistant manager said “I think it is just that people forget about it [exercise]. It is one of those things that people just forget about. It gets taken for granted” (Faulkner & Sparkes, 1999, p. 64).

This became a cause for concern both on a personal and professional level. Barry’s condition slowly declined after the programme to the point where he generally became more agitated and was likely to express anger to others, reverted to his old sleeping patterns and reported less energy in general. Barry was particularly
disappointed that I would no longer be running the programme (Faulkner & Sparkes, 1999, p. 66):

I need someone to push me, I don’t think I could ever do it on my own bat. I think I need somebody to give me that little push, to make sure that I do it you know . . . It’s just having that person there to say, a member of staff or someone saying, go out and do it and do yourself some good . . . There is a possibility of you setting up a new programme isn’t there? Before Christmas, you should be able to fit it in, shouldn’t you Guy?

It became clear that social support was integral to helping the participants be more active but that such support was not being offered in the hostel or by the organisation. This was despite the acknowledgement and endorsement by staff of the potential benefits of exercise for hostel residents. While administrative responsibilities could be burdensome, it was also apparent that assessing or encouraging physical activity was not a consideration in the development of an individual’s care plan. Furthermore, all the staff at the hostel came from different backgrounds and held varying beliefs as to the most effective treatment for individuals with mental health concerns. Such diversity may only make the planning and resourcing of mental health services more difficult and mitigate against standardised care protocols (Cape, Antebi, Standen, & Glazebrook, 1994). Perhaps naively, I thought that exercise could be a simple strategy that transcends, yet complements, other traditional forms of treatment. The opportunity for consistent and structured exercise opportunities would improve the quality of life of individuals in such settings. Surely, such a development was well supported by existing research evidence if not my own modest contribution? I became increasingly concerned that research efforts would be wasted if the examination of how exercise is to be incorporated into practice was neglected. At some point, the support and commitment of mental health staff must be critical in encouraging the use of exercise as an adjunct treatment for mental illness.

More recently, in a discussion of depression, one psychiatrist drew a vivid analogy:

Imagine you are being thrown overboard into the sea. You need two things – a lifebelt, which is the medication, to stop you drowning, and
once you have reached shallower water, swimming lessons (therapy) to prevent it happening again (Psychiatrist Jim Bolton, The Guardian, January 9, 2001).

I like this analogy and it could be extended to any mental health condition. However, while swimming is equated with therapy for the purposes of metaphor, it struck me as being purposefully dismissive of swimming or exercise being therapy itself. For Barry, swimming had been fundamental to the success of the exercise programme. Becoming more aware of his body, of what it could do, the sensations of moving through the water, and his comprehension that no-one was laughing at his body were all powerful therapeutic experiences. Yet, this analogy suggested to me further indication that mental health professionals were not aware of the evidence or did not seriously consider exercise in their choice of treatment strategy.

What needs to happen before someone like Barry is given greater support to be active? What are the barriers faced by staff in implementing exercise programmes? What are the attitudes held by mental health professionals towards exercise that could hinder or promote the use of exercise? What factors underpin the promotion of exercise by mental health professionals? Such questions arose through my shared experiences with Barry and ultimately lead to the research reported here. In addressing these questions, it is necessary to adopt a multi-layered approach that considers stakeholders in the treatment process, mental health professionals working with clients, and clients themselves. Consequently, Chapter Two provides the wider context for the research before identifying the three aims of the project. Chapter Three moves on to consider the attitudes of course directors of clinical psychology training programmes, a key source of treatment dissemination, towards exercise. In Chapters Four and Five, I examine in detail the determinants of physical activity promotion by mental health professionals in one National Health Service (NHS) Trust. Chapter Six looks at one strategy for promotion in community settings and considers how individuals with depression experience exercise. Finally, Chapter Seven concludes the research and addresses again the three aims listed in Chapter Two. Future research directions within the field of exercise and mental health are also identified. Through this project, I hope to engage with the closing statement reported at the end of my time with Barry. That,
“future research must extend the exploration of the use of exercise as an adjunct treatment and assess organizational effectiveness in encouraging a sustained increase in the physical activity of residents” (Faulkner & Sparkes, 1999, p. 67).
This chapter sets the context within which the research was conducted and how its particular aims were developed. More specific literature reviews will be provided for each study. This chapter:

- Considers the nature of mental health and mental illness.
- Discusses the prevalence of mental health problems and their cost to society.
- Offers a rationale for the consideration of exercise as a therapeutic strategy.
- Concisely reviews the literature supporting the use of exercise as a therapeutic strategy.

Despite a growing evidence base, the application of exercise as a therapeutic treatment remains rare. Such inconsistency is considered:

- In terms of current Government health policy and clinical practice guidelines.
- In terms of possible structural and perceptual barriers that hinder greater consideration.

Finally, the need for more sophisticated dissemination efforts will be established before focusing on one conceptual model of innovation. Specifically,

- Rogers' (1995) innovation model is discussed.
- The aims of the project are presented.

While exercise is accepted as a strategy for promoting mental health, and discussed in relation to a variety of mental health conditions, this chapter and project is concerned primarily with the use of exercise as a treatment option or adjunct for individuals with depression who have been referred via mental health services.

2.1 A Mental Health-Illness Perspective

The concepts of mental health and mental illness are often used interchangeably. It is important to highlight that they should be differentiated. Mental health can be seen as the emotional and spiritual resilience which enables us to enjoy life and to survive pain, disappointment and sadness. It is a positive sense of
well-being and an underlying belief in our own and others' dignity and worth (Health Education Authority, 1997). A mental health disorder is any health condition which is characterised by alterations in thinking, mood, or behaviour (or some combination thereof) associated with distress and/or impaired functioning (United States Department of Health and Human Services, 1999). Tudor (1996) argues that mental health and mental disorder should be seen as two separate continua (see Figure 2.1) and that this should be reflected in research and practice. This has several implications. First, it allows the possibility of having a diagnosis of mental illness but still attaining positive mental health. It justifies the promotion of mental health to individuals with a mental illness rather than being overly fixated on treatment or prevention. Byrne, Brown, Voorberg and Schofield (1994) draw attention to the scarcity of literature that considers the possibility of an individual with a psychiatric illness achieving health or 'wellness' in contrast to the more common focus on symptom control and medication issues. Second, mental health problems, such as subclinical levels of depression or anxiety, can affect us all without necessarily becoming a clinically, diagnosed condition. Consequently, mental health promotion has the capacity to improve the quality of life of clinical and non-clinical populations alike. As reflected in policy, the Department of Health (DoH) has recognised the importance of mental health by identifying it as one of four key health outcomes in the national health contract. They write that a national strategy must reflect more than just the absence of physical disease and be a basis for efforts which acknowledge a more rounded idea of good health (DoH, 1999). Such identification is timely.

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(Tudor, 1996)

Figure 2.1: Mental Health and Mental Illness Continua

It has been estimated that one in four adults experience some form of mental health problem in any one year (Centers for Disease Control and Prevention, 1998) with some evidence that incidence is increasing (DoH, 1996). Depression is the most
prevalent disorder with 5-10% of the population estimated to be affected by clinical depression in most developed countries (Weismann & Klerman, 1992). Furthermore, depression is a greater worldwide disease burden than ischaemic heart disease, cerebrovascular disease and tuberculosis. Mental illness accounted for almost 11% of the global burden of disease in 1990 and this is expected to rise to 15% by 2020 (Murray & Lopez, 1996).

The cost of mental health problems is high. It is estimated that the direct and indirect costs of mental health problems for 1996-97 was over £32 billion in the UK with estimates indicating that 80 million working days are lost each year due to anxiety and depression (DoH, 2000). In the United States, approximately fifteen percent of the adult population use some form of mental health service during the year. Eight percent have a mental disorder; seven percent have a mental health problem (US DHHS, 1999). In 1996, the direct treatment of mental disorders, substance abuse, and Alzheimer's disease cost $99 billion (Mark, McKusick, King, Harwood, & Genuardi, 1998).

Poor mental health is not a trivial issue. Individuals with depression feel a profound loss of pleasure, have difficulty maintaining satisfying interpersonal relationships, and can be prone to suicidal ideation (O'Neal, Dunn, & Martinsen, 2000). Improving quality of life and reducing the financial burden imposed on health services by mental health problems has driven the consideration of alternative strategies for mental health promotion. For example, in a review of the treatment of depression in primary health care services intended for purchasers and providers, the Centre for Health Economics recommended the funding of research into the effectiveness of non-drug therapies (Freemantle et al., 1993).

2.2 Exercise As Therapy?

Physical activity is one alternative that has potential as an effective strategy for mental health promotion. As Glenister (1996, p.7) wrote in a review of the exercise and mental health literature, exercise may be “an alternative to the pharmaceutical prescription for mild and moderate health problems; catalysing a change in lifestyle and reducing the cost of medical care”. Despite frequent reports of psychological benefits from regular exercisers and the intuitive holistic link between physical and mental well-being, researchers have only recently begun to systematically examine the
impact of physical activity on mental health outcomes. The result of this research is that we now have a convincing evidence base that supports the existence of a strong relationship between physical activity and mental health (Biddle, Fox, & Boutcher, 2000; Morgan, 1997a).

Fox, Boutcher, Faulkner and Biddle (2000) outlined five potential benefits associated with the use of exercise as an adjunctive strategy in improving the mental health of individuals. First, exercise is cheap. Second, exercise is associated with negligible deleterious side-effects. Third, exercise can be self-sustaining in that it can be potentially maintained unlike pharmacological and psychotherapeutic treatments which usually have a specified endpoint. Fourth, many non-drug treatments such as cognitive behavioural therapy can be expensive and often in short supply (Mutrie, 2000). Additionally, many patients report not wanting medication (Scott, 1996) while some patients do not respond to drugs alone (Paykel & Priest, 1992). Consequently, exercise could be a cost-effective alternative for those preferring not to use medication or who cannot access therapy. This is an important advantage given that only 30-50% of depression might be recognised in primary care (DoH, 2000).

Finally, exercise should be promoted for the physical health benefits regardless of whether it improves mental health. For example, depression and anxiety are significantly prevalent causes of physical illness and mortality throughout the world (American Psychiatric Association, 1994). Depressed individuals are less fit than the general population (Martinsen, 1993) and are more likely than others to develop cardiovascular disease and die of all-causes (Dinan, 1999; Musselman, Evans, & Nemeroff, 1998). In the elderly, “depression and poor physical function are mutually reinforcing, causing a progressive downward spiral in the physical and psychological health of older persons” (Penninx et al., 1998, p. 1725). Biddle and Faulkner (in press) suggested that the potential of physical activity having an antidepressant effect for an elderly population far outweighs the possibility that it may not because of its impact on functional capacity.

Epidemiological surveys continually demonstrate the existence of an excess of physical morbidity and premature mortality in both treated and untreated populations of the mentally ill (Brugha, Wing, & Smith, 1989; Koranyi, 1979). Additionally, patients with chronic schizophrenia can experience medically meaningful degrees of weight gain which is associated with antipsychotic medication (Wetterling, 2001). Weight gains in excess of 5 kilograms are seen in some patients on long term
treatment (Allison et al., 1999). Such gains are associated with increases in mortality and cardiovascular disease particularly in those who were already overweight. The physical benefits alone from regular physical activity in reducing morbidity and mortality in clinical populations are sufficient justification for the inclusion of exercise in programmes of rehabilitation. In short, the consideration of exercise as a strategy for mental health promotion has a sound rationale.

2.3 Evidence for the Mental Health Benefits of Physical Activity

The existing evidence suggests four main functions of physical activity for impacting mental health (Fox, 2000a):

- To prevent the onset of mental health problems
- To improve the mental well-being of the general public
- To improve the quality of life for people with mental health problems
- As treatment or therapy for existing mental disorder.

2.3.1 Physical Activity for Prevention

Reviews agree that lower instances of mental health problems are found among people who regularly participate in physical activity (Biddle et al., 2000). However, this association does not in itself imply that physical activity prevented the development of mental health problems. Prospective epidemiological research is required in order to conclude with confidence that regular exercise participation directly reduces the risk of mental health problems. Mutrie (2000) reports four longitudinal studies which examined the effect of regular physical activity on the incidence of depression at follow-up several years later. In all four studies, people who were more active at baseline reported a lower incidence of depression at follow-up. These studies suggest a relative risk of 1.7 for the inactive individuals reporting depression at a later date. Mutrie concludes that current evidence indicates physical activity has a protective effect against the development of depression. In contrast, evidence from the Nottingham Longitudinal Study does not provide strong evidence that increases in physical activity reliably promotes improvements in psychological well-being in the elderly (Morgan & Bath, 1998). When the focus of attention turns to a broader notion of physical activity and other leisure activities the relationship
between physical activity and depression becomes ambiguous although validated measures of physical activity were not used in these studies (Bennett, 1998; Dupuis & Smale, 1995; Morgan et al., 1991).

Based on Taylor's (2000a) conclusion that aerobically fit individuals generally have a reduced physiological response to psychosocial stressors, exercise appears to offer a degree of protection from anxiety. Exercise may help people become more resilient to stress (Fox, 2000a; Salmon, 2001). More research is required to investigate the extent that physical activity may be effective in preventing the onset of other types of mental health problems.

2.3.2 Physical activity to improve well-being in the general population

Participation in physical activity and exercise is consistently associated with positive affect and mood (Biddle, 2000). This relationship has been found in large population surveys and experimental studies. It would appear that exercise does 'make you feel good' and while this is an important outcome, it is also an important motivator for continued adherence. The 'feel good' phenomenon is supported by the finding that single bouts of exercise have a small to moderate effect on state anxiety (Taylor, 2000a). Small but significant improvements in cognitive functioning have also been reported as a result of exercise participation although measurement difficulties have hindered research in this area (Boutcher, 2000). For example, in a meta-analysis of fitness and cognitive performance studies, Etnier et al. (1997) found a significant but small effect size for adults aged 60-90 years (ES = 0.19).

Improvements in self-esteem and self-perceptions are further benefits that may be experienced by the general population through exercise participation. Self-esteem is often regarded as the single most important indicator of psychological well-being so any improvements in this area may be particularly significant. High self-esteem is associated with a number of important life adjustment qualities whereas low self-esteem is associated with poor health behaviour decisions and is characteristic of many mental disorders such as depression (Fox, 1997). A meta-analysis of studies examining the impact of exercise on self-esteem found a weak positive effect size of 0.22 (Spence & Poon, 1997). Fox (2000b) concluded that exercise promotes physical self-worth and other important physical self-perceptions, such as improved body image. For some people, in some situations, this generalises to improvements in global self-esteem. Given the vast array of factors that influence global self-esteem, it
is probably optimistic to expect exercise participation to reliably improve self-perceptions beyond the physical domain. However, direct links have been found between physical self-worth and mental health properties independent of global self-esteem (Sonstroem & Potts, 1996). Current consensus clearly supports an association between physical activity and numerous domains of mental health in the general population.

2.3.3 Physical activity for quality of life and coping with mental disorders

For people with enduring mental health problems, improvement in quality of life tends to enhance the individual’s ability to cope with and manage their disorder. Physical activity has the potential to improve quality of life in people with mental health problems through two routes: physical and psychological. In terms of physical quality of life, we know that individuals with mental health problems have the same physical health needs as the general population. In certain clinical populations the physical health problems seen in the general population (such as obesity, hypertension, and low cardiovascular fitness) are exacerbated by the negative side-effects of commonly prescribed medications. This is a particularly serious problem for people with schizophrenia. The most effective medications can result in considerable weight-gain which is one side-effect related to treatment non-compliance (Green, Patel, Goisman, Allison, & Blackburn, 2000). Because physical activity is an effective method for improving important aspects of physical health, such as obesity, cardiovascular fitness, and hypertension (see Bouchard, Shephard, & Stephens, 1994), it should be promoted to people with mental health problems for both general physical health and to counteract the side-effects of medication.

Preliminary evidence also suggests that regular physical activity improves positive aspects of mental health (such as psychological quality of life and emotional well-being) in people with mental disorders. Positive psychological effects from physical activity in clinical populations have been reported even among those individuals who experience no objective diagnostic improvement (Faulkner & Biddle, 1999). Improved quality of life is particularly important for individuals with severe and enduring mental health problems when complete remission may be unrealistic (Faulkner & Sparkes, 1999). For example, there is a potential role for exercise in the treatment of schizophrenia. Faulkner and Biddle (1999) conclude that exercise may alleviate secondary symptoms of schizophrenia such as depression, low self-esteem
and social withdrawal. For some people, exercise may also be a useful coping strategy for the positive symptoms of schizophrenia such as auditory hallucinations. The potential role of physical activity in reducing social exclusion is also an emerging area of interest (HEA, 1999). While physical activity may have considerable direct health benefits, it may also influence health by reducing social isolation and increasing social interaction among isolated individuals or groups. This remains an under-researched area of study.

2.3.4 Physical Activity as Treatment

Physical activity is emerging as an effective treatment, or adjunct, for directly tackling existing mental health problems in clinical populations. Currently, the strongest evidence concerns the use of physical activity as a treatment for depression and a recent review found support for a causal link between physical activity participation and decreased depression (Mutrie, 2000). Meta-analyses show an effect size of between 0.53 and 0.72 for exercise on depression and generally report a comparable level of effect on depression as obtained through other psychotherapeutic interventions (Mutrie, 2000). However, such optimism has been questioned on the basis of methodological weaknesses in existing research (Lawlor & Hopker, 2001). Furthermore, other reviewers using similar criteria have been less convinced of a causal relationship (O'Neal, Dunn, & Martinsen, 2000; Landers & Arent, 2001).

In a recent study, Blumenthal et al. (1999) compared the effects of exercise treatment and drug treatment in a sample of older individuals. After recruitment, initial screening and assessment by clinical psychologists blind to treatment allocation, 156 men and women (M = 57 years) meeting DSM-IV criteria for major depressive disorder were randomly assigned to one of three treatment groups: a) an exercise group consisting of three supervised exercise sessions (30 minutes of continuous cycle ergometry or brisk walking/jogging at 70-85% heart rate reserve) per week for 16 consecutive weeks; b) antidepressant therapy (Sertraline, a selective serotonin reuptake inhibitor); or c) a combination of exercise and antidepressants. Randomisation was also stratified according to severity of depression. After 16 weeks, all groups exhibited significant reductions in symptoms of depression and there were no significant differences across groups. Additionally, the percentage of patients no longer classified as clinically depressed did not differ across the three treatment groups. At ten-month follow-up, Babyak and colleagues (2000) found that
improvements persisted for at least six months after treatment termination. Self-reported participation in exercise during the follow-up period was inversely related to the incidence of depression at ten months. Each 50-minute increment in exercise per week was associated with a 50% decrease in the odds of being classified as depressed. Overall, this important and well-designed study suggests that exercise is an effective and robust treatment for patients with major depression, at least for those inclined to take part! That exercise was equally efficacious to a standard drug treatment has important financial implications.

In terms of anxiety, evidence generally supports the existence of small to moderate effects ranging from 0.23 to 0.69 through physical activity participation for both trait and state anxiety (Taylor, 2000a). Although Taylor concluded that exercise has a low to moderate anxiety reducing effect, he noted that the strongest effects were found in the best-designed studies. At present, little evidence exists concerning the effects of physical activity on other mental health disorders, although it has been reported that exercise is effective in treating panic disorders (O'Connor, Raglin, & Martinsen, 2000) and the symptoms of certain psychoses such as schizophrenia (Faulkner & Biddle, 1999). Limited research also suggests that exercise may be a useful adjunctive strategy for drug and alcohol rehabilitation (see Biddle & Mutrie, 2001).

2.3.5 Summary

In conclusion, the recently published National Physical Activity & Mental Health Consensus Statements offer compelling evidence as to the positive relationship between physical activity and mental health (Biddle et al., 2000). Given the prevalence of depression and its implications in terms of quality of life and health care expenditure, exercise deserves serious consideration as an intervention. It is the consideration of exercise as a treatment alternative or adjunct to this condition that this project largely addresses. Growing awareness of the importance of physical activity to physical and mental health should encourage the development of physical activity opportunities for individuals with mental health problems or for those at increased risk of developing mental health problems. However, some critics "do not believe that consensus processes effect behaviour change at all, but rather provide primarily a dialogue among researchers . . . not a guide to action" (Greer, 1987, p.
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2740. We have an evidence base but not necessarily the evidence-based practice (Fox, Boutcher, Faulkner & Biddle, 2000).

2.4 The Promotion of Physical Activity and Mental Health in UK Settings

Sport, exercise and physical activity have a long association with institutional psychiatric care in the UK. Quaker led initiatives by William Tuke and Lindley Murray, who founded the York retreat in 1796, promoted a therapy based on work and exercise (Goodwin, 1997). Sport became an important part of the inpatient treatment in the large psychiatric hospitals built in the late nineteenth century. Physical recreation was almost compulsory both for patients and staff. The patients’ physical health was given the same priority as the relief of psychological symptoms with sport viewed as “a healthy way of occupying patients’ energies, inducing normal sleep and offering a process of channelling sexual and physical frustrations” (Sheehan, 1991, p. 33). Although the majority of the large institutions, which traditionally included large sites for recreation and vocation, have been closed and mental health care is now provided in a variety of smaller units and the community, physical activity, usually in the form of sport and exercise, often continues to be a feature of the ‘treatment’ programmes offered.

Faulkner (2000) surveyed the types of physical activity provision for individuals with mental health concerns in the UK. In residential and secure accommodation settings, a specialist team may be responsible for promoting physical activity. Individuals may be referred for a structured programme of exercise with specific objectives such as reducing weight, increasing social interaction or improving self-esteem. Individuals with less severe mental health problems might access leisure services in the community that have been established to cater for this special population. The emphasis is on providing a safe and familiar environment for physical activity before gradually re-entering community settings. For example, Bell and Cooney (1993) describe the organisation of a weekly afternoon sports session at the local leisure centre by some Community Psychiatric Nurses (CPN) who recognised that there was no organised sporting activity for their clients.

Finally, given that 90% of mental health care is provided by primary care (Goldberg & Huxley, 1992), General Practitioners (GPs) are now in the front line in
the treatment of mentally ill individuals. Individuals may have access to GP referral schemes and physical activity counselling by primary care professionals. For example, Darbishire and Glenister (1998) describe the mental health benefits of GP recommended exercise in relation to nonclinical depression and anxiety. In relation to delivering exercise opportunities to individuals with mental illness, Mary Tidyman, Mental Health Project Manager for the Health Education Authority wrote, the “main mechanism for delivering exercise [will be] through primary care (via GP's) but other possibilities might include exercise sessions within mental health services such as day care services and in-patient services” (personal correspondence, 1999).

However, there does not appear to be a uniform and explicit rationale for the inclusion of physical activity. There is not a nationally applied standard requiring, for example, all in-patient mental health services over a certain size to include the promotion and provision of a range of physical activities. Rather, the inclusion of physical activity in contemporary mental health care is most often as a result of the personal interests, beliefs and determination of either mental health practitioners, service managers or users of the service. Where physical activity is included, professionals often perceive their efforts to be marginalised and the contributions of physical activity to patient care undervalued by other clinicians (Johnston & Stone, 1998). Recently, the charity MIND called for “a more systematic framework throughout the statutory and voluntary sectors to help ensure the principles and practicalities of enabling people with mental health problems to have regular access to exercise are in place” (MIND, 2001, p. 13). Not that MIND suggest exercise could possibly “prevent all mental health problems from developing, or that physical exercise should be seen as replacement for other ‘treatments’” (p. 1).

Despite a developing evidence base, exercise is rarely used as a form of treatment for mental disorders such as depression (Fox, 2000a; Hutchinson, Skrinar, & Cross, 1999; Tkachuk & Martin, 1999). In the US, there “has been very little support on the system or program levels for the development and implementation of strategies and services aimed at improving the physical well-being of persons with psychiatric disabilities” (Hutchinson et al, 1999, p. 356). Neither the ACSM guidelines nor many of the available international public policy documents on physical activity make specific recommendations concerning exercise and mental health (Scully, Kremer, Meade, Graham, & Dudgeon, 1998). This project seeks to explore these inconsistencies.
Smith and Biddle (1995) have highlighted the dominance of biological outcomes of participation in reviews regarding exercise and the related physical and mental health benefits, in comparison to factors associated with physical activity promotion. Furthermore, the research that has concerned psychological factors has been of a more personal or interpersonal nature that target individuals or groups. While some tentative attempts have been made at describing and recommending environmental and institutional approaches to increasing physical activity (e.g., Sallis, Bauman & Pratt, 1998), little attention has been paid to the systemic barriers that impact on the delivery of exercise opportunities and the quality of that delivery in the first place. How exercise promotion is to be incorporated and negotiated within a general context or for a specific population must be examined. This research concerns a shift from the product of physical activity to a more elaborate understanding of the processes involved in the promotion of physical activity.

It is only by framing this issue within a wider social context that meaning can be ascribed to its potential (non)-implementation in the field. There will be multiple levels of influence on the consideration of exercise as a treatment option based on intrapersonal, social, environmental and policy factors. The following sections are intended to illuminate rather than be definitive concerning the possible systemic barriers to the promotion of physical activity for mental health. It is initially argued that current UK policy does not endorse exercise as a treatment for mental illness while the need for 'rationality' in assessing health risk hinders the development of structured delivery opportunities.

2.5 Policy in the United Kingdom

The Labour Government released their national health policy in 1999. The White Paper 'Our Healthier Nation' (DoH, 1999) identifies four priority areas of intervention including heart disease and stroke, accidents, cancer, and mental health. Reducing the death rate from suicide is a proxy target for the entire area of mental health. To achieve this goal, a draft national contract is offered that addresses what the government, local community and the individual can do to help achieve this goal in relation to social and economic issues, environmental factors, lifestyle choices and available services (see Table 2.1). Specifically, “a physically active lifestyle, including walking, cycling or participating in sport, reduces the risk of coronary heart
disease and stroke and promotes good mental health" (DoH, 1999, 3.5, emphasis added). In particular, the policy reports that adopting a healthy diet and being physically active may reduce the risk of various mental illnesses such as depression. In relation to mental health, the role of ‘physical exercise’ is clearly suggested in this extract:

Table 2.1: A National Contract for Mental Health (DoH, 1999)

<table>
<thead>
<tr>
<th>A NATIONAL CONTRACT ON MENTAL HEALTH</th>
<th>GOVERNMENT &amp; NATIONAL PLAYERS CAN:</th>
<th>LOCAL PLAYERS &amp; COMMUNITIES CAN:</th>
<th>PEOPLE CAN:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lifestyle</td>
<td>• increase public awareness &amp; understanding of mental health • reduce access to means of suicide • support healthy living centres</td>
<td>• Focus on particular high risk groups, e.g., young men • Encourage positive local media reporting • Develop &amp; encourage use of range of leisure facilities</td>
<td>• Use opportunities for relaxation &amp; physical exercise &amp; try to avoid using alcohol/smoking to reduce stress • Increase understanding of what good mental health is.</td>
</tr>
</tbody>
</table>

To translate this policy into practice, The National Service Framework (NSF) for Mental Health (DoH, 2000) sets standards and outlines mechanisms which are intended to drive up quality and remove the wide and unacceptable variations in service provision. Importantly, exercise is mentioned as having a beneficial effect on mental health ‘across whole populations’, whilst being a ‘practical action’ that individuals can take themselves. The NSF also highlights the need to address the physical health needs of those with mental health problems which are proportionally higher than the rest of the population. However, in terms of specific treatment, the framework describes effective interventions for common mental health problems, such as depression, including “medication and psychological therapies [such as CBT; brief, focal psychoanalytic therapy; and interpersonal therapy], alone or combined” (DoH, 2000, p. 29) and second-line treatments such as lithium and electroconvulsive therapy (ECT). Panic disorders respond best to “both cognitive behavioural therapy and antidepressant medication, with a more sustained recovery following psychological treatment” (p. 30).

Finally, the new standards outline two levels of care programming (CPA). First, a standard CPA for low-risk individuals who require the support or intervention of one agency or discipline. Second, an enhanced CPA for ‘difficult to engage’ clients with multiple needs, who are in contact with more than one professional group or
agency. A written care plan for individuals on this latter CPA should specifically include "arrangements to promote independence and sustain social contact, including therapeutic leisure activity" (DoH, 2000, p. 53).

Therefore, there exists a strong rationale for identifying how exercise and physical activity can best be incorporated into mental health services given that a strong evidence base exists (Biddle et al., 2000) and that policy initiatives acknowledge its potential role. The Department of Health (1998a) also acknowledges that variations in practice and service provision exist and that a National Health Service should guarantee fair access and high quality to all patients. This may be assisted by the recently released National Quality Assurance Framework (NHS Executive, 2001) which provides non-statutory guidelines for exercise referral systems, with the aim of improving standards among existing exercise referral schemes, and helping the development of new ones. In this document, physical activity can reduce "the risk of depression, and has positive benefits for mental health including reducing anxiety, and enhancing mood and self-esteem" (p. 1).

Interestingly, such a role is not outlined by Alan Milburn, Secretary of State for Health, in his introduction to the document. The scope of promotion lies within primary care but reference is made to clients with "depression/anxiety and mental illness" (p. 69) being referred to schemes by their GP.

2.5.1 The Risky Nature of Policy

While these three key documents provide a platform for exercise to be promoted as a useful mental health strategy, such text is only a start. In discussing the development of physical education policy, Evans and colleagues raise some interesting issues that are analogous to policy development in any sphere. Namely, that policy texts are "always and inevitably interpreted and therefore potentially contested, adopted, adapted in different conditions of work" (Evans, Davies & Penney, 1994, p. 58). Such interpretation may be particularly ambiguous regarding health policy.

In terms of healthy policy, Osborne (1997) points to the indeterminate and relative nature of health. That is, while policy can put strategies in place to ward off illness or to cure existing disease – and even if all known diseases could be eradicated – there would still not be an absolute ideal called 'health'. Rather, what constitutes 'health' would extend until even death would be seen as a form of ill-health.
Consequently, policy is a reflection of how 'government' problematises or reduces the complexity of particular concerns. It signals how a particular concern is defined, conceptualised and ultimately addressed by the policy makers.

There have been two conceptual types of 'government' that have attempted to problematise the indeterminate nature of health (Gordan, 1991). A liberal government attempts to act indirectly upon health by imposing interventions such as providing sewage systems, clean water and so on. The care of health may be delegated to a medical profession but direct intervention by the government is avoided. In contrast, Osborne (1997) wrote of a shift in the 1980s, where liberal health policy tended toward a system where 'government' was taking responsibility for the health of its citizens. Forms of neo-liberal 'government' then became apparent to avoid such an expensive and overbearing accountability by encouraging rational self-conduct. Additionally, such thinking reflected that there could not be an absolute 'right' to health (Osborne, 1997).

Given the "indeterminacy of health policy, neo-liberalism constructs the possibility of its strictly de-limited determination" (Osborne, 1997, p. 185). That is, an ideal, absolute notion of health is abandoned but quantifiable targets, strategies and objectives are specified to give the notion of 'health' some meaning. This is characterised by the mushrooming of de-limited and specified 'domains for intervention'. Examples include hospital waiting lists, school league tables, and suicide reduction targets [e.g., saving 4000 lives by 2010 (DoH, 1999)]. In conjunction with the rise of neo-liberal governmentality is the growth of 'risk'. As the government withdraws from direct control of the population, a need for individuals to govern themselves becomes necessary. Individuals must learn that what happens to them is a consequence of their own decisions. Rather than focusing on individuals, an array of 'risks' are laid out for the population to dwell on; smoking, drinking, being inactive, unsafe sex practices and so on. Epidemiology becomes a necessary tool in providing statistical calculations of risk from which the individual can "enter into the process of his or her own self-governance through processes of endless self-examination, self-care and self-improvement" (Peterson, 1997, p. 194). 'Our Healthier Nation' clearly spells out such a course of action:

Life is by its nature risky. It is the job of Government to identify risks to health, to assess them, and, where appropriate, either take action to reduce
those risks or ensure that people who might be affected are aware of them . . . The public is entitled to know what the odds are so that individuals can make their own judgements. For people to make an informed judgement on risk they need to be able to understand and weigh up the evidence (my emphasis; DoH, 1998b, para. 3.20-3.23).

However, such a process assumes that the individual can adopt a calculative and prudent attitude in respect to risk and danger (Rose, 1993). These are precisely the cognitive resources that many individuals with a mental disorder may lack (Meise & Fleischhacker, 1996; Hughes, Hill & Budd, 1997).

Consequently, greater assistance and support will be needed in targeting individuals with mental illness in becoming more active, particularly those in direct care. Usual advantages of exercise as a therapeutic tool such as its self-administered nature (Martinsen, 1990) which can be sustained once the basic skills have been learnt (Kirkcaldy & Shephard, 1990) might actually be seen as disadvantages in this light. Exercise as a self-help strategy becomes exactly that! ‘Our Healthier Nation’ has been criticized for lacking specific aims, targets and objectives in relation to improving the mental health of the general population and improving the mental health of those with a diagnosed mental illness as their needs will be quite different (Sainsbury Centre for Mental Health, 1998). Exercise as a treatment does require greater consideration for individuals with mental illness. Namely, how would exercise be promoted within a mental health context, who is going to promote exercise to individuals with mental illness; and what should actually be promoted? Burbach (1997) pointed to the need to distinguish between those who are referred to specialised mental health services. Such individuals are generally more severely impaired in terms of symptomatology, and social and occupational impairment (Goldberg & Huxley, 1992). This process of referral is likely to have an impact on individuals’ expectations of treatment, which will be significantly different to those of a highly-selected group of volunteers. No reference is made of the paths to referral for this group of individuals in the National Quality Assurance Framework for exercise referral schemes (NHS Executive, 2001).

Additionally, with resources already stretched, other perceived priorities may be promoted. In contrast are the elements of ‘risk’ put forward by the expert in any given field. While the exercise epidemiologist draws attention to the dangers of
inactivity, the psychiatric expert may draw attention to the 'risk' of high expressed emotion (EE) in the field of schizophrenia. There is the perception that promoting a new behaviour (such as exercise) may be disruptive to an otherwise calm but consistent schedule which could increase EE (Tudor, 1996). Such a belief would limit a mental health professional's willingness to promote physical activity to clients, whose perceptions of risk are conceptually different. Different groups have different interests in promoting their own 'risk narratives' (Peterson, 1997). In a free market economy, exercise is competing for attention among a range of therapeutic interventions. Health behaviours such as exercise are neglected by a focus on cost-containment (Smith, 1998) where responsibility is devolved to the patient. Exercise becomes something individuals can do for themselves. Consequently, current policy may inhibit the explicit development of exercise opportunities as a strategy for promoting mental health.

2.6 Exercise as Treatment?

Current UK policy includes exercise as a mental health promotion strategy which individuals can adopt for themselves. As initially discussed (see Section 2.1), this applies to all of the population with or without a diagnosed mental health problem. At the same time, policy does not endorse exercise as a treatment for mental illness (see section 2.5). However, there are indications that its consideration is not entirely invisible. For example, the National Health Service (NHS Direct Online, 2000) endorses exercise as a self-help treatment of depression:

Exercise therapy works in many different ways to help to reduce depression. It may have beneficial chemical effects on the brain. In addition, it improves self-confidence, increases activity levels and social contacts, and can provide a sense of achievement which may otherwise be lacking. Exercise therapy works better than no treatment at all for people with depression. Less is known about how effective exercise therapy is compared to other treatments, such as antidepressants. However, it may be as effective as other treatments. Exercise therapy may also be effective at preventing the return of depression.
There is no mention of how to access such therapy. In contrast, a UK version of the WHO guidelines on the management of mental disorders in primary care (WHO, 2000a) was published to assist individual practitioners and primary-care team to review, jointly with mental health teams, the service they provide, identifying gaps and training needs. The guidelines state that depression is usually best treated by a combination of medical and psychological (or talking) treatments. However, under the heading 'advice and support to patient and family' (WHO, 2000b), exercise is suggested as possibly being 'helpful'. The evidence presented by WHO to support this claim is considered to be 'fair' with evidence obtained from one or more controlled trials without randomisation. Of interest, supportive evidence is possibly dated (McCann & Holmes, 1984; Martinsen, 1994; Glenister, 1996) which casts doubts over the dissemination of research findings in the last decade.

The National Institute for Clinical Excellence (NICE) was set up as a Special Health Authority for England and Wales on 1 April 1999. It is part of the National Health Service (NHS), and its role is to provide patients, health professionals and the public with authoritative, robust and reliable guidance on current 'best practice'. This guideline development will include the Management of Primary Depression and the Management of Resistant Depression Summer 2003. It will be interesting to see whether exercise is discussed as a specific treatment or adjunct treatment for depression and whether the National Consensus Project on physical activity (Biddle et al., 2000) is incorporated into supporting evidence. Until that time, the DoH (2000) recommend practitioners follow the guidelines established by the Royal Colleges of Psychiatrists and General Practitioners published in 1992 (Paykel & Priest, 1992). Exercise is not mentioned.

In the United States, exercise is not cited in relation to the treatment of depression in the first Surgeon General's report ever issued on the topic of mental health and mental illness (US DHHS, 1999). In general, it appears that there is no or little reference to exercise in most mental health guidelines and texts (Taylor, 2000b). For example, in a Health Education Authority commissioned review on mental health promotion strategies, only three of 72 studies considered physical activity (Tilford, Delaney, & Vegells, 1997). When it does appear, it is seen as a self-help strategy for promoting mental health. What other factors may influence the consideration of exercise as a treatment alternative?
2.7 Evidence and Practice

Johnson, Green, Frankish, MacLean and Stachenko (1996) make the observation that despite the mushrooming of knowledge, "the gap between knowledge generation and knowledge use or application remains problematic" (p. S5) with much of this knowledge rarely accessible for clinical staff to use on a routine basis (DoH, 2000). While the gap is acknowledged, the study of dissemination has remained neglected (King, Hawe & Wise, 1998; Oldenburg, Sallis, Ffrench & Owen, 1999). At the very least, communication between clinicians and researchers is muted (King et al., 1998; Barlow, Levitt, & Bufka, 1999). It is clear that "the world does not automatically beat a path to the researcher's door just because he or she has a good idea" (Backer, 1988, p. 18).

Multiple and complex explanations exist for this gap between what is known through research and what is actually practiced in customary care (US DHHS, 1999). These might include (US DHHS, 1999):

- Practitioners' lack of knowledge of research results.
- The lag time between the reporting of research results and the translation of new knowledge into practice.
- The cost of introducing innovations in health systems.
- The significant differences between academic research settings and actual practice settings. For example, the patients in actual practice are more heterogeneous in terms of their overall health and cultural backgrounds, and both patients and providers are subject to cost pressures.

In terms of physical activity promotion in general, GP's have expressed ambivalence towards the efficacy and practicability of changing people's behaviour towards a healthier lifestyle (Coppel & Davis, 1998). Despite widespread dissemination efforts, adult preventive services, such as physical activity counselling, are not routinely provided in primary care settings (Ockene, McBride, Sallis, Bonollo, & Ockene, 1997) while clinical practice guidelines have had limited impact on changing physician behaviour (Cabana et al., 1999). A number of demographic, professional and personal characteristics may influence the likelihood of physical activity promotion in primary care settings (Frank & Kunovich-Frieze, 1995). Even
within the psychological fraternity, there is a clear gap between knowledge of the
efficacy of treatments and the widespread utilization of such treatments (Martin,
Herie, Turner, & Cunningham, 1998; Barlow et al., 1999). At the same time, mental
health promotion itself has lagged behind the promotion of physical health (Sainsbury,
2000).

Fox (1999; 2000a) outlines a number of suggestions as to why the evidence for
the mental health benefits of exercise has not been widely translated into mental
health service practice:

- Most research has been conducted within exercise and sports
  sciences which is itself an emerging discipline.
- The area remains poorly funded and is not seen as a serious area of
  medical or health research.
- There is a lack of recognition of evidence-based research
  principles. Attention has been on academic rather than service
  outcomes. For example, studies have rarely addressed the cost-
  effectiveness of treatments or used intention-to-treat analyses.
  Criteria for randomised controlled trials are rarely satisfied
  (Lawlor & Hopker, 2001; Faulkner & Biddle, 2001).
- There is difficulty in moving from description to prescription in
  relation to mental health given the individual nature of benefit.

These factors are compounded by the lack of an established infrastructure for the
translating of research into practice in exercise-related psychology (Gauvin and
Spence, 1995). This is clearly exacerbated by the different corporate goals,
accountabilities and reward structures held by academic groups and practitioners
(King, Hawe, & Wise, 1998). Alternatively, a simple explanation could be that
evidence is lacking or is inherently flawed. Regarding the first possibility, it is worth
remembering that since the late 1970s, a major influence on psychosocial treatment
outcome research in the US has been a regulatory model of the Food and Drug
Administration (FDA)(Weisz, Hawley, Pilkonis, Woody, & Folette, 2000). While this
approach does not consider the quality of the evidence, the “goal for any treatment is
to establish evidence of its safety and statistically significant indications of its efficacy
in at least two clinical trials” (p. 250, emphasis added). Using the National Heart,
Lung, and Blood Institute’s categories of research evidence, Biddle and Faulkner (in

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press), in a review of exercise and depression in the elderly, concluded that the findings represented category B evidence\(^2\). Similarly, in a review of the Cochrane Collaboration Group’s database of research trials, Taylor (2000b) found 35 exercise trials in comparison to 71 trials of cognitive therapy. It appears cognitive therapy has found its way into policy and clinical guidelines (see sections 2.5 and 2.6) without an overwhelmingly greater number of research trials in comparison to exercise.

In terms of quality, research must attempt to satisfy the criteria of evidence-based medicine. This is defined by its adherents as the “conscientious, explicit and judicious use of current best evidence in making decisions about the care of individual patients” (Sackett, Rosenberg, Gray, Haynes, & Richardson, 1996, p. 71). How this evidence is to be gathered is clear:

It is when asking questions about therapy that we should try to avoid the non-experimental approaches, since these routinely lead to false-positive conclusions about efficacy. Because the randomised trial, and especially the systematic review of several randomised trials, is so much more likely to inform us and so much less likely to mislead us, it has become the ‘gold standard’ for judging whether a treatment does more good than harm (Sackett et al, p., 72).

This is a similar gold standard called for by Burbach (1997) when asserting that “more controlled studies are required if the exercise enthusiasts are to convince the average mental health clinician that physical activity is a core treatment” (p. 561).

Unfortunately, such designs may not be well-suited for the study of exercise and mental health. For example,

- An RCT may require modification of normal referral processes, thereby raising the issue of what is being evaluated (NHS Executive, 2001). Wide variation in clinical settings such as out-patient, in-patient and community settings may influence attempts at generalisation (Burbach, 1997; Morgan, 1997b).
- The effects of exercise are likely to be a very individual experience with each “exerciser” relying on a unique exercise formula for
maximum psychological benefit (Fox, 2000a). Individuals who are allocated to their non-preferred treatment may not experience great psychological benefit as a result and drop out. This differential attrition introduces a non-random element into the design, and those who complete an exercise programme may be atypically receptive, reducing attempts at generalisation (Jamieson & Flood, 1993; Roth & Parry, 1997).

- Ensuring evaluators are blind to treatment conditions is virtually impossible (Kuipers et al., 1997). Specifically, when interviewing patients to assess progress, it is difficult to avoid exposure to information when patients will often recount their experiences.

- The variety of responses to withdrawal from drugs and the small number of patients available at any one time makes experimental work difficult (Mutrie, 1997). Another implication of small samples is that conducting economic evaluations alongside clinical trials can be problematic. The sample size required to detect a meaningful difference in costs may be much larger than that required to detect a clinically meaningful difference (Gray, Marshall, Lockwood, & Morris, 1997).

- Small scale schemes, in which patients become familiar with the support of specific exercise professionals, may result in better adherence. Adequately powered controlled trials may not therefore demonstrate optimal levels of adherence (NHS Executive, 2001).

- Purity of diagnosis in the clinical setting is also confused by comorbidity further making comparison and generalisation difficult (Roth & Parry, 1997).

Despite such challenges, RCT's involving exercise and depression obviously exist (see Section 2.3.4). It is not the intention here to critique the evidence regarding exercise and mental health (see Morgan, 1997b; Scully et al., 1998). Rather, it is important to consider that methodological weaknesses are present in research investigating other antidepressant interventions (Faulkner & Biddle, 1999; Lawlor &
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Hopker, 2001). For example, common problems include the lack of follow-up in psychotherapy research (Roth & Parry, 1997) or the questionable nature of randomised controlled trials in psychopharmacotherapy (Jacobs, 1999). Given ethical necessities, all studies rely on volunteers which is the most significant criticism levelled by Lawlor and Hopker (2001) in a recent meta-analysis of the exercise and depression literature.

Understanding the mechanisms of treatment effects is also critical (Weisz, et al., 2000). Dishman (1995) has suggested that the lack of knowledge concerning the biological plausibility of the association between exercise and mental health is a major shortcoming in the extant literature and one that may contribute to the lack of acceptance of the role of exercise by psychiatrists. This line of reasoning is difficult to sustain. Despite the acceptance and widespread use of certain anti-psychotic medications, for example, the biochemical basis for action for some drugs has not been clearly identified (Lieberman, 1993; Gerlach & Peacock, 1995). Similarly, attempts to identify the specific processes through which psychotherapies and behavioural therapies work has proved difficult given that the importance of patient and therapist characteristics is often diminished (Garfield, 1998). In general, it is now recognised that the method of intervention is only one of a number of influences on outcome and that "eclectic therapy is probably more commonly practised than any 'pure' form" (Roth & Parry, 1997, p. 373).

Research in psychotherapy has started to examine aspects of the 'therapeutic alliance' where sometimes many therapeutic components are included in a package of care making it difficult to unpick the relative contribution of individual components on outcome. Within psychotherapy, Llewelyn and Hardy (2001) describe the question of process and mechanisms as the 'dodo bird' verdict. "That is, we know psychotherapy is effective, but we also know that different apparently contradictory theoretical approaches are approximately equally effective in outcome, but very different in content" (p. 2). Given the complexities of the exercise and mental health relationship, it is unlikely that any single theory or model will suffice (Mutrie, 1997; Scully et al., 1998; Fox, 2000a). Similarly, explaining how any one drug alleviates depression probably entails multiple therapeutic actions (Feighner, 1999). Consequently, not understanding the potential mechanisms underpinning an antidepressant effect of exercise should not be a barrier to its promotion.
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2.7.1 Delivery

A final issue concerns the actual infrastructure for promoting exercise. First, it is most likely that there is much variation in the range of options available to allow mental health professionals to promote or refer clients to physical activity opportunities in institutional and community settings. Second, it is not always clear who should be promoting physical activity even though it is recommended that those working within the health services should always recommend or advise patients to increase levels of physical activity for prevention and treatment of health problems (NHS Executive, 2001). Different systems of assessment, care planning, delivery and review have developed throughout mental health care in the UK (DoH, 2000). The treatment of individuals with severe mental illness is certainly a multi-agency venture. Community mental health teams provide the core of local specialist mental health services (DoH, 2000). They are “expected to implement government policy, resolve tensions between agencies and disciplines, supply services to primary care teams, act as gatekeepers to secondary care, function as both purchasers and providers of mental health care, and be a panacea for the range of mental health problems” (Paxton, 1995, p. 331). Consequently, critics have suggested that multidisciplinary teams usually lead to unfocused, inefficient and low quality services with team members left deskilled, confused and demoralised (Galvin & McCarthy, 1994).

Differences in therapeutic ‘optimism’ between professional groups may also hinder multidisciplinary collaboration (Shepherd, Murray, & Muijen, 1995). In general, there has been little clarity as to what should be provided in community care (Lavender & Holloway, 1994). There are also a number of different points of access to mental health services which can challenge smooth coordination of care provided by local health and social care communities (DoH, 2000). Such complexities may result in the consideration of exercise disappearing somewhere in-between roles and professions. Whether this issue can be resolved is a difficult question but one in which the National Service Framework documents are trying to answer through the development of a planned and systematic approach to integrated provision. In the future, the National Quality Assurance Framework for exercise referral schemes (NHS Executive, 2001) may also be critical to offering direction for exercise provision.
2.7.2 Summary

There are often gaps between what is known and what is delivered in practice within health services. A number of factors were identified as possibly contributing to this gap. The complex nature of mental health care provision also suggests that coordinating exercise promotion may be difficult while an infrastructure for providing exercise opportunities for clients may be ill-defined. However, the evidence base to support exercise as an antidepressant alternative has been supported by at least ten randomised controlled trials (Mutrie, 2000) while any methodological flaws are similar to those found in the evaluation of other treatment options. This points to the possibility that the non-consideration of exercise may be the result of more subtle processes. The predominant 'medical' model embedded within treatment services fails to provide much encouragement to the development of systematic and effective exercise promotion to clients with mental illness.

2.8 Key Perceptual Barriers

2.8.1 The Medical Model

The medical model dominates psychiatry (Mental Health Foundation, 2000) and posits that mental illness is a disease that can be treated through medical means. That is, a person who is mentally ill is regarded as sick in the same manner as a person who is physically ill. It then follows that treatment is concerned with discovering and treating the underlying cause of any 'psychological' abnormality with similar strategies to those used to discover and treat a bacteriological infection (Cockerham, 1996). Medicine has increasingly amassed power and influence in western societies. The consequent 'medicalisation' of society has lead to the medical profession presenting themselves as possessing the "exclusive right to define and treat illness, thereby subordinating the opinions and knowledges of lay people" (Lupton, 1997, p. 96). What becomes 'appropriate' treatment is reliant on the blessing of the 'medical' profession. Cockerham (1996) highlighted two key reasons why the medical model has dominated psychiatry and the treatment of mental illness. First, all psychiatrists train as medical doctors and so are socialised into a medical perspective. That is, psychiatrists are trained to view 'mental' problems as 'medical' problems. Second, there is great enthusiasm for medication. Cockerham (1996) concluded that for many
psychiatrists, biochemistry is the key to future developments by unlocking the secrets of the brain. Any other measures become redundant.

An understandable retort to criticisms of the medical model is that it portrays ‘doctors’ as an overly oppressive force who do not contribute to good health, the relief of pain, or recovery from illness (Lupton, 1997). Psychiatric treatment, as a medical practice, is necessary in controlling symptoms. At the same time, psychosocial treatment is equally important and the two should form complementary services. If psychiatrists fail to support rehabilitative efforts, they will find themselves “treating only half the illness” (Bachrach, 1992, p. 1461). However, integrating clinical and rehabilitative treatments is fraught with difficulties since these treatments have their roots in different traditions, have different aims, employ different terminologies and are offered by different agencies (Meise & Fleischhacker, 1996). Greater integration and support for rehabilitative efforts may still require a shift in professional attitudes that other forms of treatment are possible and can be effective (Kuipers, 1996). For some proponents of exercise, promotional efforts are only likely in situations where the medical model is not the predominant ideology (Davison, 1987).

However, such idealistic hopes avoid the question of who holds ‘power’. For example, in each UK Community Mental Health Team, the consultant psychiatrist’s role is to make the diagnosis and decide on treatment. Importantly, the psychiatrist is usually, though not always, the leader of the mental health team (Wilkinson & Kendrick, 1996). Principal author of the National Service Framework for Mental Health (DoH, 2001) was Professor Graham Thornicroft, Head of Community Psychiatry, King’s College London. Research literature is predominantly written by psychiatrists and psychologists, with the Journal of Mental Health being a journal about psychiatry (Tudor, 1996). In practice, contents of treatment packages are largely determined by the wishes of the dominant professional interest (Renshaw, 1987). The medical model may be weakened but it still holds a key grip over matters of treatment. “At the present time the medical/industrial/pharmaceutical company/political/conservative coalition holds the microphone and constantly blares out the message that ‘all mental illness is a medical disease’” (Albee & Ryan, 1998, p. 447). If mental illness is a medical disease then medication becomes by definition the major means of control. This has implications for what types of treatment might be considered most appropriate and subsequently promoted. Furthermore, research suggests that the attitudes toward the efficacy of certain aspects of medical care vary
Chapter 2: Exercise and Mental Health

widely even within the medical profession (Horowitz, Byrd, & Gruchow, 1987). Yet it is the blending of psychiatric and psychosocial approaches that is most likely to improve the long-term recovery of patients (Bachrach, 1992). For example, medication in conjunction with psychosocial interventions has been found most beneficial in treating depression in the elderly (Reynolds et al., 1992).

2.8.2 The Pharmaceutical Industry

In the field of schizophrenia, treatment remains dominated by attempts to control symptoms through medication (Shepherd, et al., 1995). Lacy (1991) alludes as to why:

“As much as we might wish it to be otherwise, for the foreseeable future, the treatment of schizophrenia will continue to be focused around very imperfect antipsychotic drugs, if for no other reason than the fact that the pharmaceutical industry will continue to back, with its formidable financial might, that research which will protect and expand its markets” (p. 116).

Consequently, medication will continue to be pushed as the treatment of mental illness by the huge efforts of the pharmaceutical industry with profit margins driving their motivation. Within the Cochrane Collaboration Group’s record of depression trials, there are 35 exercise trials, 69 cognitive therapy trials and 162 psychotherapy trials in contrast to 3168 studies of pharmacotherapy (Taylor, 2000b). This is not to denigrate the effectiveness of medication for many individuals. However, it does tend to blind people as to the real effects rather than the assumed effectiveness of medication. Sometimes referred to as a ‘liquid straight jacket’ by users (Lacy, 1991), medication is perceived to be an easy, straightforward treatment delivered by a tablet or injection that certainly makes the move to ‘care in the community’ more palatable (Rogers & Pilgrim, 1996). Innovation in considering other forms of therapy can be stifled. Discoveries of new drugs and procedures are readily introduced into practice while remedies which counter deeply held beliefs can be impeded (Eisenberg, 1988).

The acceptance of medication is strengthened by the little funded promotion of non-drug therapies. Goldberg (1983) wrote about the 1983 World Congress of
Psychiatry and described the glaring differences in the standards of travel, accommodation and lecture venues between the doctors supported by the drug industry and those who were not.

Andrews (1984) argues that the drug companies, as profit making entities, understand the value of advertising and the level of promotion necessary to penetrate a market. This is particularly the case in funding evaluation trials to demonstrate efficacy (so essential in an 'evidence-based practice culture'; see Section 2.7). As mentioned, non-drug therapies are unlikely to be funded to anything like the extent that medication studies have been (e.g., Healy, 1993) nor utilize sophisticated mechanisms for their promotion. One report of a failed exercise prescription scheme (Fielder, Shorney & Wright, 1995), drew attention to the comments of a Practice Nurse who remarked that drug companies offered financial incentives when conducting research. The problem with exercise, and other non-drug therapies, is that they are generally unpatentable and thus unworthy of any financial interest. Arguably, if exercise came in tablet form, it would be widely used and extensively promoted by the developing company. That it does not, and so implies a more demanding effort on behalf of the already hard pressed health services, is a potentially fatal obstacle to its acceptance.

2.8.3 The Mind/Body Dichotomy

One of the more often cited consequences of the medical model concerns the split between body and mind. There was a long tradition of holistic approaches to health stemming from the Ancient Greeks before Rene Descartes proposed such a mind and body split. Cartesian dualism assumes that there is no significant interaction between mind and body which allows each component to be addressed by separate and distinctive disciplines in isolation. This has encouraged the development of a focus on disease and illness that is separate from other dimensions of the person (Tudor, 1996). In other words, medical doctors treat the body while psychiatrists treat the mind and never the twain shall meet. Turner (1992) points out the irony that Descartes' own position was more characterised by 'dualistic interactionism' where there was in fact a close interaction between the body and the mind and disease was a consequence of a disturbance in this interaction. A position most probably held by modern exercise psychologists!
It is perhaps logical that most attention has been brought to bear on treating the mind rather than the body given the dominance of the medical model (Mutrie, 1997). Mutrie (2000) suggests that the mental health literature may be suffering from a dualist tendency to treat the mind (mental health) and body (physical health) as separate issues and therefore fail to see as a priority the mental outcomes of a physical treatment such as exercise (Beesley & Mutrie, 1997). As Armstrong (1994, p. 25) makes clear, "a body analysed for humours contains humours; a body analysed for organs and tissues is constituted by organs and tissues; a body analysed for psychosocial functioning is a psychosocial object". A given specialty will focus attention within clearly specified boundaries of competence. After all, that is how lines are drawn across different professional interests. Mutrie (2000) argues that it would seem "there is a lot of work to be done to convince those who deliver mental health services to focus on the links between mind and body and to look more positively on the role of exercise in mental health issues" (p. 3). In relation to schizophrenia, Faulkner and Biddle (1999) have also argued that the body is largely ignored through traditional therapy, sedated by antipsychotic medication and often denied its sexuality. The body is rendered absent in clinical practice.

2.8.4 Summary

We have evidence that exercise may be an effective strategy for improving mental health but this evidence base may be restricted to exercise and sport scientists. This restriction may be due to a dominant medical model that views mental illness as a disease best treated through pharmaceutical interventions. Given the drive for profit margins, pharmaceutical companies are also well-resourced to capitalise on this by developing, evaluating and marketing medication as the treatment of choice for a range of mental health disorders. Finally, an approach underpinned by a ‘medical’ approach may emphasise a dualistic approach to treatment. Consequently, the body, a site through which the effects of exercise are experienced, may be sidelined. Greater innovation is needed in providing choices between drug treatments and other forms of care. Given the concerns as to the financial burden of mental ill-health, it seems imperative to examine other adjunct treatments that are not only effective but cost-effective in conjunction with medication. This calls for a more sophisticated understanding of how the evidence base for exercise can be translated into common practice.
2.9 The Diffusion of an Innovation

An innovation is an idea, practice or object that is perceived by an individual to be new (Rogers, 1995). In this case, the promotion of exercise as an antidepressant may indeed be perceived as 'new', and thus an innovation, by some mental health professionals. Perception is all-important given that innovations are not necessarily adopted on the basis of their efficacy (Rogers, 1995). As the preceding literature review has demonstrated, exercise is not more widely considered in policy or practice despite evidence of scientific efficacy and the existence of consensus statements supporting its use. Past innovation research suggests that there are five primary attributes of 'innovations' that explain their rate of adoption or diffusion: relative advantage, compatibility, complexity, trialability, and observability. First, there is the relative advantage of the innovation (is 'exercise' perceived as better than an idea or practice already in place?). Arguably, mental health professionals have little basis for comparison as only one study has compared medication and exercise for individuals with depression (Blumenthal et al., 1999) while exercise has not been compared to cognitive behavioural therapy (Mutrie, 2000). Additionally, specific aspects of 'exercise' may infer different types of advantage for different people. For example, the physical health benefits, the potential for social interactions, the normalising nature of the exercise experience let alone potential antidepressant effects may all be weighed up by the adopter.

Second, compatibility is the degree to which an innovation is perceived to be consistent with the existing values, past experiences and needs of potential adopters. If, as argued, a medical model tends to dominate clinical training and practice, thus making the body absent in treatment, then perhaps the prior adoption of a new value system is required before exercise is more widely considered. Such adoption is likely to be very slow. Third, complexity refers to the degree to which an innovation is perceived as difficult to understand and use. Physical activity is a demanding, complex behavior with poor adherence rates (Laitakari & Miilunpalo, 1998). Given the often complete absence of motivation in individuals with depression, the consideration of exercise might appear puzzling (Salmon, 1990). In contrast, Martinsen and Morgan (1997) believe it is possible to help a large proportion of depressed patients to initiate and maintain regular physical activity, and exercise is
commonly reported to be one of the most valued components of treatment programmes (e.g., O'Kelly, Piper, Kerber, & Fowler, 1998). In other fields, complexity has been identified as the most critical category in predicting the level of adoption of strategies to reduce infant mortality (Goldman, 1994).

Fourth, the trialability of the innovation is the degree to which an innovation can be experimented with on a limited basis. Arguably, professionals can experiment with exercise given that no negative effects of exercise in mentally ill patient groups have been reported (Biddle & Mutrie, 2001). Unlike drug treatment or time intensive psychotherapy, exercise might be a useful tool that can be applied in certain circumstances. Finally, observability refers to the extent to which results of promoting exercise are visible to others. Without initial adoption of the innovation elsewhere (i.e. promoting exercise), then observability cannot take place although anecdotal reports from patients or other clinicians may play a valuable role in convincing practitioners of the benefits of promoting exercise.

Overall, diffusion research is a conceptual paradigm relevant to many disciplines (Rogers, 1995). Although reliant on a rational conceptualisation of behaviour (Moulding, Silagy, & Weller, 1999), it is one way of connecting a developing evidence base with its actual utilization in the field. As such, it provides a touchstone throughout the current project for relating how exercise is accepted or stifled as a strategy for improving mental health. Specifically, we must see an innovation through the eyes of the potential adopters. How an innovation is perceived is critical to its adoption and such a dissemination model has received little attention in the exercise and mental health field. While the potential benefits of exercise may be familiar, its role in clinical practice may be seen as irrelevant. Attitudes toward an innovation frequently intervene between being aware of an innovation and actually deciding to utilize it (Rogers, 1995).

2.9.1 Summary

The evidence is growing to support the consideration of exercise as a strategy for improving mental health in clinical and nonclinical settings. In addition, policy acknowledges this role for exercise yet other researchers have recognised how exercise has yet to fulfil its potential as a therapeutic option (see Section 2.4). A number of perceptual and structural barriers have been suggested as limiting a broader acceptance of exercise. If exercise is to become a more popular treatment alternative,
research must be concerned with issues of diffusion and consider appropriate theoretical frameworks. Initially, it must address the perceptions held by professionals who would implement a new treatment, the environment in which this would take place, and how the treatment is received by a target population. Assessing attitudinal barriers and identifying the barriers to implementation will allow a more structured design of dissemination and implementation strategies (Moulding, et al., 1999). This should help close the schism that exists between researchers and practitioners (Gauvin & Spence, 1995).

2.10 Conclusions and Aims

Research in exercise psychology must look beyond an emphasis on personal and interpersonal interventions that specifically target the individual in increasing levels of physical activity (King, 1994), and examine the larger context in which any exercise delivery may take place. Interventions that span multiple settings and levels of analysis are more likely to be effective in promoting health than those narrower in scope (Parcel, et al., 1987; Stokols, 1992). Similarly, the current project takes a broad, multi-level and multi-method analysis of exercise and mental health by focusing on trainers (key stakeholders responsible for treatment dissemination), providers (individuals working at the forefront of treatment) and service users (the individuals who may receive promotional prompts). In light of the reviewed literature, three aims are considered in terms of perceptual, structural and experiential factors (see Table 2.2):

2.10.1 Aim 1: Perceptual. How is exercise perceived as a treatment alternative by mental health professionals?

Traditional diffusion models, which appear to have been the guide for most previous dissemination efforts, “have perhaps placed too much faith in the model of the rational, information-seeking, and probabilistic practitioner, expecting the mere availability of new information to lead to changes in his or her clinical policies” (Lomas & Haynes, 1988, p. 90). Dissemination should be directed not only at increasing awareness but also at influencing attitudes, knowledge, and finally behaviour (Lomas, 1991). As the preceding review suggests, a range of important perceptual barriers may hinder the development of exercise promotion (see section
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2.8). Therefore, an important direction for promoting physical activity is investigating the perceptions toward exercise held by mental health professionals. Qualitative research is ideally suited to allowing clinicians' own understandings and explanations to become the focus of research (Armstrong, Reyburn, & Jones, 1996) and explore some of the subtle barriers described. Mutrie (2000) has also suggested the need to examine medical professionals' attitudes toward exercise. Therefore, Chapter Three and Chapter Five qualitatively examine the perceptions of exercise as a treatment alternative amongst clinical psychologists and mental health nurses respectively. Specifically, as stakeholders in the treatment dissemination process, course directors of clinical psychology training programmes are investigated. Mental health nurses are also selected as a contrasting sample given their close contact with clients and their theoretical distance from a medical model of operations (Bachrach, 1992).

2.10.2 Aim 2: Structural. What are the structural barriers to the promotion of exercise?

Structural issues concerning the delivery of exercise opportunities and bridging the evidence-practice divide may also be influential in limiting the consideration of exercise (see Section 2.7). The support and commitment of mental health staff is critical in encouraging the use of exercise as an adjunct treatment for mental illness. At the promotional level, we may be primarily concerned with mental health professionals who can play a valuable advocacy role in encouraging and promoting physical activity to clients. This may be in the form of opportunistic advice. Little technical knowledge is required and the main goal of their promotion could be to encourage habitual physical activity and general recreation. As mentioned (see Section 2.7.1), individuals working within the health services should always recommend or advise patients to increase levels of physical activity for prevention and treatment of health problems (NHS Executive, 2001). Chapter Four identifies the nature and extent of exercise promotion within one NHS Mental Health Trust and develops an understanding of the psycho-social factors predictive of such promotion.

The Theory of Planned Behaviour (Ajzen, 1991) can provide a useful framework for assessing the intentions, subjective norms and perceived behavioural control of mental health professionals in promoting physical activity amongst their clients. Barriers to promotion and professionals' use and confidence in delivering specific aspects of exercise counselling are also assessed in addition to current
exercise behaviour. While this study examines the promotion of physical activity by mental health professionals specifically, the relative success of the TPB in explaining intentions and behaviour carries important implications for the design of future interventions in increasing health professionals’ involvement in the promotion of any health-related behaviour.

Additionally, a sample of mental health nurses involved in this study is followed up qualitatively in Chapter Five (see also Aim 1). Quantitative and qualitative data is compared and contrasted in order to highlight issues of dissonance. This offers further understanding of the promotion of physical activity whilst offering insight into the strengths and weaknesses of a multi-methodological approach to research.

2.10.3 Aim 3: Experiential. How is exercise and its promotion experienced by mental health service clients and professionals?

It is important to return the research process to the user of mental health services. Involving users of mental health services in reporting their experiences and perspectives has been identified as a priority in service research (NHS Executive, 2000). This is essential as there can exist a pro-innovation bias (Rogers, 1995), where it is automatically assumed that a given innovation, in this case exercise, should be diffused and adopted by all members of a social system. Should we be promoting exercise as an antidepressant? What role does physical activity play in the life of an individual with clinical depression?

In Chapter Six, case studies of four individuals are reported. Referred via mental health services, these individuals are tracked over a year to gain their insights into the exercise referral process and their experiences of physical activity. In this case, understanding perceptions of exercise, the motives and barriers to exercise, and physical activity’s role in promoting psychological well-being, alongside the narrative of participant’s lives, gives insight into the potential of exercise and such schemes to improve quality of life. Given that most opportunities for structured exercise are delivered through GP referral schemes (NHS Executive, 2001), this chapter also addresses the feasibility of such schemes for mental health service clients as one possible avenue for overcoming any existing structural barriers (see Aim 2).

Additionally, drawing on the experiential reports of clinical psychologists and nurses in Chapters Three and Five respectively allows further opportunity to consider their
experiences of promoting physical activity to clients. Implications for effective promotion and participation by clients can be considered.

Overall, this research project seeks to enhance the development of comprehensive physical activity provision for people with mental health problems by understanding some of the barriers inhibiting the promotion of exercise as well as factors that may contribute to the success of such promotion. Finally, this project allows the identification of future directions in research and delivery.
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Notes on Chapter Two

1. Care Programme Approach (CPA) offers a framework for care co-ordination of service users under specialist mental health services. The main elements are a care co-ordinator, a written care plan, and at higher levels, regular reviews by the multi-disciplinary health team and integration with the social services care management system (DoH, 2000).

2. Category B (Bouchard & Blair, 1999): Evidence is from endpoints of intervention studies that include only a limited number of RCTs, post-hoc or subgroup analysis of RCT, or meta-analysis of RCT. Category pertains when few randomised trials exist, they are small in size, and the trial results are somewhat inconsistent, or the trials were undertaken in a population that differs from the target population of the recommendation. Category A evidence requires a substantial number of studies involving substantial numbers of patients.

3. A multi-disciplinary team offering specialist assessment, treatment and care to people in their own homes and the community. The team should involve nursing, psychiatric, social work, clinical psychology and occupational therapy membership, with ready access to other therapies and expertise, for example specialist psychotherapy, art therapy, and pharmacy (DoH, 2000).

4. Perhaps cynically, I have currently been offered funding from a drug company on the basis that exercise may actually improve drug compliance to antipsychotic medication. That is, patients will take more drugs.
Chapter 3: Exercise as Therapy

3.0 EXERCISE AS THERAPY: IT'S JUST NOT PSYCHOLOGY!

3.1 Introduction

The authors of a recent review were left questioning why exercise had not become a more popular treatment alternative considering the strength of their reviewed evidence (Tkachuk & Martin, 1999). The case for exercise and physical health is widely accepted by medical authorities. In addition, there is growing research that exercise can promote mental health and serve as an adjunctive treatment for various conditions such as depression, anxiety and schizophrenia (as discussed in section 2.3). While methodological concerns exist, cautious optimism regarding the potential efficacy of exercise as a therapeutic possibility remains (Burbach, 1997; Craft & Landers, 1998; Martinsen, 1995). It has been estimated that the cost of mental health problems for 1996-97 totalled over £32 billion (NHS Executive, 1996) while one in seven adults are experiencing a mental health problem (OPCS, 1995). The potential role of exercise in alleviating this financial burden and improving quality of life deserves attention.

The recently released Physical Activity and Mental Health Consensus Statements (Biddle et al., 2000; Mutrie, 2000) amongst other assertions, suggests that there is support for a causal link between exercise and reduced depression in clinical groups. However, as Lomas (1991, p. 55) remarked “words, whether credible or not, rarely flow automatically into action”. In reviewing the dissemination of consensus statements, Lomas concluded that consensus recommendations had little impact on the behaviour of practitioners since their dissemination generally relies on the existence of rational, highly motivated, information-seeking practitioners.

Regardless of any mental health benefit, exercise should be promoted since often the physical needs of psychiatric clients are underserved (Karasu, Waltzman, Lindenmayer, & Buckley, 1980) and there is little evidence that health promotion efforts are being targeted at mental health populations (e.g., Brown, Birtwhistle, Rose, & Thompson, 1999). Currently, the inclusion of physical activity in structured rehabilitation programmes or as a component of care programmes is not a nationally applied standard in the UK (see Section 2.4). In relation to depression, Hale (1997) failed to mention exercise at all in discussing the treatment of depression in the UK nor have the American Psychiatric Association endorsed the role of exercise in treating mental illness such as
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depression (Dishman, 1995). As in the broader context of health promotion research, such reluctance possibly exists due to an overemphasis on efficacy studies with little attention to the development and evaluation of effective methods for broader dissemination and diffusion of related findings (Oldenburg et al., 1999).

This is essential as research suggests that most individuals do not evaluate a change in practice solely on the basis of scientific studies of its consequences (Rogers, 1995; see Section 2.9). Rather, how consistent the innovation is with an individuals' attitudes and beliefs, might become critical to understanding how an evidence-based adjunctive therapy, such as exercise, is to become a more popular treatment alternative. Simply, we need to understand how exercise is viewed through the eyes of those who may act on the evidence supporting exercise. However, little research exists concerning the perceptions of such evidence held by mental health professionals, the barriers to application or even how such research would be applied.

3.2 Attitudes Regarding Exercise as Therapy

Limited research in the United States has explored therapists' attitudes to exercise and their own exercise involvement (Barrow, English, & Pinkerton, 1987; Burks & Keeley, 1989; McEntee & Halgin, 1996; Royak-Schaler & Feldman, 1984). Royak-Schaler & Feldman (1984) surveyed eighty-six members of Division 29 (Psychotherapy) of the American Psychological Association (APA). From this small sample, these authors concluded that psychotherapists were actively engaged in both evaluating and making recommendations to their clients in the areas of diet, physical exercise and relaxation practice.

Barrow et al. (1987) sent out questionnaires to 196 North Carolina psychologists listed in the National Register of Health Service Providers in Psychology. Almost all of the respondents indicated that they were inclined to recommend exercise to their patients (93.57%). Approximately half of the sample recommended exercise "occasionally" and only 10% recommended it "all the time". Only 5% never made a recommendation. An interesting finding concerned the therapeutic orientation of the respondent in that cognitive-behavioural and humanistic psychologists were more likely to recommend exercise to patients than those with psychodynamic and psychoanalytic orientations.
Burks and Keeley (1989) administered questionnaires to 232 psychotherapy members (Division 29, APA). Despite two-thirds of the responding therapists having a favourable attitude to exercise, the psychotherapists were less inclined to address exercise with their clients and much less often than other health behaviours such as smoking cessation or alcohol use. However, 83.3% of the sample reported having prescribed exercise to at least one or more clients.

In the most comprehensive study to date, McEntee and Halgin (1996) surveyed 250 psychotherapists with a 15-item, two-page questionnaire assessing beliefs concerning exercise and mental health, whether exercise would be discussed with clients and the specific reasons why exercise would or would not be discussed. Results suggested that these therapists acknowledged exercise as a viable treatment option. Specifically, ‘exercising’ therapists were more likely to discuss physical activity with their clients.

The most prevalent reason for discussing exercise concerned symptomatic benefits such as an alleviation of anxiety, stress and depression (87.2%). Other reasons included self-esteem (37.3%), social benefits (9.1%) and physical benefits (22.7%). Reasons why exercise would not be discussed are revealing. Perceived inappropriateness was most common. Many felt that exercise was too suggestive, prescriptive or directive and therefore inappropriate given their therapeutic orientation. Confusion of the therapeutic relationship was also a factor particularly in terms of issues of transference and countertransference. Other less noted factors included concern over clients sensing failure if they did not live up to the perceived expectations of their therapist, insensitivity to those with body image issues, exercise trivialising other issues and being unfamiliar with exercise prescription.

In contrast to Barrow et al. (1987), no relationship was found between therapist orientation and the likelihood that exercise would be addressed. This was possibly due to these ‘therapists’ practising a more integrative, therapeutic model. However, McEntee and Halgin (1996) concluded that “many therapists simply do not see their work as pertaining to the body” (p. 55) and that “topics such as exercise are viewed as unimportant by some mental health workers who fail to appreciate the relationship between physical and psychological health” (p. 58). They suggest this may be due to increased specialisation in the health fields. While greater connections are made between
various health behaviours in general, many physicians and psychologists retain a narrow scope of specialisation, failing to appreciate the inter-relationship between the body and mind. As Baerveldt and Voestermans (1996) suggest, "the body as such is hardly a subject matter for psychology. Psychology is a science 'buried in thought'" (p. 693). Furthermore, psychology, with its emphasis on positivistic, scientific methods of research (Nicolson, 1995; Murray & Chamberlain, 1998) can serve to reinforce mind-body dualism through its objectivist stance (Yardley, 1999). Accordingly, the body, and possibly by implication, exercise, may be ignored in traditional formulations of treatment (Faulkner & Biddle, 1999).

These studies were all small, self-report surveys with differing definitions of exercise used. However, some encouragement can be drawn that 'exercise as therapy' was considered appropriate by many therapists with the most significant exercise promotion occurring through those who exercised regularly themselves. Those who have favourable attitudes to exercise, possibly formed through personal experience, are more likely to consider exercise as part of a rehabilitation programme. Finally, there may be differential attitudes toward exercise depending on therapeutic orientation. Further studies using UK samples are necessary.

In the UK, clinical psychologists can be key stakeholders in the therapeutic process and are often involved in the development of treatment programmes. They may be essential in legitimising the inclusion of exercise within care packages for clients and supporting access to physical activity. This exploratory study, therefore, aimed to investigate perceptions of the use of exercise as an adjunct therapy. Specifically, course directors of doctoral training programmes in clinical psychology were targeted in order to delimit sample selection. Their courses, in partnership with clinical placement, are the primary sources of treatment dissemination. While not the goal of qualitative research, it is intended that the presented results may illuminate how exercise could be perceived by mental health professionals in general rather than by clinical psychologists per se. These professionals will be an important resource for community interventions designed to increase physical activity in a neglected population and will be essential in legitimising the inclusion of exercise within care packages for clients and supporting access to physical activity. Fox (2000a) concurs that exercise is rarely used as a form of treatment.
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for mental disorders such as depression and that the reasons for this are not entirely clear. This chapter seeks to redress this gap in our knowledge.

3.3 Method

3.3.1 Orientation

An idiographic methodology was considered most appropriate to understand the views of professionals. Giving clinical psychologists an opportunity to discuss their perceptions of exercise was seen as critical to helping myself, as an exercise scientist, begin to develop an understanding of how exercise is framed and how dissemination attempts may be shaped to accommodate a range of beliefs. My paradigmatic assumptions consider reality to be multiple and knowledge to be socially constructed. Consequently, interpretations will vary according to the context in which data is collected and analysed and are ultimately imbued with subjectivity (Maddill, Jordan, & Shirley, 2000). Given the exploratory nature of the study and the interest in focusing on the words and meanings of participants, how exercise is 'talked' about becomes more salient than any suggestion of irrevocable truth regarding attitudes toward exercise. As Wolcott (1990) suggests "We are better off reminding readers that our data sources are limited, and that our informants have not necessarily gotten things right either, than implying that we would never dream of reporting an unchecked fact or unverified claim" (p. 130). The interpretations offered are partial and situated, rather than universal knowledge (Stake, 1994).

As a researcher, there are a number of ways in which I am firmly located within the research process. The current study was conceptualised after I had previously worked in a mental health setting and delivered an exercise intervention (Faulkner & Sparkes, 1999; see Section 1.0). The intervention was deemed successful by mental health colleagues yet there were no attempts made to further develop opportunities for physical activity. Barriers such as time constraints were certainly an issue but more subtle and complex issues appeared to underlie this reluctance. From this experience and knowledge of the research literature, I believe exercise can play a useful adjunct to traditional forms of treatment for some individuals with a mental health concern and is certainly not a panacea. Such an orientation clearly drove the creation of the present
study to understand more about how mental health professionals view exercise as an adjunctive therapy.

3.3.2 Participants

The course director for all English doctoral programmes in clinical psychology (N=21, as identified by the clearing house for postgraduate courses in clinical psychology) was sent a letter explaining the nature of the project. All individuals who expressed a willingness to participate were included in the study. In total, fifteen course directors were interviewed, over a period of five months, in addition to one lecturer who was delegated the task by their course director. Two assistant directors, two lecturers and a course director of a Doctoral Conversion programme in clinical psychology were also interviewed. Course directors representing four institutions declined to participate and another was unable to be contacted. Lack of time was given as the reason for non-participation. Therefore, the response rate in terms of courses covered was 76%. In total, nine women and twelve men were interviewed, with a mixture of academic and service experience and a wide range of research interests.

3.3.3 Procedures

A standardised format was initially developed for the interview schedule (see Appendix 1) although the presentation of topics sometimes varied and flexibility was allowed in probing interesting issues that arose. In keeping with an emergent design, the schedule was continually adapted on the basis of each interview but within each, three topics were examined through open-ended questions. First, general perceptions of exercise as a therapeutic modality (e.g., would you consider exercise to be an adjunctive therapy for depression?), the inclusion of exercise within course curricula (e.g., are you aware of exercise being discussed on your course?) and finally a set of questions covering the promotion of exercise in clinical practice (e.g., have you ever recommended exercise in clinical practice?). A series of secondary questions and probes were also used when appropriate. Given the dominance in the literature of studies concerning exercise and depression, this clinical condition was often referred to as a prompt.
Interviews were conducted over the telephone. Face-to-face interviewing is certainly the most common mode of conducting an interview. However, such interviews may be difficult to organise and set up. This may be particularly pertinent when attempting to access busy professionals, maintaining longitudinal contact or when participants are widely spread geographically making travel expensive. An alternative could be the use of telephone interviews which has been accepted as a suitable mode of data collection (Burnard, 1994; Groves et al., 1988; Marcus & Crane, 1986; Tausig & Freeman, 1988).

All participants expressed a preference for a telephone interview and gave verbal consent to having their interview recorded on audiotape. Confidentiality was ensured and a suitable time organised for the interview to take place. Due to their busy schedule, it was felt that phone interviews would provide a higher response rate and allow a greater geographical area to be covered at minimum expense. In addition to the pragmatic reasons for this choice fewer negative effects of interviewing have been reported in phone use. For example, social desirability is reduced since visual characteristics of the interviewer cannot be observed (Groves & Kahn, 1979). Conversely, there is some evidence that open-ended questions asked over the phone produce less detailed answers. Marcus and Crane (1986) concluded that at least in situations where initial contact had been made in person, rather than through ‘cold calls’, a) response differences found between telephone and face-to-face interviews have generally been modest, b) in regard to reports of health and illness behaviours, evidence does not provide consistent or conclusive evidence that telephone interviews provide less valid data than in-person interviews and c) mode of interview differences in response burden and interviewer effects do not appear to be especially noteworthy.

The lack of ‘face-to-face’ contact is a potential weakness although it is difficult to ascertain how interview studies typically utilise this information, if at all, in relation to their analysis procedures. In some cases, this lack of contact may benefit data collection. As an example of a study using telephone interviews, Carr (1999) reported 29 telephone interviews with patients discussing their experiences of pain six weeks after discharge from hospital. For Carr, the data elicited was of a richness and depth not achieved with face-to-face, semi-structured interviews. Three reasons were suggested for this, the
anonymity offered by the telephone, distance from care in that patients were less worried about criticising the system, and as there was less chance of the interviewer interrupting, the pauses might have helped respondents relax and talk more openly. In the present context, given the time constraints on the participants themselves and the good response rate that was achieved, telephone interviews were considered acceptable for an exploratory study of 'perceptions' held toward exercise. In the sport and exercise context, telephone interviews have also been reported as satisfactory in collecting data on exercise prescription scheme participation (Martin & Woolf-May, 1999) and the retirement experiences of elite gymnasts (Kerr & Dacyshyn, 2000).

As with interviewing face to face, a range of strategies were tested and developed. Initially, two pilot interviews took place with a mental health professional to gain experience of telephone interviewing and specific feedback regarding the content of the interview and the process of the telephone recording. Feedback about the interview content and process was sought and allowed the interview technique to be revised. In particular, further opening questions were introduced to offer respondents suitable time to discuss their own personal histories, research interests and current roles in order to develop rapport and provide respondents time to adjust to the nature of the interview.

After each interview, reflections regarding the interview were noted in a 'field diary' and informed ongoing analysis. Three issues need elaboration. Methodologically, initial reflections identified the potential of rushing through the interview. Given that there are no visual cues, interactions may be rushed in order to provide continuity (Groves & Kahn, 1979). As Marcus and Crane (1986) suggested, deliberate reminders to respondents to take their time were given and the number of interview probes were increased. Second, the emergent design allowed flexibility in pursuing new avenues of inquiry as data collection proceeded. The notion of 'compatibility', as will be discussed, arose from these field notes and became an issue that was developed in later interviews. Finally, the field notes raised issues about the 'way' in which the participants talked about the evidence for exercise. Examples of show concessions (Antaki & Wetherell, 1999) were noted where respondents would make a show of conceding that exercise 'may' be beneficial for depression before reprising initial doubts. Specifically, this can be an offensive conversational structure which acts as a cheapener – making something a
concession serves to devalue the opposing case (Antaki & Wetherell, 1999). This study makes no claims to conversation analysis (Sacks, 1992) but such awareness helped develop the evidential theme (see Appendix 2 for a further discussion of conversation analysis). Nebulous reference to the ‘evidence’ was often used to discount the potential of exercise as an antidepressant.

3.3.4 Analysis

The audiotaped interviews were transcribed and then scrutinized through a process of close reading in order to be immersed in the data and understand participants’ perceptions. Initially, inductive analysis was used to identify, code, and organise themes arising from the raw data with quotations serving as units of analysis (Maykut & Morehouse, 1994; Coffey & Atkinson, 1996). Interview transcripts were broken down into discrete units and coded within each transcript. Each code was based on the actual words of the respondent. These codes, tagged by initials, page and line number, were then examined and organised into themes. This was done using the constant comparative method (Glaser & Strauss, 1967) to compare and contrast each coded data unit to allow categorisation into new themes. Drawing on field notes and using this constant comparison approach across responses from all of the participants assisted the development of “plausible interpretations” from the data (Wolcott, 1994) concerning perceptions of exercise. Relationships between these interpretations were grounded in the data (Strauss & Corbin, 1994) and form the basis of the outcomes section in this paper. Throughout the analysis these interpretations were also shared and discussed with my supervisor as a “critical friend” in order to challenge the identified themes and their connections and to develop notions of authenticity, fidelity and believability (Sparkes, 1998). Finally, a report was sent to participants for their comment regarding the interpretations made in a form of ‘member checking’ (Lincoln & Guba, 1985) and offered participants an opportunity for reflexive elaboration (Bloor, 1997).

3.4 Outcomes

The outcomes are presented in two sections. First, general perceptions regarding exercise and its marginalized status are discussed. Second, to understand low levels of
exercise promotion, four key thematic barriers that emerged from the data are presented as underpinning these perceptions. In particular, inconsistent positions on evidential criteria used to evaluate the role of exercise mask the themes of incompatibility, practical, dualistic tendencies and simplicity. In presenting the outcomes, quotations are used to illustrate key points and allow participants to speak for themselves (Wolcott, 1994). This allows 'naturalistic generalization' by the reader in determining how transferable the findings are to one's own context or experience (Strean, 1998). Providing insight rather than any definitive 'truth' becomes paramount. Eventually, the reader must decide whether the study has anything to offer. While my interpretations are offered, readers also 'add and subtract, invent and shape' in the construction of their understanding (Stake, 1994). In telling a realist tale (Van Maanen, 1988), theory and data are interwoven to illuminate contrast and develop links with wider issues of theory and practice. These references also offer a context as to how my interpretations of the data are formed.

3.4.1 General Perceptions

Half of the participants were very positive about the potential role exercise could play in the treatment or rehabilitation of clinical mental health conditions. Exercise was most often associated with anti-depressive and anxiolytic effects. In addition, direct changes in mood were also mentioned as well as elements of distraction and exercise providing 'structure to the day'. However, there was a general sense in which exercise would be useful across a range of conditions, "almost all of them where self-esteem, self-efficacy and mastery helps people to empower themselves" (CD, 1). One director was uncertain how you could argue that exercise was not beneficial:

It's a bit like saying, this is part of the difficulty, why could breathing be effective? It's such an integral part of being which is very often taken away from us either by the lifestyle that leads to the onset of depression or whatever or the nature of the side-effects that make people sedentary (CD, 7).
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The 'common sense' view that physical activity is an integral aspect of 'being', often expressed in the hollow incantation of 'the healthy body, healthy mind' cliche may actually hinder its acceptance as an adjunctive therapy. As Glenister (1996) concluded when reviewing the exercise and mental health literature, "common sense suggests exercise would be useful [as therapy] but despite this or because of this (emphasis added), the role of exercise in the management of minor psychiatric problems has received little attention" (p. 8).

Conversely, the other half of respondents considered exercise more as a potential (and effective) 'normalising' strategy, which may be included in some form of activity scheduling. More than one participant downplayed the connotations of 'exercise' as 'therapy':

A lot of our people [clinical psychologists] are clearly trying to enable them [clients] to join in activities, but it's more with a social emphasis, it's the social emphasis, not sending someone on the marathon, it's not sending someone on an individualised programme of exercise. It's much more to do with treating what could be seen as social dysfunction as opposed to anything else (CD, 3).

While depression has received the most support in the literature, it was in relation to depression that these critical participants expressed most concern. One director associated any benefit from exercise to be useful for specific affective states rather than particular DSM-IV identified conditions such as depression. The possibility of exercise being used to deflect attention from other problems was reported particularly in the sense of the 'complexity' of factors underlying depression in some clients. Diversionary activities with which exercise was equated were also described as not being beneficial for depression. Most prominent were concerns over long-term benefits:

I'm less certain about depression . . . because I'm not sure whether what's being talked about is a short term endorphin burst or whether you're talking about something that's longer term restructuring (CD, 6).
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Exercise was often related to more short-term mood changes or changes in affective states rather than long-term cognitive benefit. By implication, exercise was deemed lacking in sophistication to tackle the 'complexity' of factors underlying depression in some clients. Evidence does exist that suggests exercise can have enduring effects on depression (Mutrie, 2000).

In terms of promoting exercise as an adjunct treatment for depression, participants suggested that it was rare. Some offered approximate percentages ranging from not at all to 5%, 10% to 25% of clinical psychologists who might suggest 'part of the treatment regime should include exercise'. However, one director was very positive about using exercise:

Definitely, I mean certainly for patients that I see myself, I have to say that in about 75% of those with depression who I see, there will be many different things I may suggest to them. One will always be to do with physical exercise of some kind, but a trip down to the gym and a visit to the GP for a check out is one of several things I might suggest (CD, 13).

One director specifically mentioned the benefits he had found in using exercise with angry and violent clients, which was "very useful significantly often for me to think of it as one of the major arms of working with clients who have that amount of anger" (CD, 14). Clinical psychologists will be looking across a range of different activities that an individual might be able to engage in and it was clear that for some directors, when a client had a history of interest in exercise that this was something often used to advantage:

I've got somebody now who we've started getting involved in the gym who's got a very severe psychosis. Used to be a footballer, put on a lot of weight and was feeling like he was beginning to want to get back into normal life and we decided on a programme of exercise and that was a specific part of his care plan (CD, 18).
An overall feeling that suggesting exercise was not common easily outweighed such positive responses. For example, one participant was quite adamant in his perception of the extent of recommending exercise, “Good psychologists, I would say not that much” (L, 12). Perceptions of exercise may be broadly positive but recommending exercise as an adjunctive therapy was rare. Alternatively, promoting ‘recreation’ or a ‘healthy lifestyle’ rather than exercise per se was perceived by some to be more common.

3.4.2 Barriers

Examining initial perceptions as to the possible use of exercise as an adjunctive therapy does indeed reveal that exercise is extremely marginal in the treatment of mental health conditions. On a general level, exercise was inconsistent with most psychodynamic approaches in comparison to more cognitively oriented therapists as suggested by Barrow et al. (1987). Some saw exercise as possibly being readily congruent with a CBT approach. However, the nature of one’s training was seen as most influential:

Well, what one believes and what knowledge one has depends upon one’s experience and everybody’s experience is different and everybody’s teaching what they’ve been subjected to in terms of their teaching programmes and training, therefore they’ll think differently (CD, 9).

Exercise is absent from this occupational socialisation. In relation to depression, only two directors were aware of exercise being mentioned as an adjunct therapy within their course with a third emphasising the teaching of exercise as a stress management technique. Ten directors suggested that there was no mention of exercise while the remaining were not sure, or suggested that exercise may be briefly mentioned in relation to CBT, activity scheduling or in student case-studies. It is important to recognise that course directors will not be familiar with the entire course content of their programmes. However, since it would appear that exercise is not addressed in the majority of courses, it is not surprising that its potential has not been realised in practice or research (Tkachuk & Martin, 1999).
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Time constraints understandably ensure that only the 'core psychological models' are covered. This is necessary but tends to colour that which is not covered as unimportant. There was another sense in which physical health, and by association exercise, clearly fell under the remit of health psychology where coronary rehabilitation or pain management were often mentioned. The links between exercise and mental health were not always readily perceived revealing an uneasy dichotomy where a physical treatment was perceived as being compatible for health psychologists but not for clinical psychologists. In a climate of ever-increasing specialisation, the structural division made between health and clinical psychology tends to narrowly specify appropriate treatment strategies that are specific to that profession and which contribute to promoting a unique identity. One course director was actively trying to break this norm:

I think that the psychology of health care incorporates physical and mental health. I know there's a discipline of health psychology, but in terms of client practice, we don't want health psychologists and clinical psychologists, we just want the clinical applications of psychology (CD, 12).

For others, the mental health benefits of a 'physical' treatment such as exercise were not strongly endorsed; after all, that was someone else's niche.

3.4.3 Evidence

Awareness of the exercise and mental health literature was extremely limited with most participants unfamiliar with existing research. Given the variety of each individual's interests and specialties this should not be surprising. However, this lack of awareness was interpreted by many to imply that there was not much evidence in the first place, as this show concession suggests³ (Antaki & Wetherell, 1999):

*There is no evidence. Although you might find* the odd paper which says that exercise is effective here and there, as far as treating clinical problems, populations with psychological and psychiatric problems, to my knowledge *there is no evidence* (L, 12).
Conversely, the lack of randomised control trials (RCTs) involving exercise was raised. In the climate of evidence-based practice, these are a necessity. This is despite the general distaste for RCTs from these participants in questioning the ecological utility of such trials, the multitude of inputs in many treatment ‘packages’ and the difficulty of non-random dropout. However, there were several conundrums that appeared. Firstly, for more than one director, evidence-based practice was not the sole arbiter of treatment choice:

The biggest factor out there is probably personal bias . . . the degree of personalised faith about whether a particular kind of therapy is a good thing to do. I think that’s probably the strongest factor out there in deciding how most clinicians actually go about their work (CD, 6).

Questions are then raised as to what informs this personal bias or prompts exploration of new avenues in the research literature. The socializing influence of training programmes is certainly important where, as previously discussed, exercise is rarely addressed. Five directors cited personal exercise behaviour as being the most important factor in deciding whether exercise was perceived as a beneficial therapeutic modality.

Second, five directors suggested that qualitative research in the sense of ‘suggestive’ evidence would be welcome. Studies with reasonable design features such as quasi-experimental studies would also be acceptable. Such research is relatively abundant. In the words of one director,

We might want to ask the question, if there’s evidence for exercise, why is no one mentioning it, that would be a more interesting question to us, to be honest (CD, 4).

An interesting question! Hughes (1984) reported 1100 published articles exploring exercise and mental health with at least a further 250 since then (Plante, 1993). More recently, Craft and Landers (1998) identified thirty studies on exercise and clinical
depression in a meta-analysis while Mutrie (2000) reviewed ten RCT’s examining exercise and clinical depression.

Third, for many participants very few psychological studies met the kinds of demands expected by evidence-based practice. Specifically,

I suppose where we can get good evidence it's used but there are vast tracts of things that we're asked to deal with where the evidence is certainly not of the quality of something like a Cochrane review would require with randomised controlled trials. There just isn't the bulk of it in vast areas of psychology (CD, 2).

Another director reinforced such thinking:

Well I must say, if the evidence for it was as strong or as weak as some of the other aspects of intervention, then I certainly wouldn't have any objection to that at all (CD, 4).

In the case of exercise, more stringent, evidential criteria is being applied and is a ready-made defense for something that may be seen as 'unnatural'. However, participants were not able to offer critical insight into the nature of existing research because they were unaware of its existence in the first place. The burden of proof remains on researchers in the field to attempt experimental trials. More importantly, journals from disciplines other than sport and exercise science should be sought for the dissemination of research into exercise and mental health although this will not in itself guarantee implementation. There is a level of selective attention to research which is molded through more subtle influences. As one director remarked, "My intuition is that there's a reasonable evidence base for exercise, I probably have a suspicion that it's not exploited enough" (CD, 17).
3.4.4 Compatibility/Models

This lack of 'exploitation' may be due to the possible incompatibility that exercise is perceived to have in relation to the traditional roles and values of clinical psychologists regardless of therapeutic orientation. While perceptions of exercise, particularly in relation to depression sometimes varied, a recurring theme throughout these discussions focused on the notion of being at the 'forefront'. Given the models used to understand and develop interventions for clinical conditions, exercise would not be at the forefront of thinking:

I think the problem with things like depression and anxiety is that the theoretical constructs that have been used to try and understand these problems and then treat them, exercise or the need for bodily activity isn't particularly prominent . . . it's just not within the constructs of most psychologists as they think about disorders (CD, 2).

More specifically,

Clinical psychologists generally tend to think as science-practitioners and until we have evidence that exercise aetiologically is implicated in depression, treatment will not address it (L, 12).

According to one director, there is "a tendency for us [clinical psychologists] to remain married to our own models and preferences and not to shift" (CD, 2). If exercise is seen as tangential to the core psychological models of the day, it then follows that recommending exercise is incompatible with what one perceives (and is exposed to believe) clinical psychology to be. Drawing on innovation diffusion research (see Section 2.9), the compatibility of an innovation (an idea, practice or object) with accustomed roles and values is significantly related to its possible adoption (Rogers, 1995). Diffusion is much slower if the innovation (in this case, exercise) requires the prior adoption of a new value system. This incompatibility was reflected in many guises:
Because we're taught to do things that tend to favour cognitive type interventions... they're all the same, they're to do with people's thinking and a little bit of doing. But the emphasis on the doing, it's been a lower emphasis so I think historically no, I don't think exercise is necessarily seen to be a fitting intervention offered by a clinical psychologist (CD, 13).

There was also some resistance to a strict reliance on 'models' in viewing exercise as another arm of any integrative, multimodal treatment package. Using a holistic package, perhaps delivered within a multidisciplinary team, exercise was considered as compatible, dependent on the needs of a particular client.

3.4.5 Practical Adherence to a Mind/Body Dualism

In Section 2.8.3, the concept of Cartesian dualism, which has encouraged the development of a focus on disease and illness that is separate from other dimensions of the person, was discussed. Dualist tendencies, inherent in psychology, have already been noted (Baerveldt & Voestermans, 1996; Murray & Chamberlain, 1998; Nicolson, 1995). All participants in this study stated that they had dispensed with such a false dichotomy. However, it was unclear how such a belief actually informed their practice, particularly if physical activity was not considered appropriate in practice or worthy of inclusion on courses. While Rejeski and Thompson (1993) believed that dualism was slowly losing influence, others have suggested that dualistic tendencies still persist such that the mental outcomes of a physical treatment such as exercise are not seen as a priority (Beesley & Mutrie, 1997; Mutrie, 2000). This possibility is supported in the context of the current study. For example:

I suspect it's [the body] certainly not considered as much as it should be. The tradition is that we're psychologists, we deal with minds. And our first priority is that (CD, 19).

If you take clinical psychology as a group per se, then I think you would say the focus is purely on the mind and how that functions (L, 8).
Some directors accepted that the 'incongruency' between recognition and active consideration was of concern:

I mean there's an awful lot of complaints from people, from clients, they actually talk about their bodies . . . and that's often seen as a kind of sideline, as something well if only we could get them to understand what their thoughts are doing or their feelings or something. But actually, it might be something that we could address more directly. Say if people actually did feel better about their bodies then they would feel better about themselves (CD, 4).

In the literature, this incongruency is also problematic. Seedhouse (1998) suggests a pervasive curse of Western culture is the belief that health workers should specialise exclusively in the 'physical' or the 'mental'. At times, exclusivity may be necessary. Such a split between body and mind allows for 'differential diagnosis' (Yardley, 1999) but goes against our natural sense of what holistic approaches to treatment should entail. As in this context, attempts to overcome such dualism might often be characterised more by rhetoric rather than reality (Ogden, 1997). Lip service is paid to holistic treatment at the same time as a practical adherence to a mind-body dualism shaped through clinical psychology focusing on mental illness through the gaze of 'psychological' methods of treatment:

I think a lot of traditional psychologists probably focus on the mental health problem, that's the primary reason why the person is being referred . . . they reflect the presentation of the problem as primarily psychological so they reflect psychological methods of treatment (L, 21).

3.4.6 Simplicity

The final theme concerned issues of legitimacy and de-professionalisation if exercise was used as a specific adjunct rather than as a general 'normalising' activity. As commented by one director (CD, 13), exercise does not appear as a 'terribly glamorous solution', neither 'clever enough' nor 'psychologically based enough'. It is important to
stress the meaning of simplicity within this context since the behaviour in question, exercise, has been remarkably hard to sell to the community at large. Two directors pinpointed the concern:

I think there’s an issue almost of legitimacy, like you’ve done all this training with quite sophisticated models and interventions and psychological work, and you’re asking people to go out for a run. It’s almost too simple (CD, 18).

One barrier will be almost the fear of being involved with something that isn’t psychological enough. This isn’t our territory so leave it to the sports people. I think there could be quite a bit of that, almost as if it’s a barrier of almost intellectual snobbery, that this is just too basic (CD, 7).

Martinsen and Stephens (1994) first speculated that in the field of psychiatry, the status of exercise intervention was low. They suggested, as did these course directors, that this was partly due to exercise interventions being so ‘simple’. Therapists who spend years learning a therapeutic technique are resistant to the concept that possibly analogous results could be achieved through exercise (see Craft & Landers, 1998). Given concerns about evidence, the possible incompatibility of exercise with common conceptual models which tend to ignore the body, simplicity becomes the final problematic issue:

There is this sort of great wish to well, get mentalistic about mental health problems . . . most people tend to attribute problems like depression to a very profound, unobservable historic reason and therefore they might well find straightforward physical remedies to be absurd at one end and trivial and inconsequential nearer the bottom end (CD, 20).

At the same time, this perception of simplicity was seen as being potentially de-professionalising in giving back some control to the individual with mental health concerns:
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I believe there is some resistance to what might be termed kind of common sense or folk ways of intervening. I think that because those kinds of things are common sense, and something people can take control over themselves, I think sometimes professionals without meaning to . . . might not actually be as welcoming of some of those, because in a sense it gives people back control over their own problems (CD, 4).

Another director related a further implication of a 'common sense' strategy that gives back 'control' to clients:

It wouldn't take that much training and work . . . it would be more of a sort of, not a profession specific type of intervention (CD, 18)

That is, anyone could do it! The central remit of clinical psychology programmes is to deliver the knowledge and skills to treat mental illness rather than the knowledge and skills to promote mental health. It logically follows that courses are geared to the prevailing models used for understanding and alleviating mental illness. This has important implications. First, treatments which are 'tangential' to traditional 'models' can be sidelined by waving the wand of evidence-based practice. Second, considering the adjunctive role of exercise, it may be that it is more suitably considered a strategy for promoting mental health rather than treating mental illness.

A shift in emphasis toward mental health rather than mental illness has subtle but inarguable ramifications as to who delivers and what is delivered to individuals with mental illness. If exercise is perceived purely in terms of mental health rather than mental illness, then it does become 'too simple', 'something people can do for themselves' and 'not particularly glamorous'. At the extreme, if ever the evidence for exercise was perceived as conclusive, then there are wide ranging implications: "It couldn't be a treatment on its own. I mean I wouldn't be doing clinical psychology if that's all I did" (CD, 20).

In contrast to feelings of de-professionalisation, other directors felt that given the difficulty in helping clients be more active and maintain participation there was still
plenty of work to be done. Another would be quite happy to use whatever treatment worked whether it is exercise or a new ‘wonder’ drug, particularly if it was based on firm evidence. At which point we have turned full circle. For many participants, exercise just was not ‘psychological’ enough.

3.5 Conclusion

To my knowledge, this is the first qualitative study to examine perceptions of exercise as an adjunctive treatment for mental health concerns. In the present study, a continued adherence to a dualistic notion of mental illness/mental health compounded by increasing specialisation in health fields in general serves to limit acceptance or awareness of the evidence for exercise and the consideration of exercise as a common, therapeutic adjunct at the present time. Rather, exercise was interpreted as a possible normalising strategy and generally an activity to be provided by other health professionals. Despite a growing evidence base, the application of exercise as a therapeutic adjunct still remains problematic.

While the telephone interviews provided a rich source of data, as others have found (e.g., Carr, 1999; Ziebland, Graham, & McPherson, 1998), the study was weakened due to the ‘snapshot’ nature of the perceptions taken. Follow up interviews would have allowed greater reflection for both interviewer and participant as to the meanings offered and interpreted during the research process. Mutrie’s (2000) claim, however, that there may be “a lot of work to be done to convince those who deliver mental health services to focus on the links between mind and body and to look more positively on the role of exercise in mental health issues” (p. 3) rings true. How to change this current state of affairs is a difficult question given the gap between research and practice (see Section 2.7). If there is conviction in the current research evidence as exemplified by the UK National Consensus Statements (Biddle et al., 2000), then it is time that greater consideration is given to sophisticated forms of dissemination which will necessitate addressing some of the barriers revealed in this study. British exercise scientists could play an instrumental role in this dissemination process.

This study suggests that enhancing compatibility between exercise and common therapeutic strategies may facilitate such dissemination. For example, many participants
cited difficulty, if not impossibility, in motivating depressed clients to exercise. This was connected with a lack of awareness of the current exercise guidelines which are more flexible and less vigorous. Greater activity, which possibly can be accumulated throughout the day (Blair & Connelly, 1994), can also be promoted and easily fits into notions of activity scheduling in which many mental health professionals are already involved. Similarly, cognitive-behavioural therapy was the current treatment of choice for many participants yet possible links with exercise were not often made. Exercise can be an excellent behavioural modification which can indeed influence cognitions. There is clear evidence that becoming physically active changes people’s perceptions of their physical self and identity in a positive way (Fox, 1999). Such changes can also generalise to global self-esteem and other markers of well-being. Framing ‘exercise’ within the commonly used strategies of CBT and activity scheduling may make it a more common consideration. This enhances compatibility with existing modes of clinical practice and allays perceptions of simplicity.

There is still much to learn about the possibilities of exercise as an adjunctive therapy. Further research is undoubtedly needed in examining the therapeutic and financial utility of exercise interventions. How such research is to be disseminated to health professionals must also be considered. At the same time, there is clearly a need to examine how exercise is best delivered as an adjunctive treatment and what the role of mental health professionals will be. Until it becomes easier for mental health professionals to access opportunities for their clients, the use of exercise as a therapeutic medium will rely on serendipity, perhaps dependent on the personal interests and exercise behaviour of the clinician (McEntee & Halgin, 1996; McKenna, Naylor, & McDowell, 1998). Although an imperfect science (Dance & Neufeld, 1988), aptitude-treatment interaction research is also needed to guide mental health professionals in their decisions to consider exercise for particular clients.

Given time, psychology may begin to fulfil a promise made clear by the APA Task Force on Health research as early as 1976:

No other discipline is better suited and equipped than psychology to discover, delineate, and demonstrate the organismic nature of humans and to encourage an ever-broadening realization that humanity’s total functional health is
threatened whenever either side of the interactive mind-body equation is neglected. Any program for health care and illness management can achieve comprehensiveness and integration only as there is respect for the functional unity of the individual (p. 271).

In answer to the original question posed by Tkachuk and Martin (1999), conceptual barriers toward which dissemination attempts have rarely been addressed may continue to hinder the acceptance of exercise as a common therapeutic treatment at the present time. The challenge remains for both exercise and mental health professionals in seeking a more unified approach to treatment.
Notes to Chapter Three

1 Two participants responded favourably regarding the interpretations made by the authors. For one participant (L, 12), who was skeptical of the case for exercise, the interpretations were considered fair and balanced. This participant also took the opportunity to again highlight his methodological concerns regarding 'exercise and depression'. The other participant (CD, 7) who was very positive about the use of exercise as an adjunctive treatment, was “not surprised by the resistance, from some within Clinical Psychology, to recognise the importance of the role of exercise in depression”. Consequently, no changes were made to the interpretations made on the basis of this limited response. This may be indicative of some of the barriers described or a limitation of member checking itself (Sparkes, 1998).

2 For all quotes from participants the following codes apply; course director: CD, assistant director: AD, lecturer: L. Numbers refer to a specific participant.

3 Additional markings indicate propositions and reprise (in italics) and contrast marker in bold. The speaker has first made a proposition - ‘There is no evidence’ - which is very easy to disconfirm. Consequently, the speaker then moves to defend against the possibility of being challenged by making an explicit show of conceding - ‘Although you might find’ - and then reprising the original proposition. Antaki and Wetherell (1999) suggest that “making a show of conceding fireproofs something in the speakers’s own position, making it less liable to challenge, upset or rebuttal” (p. 11).
4.0 PREDICTING PHYSICAL ACTIVITY PROMOTION IN HEALTH CARE SETTINGS

4.1 Introduction

Reviews suggest that relatively few primary care physicians routinely inquire about patients' exercise habits and attempt to intervene (Blair et al., 1998). Overall, further research is undoubtedly needed to raise the profile of physical activity promotion among primary health care professionals yet the examination of the promotion of physical activity by such professionals has rarely been theoretically driven (Taylor, 1999). As such, this is the first study to examine the promotion of physical activity in mental health settings and prospectively examine the determinants of physical activity promotion among a sample of health professionals.

Given the accumulating evidence supporting the role of physical activity, Simons-Morton, Calfas, Oldenburg, & Burton (1998) believed that "physical activity counseling should be identified as a minimum standard of care, at the very least for certain patient groups, such as patients with acute MI (p. 428)". Similarly, the Centres for Disease Control and Prevention and the American College of Sports Medicine (Pate et al., 1995) advised physicians and other health professionals to "routinely counsel all patients to adopt and maintain regular physical activity" (p.79).

While efforts have been directed at increasing the incorporation of physical activity advice within primary care (e.g., Albright et al., 2000; Eckstrom, Hickam, Lessler, & Buchner, 1999; King, Sallis et al., 1998; Pinto, Goldstein, DePue, & Milan, 1998), concerns remain as to the extent and quality of such promotion (e.g., Bull, Schipper, Jamrozik, & Blanksby, 1997; Walsh, Swangard, Davis, & McPhee, 1999).

Factors associated with the promotion of physical activity in primary care have been examined (Pender, Sallis, Long, & Calfas, 1994; Frank, & Kunovich-Frieze, 1995; McKenna, et al., 1998). In terms of barriers, attitudinal and systemic barriers have been identified. System barriers have included time constraints, lack of reimbursement, lack of standard protocols and lack of perceived success as counsellors (Pender et al., 1994). Attitudinal barriers could include the perceived efficacy of exercise promotion and the perceived interests of the client.
Analogous to the primary care professional, mental health professionals may play a crucial role in assisting participation of clients in physical activity and exercise. A range of exercise interventions are developing in community and institutional settings (Grant, 2000) yet there has been little investigation into the role mental health professionals can play, if any, in the promotion of physical activity. Physical activity is associated with a range of physical health benefits although individuals with mental health concerns exercise less than the general population (Tsuang, Perkins, & Simpson, 1983). In addition, there is little evidence that health promotion efforts are being targeted at mental health populations (e.g., Brown, et al., 1999). Finally, there is growing research that exercise can promote mental health and serve as an adjunctive treatment for various conditions such as depression (Mutrie, 2000) and schizophrenia (Faulkner & Biddle, 1999). Developing exercise opportunities for individuals with mental illness has a sound rationale (see Section 2.2).

The inclusion of exercise or physical activity, however, in structured rehabilitation programmes or as a component of care programmes is not a nationally applied standard in the United Kingdom (see Section 2.4). The lack of physical activity promotion in this context possibly exists due to an overemphasis on efficacy studies with little attention paid to understanding how to apply such findings in practice and overcoming the barriers that stifle the acceptance of any new practice, which may be seemingly unrelated to its efficacy (Rogers, 1995). Therefore, understanding the readiness of mental health professionals, and health professionals in general, to promote physical activity is of relevance.

4.2 Theoretical Models of Behaviour Change

The Transtheoretical Model (TTM: Prochaska & DiClemente, 1983) is a model of psychological readiness to behaviour change that has been used extensively to examine change in a variety of health contexts. The model may also be of value in understanding and ultimately changing the behaviour of health professionals (Cohen, Halvorsen, & Gosselink, 1994). A central tenet of the model is that behaviour change is viewed as a series of stages rather than an all-or-nothing phenomenon. Five distinct stages are commonly identified that include precontemplation (not considering a change),
contemplation (considering a change), preparation (making small changes), action (making changes to an appropriate target level), and maintenance (sustaining the change over time). Individuals are believed to progress through the stages in a cyclical fashion such that individuals may progress and regress through the stages in an effort to sustain a change in a behaviour (Prochaska, DiClemente, & Norcross, 1992).

Variables from other theoretical frameworks have been incorporated into the TTM model to understand actual stage change. Self-efficacy, decisional balance (the pros and cons of change) and processes of change have been integrated into the model to clarify the nature of stage transition (DiClemente et al., 1991). In conjunction with the identification of stage location, these variables theoretically provide the ability to match interventions to the different needs of an individual at each stage. Accordingly, matching strategies to increase health promotion activity among health professionals to their stage of readiness becomes possible (Cohen et al., 1994).

While the stage of change model has become popular within exercise contexts, recent attempts have also been made to integrate constructs from other theories to understand more about each stage. The Theory of Reasoned Action (TRA; Fishbein & Ajzen, 1975) details the determinants of an individual’s decision to enact a particular behaviour. The theory proposes that the central determinant of behaviour is an individual’s intention to perform that behaviour. Intention is influenced by two psychosocial determinants: attitude and subjective norms. Attitude is a positive or negative evaluation of performing the behaviour. Subjective norms reflect the perceived social pressure to perform or not perform the behaviour. Because not all behaviours are under volitional control, a third determinant, perceived behavioural control (PBC), was added to the model to form the Theory of Planned Behavior (TPB; Ajzen, 1991). Perceived behavioural control refers to the degree to which an individual feels that performance is under his or her control. Overall, the TPB suggests that intentions are formed by individuals reflecting on one’s attitudes, subjective norms and perceptions of behavioural control. Additionally, this latter determinant can also directly determine behaviour when PBC can be considered to function as ‘a partial substitute for’ (Ajzen & Madden, 1986, p. 459) actual control over factors that could interfere with performance of the behaviour.
Findings from a number of meta-analyses and narrative reviews of the TPB (Sutton, 1998), suggest that the prediction of behavioural intention from attitude, subjective norms and PBC is reasonably consistent, explaining between 40% and 50% of variance. When behaviour is predicted from intention and PBC, about 20-22% of the variance is explained. Sutton (1998) concluded that the TPB performs well in comparison to typical effect sizes in the behavioural sciences. Armitage & Connor (2000) suggest that the TPB is a superior predictor of intentions and behaviour in comparison to other common social cognition models. Most importantly, in the present context, the TPB model may be an appropriate framework for understanding the work-related behaviours of professionals (Norman & Bonnett, 1995).

The TPB is continually evolving as additions are made to the model to increase its predictive validity and two additions are considered in this study. The role of past behaviour has been found to be an independent predictor of both intention and behaviour (Bagozzi & Kimmel, 1995; Rutter, 2000). Past behaviour does not cause subsequent behaviour. However, it may inform the intention to act in addition to attitudes and subjective norms or reflect an individual’s assessment of the extent of PBC. Alternatively, frequent performance or non-performance of a behaviour may bring subsequent behaviour under the control of non-conscious, habitual processes (Connor & Armitage, 1998). From a behaviourist perspective, behaviour becomes more under the influence of automatic processes which occur in the presence of specific cues (Connor & McMillan, 1999). Importantly, Bagozzi and Kimmel (1995) suggest that any significant effects found for included variables on intentions and for intentions on stage of change can be interpreted as a meaningful influence if past behaviour is held constant.

A second refinement to the model was addressed in this study. Research has sought to understand the link between intention and behaviour (Gollwitzer, 1993; Sheeran & Orbell, 1999; 2000). For example, Bagozzi and Warshaw’s (1990) theory of trying was developed to explain strivings to perform a behaviour. Although intention reflects a state of mind that drives one to take action, trying reflects some action, and even some parts of the actual behaviour (Mathur, 1998). Bagozzi and Warshaw (1990) posit trying as an important outcome variable, an end behaviour carried out in pursuit of the behavioural goals (e.g., promoting physical activity) which can be defined as “doing all
Chapter 4: Predicting Physical Activity Promotion

the necessary prebehaviours and otherwise satisfying all necessary conditions that are within voluntary control for the performance of the subject behaviour" (Mathur, 1998, p. 244). That is, although trying is within volitional control, attainment of the goal may not be. For example, one of the reasons for not being able to perform according to intentions is the lack of actual control over factors like opportunities, resources and skills. At the same time, such lack of actual control may not prevent one from trying (Mathur, 1998). It may be important that health professionals are ‘trying’ or ‘planning’ to promote physical activity. Of course, unforeseen circumstances can ultimately restrict promotion. Incorporating a measure of effort as a mediating link between intention and behaviour, may improve the predictive power of the model, while also suggesting how intentions are translated into behaviour.

Based on this theory, an individual’s intention to promote physical activity can be predicted from the attitudes held toward promotion, beliefs as to whether important others think one should promote physical activity, and how much control one perceives to have over promoting physical activity. For such an intention to be translated into behaviour will involve the exertion of effort or trying which may also involve the formulation of plans to promote physical activity. Promotion of physical activity is predicted by this effort and directly through perceptions of control.

4.3 Integrating the Stage of Change and TPB

For Courneya (1995), both the Theory of Planned Behaviour and stages of change share certain conceptual similarities. The Pros and Cons from the stage of change model may be reflected in the behavioural beliefs from the TPB that form the basis of attitudes toward a behaviour. Perceived behavioural control from the TPB is also conceptually similar to self-efficacy within the stage model although recent reviews support a theoretical distinction between self-efficacy and PBC (Connor & Armitage, 1998). Finally, intention appears to be essential in defining the early stages of change. An individual’s location along the stage of change continuum can be defined as their intention of performing the behaviour combined with their actual behaviour. Using the determinants of intention within the Theory of Planned Behaviour, greater differentiation
Chapter 4: Predicting Physical Activity Promotion

is offered as to the most relevant predictor variables associated with each stage. This may have important implications for future interventions.

However, such conceptual similarities could lead to a question of redundancy particularly in relation to the concept of intention. It has been suggested that the stage construct is a combination of intention and behaviour with intention defining the first two stages of change and behavioural criteria defining the last three stages of change (Marcus, Eaton, Rossi & Harlow, 1994). Courneya, Nigg, & Estabrooks (1998) believe such a suggestion to be insufficient for two reasons. They suggest firstly that the distinction between the first two stages (precontemplation and contemplation) is defined and operationalised as 'seriously considering' or 'thinking about' a change as opposed to 'intending' to change. Intending and seriously considering are two different psychological constructs. Secondly, the authors point out that the preparation stage is the only stage that really combines intentional and behavioural criteria as the action and maintenance stages are differentiated by length of time performing the behaviour. Such an argument would suggest that there is utility in maintaining the distinction between intention in the TPB and the stage construct of the transtheoretical model until further research determines how best to incorporate these constructs.

Research examining the incorporation of the TPB and Transtheoretical model is scarce. Research has confirmed that TPB constructs are useful for discriminating the stages in the exercise domain (Courneya, 1995; Nguyen, Potvin, & Otis, 1997; Courneya, et al., 1998). The application of such research to the behaviour of health professionals is more limited. Smith (1998) investigated the attitudes toward promoting physical activity held by 83 health professionals who were attending a series of professional briefing days on physical activity. Participants responded to a questionnaire containing items related to the TPB and stages of change model. Results suggested these professionals held positive intentions to promote physical activity, and attitudinal variables, social support from 'line managers' and perceived behavioural control were seen to be positive. Using multiple regression analysis, 36% of the variance in intention to promote physical activity was explained by PBC and attitudes. Subjective norms were not predictive. Unfortunately, no specific exploration of the relationship between stages and TPB variables was reported.
McKenna et al. (1998) examined the types of barriers and their level of influence as well as stage of change for activity promotion with a sample of 615 General Practitioners (GP) and Practice Nurses (PN). Few participants were found to be in the early stages of change. The consequent stage 'profile' lead the authors to question the utility of the stages approach to practice staff promotion of physical activity. However, as the authors also noted, the effects of government strategy in promoting preventive measures in primary care, may have caused the high levels of self-reported physical activity promotion. Additionally, while such promotion was high, the quality of such promotion was not addressed and may be highly variable.

In terms of results, GPs in the action or maintenance stage of changing their own physical activity were three times more likely to regularly promote physical activity than those in the other stages. For PNs, the same difference quadrupled the likelihood of them promoting physical activity. Lack of incentives and time were also barriers for the GPs while lack of success and short consultation times were particularly limiting for the PNs. Despite these systemic barriers, the authors highlighted the overwhelming importance of personal health behaviour in increasing the chances of promoting physical activity.

In relation to the TPB, Bunce and Birdi (1998) used the theory to predict a work-related behaviour (autopsy) among hospital doctors. Two groups of doctors were examined whom exhibited low or high levels of job control. The authors concluded that in situations of high behavioural control, the TPB collapsed to the TRA, and past behaviour was likely to have an independent influence on intentions in situations of high behavioural control where routine behaviour had developed. These findings highlighted the importance of contextual factors when examining the TRA and TPB. When considering the behaviour of health professionals, the nature of the environment in which one works, may mediate the relative influences of some TPB variables. To these authors' knowledge, neither the TPB or TRA had been used to predict work-related behaviours among doctors.

Recently, the TPB was used when investigating the factors associated with intentions to follow evidence-based medical practice for two specific behaviours (Walker, Grimshaw, Armstrong, Johnston, & Abraham, 2000) in a sample of GPs and junior hospital doctors. Findings supported those of Bunce and Birdi (1998) in that the extent of
job control may be an important mediator of the relationship between cognitions and compliance. Specifically, attitudes toward evidence-based practice were more likely to predict intentions of GPs who have relatively higher levels of job control, while perceived behavioural control was more important for the junior doctors. The aforementioned studies using the TPB highlight the relative importance of control for health care professionals.

It is acknowledged that although understanding of the efficacy of psychological treatments is rapidly increasing, the actual utilization of these treatments is lacking (Barlow, et al., 1999). In general, there has been repeated concern with the gap between research and practice in health promotion (see Section 2.7). Consequently, with ongoing efficacy studies, research is needed that examines issues of clinical utility, in applying knowledge that is generated through research. Health care professionals are potential catalysts for changing the health behaviour of clients and patients in a range of settings and examining intentions to perform certain actions is a valuable development.

The purpose of this study, therefore, is twofold. First, to examine the extent and nature of physical activity promotion within one mental health Trust. Second, to establish the utility of the Theory of Planned Behaviour in predicting stage of change using a six-month prospective design in a large sample of mental health professionals. The role of past behaviour in qualifying the predictions in the theory is also addressed in addition to the inclusion of effort in mediating the intention-behaviour relationship. While this study examines the promotion of physical activity by mental health professionals specifically, the relative success of the TPB in explaining intentions and behaviour may have important implications for the design of future interventions in increasing health professionals' involvement in physical activity promotion.

4.4 Method

4.4.1 Design

There were two stages of data collection. First, questionnaires were used to assess demographics, stage of change of physical activity promotion and personal participation in physical activity, the nature of physical activity promotion and barriers to promotion (see Appendix 3). As part of a six-month prospective study, measures of attitudes,
subjective norms, intentions, perceived behavioural control were also obtained at the first wave of data collection. To investigate the factors underlying intentions and stage of change of promotion, stage of change and effort were reassessed six months later (see Appendix 4).

4.4.2 The Instrument

The first section of the questionnaire included demographic questions regarding age, gender, occupational title and job setting. The second section of the questionnaire assessed an individual’s ‘stage of change’ for physical activity promotion. Adopting the format reported by McDowell, McKenna and Naylor (1997), promotional ‘stage of change’ was identified by a six item algorithm in response to the question: “Which of the following best describes your current promotion of physical activity to your clients?” (see Table 4.1). The test-retest correlation for the stage measure of physical activity promotion over three weeks, among eleven respondents, was $r = .824$.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Stage</th>
</tr>
</thead>
<tbody>
<tr>
<td>I don’t promote physical activity and I don’t intend to start</td>
<td>Precontemplation</td>
</tr>
<tr>
<td>I don’t promote physical activity but I’m thinking of starting</td>
<td>Contemplation</td>
</tr>
<tr>
<td>I promote physical activity sometimes but not regularly</td>
<td>Preparation</td>
</tr>
<tr>
<td>I promote physical activity regularly but just started recently</td>
<td>Action</td>
</tr>
<tr>
<td>I promote physical activity regularly (for longer than 6 months)</td>
<td>Maintenance</td>
</tr>
<tr>
<td>I have promoted physical activity in the past but not now</td>
<td>Relapse</td>
</tr>
</tbody>
</table>

Throughout the questionnaire, physical activity was defined as ‘moderate activity, for thirty minutes, at least twice a week (e.g., walking, swimming, cycling, heavy housework, dancing). You can count two periods of 15 minutes continuous activity as long as they were on the same day.’ This is a less stringent definition of physical activity compared to current physical activity guidelines that suggest a similar message but for most days of the week. The former definition was used as it has been suggested that two periods a week is a suitable target for sedentary individuals (Killoran, Cavill, & Walker, 1995). In the present study, this stage algorithm was administered at baseline and again after six months, in order to serve as a measure of past and current promotional stage.
Chapter 4: Predicting Physical Activity Promotion

The third section included questions assessing the extent of physical activity promotion to clients (1=all clients, 7= no clients), importance of physical activity promotion (1=not at all important, 7= very important) and the frequency of assessment of physical activity levels and physical activity promotion based on six common broad diagnostic categorisations (Kendrick, Tylee, & Freeling, 1996) (1=never, 5=always). Questions were also included that assessed the extent to which participants provided specific components of activity counselling to clients and the confidence in providing those components. These latter items were adapted from a study exploring the promotion of physical activity by primary care physicians (Pinto, Goldstein, & Marcus, 1998).

The fourth section used questions derived from the Theory of Planned Behaviour and were based on the recommendations of Ajzen and Fishbein (1980) in their construction. Intention was measured by participants responding to two separate statements: ‘In six months time, I will be promoting physical activity to my client group’ and ‘I intend promoting physical activity to my client group over the next six months’. Responses to the two items were merged to provide a measure of behavioural intention which was internally consistent (Cronbach alpha = .84).

Attitudes toward the target behaviour were assessed using a semantic differential scale. Respondents were presented with the sentence, “promoting physical activity to my clients over the next six months is . . .”. Five pairs of adjectives were rated, each on a 7-point bipolar scale, to assess: instrumental (bad-good, harmful-beneficial and useful-useless) and affective (unpleasant-pleasant, enjoyable-unenjoyable) dimensions of attitude. Responses to the five items were merged to provide a measure of attitude that was internally consistent (Cronbach alpha = .84).

Subjective norm was measured by a single item asking if promoting physical activity was something ‘my line manager thinks I should do’. The traditional ‘motivation to comply’ question was not used since it may attenuate the correlation between subjective norm and intention and indeed may not be necessary (Ajzen, 1991).

Perceived Behavioural Control was obtained by taking the mean of the responses to four 7-point Likert-scale items assessing participants’ perceptions of their control in promoting physical activity (e.g. How much opportunity do you have over your working programme in terms of promotion physical activity over the next six months?). These
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items were found to be internally consistent (Cronbach alpha = .78) and were merged to form the direct measure of perceived behavioural control.

The final section of the questionnaire assessed the barriers to promoting physical activity for these participants. Barrier responses were recorded on a Likert scale (1=not at all limiting effect, 5= very limiting effect). Barriers were based on those identified in primary care settings (Pender et al., 1994). In addition, four further barriers were included that were identified in Chapter Three. These included lack of interest from clients, lack of support, legal issues and lack of training. A stage algorithm assessing participants personal stage of physical activity was also included (McKenna et al, 1998).

The questionnaire was developed and piloted with five mental health professionals (a clinical psychologist, a psychiatrist, a psychotherapist, a rehabilitation home manager and a psychiatric nurse). All individuals favorably reviewed the content of the questionnaire. Additionally, the questionnaire was reviewed item-by-item and discussed at a mental health programme leaders’ meeting at the Trust consisting of a range of mental health professionals who also reported the questionnaire to have face validity.

4.4.3 Procedure

Participants were employed by one Mental Health Trust within the East Midlands, UK. After ethical approval, all clinical staff (N=759) within the Adult and Rehabilitation Directorates of the Trust received a questionnaire by internal mail at two time points, six months apart. Due to cost, an adapted version of Dillman's (1978) total design method for mail surveys was used to insure the highest response rate. Within one week of receiving the questionnaire, respondents received a follow-up post card. A reminder letter and additional copy of the questionnaire was sent two weeks after the postcard. Additionally, staff managers were informed of the survey while staff also received forewarning of the survey through an internal newsletter. Cover letter and prepaid return envelope were also included in the questionnaire package.

Following this procedure, a response rate of 66.4% (504) was achieved. Dillman (1978) suggests a response rate between 60 to 75% is satisfactory. Sixteen questionnaires were returned with missing data, four were returned with intended recipients no longer at the specified address, two were returned on behalf of participants being on long term sick
leave and five were returned with comments reporting that the questionnaire topic was inappropriate regarding their client group (elderly). Thus, final analyses were based on 477 (63% RR) usable questionnaires (159 = male, 318 = female) with a mean age of 38.5 years (SD = 9.42). Participants included nurses (N=195), occupational therapists (N=41), psychiatrists and clinical psychologists (N = 47), community psychiatric nurses (N= 66), and health care support workers (N = 111). There was missing data for 17 participants. These participants were distributed across acute inpatient settings (N= 183), rehabilitation (N = 160) and community settings (N = 112). Twenty-two participants did not respond to the item requesting setting.

4.4.4 Prospective Measure

After six months, participants completed a final questionnaire (see Appendix 4) which included another stage measure as previously described as the measure of current behaviour. In addition, two questions assessing ‘effort’ were also developed: ‘I have worked hard at promoting physical activity in the last six months’ and ‘In the last six months, I have worked hard in the sense of spending time planning the promotion of physical activity’. On a seven-point Likert scale participants could respond from ‘I did not try at all’ to ‘I tried very hard’. The scale was internally consistent (Cronbach alpha = .86) so items were merged to form the direct measure of effort.

4.5 Results

The results comprise of two sections. First, the nature of physical activity promotion within the Trust is presented. Second, results from the prospective study using the TPB variables are offered.

4.5.1 The Nature of Physical Activity Promotion

4.5.1.1 Stage of Change for Physical Activity Promotion

Stage distributions for physical activity promotion are presented in Figure 4.1. Additionally, since stage distributions were uneven, stages were collapsed into three groupings: no promotion (precontemplation, contemplation), irregular promotion
(preparation) and regular promotion (action and maintenance). Significantly, only 13.2% of the sample reported not promoting physical activity at all (see Figure 4.2).

4.5.1.2 Extent and Importance

The extent of such promotion and its perceived importance for the total sample is presented in Table 4.2. Regular promoters considered physical activity to be significantly more important and reported a greater extent of promotion in comparison to the no promotion and irregular promotion groups.

Figure 4.1 Frequency (%) Distribution of Stage for Physical Activity (PA) Promotion
Figure 4.2 Frequency (%) Distribution of Collapsed Stage for PA Promotion

![Distribution of Collapsed Stage for Physical Activity Promotion](image)

Table 4.2. Extent & Importance of Physical Activity Promotion

<table>
<thead>
<tr>
<th>N = 477</th>
<th>Mean</th>
<th>SD</th>
<th>F (2, 274)</th>
<th>Post-hoc&lt;sup&gt;a&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Extent</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. No Promotion</td>
<td>5.52</td>
<td>1.46</td>
<td>194.77*</td>
<td>1&gt;2&gt;3</td>
</tr>
<tr>
<td>2. Irregular Promotion</td>
<td>4.05</td>
<td>.92</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Regular Promotion</td>
<td>2.59</td>
<td>1.16</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Mean</strong></td>
<td>3.6</td>
<td>1.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Importance</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. No Promotion</td>
<td>4.24</td>
<td>1.71</td>
<td>61.01*</td>
<td>1&lt;2&lt;3</td>
</tr>
<tr>
<td>2. Irregular Promotion</td>
<td>5.01</td>
<td>1.08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Regular Promotion</td>
<td>5.94</td>
<td>1.08</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Mean</strong></td>
<td>5.3</td>
<td>1.33</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Extent scale 1-7: 1 = all clients, 4 = some, 7 = none
Importance scale 1-7: 1 = not at all important, 4 = neutral, 7 = very important
* F-Tests: All significant (p < .001); <sup>a</sup>Post-Hoc tests significant (p < .05)

Table 4.2 suggests that physical activity was generally promoted to "some" clients and that promoting physical activity was considered "important".
4.5.1.3 Assessing and Recommending Physical Activity as a Function of Diagnosis

In terms of specific diagnoses (see Table 4.3), MANOVA revealed a significant interaction between collapsed stage of promotion and assessing physical activity on the basis of diagnosis (Wilks’ lambda = .71, F (12, 928) = 14.35, p < .001). Means suggest individuals with depression and anxiety were most often assessed regarding levels of physical activity. There were no significant differences between the stages in assessing physical activity for individuals with affective psychosis. Generally, staff “occasionally” assessed the physical activity levels of all clients.

Table 4.3. Assessing Physical Activity by Diagnosis

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Collapsed Stage</th>
<th>Mean</th>
<th>SD</th>
<th>F (2, 469)</th>
<th>Post-Hoc</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schizophrenia</td>
<td>No Promotion</td>
<td>2.49</td>
<td>1.28</td>
<td>83.221*</td>
<td>1&lt;2&lt;3</td>
</tr>
<tr>
<td></td>
<td>Irregular</td>
<td>3.44</td>
<td>.94</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Regular</td>
<td>4.20</td>
<td>.85</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mean</td>
<td>3.63</td>
<td>1.11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depression</td>
<td>No Promotion</td>
<td>2.95</td>
<td>1.37</td>
<td>48.536*</td>
<td>1&lt;2&lt;3</td>
</tr>
<tr>
<td></td>
<td>Irregular</td>
<td>3.82</td>
<td>.94</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Regular</td>
<td>4.30</td>
<td>.80</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mean</td>
<td>3.91</td>
<td>1.05</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anxiety</td>
<td>No Promotion</td>
<td>2.84</td>
<td>1.37</td>
<td>52.719*</td>
<td>1&lt;2&lt;3</td>
</tr>
<tr>
<td></td>
<td>Irregular</td>
<td>3.71</td>
<td>.91</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Regular</td>
<td>4.23</td>
<td>.85</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mean</td>
<td>3.82</td>
<td>1.06</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Situational Disturbances</td>
<td>No Promotion</td>
<td>2.51</td>
<td>1.18</td>
<td>52.016*</td>
<td>1&lt;2&lt;3</td>
</tr>
<tr>
<td></td>
<td>Irregular</td>
<td>3.29</td>
<td>.96</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Regular</td>
<td>3.90</td>
<td>.95</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mean</td>
<td>3.45</td>
<td>1.09</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drug and Alcohol Abuse</td>
<td>No Promotion</td>
<td>2.48</td>
<td>1.20</td>
<td>57.642*</td>
<td>1&lt;2&lt;3</td>
</tr>
<tr>
<td></td>
<td>Irregular</td>
<td>3.31</td>
<td>.99</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Regular</td>
<td>3.97</td>
<td>.94</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Mean</td>
<td>3.48</td>
<td>1.12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Affective Disorders</td>
<td>No Promotion</td>
<td>3.41</td>
<td>1.06</td>
<td>1.000 NS</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Irregular</td>
<td>3.59</td>
<td>1.06</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Regular</td>
<td>3.62</td>
<td>1.03</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mean</td>
<td>3.58</td>
<td>1.05</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Scale 1-5: 1 = never, 3 = occasionally, 5 = always

* F-Tests: Significant (p < .001); * Post-Hoc tests significant (p < .05)
In terms of promoting physical activity on the basis of diagnosis, MANOVA again revealed a significant interaction (Wilks' lambda = .71, F (12, 928) = 14.56, p < .001). Regular promoters reported significantly greater promotion to all diagnoses in comparison to the no promotion and irregular promotion groups. Individuals with depression and anxiety were more likely to receive encouragement to become physically active (see Table 4.4). Generally, staff “occasionally” promoted physical activity to all client groups.

Table 4.4 Recommending Physical Activity by Diagnosis

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Collapsed Stage</th>
<th>Mean</th>
<th>SD</th>
<th>F (2, 469)</th>
<th>Post-Hoc&lt;sup&gt;a&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schizophrenia</td>
<td>No Promotion</td>
<td>2.57</td>
<td>1.18</td>
<td>76.06*</td>
<td>1&lt;2&lt;3</td>
</tr>
<tr>
<td></td>
<td>Irregular</td>
<td>3.62</td>
<td>.83</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Regular</td>
<td>4.10</td>
<td>.76</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mean</td>
<td>3.68</td>
<td>.99</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Depression</td>
<td>3.0</td>
<td>1.19</td>
<td>49.93*</td>
<td>1&lt;2&lt;3</td>
</tr>
<tr>
<td></td>
<td>Irregular</td>
<td>3.94</td>
<td>.77</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Regular</td>
<td>4.24</td>
<td>.79</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mean</td>
<td>3.94</td>
<td>.93</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Anxiety</td>
<td>2.86</td>
<td>1.22</td>
<td>54.44*</td>
<td>1&lt;2&lt;3</td>
</tr>
<tr>
<td></td>
<td>Irregular</td>
<td>3.76</td>
<td>.80</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Regular</td>
<td>4.17</td>
<td>.79</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mean</td>
<td>3.81</td>
<td>.958</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Situational</td>
<td>2.67</td>
<td>1.12</td>
<td>55.96*</td>
<td>1&lt;2&lt;3</td>
</tr>
<tr>
<td></td>
<td>Disturbances</td>
<td>3.37</td>
<td>.91</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Drug and Alcohol Abuse</td>
<td>3.95</td>
<td>.76</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mean</td>
<td>3.52</td>
<td>.98</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Drug and Alcohol Abuse</td>
<td>2.64</td>
<td>1.12</td>
<td>50.06*</td>
<td>1&lt;2&lt;3</td>
</tr>
<tr>
<td></td>
<td>Irregular</td>
<td>3.44</td>
<td>.97</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
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<tr>
<td></td>
<td>Mean</td>
<td>3.55</td>
<td>1.02</td>
<td></td>
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<tr>
<td></td>
<td>Affective Disorders</td>
<td>2.56</td>
<td>1.14</td>
<td>62.19*</td>
<td>1&lt;2&lt;3</td>
</tr>
<tr>
<td></td>
<td>Irregular</td>
<td>3.49</td>
<td>.80</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Regular</td>
<td>3.92</td>
<td>.78</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Mean</td>
<td>3.55</td>
<td>.95</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Scale 1-5: 1 = never, 3 = occasionally, 5 = always
* F-Tests: All significant (p < .001); <sup>a</sup> Post-Hoc tests significant (p < .05)
4.5.1.4 Physical Activity Promotion: Counselling Strategies

MANOVA revealed a significant interaction between collapsed promotional stage and reported physical activity counselling strategies (Wilks’ lambda = .65, F (14, 936) = 16.29, p < .001). Examining this physical activity promotion in greater detail revealed negotiating barriers, personalising benefits and expressing concern to help clients as the most frequent behaviours reported (see Table 4.5). Providing resource material or follow-up discussions of physical activity were relatively uncommon for all groups.

Table 4.5 Counselling Strategies

<table>
<thead>
<tr>
<th>Counselling Components</th>
<th>Mean</th>
<th>SD</th>
<th>F (2, 469)</th>
<th>Post-Hoc*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Express concern to help clients adopt physical activity</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. No Promotion</td>
<td>2.86</td>
<td>1.41</td>
<td>92.16*</td>
<td>1 &lt; 2 &lt; 3</td>
</tr>
<tr>
<td>2. Irregular Promotion</td>
<td>3.63</td>
<td>1.08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Regular Promotion</td>
<td>4.90</td>
<td>1.29</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>4.07</td>
<td>1.43</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negotiate overcoming barriers</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. No Promotion</td>
<td>3.13</td>
<td>1.33</td>
<td>75.94*</td>
<td>1 &lt; 2 &lt; 3</td>
</tr>
<tr>
<td>2. Irregular Promotion</td>
<td>4.08</td>
<td>1.21</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Regular Promotion</td>
<td>5.10</td>
<td>1.16</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>4.39</td>
<td>1.38</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personalise benefits</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. No Promotion</td>
<td>3.00</td>
<td>1.64</td>
<td>78.16*</td>
<td>1 &lt; 2 &lt; 3</td>
</tr>
<tr>
<td>2. Irregular Promotion</td>
<td>3.81</td>
<td>1.23</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Regular Promotion</td>
<td>5.01</td>
<td>1.31</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>4.24</td>
<td>1.52</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prescribe physical activity</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. No Promotion</td>
<td>2.22</td>
<td>1.31</td>
<td>45.95*</td>
<td>1, 2 &lt; 3</td>
</tr>
<tr>
<td>2. Irregular Promotion</td>
<td>2.59</td>
<td>1.31</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Regular Promotion</td>
<td>3.77</td>
<td>1.61</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>3.04</td>
<td>1.58</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Provide follow up</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. No Promotion</td>
<td>1.92</td>
<td>1.23</td>
<td>31.99*</td>
<td>1, 2 &lt; 3</td>
</tr>
<tr>
<td>2. Irregular Promotion</td>
<td>2.06</td>
<td>1.30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Regular Promotion</td>
<td>3.14</td>
<td>1.76</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>2.50</td>
<td>1.60</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 4.5 (cont.) ............................................................................................................ Counselling Strategies

<table>
<thead>
<tr>
<th>Identify resources</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. No Promotion</td>
<td>2.61</td>
<td>1.45</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Irregular Promotion</td>
<td>3.39</td>
<td>1.45</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Regular Promotion</td>
<td>4.17</td>
<td>1.68</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>3.62</td>
<td>1.64</td>
<td>28.44*</td>
<td>1&lt;2 &lt;3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Provide material</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. No Promotion</td>
<td>1.99</td>
<td>1.32</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Irregular Promotion</td>
<td>2.15</td>
<td>1.22</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Regular Promotion</td>
<td>2.98</td>
<td>1.65</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>2.48</td>
<td>1.49</td>
<td>21.93*</td>
<td>1,2 &lt;3</td>
</tr>
</tbody>
</table>

Scale 1-7: 1 = Never, 7 = Almost Always
* F-Tests: All significant (p < .001); *Post-Hoc tests significant (p < .05)

4.5.1.5 Physical Activity Promotion: Confidence in Physical Activity Counselling

Mean confidence scores in delivering these promotional strategies are displayed in Table 4.6. MANOVA revealed a significant interaction between collapsed stage of promotion and confidence in the physical activity counselling strategies. (Wilks' lambda = .84, \( F \) (14, 936) = 6.31, p < .001). Regular promoters were significantly more confident in each of the counselling strategies in comparison to the no promotion and irregular promotion groups. Participants had the least confidence in regularly incorporating physical activity counselling into client contacts and the most for coping with situations that lead to relapse and in identifying appropriate resources.

Table 4.6 Confidence in Physical Activity Counselling Strategies

<table>
<thead>
<tr>
<th>Coping with situations/triggers that may lead to relapse</th>
<th>Mean</th>
<th>SD</th>
<th>F (2, 474)</th>
<th>Post-Hoc</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. No Promotion</td>
<td>4.06</td>
<td>1.25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Irregular Promotion</td>
<td>4.51</td>
<td>1.16</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Regular Promotion</td>
<td>5.13</td>
<td>1.13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>4.72</td>
<td>1.22</td>
<td>26.02*</td>
<td>1 &lt; 2 &lt; 3</td>
</tr>
</tbody>
</table>
Table 4.6 (Cont.)...Confidence in Physical Activity Counselling Strategies

<table>
<thead>
<tr>
<th>Identifying appropriate resources</th>
<th>1. No Promotion</th>
<th>2. Irregular Promotion</th>
<th>3. Regular Promotion</th>
<th>Mean</th>
<th>Std. Dev.</th>
<th>F-Tests</th>
<th>Post-Hoc Tests</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3.98</td>
<td>4.42</td>
<td>5.24</td>
<td>4.71</td>
<td>1.38</td>
<td>32.38*</td>
<td>1,2 &lt; 3</td>
</tr>
<tr>
<td>Negotiating an individualised plan</td>
<td>4.02</td>
<td>4.35</td>
<td>5.10</td>
<td>4.63</td>
<td>1.38</td>
<td>24.92*</td>
<td>1,2 &lt; 3</td>
</tr>
<tr>
<td>Assessing history of physical activity</td>
<td>4.10</td>
<td>4.35</td>
<td>4.85</td>
<td>4.53</td>
<td>1.41</td>
<td>10.47*</td>
<td>1,2 &lt; 3</td>
</tr>
<tr>
<td>Adapting approach for resistant clients</td>
<td>3.86</td>
<td>4.28</td>
<td>4.87</td>
<td>4.47</td>
<td>1.28</td>
<td>21.23*</td>
<td>1,2 &lt; 3</td>
</tr>
<tr>
<td>Providing interventions in a cost effective manner</td>
<td>3.40</td>
<td>3.84</td>
<td>4.35</td>
<td>4.00</td>
<td>1.38</td>
<td>14.7*</td>
<td>1,2 &lt; 3</td>
</tr>
<tr>
<td>Regularly incorporating physical activity counselling into client contact</td>
<td>3.44</td>
<td>3.66</td>
<td>4.36</td>
<td>3.93</td>
<td>1.36</td>
<td>20.31*</td>
<td>1,2 &lt; 3</td>
</tr>
</tbody>
</table>

Scale 1-7: 1 = Definitely not confident, 7 = Definitely confident
* F-Tests: All significant (p < .001); * Post-Hoc tests significant (p < .05)
Chapter 4: Predicting Physical Activity Promotion

Logistic regression using responses to the confidence variables was then conducted in order to explore the relative influence of confidence on promotion of physical activity (see Table 4.7). In order to conduct an odds ratio analysis, the sample was further collapsed into two dichotomous groups: preactive promotion (precontemplation, contemplation, preparation) and active promotion (action & maintenance). This analysis quantifies the relative odds of being in one outcome category - the preactive promotion group or the active promotion group - when the predictor (the scale measuring confidence in each behaviour) increases by one unit (1–7 for confidence).

Table 4.7 Logistic Regression Results to Predict Active from Pre-active Mental Health Professionals using Seven Confidence Variables.

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>Wald (z)</th>
<th>Significance</th>
<th>Odds ratio</th>
<th>95% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identifying appropriate resources</td>
<td>.35</td>
<td>10.33</td>
<td>.0013</td>
<td>1.41</td>
<td>1.14 to 1.75</td>
</tr>
<tr>
<td>Consistently incorporating strategies</td>
<td>.23</td>
<td>4.05</td>
<td>.04</td>
<td>1.25</td>
<td>1.01 to 1.57</td>
</tr>
<tr>
<td>Negotiating an individualised plan</td>
<td>.205</td>
<td>2.67</td>
<td>.1</td>
<td>1.23</td>
<td>.96 to 1.56</td>
</tr>
<tr>
<td>Adapting approach to resistance</td>
<td>.16</td>
<td>1.99</td>
<td>.16</td>
<td>1.17</td>
<td>.94 to 1.46</td>
</tr>
<tr>
<td>Assessing history of activity</td>
<td>-.16</td>
<td>2.38</td>
<td>.12</td>
<td>.85</td>
<td>.69 to 1.04</td>
</tr>
<tr>
<td>Coping with relapse</td>
<td>.16</td>
<td>1.34</td>
<td>.25</td>
<td>1.16</td>
<td>.90 to 1.50</td>
</tr>
<tr>
<td>Cost-effective approach</td>
<td>-.09</td>
<td>.75</td>
<td>.39</td>
<td>.9092</td>
<td>.73 to 1.13</td>
</tr>
<tr>
<td>Constant</td>
<td>-4.17</td>
<td>53.97</td>
<td>.0000</td>
<td>.85</td>
<td></td>
</tr>
</tbody>
</table>

Chi-square (7), n=477, = 76.25, p < .0001. Prediction success was 81.09% for the pre-active and 50.5% for the active staff for an overall success rate of 68.13%.

Using the Wald criterion, confidence in identifying appropriate resources (OR = 1.41, 95% CI = 1.14 - 1.75), and consistently incorporating counselling strategies within client contacts (OR = 1.25, CI = 1.01 - 1.57) accurately predicted promotional stage of change. That is, individuals were more likely to be active promoters if they reported higher confidence in each of these aforementioned behaviours.
4.5.1.6 Barriers

In examining the role of barriers, analyses followed the procedure reported by McDowell et al. (1997). As the sample was collapsed into two groups: preactive promotion (precontemplation, contemplation, preparation) and active promotion (action & maintenance), and the barrier frequency responses were ordinal data, non-parametric statistical analyses were used to investigate differences between groups. The descriptive statistics show that most participants felt that their promotion of physical activity was limited by lack of interest from clients, lack of time and lack of resources (Table 4.8). Lack of interest from clients, legal concerns, and incentives did not differ significantly by physical activity promotion stage of change (Mann-Whitney U test). That is, preactive and active promoters rated these barriers as having similar effects on promotion. Conversely, on all other barriers, actively promoting participants rated the barriers as having lower effects on frequency of promoting than pre-active participants.

Table 4.8 Means and Standard Deviations for Limiting Barriers

<table>
<thead>
<tr>
<th>Barriers</th>
<th>Total</th>
<th>Active Promoters</th>
<th>Pre-active Promoters</th>
<th>Mann Whitney</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>Lack of interest</td>
<td>3.79</td>
<td>.83</td>
<td>3.76</td>
<td>.83</td>
</tr>
<tr>
<td>Time</td>
<td>3.68</td>
<td>.88</td>
<td>3.58</td>
<td>0.87</td>
</tr>
<tr>
<td>Lack of resources</td>
<td>3.37</td>
<td>1.11</td>
<td>3.17</td>
<td>1.13</td>
</tr>
<tr>
<td>Lack of training</td>
<td>3.19</td>
<td>1.22</td>
<td>2.87</td>
<td>1.13</td>
</tr>
<tr>
<td>Lack of success</td>
<td>3.09</td>
<td>.98</td>
<td>3.0</td>
<td>.95</td>
</tr>
<tr>
<td>Lack of incentives</td>
<td>3.07</td>
<td>1.18</td>
<td>2.98</td>
<td>1.13</td>
</tr>
<tr>
<td>Lack of protocols</td>
<td>3.03</td>
<td>1.18</td>
<td>2.79</td>
<td>1.08</td>
</tr>
<tr>
<td>Lack of support</td>
<td>2.91</td>
<td>1.12</td>
<td>2.76</td>
<td>1.04</td>
</tr>
<tr>
<td>Legal concerns</td>
<td>2.71</td>
<td>1.21</td>
<td>2.58</td>
<td>1.11</td>
</tr>
</tbody>
</table>

Scale 1-5: 1 = not at all limiting effect, 5 = very limiting effect
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Logistic regression using barrier responses and own stage of physical activity behaviour was conducted in order to explore the relative influence of these factors on the promotion of physical activity. As mentioned, odds ratio analysis quantifies the relative odds of being in one outcome category – preactive promotion group or the active promotion group – when the predictor (the scale measuring the limiting effects of each barrier) increases by one unit (1–5 for barriers). The relative influence of personal physical activity stage of change was explored as a potential barrier.

Complete data were analysed for 477 staff. Own physical activity stage of change was entered first, followed by the barriers identified by Pender et al. (1994) within the primary care setting before the final four barriers identified in Chapter Three. A test of the full model with 10 predictors against a constant only model successfully distinguished between preactive and active staff (Chi-square (10), n=477, = 44.27; p<.0001). Prediction success was 82.48% for the pre-active group and 40.2% for the active promoting staff. This produced an overall success rate of 64.69% (see Table 4.9).

Table 4.9. Logistic Regression Results to Predict Active Promoting Staff from Preactive Staff using Nine Barrier Variables and Dichotomised own Physical Activity Stage of Change

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>Wald (z)</th>
<th>Significance</th>
<th>Odds ratio</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Own activity stage of change</td>
<td>.0412</td>
<td>.0422</td>
<td>.8373</td>
<td>1.0421</td>
<td>.70 to 1.54</td>
</tr>
<tr>
<td>Lack of time</td>
<td>-.1901</td>
<td>2.4848</td>
<td>.1149</td>
<td>.8269</td>
<td>.65 to 1.05</td>
</tr>
<tr>
<td>Lack of success</td>
<td>-.0435</td>
<td>.1312</td>
<td>.7172</td>
<td>.9574</td>
<td>.76 to 1.21</td>
</tr>
<tr>
<td>Lack of resources</td>
<td>-.2</td>
<td>3.1616</td>
<td>.0754</td>
<td>.8187</td>
<td>.66 to 1.02</td>
</tr>
<tr>
<td>Lack of protocols</td>
<td>-.3114</td>
<td>7.3647</td>
<td>.0067</td>
<td>.7325</td>
<td>.58 to .92</td>
</tr>
<tr>
<td>Lack of incentives</td>
<td>.2561</td>
<td>4.6274</td>
<td>.0315</td>
<td>1.2918</td>
<td>1.02 to 1.63</td>
</tr>
<tr>
<td>Lack of support</td>
<td>.0898</td>
<td>.5309</td>
<td>.4662</td>
<td>1.0939</td>
<td>.86 to 1.39</td>
</tr>
<tr>
<td>Legal concerns</td>
<td>.1596</td>
<td>2.4367</td>
<td>.1185</td>
<td>1.1730</td>
<td>.96 to 1.43</td>
</tr>
<tr>
<td>Lack of training</td>
<td>-.4627</td>
<td>16.9758</td>
<td>.0001</td>
<td>.6296</td>
<td>.50 to .78</td>
</tr>
<tr>
<td>Lack of interest from clients</td>
<td>.2371</td>
<td>2.8873</td>
<td>.0893</td>
<td>1.2676</td>
<td>.96 to 1.67</td>
</tr>
<tr>
<td>Constant</td>
<td>1.133</td>
<td>2.8253</td>
<td>.0928</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Chi-square (10), n=477, = 44.27; p<.0001. Prediction success was 82.48% for the pre-active group and 40.2% for the active promoting staff.
Table 4.9 shows regression coefficients (B), Wald statistics (z), odds ratios (Ors) and 95% confidence intervals (95% CI) for every predictor. Using the Wald criterion, lack of incentives, lack of training and lack of protocols accurately predicted physical activity promotion stage. Specifically, participants were less likely to report that they were regularly promoting physical activity if they indicated lack of training and lack of protocols as barriers. They were more likely to promote physical activity if they indicated lack of incentives as a barrier.

4.5.1.7 Professional Status and Setting

Further analyses were conducted to examine physical activity promotion as a function of professional status and setting (for details see Appendix 5). There were no significant differences in the general extent of physical activity promotion reported and the perceived importance of promoting physical activity as a function of professional status (see Table A5.2). There was, however, a greater degree of physical activity promotion in community and rehabilitation settings compared to inpatient settings (see Table A5.8). In addition, physical activity promotion was considered more important in these former settings.

In terms of assessing physical activity levels and recommending physical activity, occupational therapists and community psychiatric nurses generally reported greater assessment and recommendation for each diagnosis in comparison to psychiatrists/psychologists, health care support workers and inpatient nurses (see Table A5.3). Of particular interest, were the low means for Health Care Support Workers across all diagnoses. Overall, occupational therapists and community psychiatric nurses reported significantly greater total physical activity counselling while psychiatrists/psychologists reported the lowest.

Generally, there is greater assessment and recommendation for each diagnosis in community and rehabilitation settings compared to inpatient/outpatient settings and significantly less physical activity counselling in inpatient settings in comparison to community and rehabilitation settings (see Table A5.9). There were no significant differences found for mean confidence scores in counselling physical activity across the
different professions. However, mean confidence scores were significantly greater for those in rehabilitation and community settings compared to inpatient settings.

In terms of barriers, psychiatrists/psychologists self-reported all barriers as having the lowest impact on the promotion of physical activity (see Table A5.6). Lack of time and support and legal issues were rated as more frequent barriers in inpatient settings in comparison to rehabilitation and community settings. Lack of interest was a significantly more frequent barrier in rehabilitation settings in comparison to community settings (see Table A5.12).

4.5.2 The Theory of Planned Behaviour: Prospective Study

4.5.2.1 Participants and Procedures

394 mental health professionals (mean age = 38.6 years; SD = 9.4; males n = 131; females n = 263) of the initial sample of 477 participated in the prospective phase of the study (83% RR). Participants included nurses (N=161), occupational therapists (N=36), psychiatrists and clinical psychologists (N=40), Community Psychiatric Nurses (CPN; N=57) and health care support workers (N=87). Thirteen participants did not record their profession. Participants were distributed across rehabilitation (N=132), community (N=99) and inpatient settings (N=147). Sixteen participants did not record the setting in which they worked. Each participant received a questionnaire by internal mail at two time points, six months apart. Nonresponders at time 2 did not differ from responders on demographic variables or the TPB variables and were excluded from analyses (see Appendix 6).

4.5.2.2 Descriptive Results

Means for individual stages demonstrated a linear trend across the TPB variables. However, for statistical purposes, stages were again collapsed into three groups (no promotion: precontemplation and contemplation; irregular promotion: preparation; regular promotion: action and maintenance) because of an uneven distribution. The collapsed stage distribution for the sample was: no promotion (N=41; 10.4%), irregular promotion (N=203; 51.5%), and regular promotion (N=150; 38.1%). A multivariate analysis of variance (MANOVA) showed significant differences among the TPB
constructs based on the collapsed stage of change [Wilks’ lambda = .48; F (10, 774) = 33.701, p < .001]. Follow-up univariate F tests indicated that all constructs were significantly different across the three stages (p < .001). Means, standard deviations, F statistics, and effect sizes for each construct across the stages are presented in Table 4.10.

Table 4.10  Means (Standard Deviations), Univariate F Tests, and Effect sizes for the Theory of Planned Behaviour Across the Collapsed Stages of Change

<table>
<thead>
<tr>
<th>Construct</th>
<th>Collapsed Stage of Promotional Change</th>
<th>F(2, 391)a</th>
<th>Eta</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No Promotion (41) Irregular (203)Regular(150)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intention</td>
<td>M 3.52 4.73 5.60 60.15 .24</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SD 1.50 1.08 1.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attitude</td>
<td>M 4.51 4.96 5.37 13.93 .07</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SD 1.30 .89 1.11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perceived</td>
<td>M 3.53 4.51 5.04 29.6 .13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Behavioural</td>
<td>SD 1.22 1.15 1.11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>Subjective</td>
<td>M 3.21 4.07 4.75 21.98 .101</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SD 1.53 1.34 1.49</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effort</td>
<td>M 1.73 2.98 4.37 164.02 .46</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SD .92 .85 1.06</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a All F tests are significant (p < .01).

Note: Tukey post hoc tests showed significant differences (p<.05) on all variables across the three collapsed stages. There was no significant difference on the attitude measure when comparing the no promotion and irregular promotion groups.

In comparison to the ‘no promotion’ and ‘irregular promotion’ groups, ‘regular promoters’ were significantly more positive in their attitudes, were more likely to be aware of social norms to promote physical activity, were more likely than non-promoters to feel confident that they were capable of exercising adequate control over promoting physical activity, and reported exerting more effort in this promotion. Significant correlations between components of the theory of planned behaviour are presented in Table 4.11.
Table 4.11. Correlations between Latent Variables of the Theory of Planned Behaviour and Stage of Change

<table>
<thead>
<tr>
<th></th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>Mean (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Initial Stage</td>
<td>.51</td>
<td>.63</td>
<td>.41</td>
<td>.39</td>
<td>.31</td>
<td>.44</td>
<td></td>
</tr>
<tr>
<td>2. Future Stage</td>
<td>.50</td>
<td>.34</td>
<td>.27</td>
<td>.31</td>
<td>.67</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Intention</td>
<td>.55</td>
<td>.50</td>
<td>.45</td>
<td>.42</td>
<td></td>
<td></td>
<td>4.94 (1.3)</td>
</tr>
<tr>
<td>4. PBC</td>
<td></td>
<td>.44</td>
<td>.37</td>
<td>.30</td>
<td></td>
<td></td>
<td>4.61 (1.2)</td>
</tr>
<tr>
<td>5. Attitude</td>
<td>.29</td>
<td>.28</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5.06 (1.07)</td>
</tr>
<tr>
<td>6. Subjective Norm</td>
<td>.32</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4.24 (1.5)</td>
</tr>
<tr>
<td>7. Effort</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3.38 (1.28)</td>
</tr>
</tbody>
</table>

All correlations are significant (p < .01).

4.5.2.3 Structural Equation Modeling (SEM)

For the main analyses, structural equation modeling was conducted. SEM is a powerful statistical approach to model testing (Bentler, 1995) which allows simultaneous testing of the pathways that are proposed in a mediational model such as the TPB. Additionally, it provides a method which corrects for the potential biasing effect of measurement error. SEM procedures use latent variables which are free of measurement error instead of estimating pathways among composite variables. This is possible by using multiple indicators (e.g., questionnaire items) that are theorised to measure a particular psychological construct (i.e., a latent variable). For example, in the TPB, SEM may examine the link between the latent variables ‘PBC’ and ‘intention’, by producing an estimate of the degree of relationship between ‘PBC’ and ‘intention’ and an estimate to which each ‘PBC’ item measures the same psychological construct, ‘PBC’, and the extent to which each ‘intention’ item is also measuring the same psychological construct ‘intention’.
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In the present study, the statistical software EQS (Bentler, 1995) was used. The relationships between the variables were represented by a series of structural equations and the fit of the data in relation to a perfectly fitting model estimated using a robust maximum likelihood (ML\textsubscript{robust}) method. This method of estimation allows the data some departure from normality. However, examination of the data's normality was made for individual variables (kurtosis and skewness) and from Mardia's coefficient for multivariate kurtosis which tests the hypothesis that the distributions of the variables used in estimating the model conform to a normal distribution. This initial examination revealed that assumptions of multivariate normality were met.

In order to assess the adequacy of the fit of the TPB model to the data, six indices of fit were examined: the Satorra-Bentler scaled chi-square statistic; the comparative fit index (CFI), the goodness-of-fit index (GFI), the adjusted goodness-of-fit index (AGFI), standardized root mean square residual (SRMSR) and the root mean square error of approximation (RMSEA). The chi-square statistic tests the null hypothesis that the observed and model-implied covariance matrices are not significantly different. A non-significant chi-square statistic indicates a good fit although the statistic is sensitive to sample size. The CFI assesses the lack of fit as estimated by the non-central chi-square distribution of a target model compared to a baseline model. GFI and AGFI are indexes of absolute fit, that is, the relative amount of the observed variances and covariances accounted for by a model. AGFI adjusts the GFI by taking into account the number of estimated parameters in the model (Tabachnick & Fidell, 1996). The standardized SRMSR is the square root of the mean of the squared discrepancies between the implied and the observed covariance matrices. The RMSEA is also based on the analysis of residuals and compensates for the effects of model complexity. Hu and Bentler (1999) recommend that in relation to the CFI and other fit indices, 0.95 and above represents a good fit. Additionally, the cut-off for the SRMSR and RMSEA should be close to .06.

In the present study, a nonstandard model was tested (Bentler, 1995) because only a single indicator was obtained for subjective norms, past behaviour and current behaviour. These were treated as observed constructs while attitude, perceived behavioural control, intention and effort were specified as latent factors. EQS was used to simultaneously examine the measurement model and the hypothesised relationships
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between the latent and observed variables. The measurement portion of the model was specified which evaluated the extent to which the questionnaire items were related to the underlying latent constructs of attitude, perceived behavioural control, intention and effort. Each item for these scales was specified to load on its respective factor (latent variable) while all other factor loadings were set to zero. The one exception was one item loading for each factor which was arbitrarily set to unity to ensure the model was properly defined.

Initial estimate of the model resulted in unsatisfactory goodness of fit indices (see Table 4.12). If a less than adequate fit of the data to the hypothesised model is found, incremental tests for freeing parameters (LaGrange Multiplier or LM-Test) and fixing parameters (Wald or W-test) to improve model fit are available. The LM-Test measures the predicted decrease in the chi-square value when a single constraint is relaxed and the model is reestimated. In this case, the test revealed a high residual caused by the measurement errors among two questionnaire items within the attitude factor (`enjoy' and `useful') and two items within the control factor (`up to me' and `control'). Specifically, the LM-Test indicated that the fit of the model was penalised because of a correlation between error variances of these items rather than any model misspecification at the structural level (latent) of the model. As Walling, Duda, and Chi (1993) suggested, it may be reasonable to expect that some of the measurement errors within a scale may be correlated. If the error correlation between these pairs of items were freed, the chi square statistic of the model would improve from 315.471 (59 df.) to 115.31 (57 df.). Given this substantial improvement in the model’s fit, a second analysis was conducted which allowed this measurement error within the attitude factor and control factor to covary. The results of this analysis significantly improved the overall goodness of fit of the data and future analyses retained these error correlations (see Table 4.12).

Caution is required in using correlated error terms to develop a more acceptable fit as one can always produce a better fit by allowing more free parameters in a model (Anderson & Gerbing, 1988). However, the estimation of the error correlations did not change the standardized path coefficients between the latent and observed factors. This might suggest that these items are signalling the presence of an additional factor but that this additional factor is uncorrelated with the TPB variables purported to underpin the
decision making process and ultimately behaviour. Therefore, while a misspecification is present, it does not impact on inferences made regarding the structural level of the model.

Table 4.12. Goodness of Fit Statistics

<table>
<thead>
<tr>
<th>Fit Statistics</th>
<th>Results of Initial Measurement Model</th>
<th>Results of Revised Measurement Model</th>
<th>Inclusion of Past Behaviour</th>
<th>Inclusion of Effort</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chi-square</td>
<td>315.471</td>
<td>115.31</td>
<td>123.93</td>
<td>162.02</td>
</tr>
<tr>
<td>df</td>
<td>59</td>
<td>57</td>
<td>65</td>
<td>89</td>
</tr>
<tr>
<td>CFI</td>
<td>.89</td>
<td>.975</td>
<td>.98</td>
<td>.98</td>
</tr>
<tr>
<td>GFI</td>
<td>.89</td>
<td>.96</td>
<td>.96</td>
<td>.95</td>
</tr>
<tr>
<td>AGFI</td>
<td>.84</td>
<td>.93</td>
<td>.93</td>
<td>.92</td>
</tr>
<tr>
<td>SRMSR</td>
<td>.06</td>
<td>.04</td>
<td>.04</td>
<td>.04</td>
</tr>
<tr>
<td>RMSEA</td>
<td>.1</td>
<td>.05</td>
<td>.05</td>
<td>.05</td>
</tr>
</tbody>
</table>

Additionally, inspection of the standardized factor loadings of the items on the latent variables (see Table 4.13) revealed that one of the attitude and control items only had moderate loadings (< .50). However, both factors exhibited high reliability. Any problems due to these poor factor loadings were reduced in this study when the scale was used in the analyses to estimate a latent variable. Consequently, any measurement error from these items was statistically controlled and not included in the factor (cf. Hagger, 1999). Importantly, given the satisfactory fit of the data it can be inferred that the questionnaire items also demonstrate satisfactory psychometric qualities.
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Table 4.13. Factor Loadings, Error Variances and Multiple Correlations for the Intention, Attitude, Perceived Behavioural Control and Effort Items

<table>
<thead>
<tr>
<th>Variable</th>
<th>Factor Loadings</th>
<th>Error Variances</th>
<th>R²</th>
<th>Cronbach's alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Behavioural Intention</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Int1</td>
<td>.80</td>
<td>.60</td>
<td>.64</td>
<td>.84</td>
</tr>
<tr>
<td>Int2</td>
<td>.90</td>
<td>.43</td>
<td>.82</td>
<td></td>
</tr>
<tr>
<td>Attitude</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Att1-bad/good</td>
<td>.83</td>
<td>.56</td>
<td>.69</td>
<td>.84</td>
</tr>
<tr>
<td>Att2-unpleas/pleas</td>
<td>.81</td>
<td>.59</td>
<td>.66</td>
<td></td>
</tr>
<tr>
<td>Att3-harm/benef</td>
<td>.79</td>
<td>.62</td>
<td>.62</td>
<td></td>
</tr>
<tr>
<td>Att4-enjoy/unenjoy</td>
<td>.49</td>
<td>.87</td>
<td>.24</td>
<td></td>
</tr>
<tr>
<td>Att5-useful/useless</td>
<td>.59</td>
<td>.81</td>
<td>.35</td>
<td></td>
</tr>
<tr>
<td>Perceived Behavioural</td>
<td></td>
<td></td>
<td></td>
<td>.78</td>
</tr>
<tr>
<td>Control</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PBC1-opportunity</td>
<td>.90</td>
<td>.45</td>
<td>.85</td>
<td></td>
</tr>
<tr>
<td>PBC2-easy</td>
<td>.77</td>
<td>.64</td>
<td>.58</td>
<td></td>
</tr>
<tr>
<td>PBC3-up to me</td>
<td>.34</td>
<td>.94</td>
<td>.08</td>
<td></td>
</tr>
<tr>
<td>PBC4-control</td>
<td>.65</td>
<td>.76</td>
<td>.39</td>
<td></td>
</tr>
<tr>
<td>Effort</td>
<td></td>
<td></td>
<td></td>
<td>.86</td>
</tr>
<tr>
<td>Eff1-worked hard</td>
<td>.93</td>
<td>.34</td>
<td>.87</td>
<td></td>
</tr>
<tr>
<td>Eff2-planned</td>
<td>.82</td>
<td>.58</td>
<td>.67</td>
<td></td>
</tr>
</tbody>
</table>

4.5.2.4 Structural Model

4.5.2.4.1 The Theory of Planned Behaviour

Analysis of the TPB revealed an initial model demonstrating good fit using multiple goodness-of-fit criteria ($\chi^2/57$df = 2.023, p > 0.05; CFI = 0.98; GFI = 0.96; AGFI = 0.93; RMSEA = 0.05; SRMSR = 0.04). Attitude (standardized path coefficient = .41, p < .01) and perceived behavioural control (.38, p < .01) were approximately equal predictors of intention while subjective norms also predicted intention to a lesser extent (.16, p < .01)(see Figure 4.3). As expected, intention was the strongest predictor of stage of change (.42, p < .01). Perceived behavioural control was a weak but significant predictor of stage of change (.14, p < .05).

Overall, 27% of the variance in self-reported stage of promotion was explained by the model. The model also explained 61% of the variance in intention to promote physical activity.
4.5.2.4.2 Past Behaviour

Inclusion of past behaviour in the analysis (see Figure 4.4) again revealed a model demonstrating good fit using multiple goodness-of-fit criteria ($\chi^2/65 \ df = 1.9, p > 0.05$; CFI = 0.98; GFI = 0.96; AGFI = 0.93; RMSEA = 0.05; SRMSR = 0.04). Past behaviour was predictive of intention (0.36, $p < .01$) and stage of change (0.30, $p < .01$). All other path coefficients were attenuated with the inclusion of past behaviour (intention $\sim$ stage of change = 0.23, $p < .01$; attitude $\sim$ intention = 0.34, $p < .01$; subjective norms $\sim$ intention = 0.12, $p < .05$; PBC $\sim$ intention = 0.28, $p < .01$). The Wald test assesses whether any free parameters of a model can be restricted without substantial loss of information (Bentler, 1995). This test demonstrated that the path between perceived behavioural control and stage of change was not significant (0.12, $p > .05$) and therefore could be dropped from the model. It is suggested that although these post-hoc modifications are influenced by chance, the information can be useful in providing insight into variations of the hypothesised model. Changes are usually advised only when theoretically or logically justified (Tabachnick & Fidell, 1996). Ajzen (1991) argues that the effects of past behaviour should be mediated by control. Past behaviour improved the predicted variance in intention by 10% and by 5% for stage. Such increases are probably too large to be solely attributable to common method variance effects (Connor & Armitage, 1998).

4.5.2.4.3 Effort

Final analysis of the TPB revealed a model demonstrating satisfactory fit using the selected goodness-of-fit criteria ($\chi^2/89 \ df = 1.82, p > 0.05$; CFI = 0.98; GFI = 0.95; AGFI = 0.92; RMSEA = 0.05; SRMSR = 0.04)(see Figure 4.5). 58% of the variance in stage of change was explained with the inclusion of effort, with effort significantly associated with stage (0.60, $p < .01$). The high path coefficient between effort and current stage suggests a possible conceptual overlap between the two variables. Mathur (1998) found similar results and pointed out that the paths from intention to effort and to stage should be equal if this was the case. However, analysis supported a direct path to stage via effort. Additionally, the LM-test did not indicate a shared error variance between these two factors which suggests they are distinct factors. Of interest, the standardized
Figure 4.3  Model predicting stage of change and intention to promote physical activity from Theory of Planned Behaviour variables.

\[ R^2 = 0.44 \% (61\%) \]

\[ R^2 = 0.25 \% (26\%) \]

- Attitude: \[ 0.29 (0.41) [0.41] \]
- Subjective Norms: \[ 0.24 (0.16) [0.16] \]
- Perceived Behavioural Control: \[ 0.35 (0.37) [0.38] \]
- Intention: \[ 0.44 (0.39) [0.42] \]
- Stage of Change:
  - e = 0.75, (d=0.63), d=0.63
  - e = 0.86 (0.86), [0.86]
  - 0.1 (0.17) [0.14]
Figure 4.4 Model predicting stage of change and intention to promote physical activity from Theory of Planned Behaviour variables and past behaviour.

\[ R^2 = 56\% (69\%) [71\%] \]

- Attitude: .19 (.36) [.34] → Past Stage of Change: .4 (.31) [.36]
- Subjective Norms: .18 (.12) [.12] → Intention: .26 (.22) [.23]
- Perceived Behavioural Control: .24 (.29) [.28] → Intention: .26 (.22) [.23]

\[ R^2 = 31\% (32\%) [32\%] \]

- Past Stage of Change: e = .66 (.56), d = .54
- Stage of Change: e = .83 (.82) [.82]

\[ R^2 = 56\% (69\%) [71\%] \]

\[ R^2 = 31\% (32\%) [32\%] \]
Figure 4.5 Model predicting stage of change and intention to promote physical activity from Theory of Planned Behaviour variables, past behaviour and effort.

\[ r^2 = 56\% (69\%) [71\%] \]

\[ r^2 = 23\% (28\%) [28\%] \]

\[ r^2 = 51\% (58\%) [58\%] \]
path coefficient between past stage and current stage of change was attenuated (.18, p < .01) with the inclusion of effort. In addition, the control path to stage became significant, albeit weakly (.11, p < .05) which suggests a small effect that is probably not meaningful.

Intention (.23, p < .01) and past behaviour (.26, p < .01) were both predictors of effort. Overall, 28% of the variance in effort was explained. The Wald Test suggested that the direct path between perceived behavioural control and effort could be dropped. Finally, intention was predicted by past behaviour (.36, p < .01), attitude (.35, p < .01), perceived behavioural control (.27, p < .01), and subjective norms (.11, p < .05) explaining 71% of the variance.

4.5.2.5 Multi-group Analyses

The sample comprised individuals from three relatively diverse settings; inpatient, rehabilitation and community settings. Consequently, multi-sample analyses were also performed where parameters of the model are compared for equality. Due to reduced sample sizes for the three groups, composite variables were used instead of latent variables due to the larger sample:item ratio required (Bentler, 1995). Appropriateness of equality constraints are also assessed through similar fit indices as previously described. Results displayed general support for the invariance of all three models across the three groups. This suggests that the meaning of constructs and the magnitude of their relationships was the same across the three samples (Leone, Perugini & Ercolani, 1999). This, in turn, indicates the relative robustness of the theory within this sample. Table 4.14 details the fit indices of the multigroup analyses.

<table>
<thead>
<tr>
<th>Fit Statistics</th>
<th>TPB</th>
<th>TPB &amp; Past Behaviour</th>
<th>TPB, Past Behaviour &amp; Effort</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chi-square</td>
<td>19.14</td>
<td>19.9</td>
<td>49.27</td>
</tr>
<tr>
<td>df</td>
<td>19</td>
<td>20</td>
<td>35</td>
</tr>
<tr>
<td>CFI</td>
<td>1.000</td>
<td>1.000</td>
<td>.985</td>
</tr>
<tr>
<td>GFI</td>
<td>.98</td>
<td>.98</td>
<td>.97</td>
</tr>
</tbody>
</table>
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Table 4.14 (Cont). Fit Statistics for Multisample Analyses

<table>
<thead>
<tr>
<th>Fit Statistics</th>
<th>TPB</th>
<th>TPB &amp; Past Behaviour</th>
<th>TPB, Past Behaviour &amp; Effort</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGFI</td>
<td>.95</td>
<td>.95</td>
<td>.92</td>
</tr>
<tr>
<td>SRMR</td>
<td>.06</td>
<td>.07</td>
<td>.07</td>
</tr>
<tr>
<td>RMSEA</td>
<td>.006</td>
<td>.003</td>
<td>.03</td>
</tr>
</tbody>
</table>

However, MANOVA revealed a significant interaction between the TPB variables as a function of setting (see Table A5.14; Wilks’ lambda = .82, F (8, 898) = 11.89, p < .001). Intentions were significantly higher in community and rehabilitation settings, greater perceived behavioural control was reported in community settings compared to inpatient/outpatient and rehabilitation settings and higher subjective norms in rehabilitation settings compared to inpatient and community settings. There was no significant difference for attitude.

4.5.2.6 Collapsed Stage TPB

There may be some conflation between the TPB variable of intention and the stage of change measure. Therefore, analyses were repeated with three collapsed stages as the behavioural criterion rather than the five specified stages of the TTM. Fit indices for these analyses are displayed in Table 4.15. Any variation in path coefficients, error terms and variance explained are displayed in parentheses in Figures 4.3-4.5. As the figures indicate, trends are identical and there is little variation from initial results using the complete stage measure.

Table 4.15 Fit Statistics for EQS Analyses: Tristage behavioural criterion

<table>
<thead>
<tr>
<th>Fit Statistics</th>
<th>TPB</th>
<th>TPB &amp; Past Behaviour</th>
<th>TPB, Past Behaviour &amp; Effort</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chi-square</td>
<td>112.09</td>
<td>120.43</td>
<td>155.45</td>
</tr>
<tr>
<td>df</td>
<td>57</td>
<td>65</td>
<td>89</td>
</tr>
<tr>
<td>CFI</td>
<td>.98</td>
<td>.98</td>
<td>.98</td>
</tr>
</tbody>
</table>
4.5.2.7 Stage Change

Table 4.16 shows means and standard deviations for the TPB variables for four distinct groups involving stage change which were classified using the criteria defined by Courneya, Estabrooks and Nigg (1997): resisters (participants who remained in precontemplation or contemplation at baseline and follow-up); maintainers (participants who remained in preparation, action, or maintenance at baseline and follow-up); adopters (participants who moved in a progressive pattern from precontemplation or contemplation to preparation, action or maintenance); and relapsers (participants who moved in a regressive pattern from preparation, action or maintenance to precontemplation or contemplation).

Table 4.15 (Cont.) Fit Statistics for EOS Analyses: Tristage behavioural criterion

<table>
<thead>
<tr>
<th>Fit Statistics</th>
<th>TPB</th>
<th>TPB &amp; Past Behaviour</th>
<th>TPB, Past Behaviour &amp; Effort</th>
</tr>
</thead>
<tbody>
<tr>
<td>GFI</td>
<td>.96</td>
<td>.96</td>
<td>.95</td>
</tr>
<tr>
<td>AGFI</td>
<td>.93</td>
<td>.93</td>
<td>.92</td>
</tr>
<tr>
<td>SRMR</td>
<td>.04</td>
<td>.04</td>
<td>.04</td>
</tr>
<tr>
<td>RMSEA</td>
<td>.05</td>
<td>.05</td>
<td>.04</td>
</tr>
</tbody>
</table>

Table 4.16 Means and Standard Deviations for TPB Constructs across the four major patterns of stage change

<table>
<thead>
<tr>
<th>Progression</th>
<th>Resisters (n=22)</th>
<th>Adopters (n=33)</th>
<th>t (53 df.)</th>
<th>Maintainers (n=322)</th>
<th>Relapsers (n=17)</th>
<th>t (337 df.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intention</td>
<td>2.68</td>
<td>4.11</td>
<td>3.87 **</td>
<td>5.20</td>
<td>4.53</td>
<td>2.44 *</td>
</tr>
<tr>
<td></td>
<td>1.41</td>
<td>1.3</td>
<td></td>
<td>1.11</td>
<td>.94</td>
<td></td>
</tr>
<tr>
<td>PBC</td>
<td>2.93</td>
<td>4.07</td>
<td>3.22 **</td>
<td>4.80</td>
<td>4.25</td>
<td>1.98 *</td>
</tr>
<tr>
<td></td>
<td>1.16</td>
<td>1.35</td>
<td></td>
<td>1.12</td>
<td>.91</td>
<td></td>
</tr>
</tbody>
</table>
Chapter 4: Predicting Physical Activity Promotion

Table 4.16 (Cont.) Means and Standard Deviations for TPB Constructs across the four major patterns of stage change

<table>
<thead>
<tr>
<th></th>
<th>Progression</th>
<th>Regression</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Resisters (n=22)</td>
<td>Adopters (n=33)</td>
</tr>
<tr>
<td>Attitude</td>
<td>4.06</td>
<td>4.69</td>
</tr>
<tr>
<td></td>
<td>1.31</td>
<td>.84</td>
</tr>
<tr>
<td>Subjective Norm</td>
<td>2.92</td>
<td>3.95</td>
</tr>
<tr>
<td></td>
<td>1.55</td>
<td>1.5</td>
</tr>
<tr>
<td>Effort</td>
<td>1.59</td>
<td>3.11</td>
</tr>
<tr>
<td></td>
<td>.84</td>
<td>1.14</td>
</tr>
</tbody>
</table>

* Statistically significant difference between groups (p < .05)
** Statistically significant difference between groups (p < .01)

Independent t tests were used to examine differences between baseline TPB constructs as predictors of progression (resisters vs. adopters) and regression (maintainers vs. relapsers) through the stages. Results showed that participants who adopted physical activity promotion six months after baseline reported significantly higher intentions, higher perceived behavioural control and subjective norms and self-reported higher effort in promoting physical activity. The reverse trend was found when comparing relapsers and maintainers. Relapsers reported significantly lower intentions, perceived behavioural control, subjective norms and effort in comparison to maintainers. There was no significant difference in attitudes for either comparisons.

4.6 Discussion

4.6.1 The Nature of Physical Activity Promotion

To my knowledge, this is the first study to prospectively examine the promotion of physical activity in mental health settings. Results are encouraging in that 42.6% of the sample described themselves as regular promoters of physical activity. In contrast, only 13.2% of the sample reported not promoting physical activity at all. Given that the
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evidence concerning the benefits is most supportive regarding conditions such as depression (Mutrie, 2000) and anxiety (Taylor, 2000a), it is not surprising that clients with these conditions were more likely to be assessed in terms of physical activity levels and be encouraged to be physically active.

This study did not assess the impact of such encouragement and it is most unlikely that long term changes in client activity levels would be achieved through verbal advice alone. Successful interventions tend to be characterised by “long-term intervention and multiple contacts, supervised exercise, provision of equipment and behavioural approaches” (Simons-Morton et al., 1998, p. 427). However, short term increases in moderate physical activity have been found during counselling interventions of 3-5 minutes (e.g., Calfas et al., 1996; Marcus et al., 1997) while increases in smoking cessation rates have also been found (Goldstein et al., 1998). In examining the promotion within this Mental Health Trust, results suggest that negotiating barriers, personalising benefits and expressing a concern to help clients become active were the most common strategies (see Table 4.5). Until further research examines the effectiveness of health professional based activity counselling in mental health settings such short interventions remain appealing as an element of minimum care. Priority should be given to developing the skills necessary for brief but more sophisticated forms of exercise consultation (Loughlan & Mutrie, 1995; Rollnick, Kinnersley, & Stott, 1993).

More resource based strategies such as providing material or follow-up discussions of physical activity were relatively uncommon for all groups. To complement these findings, individuals were more likely to be active promoters if they reported higher confidence in identifying appropriate resources and consistently incorporating counselling strategies within client contacts (see Table 4.7). Educational interventions might attempt to increase confidence in these particular behaviours. Providing material, such as leaflets for clients, which offer suggestions on how to become active, in addition to identifying active opportunities in and outside of mental health settings should be developed. In coordinating the care of clients, individuals must have a care co-ordinator and a written care plan. While not assessed, greater consistency of promotion might be attained if greater physical activity has been identified as a goal in an
individual’s care plan. Physical activity then becomes a mutual point of ongoing collaboration between client and professional.

In terms of assessing physical activity levels and recommending physical activity, occupational therapists and community psychiatric nurses generally reported greater assessment and recommendation for each diagnosis in comparison to psychiatrists/psychologists, health care support workers and inpatient nurses. Overall, occupational therapists and community psychiatric nurses also reported significantly greater physical activity counselling while psychiatrists/psychologists reported the lowest. Given that these former professionals work in community and rehabilitation settings, further analyses demonstrated greater assessment of physical activity and recommendation in these settings compared to inpatient settings. There was significantly less physical activity counselling in inpatient settings in comparison to community and rehabilitation settings. The treatment orientation of the inpatient setting probably reduces the time available for promotion and lowers its prioritisation. Conversely, where rehabilitation becomes the goal, developing a range of coping and ‘life skills’, such as exercise, may be more salient. These professionals may also have greater freedom in their work practices.

Finally, concern is raised regarding the low means for Health Care Support Workers across many indices of physical activity promotion. In contrast, Health Care Support Workers also reported the highest mean for subjective norms to promote physical activity, significantly higher than Community Psychiatric Nurses and Psychiatrists/psychologists. The role of these professionals in promoting physical activity deserves closer scrutiny. They may be best placed to incorporate physical activity promotion into their existing duties. While these professionals report greater social pressure to promote physical activity they also indicate the lowest frequency of promotion in comparison to other professional groups. Follow up barrier analyses did not indicate any of the barriers to be more frequent in this occupational group.

4.6.2 Barriers to Physical Activity Promotion

Odds ratio analysis revealed that common, systemic barriers identified in primary care, such as lack of time, were not found to be influential. Lack of training and
protocols were most discriminating between the preactive and active promoting groups. This is encouraging in that further training may increase promotional behaviour rather than the need to overcome more intractable, systemic barriers. Providing accessible, time-efficient protocols for promoting behaviour change may enhance control and take advantage of the general positive, instrumental attitudes held by many of the participants. Qualitative research is recommended in providing a more comprehensive picture of individual needs (Moulding, et al., 1999) in terms of training. Whether such training can be provided, given issues of funding and human resource management, is a critical question although “the paybacks may well be justified” (McDowell, et al., 1997, p. 311). Furthermore, training sessions of only one-hour duration have been found to improve physicians’ confidence in exercise counselling skills (Pinto et al., 1998).

Lack of incentives was also found to be a significant predictor of promotional stage. Those who were actively promoting physical activity were more likely to report lack of incentives as a barrier. This is an interesting finding that highlights the difficulty in determining barriers through typical frequency item questionnaires. Different barriers may become more salient at different times and at different stages of behaviour. In this example, one may only appreciate lack of incentives, such as receiving feedback for promotional efforts or financial incentives, as a barrier when actually promoting physical activity. For any successful promotion of physical activity, there will need to be “institutionalised practice-wide routines in encouraging higher levels of health promotion activities” (McKenna, et al., 1998, p. 245) for these specific populations. In other words, institutional support must be present for promotion to be maintained.

Personal exercise behaviour has been found to be significantly more influential than other common barriers in explaining promotional behaviour of GPs and PNs (McKenna et al., 1998). However, odds ratio analysis in the present study found personal exercise behaviour to have no relationship to promotion. Contextual factors might be important. The shift in primary care to preventive efforts has clearly placed physical activity on the agenda. It may be that primary care professionals who are active themselves are more receptive to such prompts. In comparison, physical activity promotion may have low priority in mental health settings regardless of personal activity preferences. If physical activity promotion is not a core job function, other factors, such
as perceived behavioural control, may be more influential in preventing personal health behaviours impacting on professional behaviours.

4.6.3 The Theory of Planned Behaviour

The primary purpose of this study was to investigate the predictive utility of the TPB in the context of a work-related behaviour, the promotion of physical activity, among a sample of mental health professionals. Overall, the results provided support for the utility of the theory and the consideration of additional variables including past behaviour and effort. All analyses indicated that the TPB had a strong relationship with stage of change. Given that this study uses the TPB with a new population and a novel behaviour, it is encouraging that the amount of variance explained by the TPB variables was comparable to that reported in the literature (Sutton, 1998). Additionally, the TPB was shown to be a predictor of promotional stage over a six-month time period. Further support is offered for examining the TPB within a stage framework.

4.6.3.1 Simple Prospective Model: Predicting Intentions

Intention to promote physical activity was predicted equally by attitude and perceived behavioural control and to a lesser extent, subjective norms. Using variables from the TPB, it was possible to account for 61% of the variance in intentions, with health professionals who intended to promote physical activity having a more positive attitude toward such promotion, perceiving greater normative pressure and behavioural control to promote physical activity.

Attitude was a strong predictor of intention. This may be clearly related to the type of behaviour that is being assessed. When examining work-related behaviours in general, the perceived utility of the behaviour may be very influential. In terms of physical activity promotion, there may still exist gaps in knowledge held by health professionals (Gould, Thorogood, Iliffe, & Morris, 1995) which must be reduced before more extensive promotion can take place. Specifically, discriminating the instrumental nature of a behaviour in terms of its utility for oneself or others (such as clients or patients) should be of future interest.
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Perceived behavioural control was also a strong predictor of intention which supports the primacy of control in understanding the intentional behaviour of health professionals (Bunce & Birdi, 1998; Walker et al., 2000). There was a significant difference between adopters and resisters on perceived behavioural control with adopters reporting higher control. Furthermore, there were no significant differences between adopters and resisters on attitude which suggests perceived behavioural control may be more important for stage change in this context. This is consistent with previous research examining stage change in the exercise domain (Courneya et al., 1997) which underlines the importance of perceptions of control in translating intention into action. In developing intentions, interventions must facilitate professionals' perceptions of control over their behaviour due to its motivational implications for the formation of promotional intentions. This will include developing awareness of existing stage-matched and time-efficient protocols for physical activity promotion (e.g., Project PACE: Patrick et al., 1994; Project PAL: Pinto, Goldstein, DePue, & Milan, 1998).

In contrast to one comparable study (Smith, 1998), subjective norms were also predictive of intention to promote physical activity. However, in common with much research (Godin, 1993; Godin & Kok, 1996; Hausenblas, Carron & Mack, 1997), subjective norms in this study had the weakest relationship to intention. Smith (1998) looked at primary care professionals who may be more oriented toward the promotion of health behaviours such as exercise. Given that physical activity promotion may be a key role within this profession, perhaps actual promotion is less susceptible to the influence of normative 'others'. In mental health settings where physical activity promotion is less visible, the influence of others promoting physical activity and physical activity promotion being valued may be more pertinent. The 'social' nature of this construct obviously demands a greater awareness of the context in which a given behaviour is being explored. As discussed, it is certain that a level of institutional support will be necessary in legitimizing the promotion of physical activity and reinforcing promotional behaviour. Without this support, promotion may become neither realistic nor practical (Kreuter, Scharff, Brennan, & Lukwago, 1997). It is doubtful that the measure commonly used in TPB studies effectively captures this important aspect of promotional work.
4.6.3.2 Simple Prospective Model: Predicting Stage of Change

As the model predicts, intention mediated the effects of the other planned behaviour constructs on current promotional stage (Courneya et al., 1998). Importantly, perceived behavioural control was a weak but significant predictor of stage of change. Ajzen (1988) originally suggested that perceived behavioural control will only predict behaviour when such perceptions accurately reflect actual control. It may also be argued that if an individual has little information about the behaviour, if available resources have changed, or if unfamiliar elements have entered into situations, PBC will add little to the prediction of actual behaviour (Ajzen, 1988). However, given that self-efficacy, of which PBC is often considered synonymous (Ajzen, 1991; Connor & Armitage, 1998), is also a key construct of the TTM further underlines the necessity for equipping professionals with the skills to promote physical activity in a way that can be incorporated into existing roles and enhances perceived behavioural control. Additionally, descriptive results found regular promoters to be significantly more confident in each physical activity counselling strategy.

Overall, 27% of the variance in SOC was explained by the TPB variables. These findings are consistent with a large body of literature testing the TPB in a range of different domains (Sutton, 1998) and indicate that intention and perceived control will likely be important cognitive determinants of whether or not individuals promote physical activity.

4.6.3.3 Past Behaviour

By implication, it should be possible to increase intentions to promote physical activity through a range of educational forums designed particularly to change attitudes and enhance perceived behavioural control. In terms of interventions, such education would indeed be appropriate for those in the early stages of change. However, results from the present analyses support previous research that changing knowledge, attitudes and beliefs may not be effective in eliciting or sustaining changes in physician behaviour (Cohen et al., 1994).

Past behaviour becomes the strongest predictor of both intention and stage of change and attenuates all other path coefficients. In particular, the path between control
and stage of change becomes nonsignificant suggesting that past behaviour perhaps encompasses considerations of control. As discussed, any significant effects found for attitudes and subjective norms on intentions and for intentions on a target act can be interpreted as a meaningful influence with past behaviour held constant (Bagozzi & Kimmel, 1995). This may be suggestive of two processes that are operating in explaining physical activity promotion in this context. First, for some participants, promoting physical activity involves a volitional, deliberative process, with perceptions of control, attitude and subjective norms culminating in the intention to promote physical activity. For some, this intention predicts stage of change. Alternatively, given that past behaviour was the strongest predictor of intention and behaviour again suggests that some people may be promoting or not promoting physical activity habitually with little conscious deliberation (Eagly & Chaikin, 1993). However, such a conclusion may be premature and further empirical examination is required.

4.6.3.4 **Effort**

Yet, how would one develop an intervention that utilizes the role of past behavior? The inclusion of the final variable of interest, effort, sheds some light on this question. At first, developing positive intentions to promote physical activity would be essential (particularly by developing positive attitudes and perceptions of control as Figures 4.3-4.5 suggest) and models such as the TPB could help guide such efforts. If an individual can be convinced to do something once, they may continue to do it as a matter of routine (Rutter, 2000). The inclusion of effort as a mediator added significantly to variance in stage of change (16%) explained by the model. Effort was strongly associated with stage of change. Importantly, intending to promote physical activity had a small effect on effort suggesting that indeed intentions do not always translate into action.

Gollwitzer (1990) has described enacting goal intentions as a two-stage process. The first is analogous to the role of intention formation. During the second stage, plans are formed as to how one will act upon these intentions. These plans can ensure a person “commits himself or herself to respond to a certain situation in a specific manner” (Gollwitzer, 1999). Gollwitzer (1993) argues that by making implementation intentions, individuals pass control to the environment. The environment acts as a cue to action,
such that when certain conditions are met, the performance of the intended behaviour follows. It would appear that implementation intentions help to ensure that good opportunities for initiating behaviour are not missed. Effort, may also be indicative of what Gollwitzer (1990) has described as implementation plans. The results suggest that individuals in a higher stage of change recalled greater planning to promote physical activity over the previous six months. Possibly, when such planning has taken place, the appropriate behaviour, physical activity promotion, is more likely to occur. Ultimately, it may be that promotional behaviour can become a more habitual behaviour by providing cues in the environment that prime the behavioural response (Bargh & Chartrand, 1999). It would appear that it is the linking of specific plans to specific opportunities for action which accounts for the effectiveness of implementation intentions in prompting behaviour.

In practical terms, this suggests that professionals need assistance in developing plans to promote physical activity that account for the environmental context in which promotion will take place. Specifying what should be promoted and to whom, in response to clearly specified cues, may assist by removing conscious deliberation from the promotional process. Again, protocols may help to clearly identify such cues for professionals. In practical terms, we may want to remove self-efficacy and perceived behavioural control from the equation entirely. Expert systems that ‘cue’ health care providers may consequently enhance service delivery (Simons-Morton et al., 1998; Walsh & McPhee, 1992).

4.7 Conclusions

This is the first prospective study addressing the promotion of physical activity in mental health settings using the TPB. Additionally, the inclusion of ‘effort’ as mediating the intention and behaviour path significantly improved the predictive validity of the model and deserves further research attention regarding its inclusion within the TPB framework. However, the study is not without limitations. First, there was unequal distribution across stages which may limit the stage model’s application for understanding the behaviour of health professionals. Assigning stage membership on the basis of objective measures would be beneficial. Such a stage profile may also be
indicative of the self-report nature of measurement used in this study. Self-selection may have biased responses.

Second, while physical activity was defined consistently throughout the questionnaire, there may be some doubt as to the correspondence between the intention and behavioural measure (stage). However, despite any weakness in correspondence, the model still appeared robust. Additionally, promoting physical activity is not a purely behavioural criterion. This study, as well as those predicting 'behaviour' as diverse as deciding to perform autopsies (Bunce & Birdi, 1998) or acting on evidence based criteria (Walker et al., 2000), suggest that there is some flexibility in how the behavioural criterion can be conceptualised.

Third, it must be recognised that a behaviour does not necessarily become habitual just because it has been performed in the past (Connor & Armitage, 1998). Past behaviour may influence decision making through the deliberation of information regarding how easy or difficult performing a behaviour might be. Alternatively, prior behaviour may lead to habitual responses when repeated on many occasions (Ronis, Yates, & Kirscht, 1989). Further theoretical and empirical work is needed on the role of past behaviour and habit in the TPB (Norman & Smith, 1995; Connor & Armitage, 1998). Discriminating between the two constructs will be important. Finally, it should be recognised that this study does not measure all the variables which might predict the behaviour in question. It measures only the variables that fit within the Theory of Planned Behavior, and it assesses a limited scope within those variables.

Overall, results demonstrate that the TPB, a validated theoretical framework, can clarify the determinants of intentions and stage of change of physical activity promotion. The TPB may be a useful tool for guiding the promotion of physical activity within health settings and in underpinning theoretically derived interventions to increase professional involvement in such behaviour. Combining the TPB and the transtheoretical model in addition to extending the TPB warrants further exploration in understanding the behaviour of health professionals in general.
Notes on Chapter Four

1 The full measurement model is not shown. Circles represent latent factors. Squares represent observed variables. All path coefficients are standardized. Dotted lines represent non-significant path coefficients. Full lines represent significant path coefficients. Unbounded figures represent path coefficients, error terms or disturbance, and variance explained when TPB variables were examined by path analysis for observed variables. Figures in parentheses are those when using three collapsed behavioural stages as the behavioural criterion. Figures in brackets represent the TPB variables when examined as a non-standard model which corrects for measurement error.
5.0 THE PROMOTION OF PHYSICAL ACTIVITY WITHIN ACUTE, IN-PATIENT SETTINGS

5.1 Introduction

In Chapter Four, the utility of the TPB in predicting the promotion of physical activity in a large sample of mental health professionals was examined. Results suggested that promotion does take place and that intentions to promote physical activity are the most proximal determinant of this behaviour. Attitudes and perceived behavioural control, in turn, were important predictors of intentions to promote physical activity. Additionally, the inclusion of past behaviour as a variable of interest suggested that there were two processes operating in such promotion. Specifically, some individuals were promoting physical activity habitually while others promoted physical activity with some deliberation. Finally, including a measure of 'effort' mediated the relationship between intention and behaviour such that those in a higher stage of promotion reported greater effort. This also suggests conscious planning while the still significant direct path from past behaviour to current behaviour implied a second, more habitual process. These results were methodologically derived from within a positivist paradigm. Specifically, an a priori theory guided the way in which data were collected, analysed and interpreted.

Recently, there has been growing interest in approaching the same problem from different theoretical and methodological approaches (Lyons, 1999), that is, multi-method research.

Bryman (1988) suggests that there are three ways in which different approaches to method can be combined in multi-method research. First, "qualitative research facilitates quantitative research" (p. 134). Second, "quantitative research facilitates qualitative research" (p. 136), and finally, that "quantitative and qualitative research are combined in order to produce a general picture" (p. 137). Erzberger and Prein (1997) specifically discuss how these combinations may offer assistance. First, there can be convergence of findings from quantitative and qualitative methods which is related to the problem of finding further evidence or disconfirming prior research findings. Second, an approach based on the complementarity of findings "starts from the assumption that neither methodological tradition can perceive reality per se, but only certain aspects which have to be put together" (p. 144-45). Finally, multi-method
Chapter 5: Promotion within In-Patient Settings

research is often interested in dissonance (Erzberger & Prein, 1997) which may be “suggestive of new lines of enquiry” (Bryman, 1992, p. 64).

Findings from Chapter Four showed similar trends to common TPB research reported in the literature. However, questions also arose from this analysis that may be examined through the use of qualitative methodology. First, subjective norms were the weakest predictor of intention despite its intuitive importance in supporting promotional behaviour. In the TPB, the subjective norm of the theory of planned behaviour has traditionally had the weakest relationship to intention (Godin, 1993; Hausenblas, et al., 1997). Smith and Biddle (1999) have queried the typical weakness this variable shows in predicting exercise behaviour given the strong theoretical support for social support in assisting behaviour change. These authors question the validity of the subjective norm construct in measuring the multidimensional nature of norms and group interaction and recommend a broader approach to its examination within the context of the TPB by using qualitative methodologies.

Second, the interpretation of findings suggesting the operation of two processes underpinning promotional behaviour deserved further scrutiny. Furthermore, while the inclusion of the variable ‘effort’ significantly improved the predictive power of the TPB model, did this concept actually ‘make sense’ to participants. Were participants exerting effort in promoting physical activity? Were participants actually planning to promote physical activity? In what ways was this ‘effort’ manifested in practice?

Third, a weakness of the TPB is that it relies on personal beliefs and cognitions suggesting a rational decision making process underpinning promotional behaviour. Such models only provide a partial account of how motivation is translated into action (Armitage & Connor, 2000). The full model, described in Chapter Four (see Figure 4.5), explained 58% of the variance in stage of change. The TPB thus ignores other possible influences (the unexplained 42%) including how the environment may facilitate or hinder attempts at promotion. Additionally, a strong relationship was expected to be found between personal exercise behaviour and exercise promotion as reported in primary care research (e.g., McKenna et al., 1998; Abramson, Stein, Schaufele, Frates & Rogan, 2000). However, no relationship was found. The shift in primary care to preventive efforts has clearly placed physical activity on the agenda. It may be that physicians who are active themselves are more receptive to such
prompts. In comparison, physical activity promotion may have low priority in mental health settings regardless of personal activity preferences.

Accordingly, a follow-up phase of qualitative data collection was conducted for two reasons. First, to further explore perceptions of physical activity as a therapeutic adjunct in a contrasting sample from that reported in Chapter Three. Nurses and Health Care Support Workers were purposively sampled as individuals who had one-to-one contact with clients but were not directly involved in the formulation of treatment for clients. Rather, such professionals are primarily involved in providing ongoing ‘care’ for clients in a practical way. They may also be characterised as being more distant from the medical model that informs the practice of clinical psychologists (Bachrach, 1992). Critically, inpatient settings should offer therapeutic, educational, and recreational activities to meet the needs of service users (DoH, 1999) although delivery by nurses is inconsistent (Ford, Duncan, & Warner, 1998). Research has also long supported the inclusion of physical activity within inpatient settings (Auchus, Wood & Kaslow, 1995; Conroy, Smith & Felthaus, 1982; Dodson & Mullens, 1969; Kaplan, Mendelson, Dubroff, 1983).

The second aim of this study is to provide further context to the EQS findings concerning the TPB while also allowing participants to discuss other pertinent factors not explained by the included variables. Qualitative research can offer an opportunity for developing a fuller understanding of meaning and context. While quantitative techniques can clarify statistical significance, qualitative methodologies can reveal substantive significance (McKinlay, 1993).

Given these two objectives, it is possible to contrast the general, nomothetic findings found through EQS with the more particular, idiographic data produced through semi-structured interview. This multi-methodological approach allows for a certain degree of epistemological and methodological triangulation. However, a note of caution is warranted:

"quantitative and qualitative research have different preoccupations and highly contrasting strengths and weaknesses. The very fact that the quantitative approach emphasizes causality, variables, and a heavily pre-structured approach to research, while qualitative research is concerned with the elucidation of subjects’ perspectives, process, and contextual detail means that the ensuing data may not be as comparable as is sometimes proposed by the advocates of triangulation. In other words, it
is highly questionable whether quantitative and qualitative research are tapping the same things even when they are examining apparently similar issues" (Bryman, 1992, p. 63-4).

Any differences in the findings offered by either method may shed further light on how physical activity is conceptualised and promoted within inpatient settings. It is accepted that both methods provide partial and representative answers (Valsiner, 2000) yet how any such differences are reconciled becomes a source of dissonance that will also be addressed.

5.2 Method

5.2.1 Sample

Respondents to the initial questionnaire survey could leave their name and telephone number on the questionnaire (as reported in Chapter Four), if they were interested in participating in a further investigation. Due to the interests of the Mental Health Trust programme leader, in response to the DoH (1999) support for inpatient recreational activities, the focus of this study was staff working in in-patient settings. Consequently, all individuals from this setting (N = 24) who had responded positively were sent a letter describing the rationale of the project, the nature of involvement, a response letter and reply paid envelope. Individuals could respond as to whether they were interested, required further information or would like to receive no further contact. After two weeks, a second letter was sent out to nonresponders.

After one month, seven individuals had declined to take part due to time commitments while five individuals did not reply to either mailshot. Therefore, twelve individuals participated in the study (see Table 5.1). Individuals were contacted by phone and a face-to-face interview was initially negotiated. However, with the exception of the final participant to be interviewed, all participants felt these were too time-intrusive and opted to participate in telephone interviews. There were no significant differences between responders and nonresponders by age, gender, professional status, TPB variables or promotional stage or personal stage of physical activity (see Appendix 7).
### Table 5.1 Participant Demographics

<table>
<thead>
<tr>
<th>Participant</th>
<th>Occupation</th>
<th>Age</th>
<th>Gender</th>
<th>Promotional Stage</th>
<th>Personal Stage</th>
</tr>
</thead>
<tbody>
<tr>
<td>RL</td>
<td>Nurse</td>
<td>38</td>
<td>Female</td>
<td>Contemplation</td>
<td>Contemplation</td>
</tr>
<tr>
<td>WS</td>
<td>Nurse</td>
<td>29</td>
<td>Female</td>
<td>Preparation</td>
<td>Maintenance</td>
</tr>
<tr>
<td>MY</td>
<td>Nurse</td>
<td>37</td>
<td>Male</td>
<td>Preparation</td>
<td>Maintenance</td>
</tr>
<tr>
<td>RC</td>
<td>HCSW</td>
<td>33</td>
<td>Female</td>
<td>Contemplation</td>
<td>Preparation</td>
</tr>
<tr>
<td>LR</td>
<td>HCSW</td>
<td>25</td>
<td>Male</td>
<td>Preparation</td>
<td>Maintenance</td>
</tr>
<tr>
<td>SC</td>
<td>Nurse</td>
<td>42</td>
<td>Female</td>
<td>Contemplation</td>
<td>Precontemplation</td>
</tr>
<tr>
<td>CC</td>
<td>Nurse</td>
<td>28</td>
<td>Female</td>
<td>Contemplation</td>
<td>Preparation</td>
</tr>
<tr>
<td>FD</td>
<td>Nurse</td>
<td>32</td>
<td>Female</td>
<td>Maintenance</td>
<td>Maintenance</td>
</tr>
<tr>
<td>SS</td>
<td>Nurse</td>
<td>39</td>
<td>Male</td>
<td>Preparation</td>
<td>Maintenance</td>
</tr>
<tr>
<td>BT</td>
<td>Nurse</td>
<td>28</td>
<td>Female</td>
<td>Maintenance</td>
<td>Maintenance</td>
</tr>
<tr>
<td>BJ</td>
<td>HCSW</td>
<td>49</td>
<td>Female</td>
<td>Preparation</td>
<td>Preparation</td>
</tr>
<tr>
<td>HJ</td>
<td>Nurse</td>
<td>43</td>
<td>Female</td>
<td>Maintenance</td>
<td>Contemplation</td>
</tr>
</tbody>
</table>

HCSW = Health Care Support Worker

An initial appointment was made for the interview and a week prior to this, participants received a brief phone call confirming the time for the interview. The key themes that would be addressed during the interview were discussed in order to allow participants time to consider the topic under investigation. All participants gave verbal consent to having their interview recorded on audiotape. Interviews were between 60 and 75 minutes in duration and the protocol reported in Chapter Three was followed in relation to conducting telephone interviews. None of the interviews were rushed, and participants always had time to clarify or reconsider their responses.

### 5.2.2 Interviews

Semi-structured interviews were conducted using the Theory of Planned Behaviour (TPB) as an initial framework. For example, participants were asked about the advantages and disadvantages of promoting physical activity, individuals or groups who may approve or disapprove of promoting physical activity and how much control they had over promoting physical activity. However, it is important to stress that the interviews were not just to identify salient beliefs relevant to the TPB constructs but to seek connections between these beliefs, identify key issues not encapsulated within the TPB questionnaire initially administered and to further
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contextualise the promotion of physical activity within acute in-patient settings. Questions regarding the role of mental health professionals in promoting physical activity, their current promotion, barriers to promotion and training needs were also addressed (see Appendix 8 for the full interview guide). A constant comparative approach, in which data are collected and analysed concurrently, was adopted. This approach allows both expected and emergent themes and ideas to be incorporated and explored in subsequent interviews. At the end of each interview, a general probe was asked to ensure that participants had no further considerations to add before participants were allowed to offer any feedback regarding the telephone interview.

5.2.3 Analysis

Analysis followed the FRAMEWORK procedure outlined by Ritchie and Spencer (1994). This was chosen because the procedure reflects "the original accounts and observations of the people studied" starting "deductively from pre-set aims and objectives" (Pope, Ziebland, & Mays, 2000, p. 116). Data collection is more structured than most qualitative research and analysis tends to be more strongly informed by a priori reasoning. Specifically, data were compared to initial questionnaire findings using the TPB as a template for analysis. The following steps were taken:

1. Familiarization: this involved immersion in the data, reading transcripts and listening to original recordings. Key ideas or recurrent themes were initially listed.
2. Identifying a thematic framework: Given this familiarization, a thematic framework for analysing the data was developed. To a certain extent, this is shaped by a priori issues. Specifically, the Theory of Planned Behaviour formed the basis of the framework. Consequently, the framework mirrored the questions asked to a certain extent while also leaving room for any new and emergent themes.
3. Indexing: The thematic framework was now systematically applied to the data in its textual form. All the transcripts were read and annotated according to the thematic framework. This was conducted using the programme QSR NUD*IST (Non-numerical Unstructured Data Indexing Searching and Theorizing)(Richards & Richards, 1989). This programme supported the process of coding data in an index system. Each unit of text was indexed to a specific thematic, index heading. This index system also facilitated the searching of text or patterns of coding.
4. Charting: The data were rearranged according to the appropriate part of the thematic framework to which they relate, and charts were formed containing distilled summaries of views and experiences. In this way the data set for each individual could be easily reviewed.

5. Mapping and Interpretation: The charts were then used to define concepts, map the range and nature of phenomena, and find associations between themes with a view to providing explanations for the findings. As Ritchie and Spencer (1994) note, this part of the analytical process is the most difficult to describe and in reality still “requires leaps of intuition and imagination” (p. 186). Consequently, as reported in Chapter Three, findings were shared and discussed with my supervisor as a ‘critical friend’ in order to develop interpretations and notions of authenticity, fidelity and believability (Sparkes, 1998).

5.3 Outcomes

The outcomes are presented in four sections. First, the extent and nature of promotion is discussed. The perceived advantages and disadvantages of promoting physical activity are identified. Second, perceptions of physical activity within the context of inpatient settings are explored. Third, areas of dissonance between the qualitative and quantitative data concerning the constructs of the TPB are addressed. Finally, the future role of mental health professionals and the practical implications of this study are suggested. As in Chapter Three, theory and data is interweaved to illuminate, contrast and develop links with wider issues of theory and practice. These references also offer a context as to how my interpretations of the data are formed. For all quotes from participants, initials represent anonymous codes for each participant while numbers represent transcript line number.

5.3.1 Current Promotion: Stage Distinctions

Individuals in the preparation and maintenance stages of physical activity promotion all reported promoting physical activity. Specifically, promoting walking was most common with further efforts made in assisting clients access to sport or physical activity groups within the day hospital or in the community. There was a varying degree of sophistication in describing how physical activity was promoted. For some, unstructured advice or encouragement was given to either clients who
Chapter 5: Promotion within In-Patient Settings

asked about physical activity or exercise or those who had remained sedentary for long periods of time. For others, outlining the personalised benefits of exercise was mentioned in addition to identifying and overcoming the barriers to exercise, discussing previous experience, likes and dislikes and setting goals. BT believed her promotional attempts to be particularly successful:

I obviously promote it quite strongly, and invariably, I don't know if it's just luck or whatever, the people that I do talk to about it, do tend to try and use it (BT, 63).

In general, most individuals (7) perceived their efforts to be successful at times depending on the interests of the client while one individual (HJ) suggested she was relatively unsuccessful due to clients having little motivation.

Participants who had identified themselves as ‘contemplators’ felt that physical activity was important but did not promote it to clients:

Because where we are, if they need counselling or whatever, people go on afterwards, we just contain that episode of illness and it's afterwards in the day centre and things like that, where they will go on to do other things (RC, 23).

It's not something I've ever really thought about. Because it's not, I mean mental health treatment is consultant lead, and it's not something that, it's all medication really, unfortunately (LR, 159).

For these participants, promoting physical activity was not within their remit and more appropriate at later stages of rehabilitation.

Accordingly, the stage measure did appear to differentiate promoters from non-promoters but further probing found that the contemplators also engaged in some promotion but that it tended to be infrequent and not planned. There was a clearer distinction between preparers and maintainers in the frequency of physical activity promotion. Generally, maintainers, such as FD, reported promoting physical activity at some point during each day of the week:
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Everyday really, if people are feeling a bit down and such. You know, go out and get some fresh air and have a wander around, you know, generally feel a little bit better about themselves by the change in environment (FD, 19).

Self-identified preparers appeared to be more realistic in their assessments of their own promotion by conceptualising the stage measure in terms of number of clients to whom they promoted physical activity. That is, they promoted physical activity to some clients while maintainers generally promoted physical activity to all clients when appropriate.

5.3.2 The Advantages and Disadvantages of Promoting Physical Activity

In contrast to the views of clinical psychologists reported in Chapter Three, all participants were extremely positive regarding the potential role of physical activity within inpatient settings. All could recall personal experiences where physical activity had been beneficial for clients. For example:

We do notice that the ones who are more physically active tend to recover quicker. Even after serious illness, they get back into the swing of things (MY, 264).

I think people feel quite positively about that, that when people return back to the ward [after being active], they say they feel more awake, more alert, you know, their headaches have gone, also feeling it's a positive time to speak with members of staff as well (CC, 217).

It is important to emphasise that the sample participants were self-selected on the basis of an interest in participating. This infers a certain acceptance of physical activity. However, given this positive bias, the expressed beliefs are revealing. As Table 5.2 displays, the distraction provided by physical activity in alleviating boredom was the most prominent advantage perceived by the participants.
Table 5.2  Behavioural Belief Advantages of Promoting Physical Activity (N=12)

<table>
<thead>
<tr>
<th>Belief Category</th>
<th>Behavioural Beliefs</th>
<th>Frequency*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distraction</td>
<td>Reduces boredom</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Changes focus</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Remove from environment</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Provides structure</td>
<td>2</td>
</tr>
<tr>
<td>Reduces - ve Mood</td>
<td>Reduce frustration</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Reduce anger/aggression</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Reduce stress/tension</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Reduce anxiety</td>
<td>2</td>
</tr>
<tr>
<td>Social</td>
<td>Socialise with others</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Improved relationships</td>
<td>4</td>
</tr>
<tr>
<td>Improves + ve Mood</td>
<td>Improve mood</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Relax</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Increase energy</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Sense of achievement</td>
<td>1</td>
</tr>
<tr>
<td>Physical Health</td>
<td>Improve health</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Reduce weight</td>
<td>2</td>
</tr>
<tr>
<td>Sleep</td>
<td>Improves sleep</td>
<td>3</td>
</tr>
<tr>
<td>Normalisation</td>
<td>Provides a normal activity</td>
<td>3</td>
</tr>
<tr>
<td>Coping</td>
<td>Reduces voices</td>
<td>1</td>
</tr>
<tr>
<td>Concentration</td>
<td>Improves concentration</td>
<td>1</td>
</tr>
</tbody>
</table>

* Participants could provide multiple beliefs

Changing focus, removing clients from the environment, and providing structure typify this alleviation. For many participants, this would subsequently reduce a number of negative mood states experienced by clients, interchangeably articulated by participants as frustration, aggression, anger, anxiety, stress and tension. These states were a result of the environment and little outlet for diversion. For example, BJ expanded on this point:

Clients become very frustrated. I would get frustrated if I was on the ward, day in and day out, or only had limited time off the ward, so I feel for them. I think, well, would I want to stay on here, you know, hour after hour, day in, day out, it wouldn't do my mental health any good. I think I would suffer for it . . . it's purely because there's nothing to do (BJ, 134).

Physical activity was also seen as beneficial in terms of social interaction with other clients, but notably in terms of improving relationships with staff. Less prominent was the role of physical activity in inducing positive mood states or playing
a therapeutic role. For example, not one individual cited physical activity in relationship to depression where evidence for a therapeutic role is strongest (Mutrie, 2000). However, one individual suggested physical activity helped individuals with schizophrenia reduce auditory hallucinations as has been suggested by Faulkner and Biddle (1999). In addition, physical activity was cited by five participants as beneficial for physical health by assisting with weight management.

5.3.3 Disadvantages of Promoting Physical Activity

Regarding the disadvantages of promoting physical activity (see Table 5.3), the most prominent concern was associated with safety issues, particularly with injuries to clients or individuals who were experiencing a manic episode.

<table>
<thead>
<tr>
<th>Belief Category</th>
<th>Behavioural Beliefs</th>
<th>Frequency*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety</td>
<td>For clients</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>For staff</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Legal liability</td>
<td>1</td>
</tr>
<tr>
<td>Contraindicated</td>
<td>Manic depressives</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Anorexics</td>
<td>1</td>
</tr>
<tr>
<td>No disadvantages</td>
<td>No disadvantages identified</td>
<td>3</td>
</tr>
<tr>
<td>Client</td>
<td>Feel like a failure</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Frustration that cannot go</td>
<td>1</td>
</tr>
<tr>
<td>Staff</td>
<td>Takes staff member away from other duties</td>
<td>1</td>
</tr>
</tbody>
</table>

* Participants (N = 12) could provide multiple beliefs

Two participants expressed concerns over clients becoming too active. As FD had experienced:

It can be quite a controversial subject in some respects because in mental health, encouraging, for instance, people to do lots of weight lifting, it can actually backfire, as it did when I worked at the regional secure unit, we were sending a chap down to the gym everyday and it came to a point that when he became violent and aggressive, he was that strong, it was counterproductive for staff to be able to restrain him in a safe manner, without injuring themselves (FD, 11).
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At the other extreme, I was often informed by staff during site visits and meetings at the Trust, of one former client who had hanged themselves in the old gym. No-one could say precisely when this was or what exactly had happened until this eventually resembled an undoubtedly true yet apocryphal story. This is a justifiable concern given that 16% of individuals who commit suicide may be inpatients at the time of their death (Appleby, 1999).

While physical activity itself was not a concern, careful supervision was deemed necessary to reduce the possibility of accidents and reflects real concerns over safety issues and the fear of litigation. Intervention efforts must obviously ensure that safe practice is followed. The physical environment must also be assessed in terms of suicide risk (DoH, 1999).

5.4 Perceptions of Exercise as an Adjunctive Strategy

In exploring how exercise was considered by this sample, three prevalent and potentially problematic themes emerged. First, the implications of exercise being considered as a distractor and second, as a lifestyle choice, are considered. Third, the difficulty in articulating how exercise may serve as a holistic adjunct is discussed.

5.4.1 Caged Tigers

It is necessary to highlight the possible implications of the prominent belief in Table 5.2 that focuses on the diversional properties of physical activity. Physical activity is not seen as a therapeutic tool but as a way of providing distraction to bored clients. This then reduces feelings of frustration that may develop as a result of confinement. Within the setting of participants, one would expect this to be the most salient belief of participants. Yet while such a diversionary role may be beneficial and indeed important, physical activity or structured exercise becomes little more than a (dis)organised time filler. A parallel could be drawn with the possible marginalisation of Physical Education in comparison to other subjects within educational curricula. Possibly, when Physical Education is given credence, it might be for reasons "that are questionable, for example, providing a form of catharsis to tire less-able students and make them more placid and controllable during classroom lessons" (Sparkes & Templin, 1991, p. 127), rather than inherently having any physical, psychological or cognitive benefits.
Consequently, in this case, physical activity can be marginalised as an activity worth encouraging to clients, and could weaken greater advocacy for such activity. After all, a range of activities could provide a similar function. Additionally, as suggested in Chapter Three, physical activity may threaten the exclusive grip on treatment held by those who are in a position to formulate treatment. Such a grip is sustained since any benefits of physical activity are seen as being a consequence of the treatment environment rather than having any specific benefit per se:

They [medics] actually approve it on the fact that obviously, they don't want people to be at the other end of the spectrum really, do they, just lying in bed doing nothing because they feel that they having nothing else to do, so ... they take that into account (BT, 211).

Any therapeutic benefits become secondary to the main goal of providing something to do:

I think the main thing is to try and get them time off the ward because, I mean some of them just pace about like caged tigers (WS, 54).

Physical activity may be a healthy way of occupying patients' energies (Sheehan, 1991) but such use suggests that the role of physical activity, within this particular setting, has not advanced in the last century despite an ever expanding research base.

5.4.2 ‘It’s their choice’

In Chapter Three, the interviewed clinical psychologists saw physical activity as a positive lifestyle activity worth encouraging. In the present context, a further issue emerged when considering this interpretation. Participants often stressed that ‘exercise’ was a ‘lifestyle choice’. Those who were already active before coming to hospital will obviously continue while those who were not active will remain so. For sedentary patients, not promoting physical activity becomes acceptable given that it is a client’s choice to remain inactive. This is a double-edged sword since choice and control might be integral to long-term maintenance of physical activity (Biddle, 1999). It also provides a certain tension if physical activity was to be more extensively considered as a therapeutic adjunct. Physical activity is further marginalised:
I wouldn't encourage, if they're doing that when they're well, I think more or less that they would just go back out and continue doing that. Because generally if you're that sort of person, you will continue doing that. I could try and encourage that but at the end of the day you can't make them, if they don't want to do it, you can't make somebody do something they don't want to do. It sounds a bit negative doesn't it (SC, 87)?

Theoretically, notions of 'risk' do become apparent (see Section 2.5.1). In current health promotion discourse, individuals are no longer the passive recipients of health information but supported as active participants in their efforts to reach self-defined health objectives (Peterson, 1996). Specifically, health promotion discourse targets the "individual-as-enterprise who is expected to manage his or her own relationship to risk" (p. 45). Risk emphasises the entrepreneurial individual endowed with freedom and autonomy, and the capacity to properly care for him or herself (Rose, 1993). As described, while health professionals can lay out the risks involved to a client concerning engagement or non-engagement in a particular health behaviour, in this context, participation is ultimately seen as the client's responsibility. If a client does not want to 'do' physical activity, then this is acceptable. Furthermore, the belief that clients would only participate in physical activity if they already did so outside of hospital inferred that promoting physical activity was pointless if not counter-productive. In fact, encouraging exercise to a reluctant client would actually invite a new 'risk':

It's something that people enjoy and if people are not going to want to do it, then they won't get any benefit from it whatsoever. You know, if your mental well-being, if you don't want to do anything, it's better to be a couch potato (RC, 74).

This is illustrative of Messent, Cooke and Long's (2000, p. 251) reference to the "commonly rehearsed argument" within the learning disability context that encouragement to be more physically active should not overtake the individual's right not to take part and to continue to lead an inactive life. Aspiring to notions of individual rights and choice, health professionals can lead themselves to another
Chapter 5: Promotion within In-Patient Settings

dilemma – that of leading individuals to a lifestyle which is not “representative of mainstream society” (Messent et al., 2000, p. 251). Specifically, patients may be given the choice to be sedentary but may be severely constrained in the choice of physical activity and leisure pursuits.

Alternatively, poor motivation is seen as a consequence of the client’s mental health concern and so the health professional is unable to intervene. It is assumed that clients would not have the motivation to be active, as JH comments:

Generally getting them to do anything for themselves is quite hard work and I think that goes for a wide variety of patients, people with all sorts of psychological problems have great difficulty in motivating themselves to do these sorts of things. You can advise them until you're blue in the face (HJ, 180).

For some participants, this perception often discouraged the promotion of physical activity.

Finally, health professionals must also negotiate the myriad of other ‘risks’ that are deemed more important:

Nowadays I mean, the issues are very much to do around safety and prevention of suicides and, that kind of thing and, it comes very much lower down, sports activities as being, highlighted as an issue (MY, 242).

‘Sport activities’ are not seen in terms of saving lives. Given the ever-expanding range of risks faced by the population, there has been a subsequent increase in the identification of definitive outcomes and evidence to demonstrate the effectiveness of interventions which ultimately have resource implications (Nettleton, 1997). As identified in the ‘Our Healthier Nation’ White Paper (DoH, 1999), reduction in suicides is a key issue. Risks that are most directly related to achieving this goal are prioritised. This is a subtle point. Physical activity was seen as a lifestyle issue, which arguably it is. Yet, in acute mental health settings, ‘treatment’ would not be seen as a ‘lifestyle’ choice, nor is time available for such deliberations. Physical activity is a ‘body input’ that individuals can deliver themselves (Glassner, 1989). Furthermore, the possibility that exercise as a therapeutic adjunct can be self-
administered is seen as a potential advantage (Martinsen, 1990). Yet, who is to perform the initial promotional role is not clear and might be easily neglected. This reflects the possible incompatibility between the use of physical activity as a therapeutic tool with standard forms of treatment in that the consideration of physical activity is not readily salient. McCaffrey (1998) discussed the use of leisure activities in a therapeutic community and pointed out that difficulties in introducing leisure activities may be simply due to ambivalence or confusion about mixing ‘work’ and ‘leisure’ amongst mental health staff. Exercise may be perceived by many as being a frivolous luxury given the nature of the mental health concerns experienced by clients.

5.4.3 The Body/Mind

A critical issue highlighted in Chapter Three concerned the practical adherence to a mind/body dichotomy which allows for differential diagnosis and treatment. In this way, physical activity was marginalised as the potential mental health benefits of a physical treatment were not readily apparent. This dualism “creates a sharp distinction between mind and body, viewing the body as an objective, physical entity and the mind as a subjective, private realm of ethereal thoughts” (Yardley, 1999, p. 31). Similar to the course directors, participants believed that they were working toward a more holistic mode of practice that collapsed this distinction. This tended to be weakened by the ‘crisis’ nature of the setting in which they worked and the focus on medication. However, what also became clear was how despite such protestations, participants in fact, reified these distinctions. References were made by participants to a body detached from the mind and for the most part lacking in connection to the lived experiences of patients (Sparkes, 1996):

I mean we do also focus upon the body, but then again you see we'd sort of refer to specialist agencies like physiotherapy and that if there was a problem with the body. We focus more on the therapeutic aspects of it, activities that they can all do (BT, 75).

Our clients are quite physically well but then when you are tired and you are having a lack of sleep, then you obviously get physical symptoms, but I mean they've not got broken legs or anything like that, so there's no
reason why they couldn't go and do things, especially when they are getting well (RC, 55).

As one participant commented, “I think it does a lot for how your body/mind functions, I can't really explain it” (LR, 223). This is a good point. How does one explain how the ‘mind/body’ functions? If one cannot articulate this function then how can one incorporate it into working practice any proposed strategy that may target such an intertwined link? We might argue that the role of physical perceptions in generalising to more global aspects of self-esteem and well-being is one such explanation. However, participants were not ‘talking’ in such a way during the interviews. Rather, as mentioned, physical activity was generally seen as a diversional activity. In other words, participants were often failing to make the connection between the potential mental health benefits of a physical treatment such as physical activity. That is not to say that they weren’t aware of any such benefits but that the language in which they described these tended to reinforce the distinctiveness of the mind and the body.

The lack of a coherent theoretical framework explaining the benefits of exercise in relationship to mental health has been suggested as one reason why exercise is not more commonly prescribed (Cummins, 2000). Cummins (2000) also suggests that there is no simple relationship between good physical health and subjective well-being which questions the validity of the proverbial ‘healthy body in a healthy mind’. Cummins takes a literal and rather mechanistic interpretation of this statement which fails to account for the more tenuous nature of embodiment and the potential for physical activity to become a “rich metaphor full of meaning” (Reynolds, 1996, p. 384). Understanding this ‘embodiment’ and articulating its role however is difficult. This is mirrored in sociological fields where “much recent theorizing about the body has tended to be cerebral, esoteric, and ultimately a disembodied activity that has operated to distance us from the everyday embodied experiences of ordinary people” (Sparkes, 1999, p. 18). The lack of a theoretical framework or the discursive resources to appreciate and articulate embodiment maintains the dualistic status quo.

While accusations of dualism could be levelled at these participants and those of Chapter Three, it may also be important to inject an element of balance into proceedings by noting any dualistic tendencies held by the population. Educating the
population as to the mental health benefits of physical activity may also be necessary to gain greater acceptance (Grant, 2000):

Unless people see quite rapid, positive results, I think it's difficult for people to take on board that a holistic approach might be quite useful, . . . if people come into hospital, they feel unwell, a lot of times people are wanting you know, a tablet or some medication to sort of resolve the problem whereas at times, it can be a problem caused by not exercising, reduced activity and it is trying to encourage people to do other things first, and see how effective that is, you know . . . the client is still focussed on wanting medication. It is something that we're trying to move away from certainly but I think culturally, that's quite sort of ingrained into people prior to coming into hospital really (CC, 85).

Client credibility was a concern raised by the participants in Chapter Three. It is certain that physical activity is not a panacea, and that many people will prefer certain types of treatment. However, as CC suggests, perceptions of client credibility is an influential belief. Clients or patients may not accept physical activity as a potential adjunctive treatment. Future research will need to ascertain how appropriate such a belief actually is. Research does suggest that exercise is well accepted by patients (Martinsen, 1995) and is often considered one of the most valued components of treatment (O’Kelly, et al., 1998). Despite this, issues of client credibility reinforce the need for aptitude-treatment interaction research (ATI) which might indicate who is most likely to benefit from exercise participation. This could offer mental health professionals some direction in their promotional efforts. Yet identifying such an interaction will not be easy (see Dance & Neufeld, 1988).

5.4.4 Summary

Exploring the perceptions of these mental health nurses revealed some complex and subtle issues. Exercise was overwhelmingly seen as a positive strategy worth considering in their environment. Understandable concerns about litigation and worst-case scenarios also served to promote a cautious encouragement of physical activity. However, exercise was seen as more of a distracting strategy rather than a more potentially sophisticated adjunctive strategy. Difficulties in reconciling the
promotion of physical activity with the individual rights of patients were identified. Tied to notions of 'risk', exercise was seen as a lifestyle choice which passes responsibility to the patient. Finally, the difficulty in articulating how exercise may benefit patients served to reify the mind/body distinction. Relating these issues to the promotion of physical activity will now be addressed. Specifically, areas of dissonance between the qualitative and quantitative data concerning the constructs of the TPB are examined.

5.5 Understanding Promotion: The Theory of Planned Behaviour

5.5.1 Attitude

The TPB is continually evolving as additions are made to the model to increase its predictive validity. One adjustment has included the differentiation of attitude into instrumental and affective components (Ajzen & Driver, 1992; Mummery & Wankel, 1999). For many activities, the goal may be the activity itself and the elicitation of affective attitudes related to participating such as enjoyment or fun. Additionally, the goal of some activities may be the outcomes associated with it. Ajzen and Driver (1992) demonstrated that these two components made differential contributions to predicting participation in a range of leisure activities. In this case, physical activity being a beneficial, diversional activity can be seen as an instrumental attitude. Affective attitudes refer to the enjoyment inherent in promoting the activity itself. Therefore, one may promote physical activity because of the perceived utility of the action and/or for the feelings associated with the action itself. FD described how promoting physical activity also made her feel good:

I think you can see people's behaviours change, they can be quite low in mood, and if they go for a walk, and they feel just that little bit better afterwards, that's rewarding but if they feel a lot better, it's brilliant (FD, 471).

In discussing physical activity and their role in its promotion, it became clear that affective benefits were important. Such feelings had not initially been revealed when discussing the benefits of promoting physical activity. For many, it was frustrating to see clients not doing anything and this lead to personal frustration:
I'd definitely feel I was getting a bit more job satisfaction out of it, feeling that I was promoting something that is good, for the well-being of the individuals and as well they get to know you better, and then it's not so much that line, nurse/patient (SC, 147).

Promoting physical activity does not automatically appear an action that could induce affective benefits for the promoter. By allowing clients an opportunity to do something, that was diversional and different from usual duties, provided satisfaction. Disseminating a new practice would typically examine instrumental attitudes toward that practice. Educational interventions subsequently appeal to potential users as to the efficacy of a particular behaviour. However, it would also appear that affective attitudes may be an additional source stimulating change. Highlighting the advantages for the promoter as well as the instrumental benefits for the client may provide further incentive to incorporate the action into typical repertoires of interacting with clients. Interventions that channel and change behaviours of clients rather than simply providing support to staff may be most helpful (Chappel & Novak, 1994) in reducing the stress experienced by health professionals. This may have implications for sustaining motivation to promote physical activity.

5.5.2 Subjective Norms

The existence of respected peers promoting physical activity may be one factor that encourages awareness and acceptance of physical activity and may indeed be the most important factor (Rogers, 1995). Simply, who will be the agent of innovation? Subjective norms, as conceptualised in the TPB, assesses a person's belief that important others believe that the person should or should not perform a behaviour and the person's motivation to comply with these other people. In this follow-up, there was a clear sense that fellow nurses would be in favour of promoting physical activity but that it was not of great concern:

I don't think anybody would be likely to disapprove of it, most people would think that it was a good thing, but I just don't think people would think about it very much, or think that it's perhaps somebody else's job (HJ, 69).
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As JH found, participants perceived a general ambivalence regarding physical activity. There would be general acceptance of promoting physical activity, indeed it would be common sense to promote such activity, but little social pressure or social support to achieve this. It is left to individual choice as to whether to promote physical activity:

There's another chap, ****, I mean he's involved with me with the football, and everything, and he would do the same, he would say the same things as me, you ought to go and do this, and bla bla bla, so there's quite a few people on the ward who would promote it, and then the others wouldn't have a problem with that, they'd just be grateful that somebody else was doing it (RC, 131).

Apart from fellow nurses, participants also referred to the medics as 'important others' and how they would perceive nurses promoting physical activity. SW believed the medics were “more interested in, you know sort of diagnosis and mending, than anything else really” (WS, 493). A belief shared by others:

They [medics] see themselves as a much more focused and narrow area of interest, you know, like how's the patient doing and what medication should they be taking, and I'm not sure whether they consider really the wider aspects of peoples lives (HJ, 117).

The social context, as perceived by the participants, was important for imparting the message that physical activity was of low priority. Additionally, this social context appeared to inhibit attempting new activities of any kind:

It's my experience with people over the years. What's the point of doing that, it's been tried before, and it didn't work then, it's that sort of attitude that stops people doing something new, or introducing something new onto the ward, I've been there done it, it didn't work, what's the point of doing it. It's change, people generally don't like change, and people are quite often happy to stay with what they know (SC, 442).
Diminishing motivation may hinder the consideration of alternative strategies in improving the quality of care of clients. Research has confirmed that stress is a problem for ward-based mental health nurses (Fagin et al., 1996). Prolonged stress may be related to perceived low expectations, and poor delivery and reduced quality of health care (Rabin, Feldman & Kaplan, 1999). In combination, the stressful work setting and the perceived opinions of peers and opinion leaders (Moulding, et al., 1999) may play an important role in creating an environment that is not readily conducive to innovation in general. More specifically, participants discussed personal attempts to develop greater physical activity opportunities for patients:

We've got this AIMS project which is All Ideas Matter, and I wrote to the guy who's in charge . . . what we could do is have a gym, for the clients in the day time and then in the evening, the staff could pay a nominal fee to use it, . . . but they said we couldn't do that because of litigation and if somebody broke their leg or whatever. A lot of clients were interested in that and they said that they would sign disclaimers to say that if they injured themselves (RC, 47).

Obviously, not every idea matters! Issues of legal liability were prominent in the interviews. To put the priority placed on physical activity into perspective, one nurse discussed her plans to develop an on-site exercise area:

I've sort of talked about converting a sluice room and I was looking at perhaps getting external funding, and I was looking at converting that but came across a blank really, because I think the ward manager wanted to keep it for storage of old furniture (BT, 555).

Analysis suggests that the social context, which could be construed through the construct of subjective norms, is indeed an important consideration in contrast to EQS findings. An ambivalent milieu, perhaps, underpinned by safety concerns, a clinical focus on medication and a stressful work environment which stifles innovation, is a critical barrier. Subjective norms, as typically conceptualised within the TPB, can only fail to capture the complexity of this social context which inhibits or supports
innovation. Its operationalisation is probably more limited as opposed to being less useful in predicting behaviours (Hausenblas et al., 1997).

5.5.3 Conflating Subjective Norms and Perceived Behavioural Control

Perceived behavioural control was an important predictor of intention and a weak predictor of behaviour reported in Chapter Four. The extent to which promoting physical activity is under one's volitional control must differ according to variables such as the type of physical activity promoted (e.g., walking or referral to an exercise group) and the population (e.g., work demands, financial resources, client disabilities). In contrast to the Trust as a whole (see Table 4.8), Table 5.4 illustrates that a lack of resourcing in terms of staffing, which reduces time available to promote physical activity, and the limited number of options for promoting physical activity, were the most frequently cited barriers.

Table 5.4 Barriers to Physical Activity Promotion

<table>
<thead>
<tr>
<th>General Barriers</th>
<th>Specific Barriers</th>
<th>Frequency*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resourcing</td>
<td>Lack of time</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>Lack of staff</td>
<td>2</td>
</tr>
<tr>
<td>Limited Options</td>
<td>No facilities</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>No equipment/no money for equipment</td>
<td>5</td>
</tr>
<tr>
<td>Litigation</td>
<td>Fear of litigation</td>
<td>9</td>
</tr>
<tr>
<td>Clients</td>
<td>Lack of motivation</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Nature of Illness</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Restrictions</td>
<td>2</td>
</tr>
</tbody>
</table>

* Participants (N = 12) could provide multiple beliefs

While specific barriers were identified which inhibited attempts to promote physical activity and were at times uncontrollable, for most participants perceived behavioural control was considered analogous to subjective norms:

I do think it's [exercise] beneficial. The main thing that would help is support from the management, and to be allowed to do that, for people to say that is part of your job now, this is what you need to do (RC, 215).

At the moment, everything is more focussed on their [patients] safety and on treatment and care plans and medication. Medicalising everything you know, - it's too intense, - if management said 'look every nursing member
of staff has to spend twenty minutes exercising with a patient' that would be a different focus, it'd take a lot of the pressure away from it and become more of a relaxed mood (MY, 346).

As RC and MY suggest, if management wanted physical activity promoted, in other words, if there was social pressure to promote physical activity, then these barriers could be overcome. Subjective norms were seen as ambivalent yet increasing social pressure would promote control – either through the actual alleviation of barriers by management or through individuals having to find ways of overcoming barriers, for which currently there is little incentive. As the barrier analysis in Chapter Four suggested, those promoting physical activity were more likely to report a lack of incentives as a barrier to promoting physical activity. Individuals are promoting physical activity despite a lack of clear guidance from management. Once again the social context appeared to play a more influential role than Chapter Four would imply. In particular, social support, rather than subjective norms, appears to be a critical issue. Social support implies some sort of assistance in performing the behaviour (Courneya, Plotnikoff, Hotz, & Birkett, in press). For a behaviour that might not be completely volitional, such as physical activity promotion, assistance from fellow professionals (social support) may be more influential than knowing that such behaviour is approved by them.

5.5.4 Identity/Compatibility

Despite this low social pressure to promote physical activity, it was not necessarily stopping some of these participants from doing so. The compatibility of a new role to the traditional roles and values of an individual may be a key determinant of whether that new role is adopted (Rogers, 1995). Regardless of the behaviour under question, health professionals have a varied range of roles to perform. In Chapter Three, despite a strong evidence base, the incompatibility of recommending exercise with the traditional values of clinical psychologists may have been a factor preventing greater acceptance of exercise as a therapeutic modality. When considering the promotion of physical activity, it must be considered whether such promotion requires a change in personal beliefs and values or is it easily incorporated into existing practice?
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The three individuals who identified themselves as contemplators of promotion suggested promoting physical activity was not compatible with nursing or health care support work. For example, one suggested that physical activity was not compatible, in the sense that it was a ‘luxury’ given the nature of the setting in which participants worked. Emphasis was on getting patients out of care as soon as possible. Another contemplator suggested that as she could not recall any mention of physical activity during her training then it was of questionable compatibility:

Traditionally no, because it's not something that we're actually told in our training that we should be doing . . . I think it's more important to be a genuine person (SC, 319).

For most participants however, promoting physical activity was not outside the scope of traditional roles. One nurse, compared the role of nurses to medics, and the incompatibility discussed in Chapter Three:

It might be medics' training and that sort of thing, that it's more sort of black and white, almost in a way of symptomatology, treating that, and people leaving hospital. I think whereas nursing is much more of a sort of problem solving discipline where you can use a multitude of areas to resolve a problem whether that be you know, medication, exercise, discussion of an issue or any other sort of health promotion area as well (CC, 137).

Working in an acute setting and being responsible for ongoing care does require greater flexibility in reacting to situations as they arise. Clients receive treatment from medics, but these nurses must respond to the ongoing needs of a particular client. They consequently adopt a broader psychosocial approach to care with “nursing’s focus on health being a basic resource for everyday living” (Byrne et al., 1994). This requires flexibility and indeed innovation. Physical activity then becomes one compatible strategy of many that can be ‘tried out’ to assist a client. The emphasis of these strategies is on short-term results.

This notion of compatibility may also be synonymous with the concept of self-identity which has received support for its inclusion within the TPB (Connor &
Armitage, 1998; Charng, Piliavin, & Callero, 1988). Self-identity can be defined as the "salient part of an actor's self which relates to a particular behavior" (Connor & Armitage, 1998, p. 1444). In regard to the TPB, Charng et al., (1988) believed that intentions may be based on central or salient role identities. Motivated by the need to maintain a self-concept, individuals consequently act in accordance with such identities. For LR, being a health professional inferred certain responsibilities:

My job is health. I am a health professional ((laughs)). Maintaining a healthy lifestyle for myself and others is fundamental, it came in my training, it is my job. I work for a health Trust, my job is health (my emphasis). Maintaining health is my job ((laughs)) (LR, 368).

For promoters such as LR, a more generic conceptualisation of their role in mental health treatment as being a health professional rather than a mental health professional per se emerged as an important factor. All individuals had favourable attitudes toward promoting physical activity yet only individuals who identified as a health professional first and foremost regularly promoted physical activity to clients. As BT remarked, 'we promote health don't we so I feel that it's part of my role anyway' (249). Research suggests self-identity can independently predict intention rather than only reflecting and influencing attitudes (Sparks & Shepherd, 1992; Sparks, Shepherd, Wieringa, & Zimmermanns, 1995). Clearly related to Rogers (1995) conceptualisation of compatibility, this study again suggests that perceived compatibility between promoting physical activity and existing roles and responsibilities was related to promotional behaviour. Furthermore, this compatibility was often synonymous with personal participation in physical activity.

5.5.5 Impact of personal exercise

Where personal identity and notions of compatibility may also have been suspected to play a role was via personal exercise behaviour. Personal exercise behaviour was found to be significantly more influential than other common barriers in explaining promotional behaviour of General Practitioners and Practice Nurses (McKenna et al., 1998). However, odds ratio analysis in Chapter Four found personal exercise behaviour to have no relationship to promotion. In contrast to this analysis,
there was some indication that participants were drawing parallels between their own involvement in physical activity and their promotion of it to clients:

As somebody who on a personal level exercises regularly in one form or another, I think that'd be judgmental of me not to. It helps me so it may help other people (LR, 292).

The exercise, the fitness, the walking, the cycling helps me to become a better person and less stressed on the ward and present myself as less stressed on the ward and more chilled out and more settled and you know, I think that patients react to that, that consensus ... if you come in relaxed and, able to be confident, comfortable with your own health and your own well-being then I think it gives them the right message as a health professional (my emphasis) (MY, 260).

Once more, notions of self-identity became apparent. As YM suggests, a health professional should be physically active! For two participants who categorised themselves as not exercising at all (precontemplation or contemplation), promoting physical activity had not been considered:

When you discuss it like this, you suddenly think well, yes it is really important. I'm not a very good advocate for it myself because I'm not the world's best [exerciser] (LR, 91).

For SC, being actively engaged in physical activity would inform a more confident basis from which to promote physical activity:

SC: I've never really thought about it [promoting physical activity] to be honest. I don't do an awful lot myself so it's a bit like the pot calling the kettle black, isn't it?

GF: Do you think if you were to become more active, that would influence your promotion?
SC: Yes, I do, because I'd feel better about myself as well. I would be able to tell people, how you feel after doing exercise (CS, 295).

While SC categorised herself as a contemplator in terms of physical activity promotion and personal physical activity participation, she also indicated that this would not necessarily stop her from promoting physical activity. Similarly, HJ (169), a regular promoter, found that her life was “full enough with other things” to consider being more active herself.

Physical activity promotion is currently on the agenda within primary care settings with the GP referral schemes continuing to grow. While doubts may remain as to the efficacy of these schemes (Riddoch, Puig-Ribera, & Cooper, 1998), the context is clearly set for primary care staff who exercise regularly to readily concur and support patient involvement in such schemes for the well-evidenced physical health benefits. Within the mental health context, any mental health benefits may be less tangible while the physical health needs of clients are often superseded by the focus on mental health. Consequently, there is no clear relationship between personal activity and promotion. At the same time, being inactive oneself does not necessarily prevent promotion although whether such promotion appears less credible to clients (Belcher, Berg, & Inui, 1988) or one can make less convincing cases for regular activity is not known. In general, identification with being a health professional in addition to personal participation in physical activity was related to greater promotion. But how does identity mediate other components of the TPB?

Those who exercised and held a more generic perception of their role as health professionals also reported greater control to promote physical activity or expressed greater confidence that they could overcome low PBC. As an example, BT believed she was “quite autonomous and I'm allowed to make most of the decisions about what I do” (BT, 289). WS also highlighted the time that she and other staff members had available to promote physical activity:

There's certain parts of the ward routine that are concrete and you can't disrupt them and you can't interfere with that but each individual member of staff outside of that is responsible for their own time management (WS, 408).
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Time was made to promote physical activity during shifts, and efforts made to overcome significant barriers where possible:

We make the time to take patients out for the walk so, it wouldn't be that much more time . . . I think generally we can make some time to do that (MY, 278).

In contrast, non-promoters who did not exercise or identify with a generic role as a health professional, were more likely to highlight the intractable barriers that made promotion virtually impossible. For example:

It's very dependent on issues happening on the ward at the time. If there's a crisis, or there's issues with violence or aggression etc, they have to be dealt with first, and then unfortunately, physical activity comes at the end of a long line of other responsibilities and issues that we have to complete (CC, 233).

Another non-promoter (SC, 289) found her role as "just a custodial to the time that they're [patients] there" and any promotion was very difficult. The perceived ability to overcome time limitations, an important barrier, appeared to differ as a function of self-identity. This is a speculative finding within this sample which links the role of identity within the framework of the TPB. Specifically, self-identity appeared to mediate the effects of perceived behavioural control/subjective norms on intention and behaviour.

5.5.6 Spontaneous Promotion

When past behaviour was included in the analysis of the TPB in Chapter Four, all variables were attenuated which suggested that there were two processes operating in the context of physical activity promotion. That is, a conscious deliberative process informed by the variables specified within the TPB and another more habitual process. One participant in Chapter Three suggested that physical activity would not be at the forefront of thinking when formulating treatment due to the reliance on traditional forms of treatment. In the current study, it again became clear that while attitudes
toward physical activity were positive, physical activity was not immediately considered:

After discussing it with you and looking at the questionnaire, I think it should be, whether, and it's just changing your own thinking, isn't it, just having it there in my head, and remembering it. You tend to do quite a lot, I suppose I do within psychiatry, by habit really, and it's getting into the habit of using that, and saying well this is beneficial to you because, because, because (RL, 219).

I've never thought about it you know, when you're having a conversation with a client, you sort of go with what they want to talk about, and I haven't thought to bring it in. Sometimes like I say, if they're like younger looking and whatnot. But as from now, with me thinking about it now, I would say to a lady of 60, maybe you should get off the bus a stop earlier and that sort of thing, you know. So maybe I would bring that in, a little bit more now, it's fresh in my mind (RC, 243).

For RL, the non-consideration of physical activity is itself habitual. Participation in the research had made the potential role of physical activity more salient. In contrast, as RC suggests, a specific situational cue, such as looking younger, may initiate a promotional response while looking old may not. In general, promoting physical activity was considered spontaneous:

It's possibly more of a spontaneous thing [promoting physical activity] than we would like, we'd like it to be more planned but find that the constrictions of time and staff available, sort of reduces the aspect of planning, and makes it more spontaneous than anything else really (WS, 102).

Investigating this spontaneity revealed a range of cues which elicited a promotional response from participants (see Table 5.5):
Table 5.5 Cues to Physical Activity Promotion

<table>
<thead>
<tr>
<th>Cues to Promotion</th>
<th>Frequency*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Client request</td>
<td></td>
</tr>
<tr>
<td>Client request</td>
<td>3</td>
</tr>
<tr>
<td>Comment about feeling lethargic</td>
<td>2</td>
</tr>
<tr>
<td>Concerns expressed about weight</td>
<td>1</td>
</tr>
<tr>
<td>Client Behaviour</td>
<td></td>
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<tr>
<td>Bored</td>
<td>3</td>
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<tr>
<td>Frustrated/agitated</td>
<td>3</td>
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<tr>
<td>Aggressive</td>
<td>2</td>
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<tr>
<td>Ward Climate</td>
<td></td>
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<tr>
<td>Quiet ward/ Staffing levels</td>
<td>2</td>
</tr>
</tbody>
</table>

* Participants (N = 12) could provide multiple cues

A client request or a perception that a client was bored or agitated were the most common cues. Through these cues, individuals perhaps pass control to the environment (Gollwitzer, 1993) and promote physical activity without first intending to act and without considering beliefs, subjective norms, and perceived behavioural control. At the same time, some individuals planned to promote physical activity by specifically trying to get patients off the ward so they could be physically active:

I've actually promoted a Passport to Leisure, increasing their time off the ward so that they can use the passport to leisure, but it takes a lot of work to actually organise all of those little bits, because obviously you have to talk to all the doctors to get the time off the ward increased and things like that ... it can't all be done overnight, so it takes time (BT, 171).

For BT, who had careplanned physical activity into a patients’ care, conscious effort was exerted to provide an outlet for this.

Interventions are needed that first rationalise to the intended audience the promotion of physical activity within a particular setting. However, as that behaviour is performed repeatedly under the same conditions, the behaviour might move under the control of automatic cognitive processes, as RC suggests, and be elicited automatically by certain stimulus cues. As revealed in Chapter Four, the lack of protocols was a significant barrier. Developing protocols becomes important because it promotes a sense of control by specifying when it is most opportune to promote physical activity in response to clearly identified cues. Consequently, physical
activity promotion does not become an all-encompassing activity to be performed by staff but it becomes a clearly delineated sequence to follow when circumstances arise. Such promotion is more likely to be time-efficient, assist some clients, and be easily absorbed within existing duties. Educational interventions will be needed to identify and reinforce relevant cues to promotion.

The development of such protocols must also address the initial admission of clients into acute settings. Physical activity often was included on a care plan if an individual had expressed a prior interest in physical activity or had used physical activity as a positive coping strategy. However, within this sample, there was no requirement to assess the physical activity levels of patients or to directly inquire about physical activity, rather, questions were directed at the hobbies of patients. It is recommended that physical activity assessment becomes a standard area of inquiry. As LR suggests, this would serve as a prompt, a cue to decision, in considering how physical activity could be promoted and stimulate creative thinking as to how it can be provided:

I suppose when we're assessing, to see what their views are on that, and to have that included in the assessment sheet because it's not actually included and maybe it should, and that might then trigger us into thinking more about you know, how do we promote that (LR, 243).

It is using the spontaneity, revealed by participants, constructively which may become a critical basis for future intervention.

5.5.7 Summary

Analysis of the qualitative data found that the affective attitudes associated with promoting physical activity were prominent in addition to purely instrumental beliefs about the benefits of physical activity for patients. Second, there is some evidence that within this limited sample, a broader conceptualisation of subjective norms was potentially more influential than the quantitative analysis in Chapter Four suggested. Participants perceived a general ambivalence with regards to physical activity which reinforced its lower priority, institutionalised concerns over safety and possibly stifled innovative practice. Additionally, subjective norms were often conflated with perceived behavioural control. Participants could not clearly delineate
these two variables of the TPB. Ambivalent subjective norms, or a lack of social support, was an uncontrollable barrier for most participants! Third, a self-identity that encompassed a more generic conception of health promotion, rather than mental health promotion per se, was associated with greater promotion of physical activity. This tended to be reinforced by personal engagement in physical activity. Raised awareness of the personal benefits of exercise made the possible benefits to clients more salient and assisted promotional efforts. These two characteristics, in turn, mediated the effects of perceived behavioural control/subjective norms on intention and behaviour. High self-identified promoters who exercised reported greater control or more confidence in overcoming a lack of control. Finally, as suggested in Chapter Four, some individuals consciously planned to promote physical activity while others did so spontaneously in reaction to a range of cues.

5.6 Future Role

Given some of the difficulties in articulating the benefits of physical activity, the impact of a work culture that may inhibit personal innovation in conjunction with a low institutional prioritization placed on physical activity, is there a role for nurses in the promotion of physical activity? As mentioned, this sample is biased due to self-selection, but all participants were overwhelmingly in favour of increasing the promotion of physical activity to clients. As an example, WS discussed the need to integrate more promotion into their roles:

I think as part of the whole aspect of health promotion, we should be looking at promoting physical activity and it should be part of our role. I think one of the important shifts that needs to happen is possibly from looking after people where all things are broken down, to actually promoting health to prevent things breaking down (WS, 194).

Of interest, half of the participants were in favour of promotion coming from staff while others saw the value of exercise specialists being involved. Staff involvement might improve initiation through familiarity with staff and enhance the therapeutic relationship by doing something that was not necessarily problem focused. Another advantage in being personally involved in the promotion of physical activity
concerned the advantages of knowing the client and thus being able to personalise the possible benefits of physical activity in a way that would assist with initiation:

People might come to you in the middle of the night, saying I can't sleep, I've got loads of energy, and it's looking at sort of educating people from that point possibly, that perhaps in the morning if you could look at doing some exercise, being more active, you might sleep better the next day . . . I think being with a client over a twenty four hour period, you can look at what you might suggest exercise might be helpful for (CC, 101).

Despite such perceived advantages, CC also saw the advantages of involving specialists who had the expertise to promote physical activity effectively and to ensure the safety of clients. Additionally, there were benefits in having someone not associated with treatment:

I think that would sort of normalise exercise a lot more for people, that if you had a fitness instructor coming in a couple of times week, that's quite a normal activity, if you had a nurse doing a few exercises in the day room with the chairs pushed back, it might be slightly beneficial but I think it's people looking that it's a positive intervention rather than it's just something somebody's come up with because they've got half an hour to spare in between crises really (CC, 245).

Arguably, the observation of CC is illustrative of the ad hoc promotion of physical activity within the settings the participants worked. This type of provision leads to an inconsistency which is neither effective or satisfactory to the participants interviewed. Abrahamson (1993) believes that interventions in mental health settings tend to more often depend on short-term availability of resources or temporary staff enthusiasm. Ideally, exercise specialists would be best placed to deliver physical activity promotion, and is indeed not uncommon in mental health settings (Grant, 2000). However, whether this is realistic given the financial constraints under which NHS Trusts are operating may be unlikely:
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I think it would be very difficult within the current resources because I think we are stretched financially to provide basic care, and although I think it would be very helpful, I think it [physical activity] would be seen as much more sort of icing on the cake rather than the basic care that we provide for people... I think unfortunately we do provide fairly minimum care for people (HJ, 157).

As JH comments, there is a need to look at how health care is provided in general, and how this may impact on the provision of a range of services which appear tangential to common forms of treatment.

5.6.1 Training Needs

It might be argued that providing opportunities for physical activity should be an element of minimum care. Certainly, physical activity counselling is identified as a minimum standard of care for certain patient groups such as those with acute MI (Simons-Morton et al., 1998). As discussed in Section 2.5, the National Service Framework (NSF) for Mental Health (DoH, 1999) sets standards and outlines mechanisms which are intended to improve quality and remove the wide and unacceptable variations in service provision. The NSF standard concerning mental health promotion also supports the inclusion of recreational activity throughout inpatient care and the inclusion of therapeutic leisure activities in written care plans. Given that physical activity may be one of public health's 'best buys' (Morris, 1994) physical activity deserves greater recognition. Participants were interested in negotiating a role for themselves that included the promotion of physical activity:

We need to explore more about what we could do and what we could offer clients and what's reasonable and acceptable to management and the Trust. I think a lot of its not knowing what we can do. I think education is a primary thing (WS, 448).

As Table 5.6 illustrates, further education about the benefits of physical activity, the possible contraindications, and how to incorporate physical activity into existing roles which consider the safety and environmental constraints were the most
frequently identified training needs. Disseminating research evidence to practitioners in the field again is of fundamental importance:

I'd be most interested in reading research about how physical activity can improve mental health conditions like anxiety, depression, physical things like lack of sleep, reduced appetite and that sort of thing. That's something that I could present as evidence-based practice to the medics that I work with, and then hopefully as a team look at encouraging these areas (CC, 253).

As discussed in Chapter Three, the research evidence is not readily available to these health professionals but it is a prerequisite for greater advocacy within inpatient settings. Additionally, having co-ordinated information available to staff and patients about local opportunities for physical activity would also be beneficial. Half of the participants cited management support as being the most important requirement to increase physical activity promotion.

<table>
<thead>
<tr>
<th>Training Needs</th>
<th>Frequency*</th>
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<tr>
<td>Educational Workshops</td>
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<tr>
<td>Benefits</td>
<td>6</td>
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<tr>
<td>Overcoming client motivation/restrictions</td>
<td>5</td>
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<tr>
<td>Contraindications</td>
<td>4</td>
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<tr>
<td>Co-ordinated information</td>
<td>3</td>
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<tr>
<td>Medication/exercise interactions</td>
<td>2</td>
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<tr>
<td>Information Material</td>
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<tr>
<td>Leaflets about local opportunities</td>
<td>4</td>
</tr>
<tr>
<td>Leaflets about benefits</td>
<td>3</td>
</tr>
<tr>
<td>Support</td>
<td></td>
</tr>
<tr>
<td>Support from Line manager</td>
<td>6</td>
</tr>
</tbody>
</table>

* Participants (N = 12) could provide multiple needs

### 5.6.2 Summary

Many participants expressed an interest in being involved in greater physical activity promotion. This would facilitate patient interest and develop the therapeutic relationship. Additionally, this would enable staff to personalise the benefits of physical activity to a particular client. Exercise specialists, however, would be better placed to offer 'normalised' opportunities for patients that were structured.
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Educational support is required in disseminating the evidence base to support the inclusion of exercise, outline key promotional skills and define boundaries of competence.

5.7 Conclusions and Implications

5.7.1 Perceptions of Exercise

The first objective of this study was to examine perceptions of the therapeutic role of exercise in a contrasting sample examined in Chapter Three. In contrast to that sample of clinical psychologists, these mental health professionals were very positive about the potential role of exercise in relation to mental health and believed greater promotion should take place in the acute, inpatient settings within which they worked. There was some acceptance that they could be an important resource in the future for developing physical activity opportunities. Greater compatibility between promoting physical activity and the flexible, problem solving nature of mental health nursing most likely underpins such a response. That there may be differences in therapeutic ‘optimism’ between professional groups is not uncommon (Jorm et al., 1997; Shepherd, et al., 1995) and both Chapter Three and this study identifies notions of compatibility as an important issue underlying such differences. However, it is again evident that research into physical activity and mental health is not readily accessible for these participants nor has dissemination of such findings to these participants taken place. More sophisticated forms of dissemination remain a priority (e.g., Martin, et al., 1998).

In analysing this data, the most important consideration is how participants talked about physical activity in relation to mental health. From a discursive perspective (see McGannon & Mauws, 2000), what is absent is as important in providing meaning as what is present (Potter & Wetherell, 1987). Furthermore, we are restricted by what we can actually articulate in interaction with other individuals. Participants were very positive as to the potential role of physical activity yet framed this within a diversional objective rather than in a therapeutic role. This is not unexpected given the nature of the setting in which individuals worked, but it might serve to marginalise the potential role physical activity could play. We cannot infer that participants do not have access to the vocabulary or a knowledge base regarding physical activity and mental health. However, we can speculate the implications of
this widely held use of language. A diversional role is less sophisticated than most researchers in the exercise and mental health field would hope (e.g., see Morgan, 1997a). This, in turn, constrains any efforts at innovation, or accessing resources. Perhaps with greater access to the evidence base, some professionals can take the case for physical activity provision further within their own Trust. This will allow a more convincing case to be put forward in supporting its inclusion as a component of care programming.

Physical activity as a lifestyle choice was also a recurring theme. Equating a lifestyle choice to a credible, adjunctive treatment for mental health concerns was problematic for some participants. This was exacerbated by participants’ misgivings in recommending such a ‘lifestyle’ choice where the current climate emphasises individual agency in response to health ‘risks’ such as leading a sedentary lifestyle. Such an incongruence might be overcome by the adoption of stage-based approaches to promotion that imply equal promotion to all but the efficient tailoring of promotional efforts to those most ready to change (Prochaska & DiClemente, 1983).

Finally, participants struggled to relate physical activity to mental health benefit in a way that encompassed embodiment. In particular, “body experience is a ‘data source’ which is difficult to handle scientifically” (Stelter, 2000, p. 63). Several participants tended to reify a body mind split while claiming to hold a holistic approach to the care of clients. Future research must further elucidate how the mind and body are related regarding physical activity. In particular, the potential of narrative analysis in exploring the construction of body-self relationships should be examined. Such narratives seek to interweave setting, characters and plot to offer an explanation, give meaning to experiences or offer insights into the nature of a chain of events (Oliver, 1998). These forms of analysis may help in engaging with the subjective, embodied experiences of individuals (Sparkes, 1999). In turn, this might be integral in allowing mental health professionals to articulate the potential role of physical activity as a therapeutic adjunct which diminishes the mind/body dichotomy.

5.7.2 Predicting the Promotion of Physical Activity: Reconciling Dissonance

The second objective of the study was to explore the TPB through qualitative techniques. Using a multi-method approach to the same issue revealed similarities and dissonance. However,
The idea that qualitative and quantitative findings always relate to different aspects of one research object does not automatically mean that a coherent picture can be depicted. It even has to be expected that this type of 'peaceful coexistence' between methodological paradigms will be rather infrequent (Erzberger & Prein, 1997, p. 146).

Given the contrasting ontological and epistemological tenets of quantitative and qualitative research one might predict such infrequency. For example, a positivist approach holds that reality can be separated into parts and examined individually (Maykut & Morehouse, 1994). This approach has been criticised for its reductionist approach which has "resulted in the use of the same epistemology for humans as one might use to study and predict outcomes for rats and rockets" (Fahlberg, Fahlberg & Gates, 1992, p. 177). However, the TPB explicitly does this through its identification of attitudes, subjective norms, PBC as primary constructs underlying intention. These psychological variables are assumed to exist in reality rather than being constructed by the psychological observer (Murray & Chamberlain, 1999). Hinting at the robustness of the model, the qualitative data did suggest that these constructs are factors but that they are certainly not as clear cut as the EQS figures suggest nor is there any linear, unidirectional function. This has been a criticism of the model in the past (Biddle, 1994). The process of promoting physical activity is likely to be more complex than the TPB model would imply (Choi, 2000). Qualitative data supports the importance of the organisational context within which the sample participants worked. Greater physical activity promotion is likely to take place only through the provision of environmental support which helps develop positive attitudes toward promotion, which in turn strengthens the push for further social and environmental change, conducive to greater physical activity promotion (Stokols, 1992).

Attitudes toward promoting physical activity appeared an important and necessary prerequisite to actual promotion. However, the theoretical notions of Perceived Behavioural Control and Subjective Norms were conflated in this sample. Participants expressed difficulty in clearly delineating the two constructs in the context of their promotional activities. Results suggest that the social context, which encapsulated both, was most important in constraining the promotion of physical activity. Broader cultural practices relating to 'risk' and an inability to articulate embodiment could also be brought to bear on illuminating these constraints.
Importantly, within the context of this study, the traditional measurement of subjective norms appears weakly conceptualised and further development of this construct may be required. For example, social support may be a more theoretically relevant social influence construct in certain contexts (Courneya, et al., in press).

Acknowledging that positivism takes a circumscribed and crystallized view of social reality, defined by that which can be objectified (Harris, 1981), it appears self-evident that qualitative study would find that the broader social context was fundamentally important. As Maykut and Morehouse (1994) remind us:

"Qualitative researchers value context sensitivity, that is, understanding a phenomena in all its complexity and within a particular situation and environment. The quantitative researcher works to eliminate all of the unique aspects of the environment in order to apply the results to the largest possible number of subjects and experiments" (p. 13)

Due to a lack of social support underpinned by resourcing and staffing issues, exercise does become a lower priority. Combined with unclear delineations as to who should be promoting physical activity (often determined by the ward managers' interpretation of the importance of physical activity), safety concerns, and a stressful work environment that stifles innovation, physical activity is promoted in an ad hoc fashion. Is this the 42% of the variance in stage of change not explained by the full TPB model?

However, the follow up study did support the notion of two processes operating in terms of promotion; one habitual and one more conscious. Furthermore, the qualitative data suggested some individuals exerted conscious effort in planning to promote physical activity while others promoted in response to situational cues such as patient request or if patients looked bored and frustrated. Future quantitative research examining the promotion of health behaviours could benefit from the adoption of Maddux's (1993) revised model which includes cues to action and to decisions as an additional component within the TPB. Recent support for such a model has been reported in relation to fitness training adherence (Palmer, 2000).

Finally, the qualitative data allowed the emergence of other pertinent factors not explicitly addressed in the quantitative stage of the project and point to new areas of inquiry. First, the promotion of health behaviours may be related to the
compatibility of this promotional behaviour with the promoter's self-identity. Future quantitative research looking at changing the behaviour of health professionals could profit from the inclusion of measures of self-identity to further examine its contribution to quantitatively explaining variance in promotional behaviour and its interaction with other constructs from the model (Connor & Armitage, 1998; Terry, Hogg & White, 1999). Specifically, how self-identity mediates Perceived Behavioural Control deserves attention. In this study, a self-identity that incorporated a more generic sense of health promotion, was related to attempts to promote physical activity despite the presence of significant barriers. Individuals may not always be successful, but effort was exerted in promotional activity. It may be that this generic self-identity renders individuals more susceptible to promotional cues in the environment (Aarts, Dijksterhuis, & Midden, 1999). Second, the affective payoff for promoting physical activity, and speculatively, other health behaviours, was also an interesting and unexpected finding. Differentiating between instrumental and affective dimensions of attitude also warrants further attention.

From a methodological viewpoint, what is to be made of these similarities and differences? As Ussher (1999) suggests, using both qualitative and quantitative approaches “provides a multifaceted picture that can be used to powerful effect in illuminating a series of interlinked research questions . . . The crux of the matter is the status ascribed to the results” (p. 44). Rather than downplaying the results from either method, it is proposed that both make powerful contributions in their own right while complementing each other (Roche, 1991). There seems little point in developing a multi-method approach if one resorts to methodological purism at the first sign of trouble (Deacon, Bryman, & Fenton, 1998). The qualitative data assists the interpretation and understanding of the broad survey findings while also contributing to a richer understanding of how physical activity is conceptualised. The quantitative data provides a guiding framework to understanding and ultimately predicting promotion at a macro level while the follow up interview study provided a more detailed and comprehensive picture of individuals' needs (Moulding et al., 1999). Both approaches provide answers and any dissonance provides a stimulus for re-appraisal rather than panic. Although, to a certain extent, one must be willing to let the chips fall where they may (Gerbner, 1983).
6.0 PHYSICAL ACTIVITY AND DEPRESSION: A NATURALISTIC CASE STUDY

6.1 Introduction

Reviews consistently cite the potential of exercise in alleviating depression (e.g., Biddle & Faulkner, in press; Biddle & Mutrie, 2001; Mutrie, 2000). Many users and survivors of mental health services also report sport and exercise to be an important coping strategy (MHF, 2000; MIND, 2001). Conversely, epidemiological evidence consistently shows that the least active have the greatest incidence of depression (e.g., Camacho, Roberts, Lazarus, Kaplan, & Cohen, 1991; Farmer et al., 1988). In contrast, Burbach (1997) has expressed some caution regarding the claims made by exercise enthusiasts. Participants are usually volunteers for experimental studies and their clinical status is often uncertain. Reviewing the exercise and mental health evidence, Burbach (1997) pointed to the need to distinguish between those who are referred to specialised mental health services. Such individuals are generally more severely impaired and will have differing expectations regarding treatment in comparison to a highly-selected group of volunteers. Given that individuals with mental health concerns may exercise less than the general population (Tsuang, et al., 1983) it would appear that increasing physical activity within this client group will present a considerable challenge.

6.2 GP Referral Schemes

In recent years, the primary care setting has been identified as playing a potentially pivotal role in promoting physical activity to the general population. Consequently, its promotion by primary care professionals has become popular. Fox, Biddle, Edmunds and Bowler (1997) identified the most common practice as ‘exercise on prescription’ schemes where primary care professionals usually refer individuals to a local leisure centre for a programme of exercise. Despite the popularity of such schemes, their effectiveness have been questioned. Jones, Harris and McGee (1998) presented a downcast critique of such schemes with the belief that they are overly “optimistic in expecting to make what may be a radical change in an individual’s behaviour in a very short period of time, with the expectation of both immediate improvements in condition and long term maintenance of the new behaviour” (p. 345).
In a systematic review (Riddoch, et al., 1998), published studies demonstrated only small but possibly meaningful improvements in physical activity patterns. Smaller case studies tended to suggest more significant effects and in a wider range of domains such as social and psychological domains with patients suffering from anxiety or depression being seen to particularly benefit. However, little rigorous evaluation of such schemes has taken place (Biddle, Fox & Edmunds, 1994). As a contrasting example, Darbishire and Glenister (1998) assessed the mental health benefits in relation to anxiety and depression of GP recommended exercise to a group of depressed and anxious patients, randomly assigned to a moderate or vigorous programme of exercise. Based at a leisure centre in Essex, England where patients were referred from twenty-two GPs, the findings demonstrated substantial beneficial effects of recommended physical activity, regardless of the intensity of exercise prescribed. There were a total of 22 patients with elevated depression pre-intervention. Of these, the depression scores, as measured by the Beck Depression Inventory, returned to non-clinical levels for 12 individuals post-intervention which increased to 15 after three months. Despite the small sample size, the lack of control group and that only short term changes in clinical scores and activity levels were assessed this study reinforces the encouraging nature of much of the research. However, it again fails to address individuals who have been referred from mental health services.

It is self-evident that such schemes struggle with the initial uptake, particularly transferring from the initial consultation to starting the programme, and ultimately with long-term maintenance of exercise. A host of possible reasons for dropout have been cited from unrealistic expectations of change (Jones, Harris & Waller, 1998), interruptions to established routines (Lord & Green, 1995), to the traditional barriers faced by individuals trying to be more active (Taylor, 1996), which may become more pronounced for individuals with mental health concerns. Illiffe, See Tai, Gould, Thorogood, & Hillsdon (1994) expressed early reservations about referral schemes warning primary health care teams to look closely before they leaped into prescribing exercise. Those most active at the outset have been found to be most likely to adhere (Taylor, 1996) and most studies have had difficulty in proving its potential to attract those who would most benefit. In a systematic review of physical activity promotion strategies conducted by Hillsdon and Thorogood (1996), it was found that interventions that encouraged walking and did not require attendance at a facility were
more likely to lead to sustainable increases in overall physical activity. Such characteristics are clearly at odds with the popular leisure centre based schemes.

6.3 Care in the Community

In the 1950s there were more than 150,000 beds in long-stay psychiatric hospitals, primarily occupied by those with psychosis. Currently, there are less than 30,000 (Shepherd, 1998). These hospitals provided security and treatment but now care is expected to be delivered in the community. Central to 'care in the community' has been the development of case management systems such as the care programme (DoH/SSI, 1990) and the care management approach (DoH, 1990) which are delivered by Community Mental Health Teams (CMHT). These are multi-disciplinary teams offering specialist assessment, treatment and care to people in their own homes and the community. The team should involve members from the nursing, psychiatric, social work, clinical psychology and occupational psychology services, with ready access to other therapies and expertise. After discharge from hospital, professionals from the health authority and local authority meet to arrange a care programme for the individual. An assessment of need is carried out and a care plan is drawn up which addresses the person's social, medical and nursing needs. To make sure the plan is followed, one member of the CMHT is designated the keyworker. This keyworker remains in regular contact with the patient and reviews the plan at regular intervals. The keyworker is thus in a unique position to provide support, advice and activity counselling to the individual.

Given the constraints on primary care professionals and the financial barriers to providing more specific and formal exercise programming from an external agency, the opportunity for mental health professionals in promoting physical activity to their clients, via exercise referral schemes, is now available. While no published evaluations exist, the referral of clients to exercise referral schemes by CMHT members, instead of GPs, is becoming more common (see Faulkner, 2000). Referral schemes can be introduced by keyworkers in a form of outreach, introduced to the leisure centre in an unintimidating atmosphere and providing access at a more affordable cost. This latter point is important given that individuals referred to mental health services are more likely to be unemployed (Grant, 2000).
6.4 Development of a CMHT Exercise Referral Scheme

Recently, within the Trust explored in Chapter Four, such a pilot scheme was established with one CMHT referring clients to an existing GP referral exercise scheme at a local leisure centre in the East Midlands, UK. A Community Psychiatric Nurse (CPN) within the CMHT was very much an 'exercise champion' (Biddle et al., 1994). A keen exerciser himself, he believed that exercise could be a valuable adjunctive treatment for many of his clients and he saw the possibility of a referral scheme as a cheap option for clients who were interested. His beliefs were not based on any research literature concerning exercise but on an intuitive sense that it would not be for everyone but that some clients may find it beneficial. It was also congruent with the normalising aim of much of his and colleagues' work in helping clients access mainstream services and become involved in the community.

Due to concerns regarding physical health assessment, there was a long period of consultation in developing referral protocols before staff agreed a process. Clients are referred to the leisure centre by their keyworker from the CMHT. The leisure centre then contacts the client to arrange a first appointment which takes place on a one-to-one basis and involves a basic familiarisation of the leisure centre. A standard medical questionnaire is completed, concerns discussed and an individual programme designed to suit the needs and interests of the client. Clients can use the fitness suite, health suite and swimming pool and are allowed access at a nominal rate (£1.70 per visit). After 10 visits, progress is checked by staff and after 30 visits a re-referral is necessary. Individuals can visit at any time and there are also group sessions from Monday to Thursday for individuals referred by their GP or CMHT.

While a formal evaluation was not planned, this referral scheme provided an opportunistic case study for exploring the motives and barriers to exercise for individuals with depression while simultaneously examining the feasibility of such schemes for clients referred via mental health services. As Stake (1995) suggests "It is not unusual for the choice of case to be no 'choice' at all. Sometimes we are given the case, even obligated to take it as the object of study" (p. 3). Given the low numbers of clients expected to be referred, and the difficulties often faced in using traditional quantitative forms of analysis in examining physical activity and psychological well-being (Faulkner & Sparkes, 1999), a qualitative methodology was considered most appropriate for a number of important reasons. Qualitative studies of
how different patients perceive the role of exercise in treatment have been encouraged (Mutrie, 2000). Increasing attention has also been given to allowing patients to discuss their experiences and have a voice regarding the improvement of their own quality of life (Chadwick, 1997; MHF, 2000). In this case, understanding perceptions of physical activity, the motives and barriers to exercise, and physical activity's role in promoting psychological well-being alongside the narrative of participant's lives is necessary. As Shaw (1997) suggests, quantitative methods rarely recognise the context in which health services are delivered and received:

The evaluation of services needs to go beyond performance indicators, outcome measures, quality circles, user satisfaction questionnaires, to contribute towards policy and service development. This necessitates a knowledge about and understanding of users' lives (p. 478) (my emphasis).

Qualitative research is ideally suited to understanding the process by which events and actions take place and how views and attitudes change over time (Maxwell, 1996). Furthermore, it has been suggested that illness must be “studied qualitatively if we are to understand how people make sense of its genesis and its consequences” (Radley, 1999, p. 19).

### 6.5 Participants and Procedures

Participants who expressed an interest in the scheme were referred by their keyworker. After receiving ethical clearance, participants were also invited at this time to take part in this research project and given a background information sheet and a consent form (see Appendix 9 and 10). These were discussed between the keyworker and client. If the client consented, the consent form was then sent to the investigator with contact details of the participant. This period of recruitment lasted six months and led to six participants with clinical depression forming a ‘convenience’ sample for investigation.

On receiving the consent form, participants were contacted to further discuss the nature of the project and the possibility of conducting interviews with them. Telephone interviews were preferred by the CMHT who were concerned about
impinging on the clients’ home environment and issues of safety. All individuals who expressed an interest took part in five semi-structured interviews. These occurred before starting the exercise programme, five weeks after their first introduction to the leisure centre, twelve weeks after the first introduction, six months after the second assessment and finally one year after the initial interview. Overall, interviews with each individual lasted approximately three to five hours in total over the year.

At the beginning of each interview, the stage of change (for physical activity and exercise) of each participant was ascertained and a simple measure of moderate and vigorous physical activity in the last week undertaken (HEA, 1996). An interview guide containing a series of topics or broad interview questions was then used (see Appendix 11). The focus of the interview was broad with the intention of encouraging participants to express their own views regarding physical activity, how it may relate to mental health and the barriers to greater physical activity. In keeping with an emergent design, the schedule was continually adapted on the basis of each interview but within each, three topics were examined through open-ended questions. First, general perceptions of physical activity as a therapeutic modality (e.g., do you consider physical activity to be an adjunctive therapy for depression?), the barriers to physical activity (e.g., what stops you from being active?) and finally a set of questions concerning the exercise referral programme itself (e.g., how do you feel about the referral scheme?). A series of secondary questions and probes were also used when appropriate. The discussions were flexible to allow participants to speak of their experiences and to discuss the areas that were important in their lives.

Sequential interviews were conducted over a one-year period to give a longitudinal perspective on the role of physical activity in the lives of participants, and how this changed over time. Most qualitative studies tend to rely on one-time interviews (Biddle, Markland, Gilbourne, Chatzisarantis, & Sparkes, 2001) as reported in Chapters Three and Five. In contrast, repeated interviews usually lead to closer rapport and are particularly useful when change over time is of interest (Mathieson, 1999). They also increase the possibility of understanding participants’ perceptions at a deeper level (Glesne & Peshkin, 1992). As mentioned, it was important to acknowledge the ongoing illness narrative of the individual (Mathieson, 1999). Specifically, the experience of depression is inextricably linked with an individual’s experience of life. Qualitative research is usually characterized by rich description and narrative is used to more closely represent the experience of participants.
Chapter 6: Physical Activity and Depression

Therefore, narrative provides a means of contextualising the role of physical activity in a holistic biographical context. Following each interview, I made reflective notes in a diary about each interview, the interaction itself and noted any emerging areas for future inquiry and possible links to the experiences of other participants. This ‘field diary’ also informed discussions with CMHT members throughout the year when I reported key perceptions at team meetings.

6.5.1 Analysis

The interviews were transcribed before assuming the posture of indwelling (Maykut & Morehouse, 1994). This involved extensive reading of the transcripts to become immersed in the data and to understand each participant’s “point of view from an empathetic rather than a sympathetic position” (Shepherd, Hattersley, & Sparkes, 2000, p. 246). The transcripts were read both horizontally across individuals at each time point and then vertically in following the flow of the participants’ narrative across the year. Initially, a thematic analysis (as described in Chapter Three; see Section 3.3.4) was conducted. However, while this analysis revealed aspects of shared experience it was also limited in its ability to show how each individual’s context shaped the experience of these themes. Specifically, the unique and complex nature of individual’s lives was lost by detaching individual experience from their context. While thematic analysis offers a summary of the data it fails to give a sense of the “variability and contradiction within the accounts of individual participants” (Wilkinson, 2000, p. 23).

In addition to the thematic analysis, an attempt was made to trace each individual throughout the research process. As part of this analysis, summaries of interview data were written to create short profiles for each individual, and as such, writing itself became a method of analysis (Richardson, 1994). These profiles “emphasize the contextually bound uniqueness of participants’ stories while common themes reveal the junctures of their shared experience” (Woods, 1992, p. 96). Ultimately, the profiles are used to represent “a self-contained, in-their-own words narrative detailing each participant’s experience” (Woods, 1992, p. 96) and can be considered instrumental case studies (Stake, 1994) where an individual’s life context is considered in detail to help understand the role of physical activity. Case study research may be a small step toward broader generalisation but it is not the ultimate goal:
It is the researcher who decides what is the case’s own story, or at least what of the case’s own story he or she will report. More will be pursued than was volunteered. Less will be reported than was learned. . . It may be the case’s own story, but it is the researcher’s dressing of the case’s own story. This is not to dismiss the aim of finding the story that best represents the case, but to remind that the criteria of representation ultimately are decided by the researcher (Stake, 1994, p. 240).

However, the whole story exceeds anyone’s knowing and anyone’s telling (Stake, 1994).

Rather, the intention here is to facilitate ‘naturalistic generalization’ (Stake & Trumbull, 1982) by the reader:

Naturalistic generalisation is important more because of its embeddedness in the experience of the reader . . . Our readers often are more familiar with the cases than we researchers are. They can add their own parts to their story. We should allow some of this input to analysis to help form reader generalisations (Stake, 1995, p. 86).

Detailed narrative often characterises case study reports (Maykut & Morehouse, 1994). This allows the reader to increase their understanding of the case and allow issues of complexity and contextuality to emerge and tentative assertions to be drawn (Stake, 1995). Ideally, the cases “invite the reader into a vicarious experience (however brief) of the life or lives being described” (Sparkes, 2000, p. 33).

Consequently, four profiles are presented and grouped by levels of adherence: Edward (chronic contemplator), Terry (initial enthusiast), Laura (late starter) and Dave (regular attendee). These cases are representative of the sample. To allow greater detail in their presentation, two cases are not offered here (Julie; late starter and Robert; initial enthusiast) but are presented in Appendix 12. All participants were white and living in the East Midlands, UK. Pseudonyms are used throughout to ensure anonymity of the participants. They were diagnosed with clinical depression and receiving antidepressant medication at the beginning of the study. The profiles are presented and then briefly summarised. Finally, broader themes of common interest are discussed in relation to the literature. As the first qualitative study of a
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CMHT referral scheme, these profiles are intended to serve as a resource for the reader from which to generate naturalistic generalisations to their experiences and practice. General patterns of adherence will first be reported.

6.6 Results

6.6.1 Adherence

After twelve weeks, as Table 6.1 illustrates, only one client (Dave) was attending three sessions a week and had completed the original programme. Two clients (Laura and Julie) had just attended for the first time. After one year, Dave and Laura were still attending intermittently. Edward did not attend the scheme after the induction while Terry and Robert dropped out after eight weeks. In contrast, only one client (Edward) was not meeting the recommended guidelines for moderate, habitual physical activity (HEA, 1995). Four clients (Terry, Laura, Julie and Robert) had increased such activity over the past year. It is important to note that the referral scheme did not represent best practice. For example, there was little monitoring of attendance by staff, a lack of formalised social support during the exercise programme, a lack of formal exercise counselling and no communication between leisure and mental health professionals.

6.6.2 The Chronic Contemplator: Edward

Now living at home with his mother, Edward currently works five hours a day cleaning windows. For a over a year, Edward has not been doing any exercising or physical activity outside of work but is now interested in developing a new hobby and meeting new people. He used to enjoy mountain bike riding but since his depression is finding it very difficult to do any type of activity:

I’ve not just been in the mood to do it really. Sort of exercise falls off when you’re like that, in fact, that’s probably one of the first things to go, you don’t think about anything like physical activity. From my point of view, I just packed up interest in a lot of things, not just exercise, about every activity you can think of. I just didn’t really want to know anything for a while. I just sort of got fed up with everything really.

His CPN feels that doing something outside of the hospital setting would do him good and Edward is happy to attend one exercise session a week to build his self-esteem:
<table>
<thead>
<tr>
<th>Name</th>
<th>Age</th>
<th>Referral</th>
<th>6 Weeks</th>
<th>12 Weeks</th>
<th>6 Months</th>
<th>1 Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Edward</td>
<td>27</td>
<td>Contemplation Action (5 hrs window cleaning most days/wk)</td>
<td>Contemplation Action (30 mins walking daily)</td>
<td>Hospitalised</td>
<td>Contemplation Preparation (30 mins walking twice/wk)</td>
<td>Contemplation</td>
</tr>
<tr>
<td>Terry</td>
<td>55</td>
<td>Contemplation Action (30 mins most days/wk walking)</td>
<td>Action (2-3 1-hour sessions/wk)</td>
<td>Contemplation</td>
<td>Precontemplation</td>
<td>Precontemplation</td>
</tr>
<tr>
<td>Robert</td>
<td>57</td>
<td>Contemplation Preparation (30 mins walking/gardening twice a week)</td>
<td>Action (3 1-hour sessions/wk)</td>
<td>Contemplation</td>
<td>Contemplation</td>
<td>Contemplation</td>
</tr>
<tr>
<td>Laura</td>
<td>48</td>
<td>Contemplation Preparation (10 mins walking most days/wk)</td>
<td>Contemplation Preparation (20 mins walking most days/wk)</td>
<td>Preparation (1 60 min session/wk)</td>
<td>Contemplation Action (30 mins walking/walking most days/wk)</td>
<td>Preparation (1 60 min session/wk)</td>
</tr>
<tr>
<td>Julie</td>
<td>48</td>
<td>Contemplation Preparation (90 mins housework/wk)</td>
<td>Contemplation Preparation (90 mins housework/wk)</td>
<td>Preparation (1 1-hour session/wk)</td>
<td>Preparation (1 1-hour session/wk)</td>
<td>Contemplation Action (2-3 hours gardening/ housework most days/ week)</td>
</tr>
<tr>
<td>Dave</td>
<td>35</td>
<td>Contemplation Action (2 hours/day walking)</td>
<td>Action (3 * 90 min/sessions/wk)</td>
<td>Action (3 * 90 min/sessions/wk)</td>
<td>Maintenance (3 * 90 min/sessions/wk)</td>
<td>Maintenance (30 mins/day walking)</td>
</tr>
</tbody>
</table>
I'm worse when I'm not occupied with something . . . If you have something to look forward to, something to do, something to achieve, you do feel better about yourself rather than just sitting around moping about things. It's important that you get on with something.

Whilst confident he can attend the session he is slightly worried about interacting with other people. Once he gets there, however, he believes he will be alright. His mother is encouraging him to go and he can foresee no real barriers to attending what he sees as a "valuable opportunity".

Edward found the induction very helpful and he felt comfortable in the gym environment. He never returns due to a reoccurrence of depressed mood. He is also unable to keep his job. During this period, he manages to build up a regular routine of walking thirty minutes each day:

If I go out for a good walk, it uses some time up, because time hangs heavy on your hands when you're not working at the moment . . . It's something for me to concentrate on, to stop me getting bored.

Planning to return after Christmas, he still sees the referral scheme as an opportunity to develop another interest and use his time productively. However, Edward has vague plans to resume and cannot identify any specific barriers or strategies to help him start again. Unfortunately, Edwards' condition deteriorates and he is readmitted to hospital for his depression. I am unable to interview him at the twelve week point.

After six months, Edward has still not returned to the leisure centre. Since spending time in hospital as an inpatient, he is finding it difficult to do much activity at all:

I haven't been able to do anything, I've not had a general well-being about me, so I've not been bothered to do anything really. I've not had the energy really.
Twice a week he might go for short five-minute walks but a lack of motivation and energy is a serious barrier that ultimately prevents him going over the year. Hoping to start a new hobby, not attending is a disappointment but one that is uncontrollable due to his illness. Edward feels helpless. Some unspecified time in the future things will change:

I feel that it will just come gradually, if it’s going to come, things will come back gradually. I don’t feel as if there is anything I can do to help myself at the moment really, I’ve been trying to, but I don’t seem to have any interest in anything at the moment.

He doesn’t feel any worse for not being active but recognizes that getting back into something would be nice, improve his health and give him something to look forward to. It is having the confidence to get started which remains difficult. He thinks setting some goals might help but is not attempting to do this. His family is no longer necessarily encouraging him to be active:

They leave it up to me really, they let me make up my own mind in what I want to do, you know, they think obviously, they’d think it’s beneficial for me if I decided to do it, you know, but they let me make up my own mind really.

He cannot recall any physical activity advice in the past or any encouragement from his CPN. But he presently feels a need to start looking at making a change. He has been off work for eight months and he is still visiting the hospital as an out-patient for two days a week. He feels it is time he should be doing something different by now. To start, he plans to go for small walks and then gradually build up. This might give him a bit more confidence to tackle other things.

6.6.2.1 Summary
Edward saw the referral scheme as potentially providing a meaningful diversion to the day. However, he spent the year in a state of ‘chronic contemplation’. While being able to discuss generalised goals regarding physical activity, he struggled to articulate how to take the first step to become active. Lacking in confidence, he
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appeared to be waiting for the indefinable magic moment (Prochaska, Norcross & DiClemente, 1996) which would prompt him to start exercising. A lack of motivation, resulting from depression, was his biggest barrier. An associated ambivalence regarding exercise was clearly evident. His family supported his decision to be inactive while he could not recall any mention of the referral scheme from his keyworker.

6.6.3 Initial Enthusiast: Terry

Terry retired from the ambulance service in 1995 with stress related problems. However, after a serious motorbike accident in 1997, Terry has suffered from depression with the injuries and the difficulty of his rehabilitation. For several years even minor activities caused a great deal of pain and discomfort. Prior to this, Terry had enjoyed playing squash and badminton. He’s been at home for two years and the only exercise he gets is half an hour each day walking the dog. Any other activity is more difficult:

I really just haven’t had the will power to become more active. I’ve found it easier just to sit down in an armchair and watch the TV. I’ve been treated now for depression for nearly two years, and I just haven’t had the will power to do anything about it to be honest.

Terry used to like riding a pushbike but has got to the point where he finds it difficult because it hurts his joints and muscles after only a few minutes. Terry is upset by this and thought he’d do something about it by joining the referral scheme which was at a reduced rate. Weight is also an important issue:

I can see what I’m becoming and it worries me somewhat. I don’t particularly want to sit in an armchair all day and just gradually spread out and eventually fit the armchair quite snugly.

Additionally, Terry has recently been diagnosed as diabetic and his GP reinforced the need for greater physical activity and Terry sees this as an important motivation. His eldest son is trying to get him down to the gym for a while but the referral scheme is the “kickstart” Terry needs to turn his intentions into action. He cannot identify any particular barriers apart from a concern that it might become boring after a while. If it
does become a chore, he hopes to find something else to do. The thought of getting his bike out again and riding around Rutland Water is a motivator and he plans to attend the fitness suite three sessions a week. An instructor has suggested three sessions were necessary for weight loss.

After six weeks, Terry is going two to three times a week and cycling on nice days. However, in the meantime he has started taking insulin for his diabetes which he feels is negating his attempts at weight loss. Yet an important goal has already been achieved:

One goal was achieved immediately which was to get me out of the house and give me something to do, and it kind of gave me something to look forward to each day rather than settling into an armchair and going to sleep all day so it fills my day up.

Disappointment at not being able to find a part time job (which he feels is a result of ageist attitudes), continues to fester and exercising allows an escape from the “boredom of the day”. While the leisure centre is not intimidating, Terry admits to finding some of the exercises there tedious but he is determined to keep it up to control his weight. He acknowledges it will be a slow process but he is feeling fitter albeit still occasionally struggling with his depression:

I wake up in a black hole, it’s difficult to motivate myself enough to get out of the house but I still do it. I think there’s only been one day since I started when I was going to go and I could have gone but I just couldn’t be bothered. I did go the next day to make up for it. So I didn’t lose a session.

In the next eight weeks, Terry does not attend the leisure centre. He has tried to start back at a part time job. Within a week he is made redundant but in starting again he gave up some of the benefits he was receiving which meant he is financially worse off. Additionally, with his wife working Terry has to stay at home and look after his children during the school holidays. Despite this break, he is still managing an accumulated hour of walking each day and hopes to attend the scheme in the future.
With the abrupt end of his job also comes the coincidental loss of his trusted CPN to another job. Both incidents affect him and he feels his mental health is suffering:

I’ve slipped back to what I was, I mean, I don’t have a job, I’ve not been able to go to the gym and I’m stuck in home most of the time and I’m paying the penalty for it in terms of mental health. So I’ve got to actually do something before I become mega-depressed again so I mean the gym, hopefully I can continue with it so the gym’s going to be part of the road back if you like.

How to combine this with financial difficulties is a concern. Terry plans to return the following week and also talk to an instructor about varying his programme.

Terry never returns to the leisure centre. By six months, Terry has started a new job school cleaning for three hours every day. Reflecting on the reasons for quitting the referral scheme, he feels that there was not enough individual support and that after a while the exercises got monotonous. While not writing it off completely it is no longer on his list of priorities:

I think the gym filled a part of the day for me at a time when I needed part of the day filling. I don’t think I gained anything much physically but it certainly got me out of the house at a time when I probably wouldn’t have gone out for any other reason, I wouldn’t say it didn’t help at all, because I would be wrong. But it’s sort of been overtaken by other things now.

In particular, Terry feels he is coping with life better and has improved both mentally and physically.

After a year, Terry is still working at the same job and believes he is more physically active than he has been for many years. This controls his weight and he certainly feels fitter. He again reflects on his reasons for discontinuing participation at the leisure centre:

It got to the point where it was becoming a chore and I was getting stressed by the thought of having to go which was defeating the object
because one of the problems that I have as part of the depression, is the fact that I get easily stressed over silly things . . . And I was getting stressed out over the fact that I’ve got to go to the gym, or I felt like I had to go to the gym, when I didn’t really want to go . . . from a stress management point of view, it became self-defeating in the end.

Greater variety in activities and possibly some group work may have helped. Terry has rekindled his interest in table tennis playing in a local league and enjoys the companionship. The gym was a trigger to this renewed interest when he realized that it was not the answer. He even won player of the year!

Despite this, Terry feels that he is becoming very depressed again, “it’s sort of got to the point where I did mentally feel better and I’m rolling down the other side again”. He finds the school job too physically demanding and would like to do administrative work as he has done in the past. While the referral scheme, and then the job, were getting him out of the house, he feels he now needs something more stimulating as he just does his job “on autopilot”. Unfortunately, his age is a major barrier in being considered for the jobs he would like.

Terry is unsure about what role physical activity might play in the future. Despite feeling much fitter he is very ambivalent now towards physical activity:

I know the benefits of a more healthy lifestyle and I know the benefits to be gained, not just from fitness but I know the benefits to losing weight from a diabetes point of view. But it’s, I have peaks and troughs with that. I mean the doctor told me the last time I saw him, he said unless you want to lose your legs initially, have a coronary, go blind, because my diabetes has not been particularly well controlled. I must admit for a day or two, it has the desired affect but after a couple of days, when I’m in one of my more depressed states, I think, oh what the hell, I’m going to die of something so it doesn’t really matter whether it’s cancer or a coronary, but I think a coronary’s probably quicker and less painful over a longer period.

Terry has never considered himself an exerciser and believes that you can’t teach an old dog new tricks. At the same time, he is still concerned about how he looks:
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There’s no way of wrapping it up, I’m just fat and I’m not very happy about it. It probably depresses me the thought of being this shape for the rest of my life. I don’t really know what to do about it at the moment.

He wants to lose weight but “it’s not an all consuming goal, it’s just a thought”. As with a year ago, Terry is waiting for another kickstart.

6.6.3.1 Summary

Being confronted by a lack of functional fitness originally motivated Terry to start the scheme. The provision of distraction, improving his body image and improving his health were important goals. The referral scheme was initially an enjoyable experience for Terry but after eight weeks he had stopped and did not return to the leisure centre. Boredom was a primary reason as the programme was seen to lack variety. Little support from leisure centre staff in monitoring his programme was also influential. Both factors acted to turn participation into a stressful experience which he would rather avoid. A combination of guilt and loss of control concerning referral participation was evident which itself is commonly associated with relapse (Marlatt & Gordon, 1985). Moving from contemplation to action so quickly may have intensified such feelings. However, Terry had returned to an earlier leisure pursuit that was enjoyable and had increased activity levels over the year. A new job for Terry was a significant cause of this increase. Despite exhibiting ambivalence toward physical activity, Terry is probably the most habitually active of the participants.

6.6.4 The Slow Starter: Laura

Laura, a widow, was first ill with depression at the end of 1996 and has struggled to maintain any external interests. Describing herself as not a “sporty person” she has tried joining exercise groups in the past but interest would wane. While restricted by fears of social interaction, Laura now tries to go out for brief ten-minute walks most days of the week. The referral process might be a gradual step towards normalization, via greater social interaction, and the provision of structure in the day:
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I want something structured . . . I do like some things to be structured so that it becomes like routine, and hopefully enjoy, I don’t think you’d carry on with it if you didn’t but I think that’s the main reason. You know, it will give me extra confidence hopefully, because I can say, well I went to the leisure centre or whatever, to me it will be a big achievement.

Laura’s daughter, her main carer, is moving to Southampton and this is of some concern. At the same time, it is an opportunity to make more effort herself and be independent. She doesn’t want any “props” in attending the leisure centre and feels confident, albeit apprehensive, that she can attend one session a week, at least on “fairly normal days”.

Laura attends the induction but is readmitted to the inpatient ward with depression soon after. She tries to go for regular walks while an inpatient and finds they make her feel better since she has to really talk herself into going for them. Since leaving hospital, Laura admits to a lack of confidence in actually getting to the leisure centre, “some days, I can’t get beyond the end of the drive, I just don’t feel comfortable going out”. Once there, she feels exercising would not be a problem as she enjoyed the induction session and felt relaxed in the environment. It is this problem with confidence that Laura still believes would be relieved by regular attendance:

I thought that if I started something new where nobody’s got any preconceived ideas of how I would behave I think that was the main aim, that getting back into the community again.

While acknowledging the benefits of going with a friend, for Laura this social support infers a lack of independence. She doesn’t want to rely on support because she wants to “get back to normal” as soon as possible. Rather, Laura plans on making a specific appointment at the centre once a week.

By the twelfth week, Laura made her first session at the leisure centre during a holiday period when her daughter had returned from college. Feeling more comfortable with her daughter there she expresses her enjoyment at attending and the “adrenaline rush that you’ve done it”. This helps her reconsider the option of going with a friend and not trying to persevere with going alone, “if I hadn’t been so
stubborn in the first place I perhaps could have been going for a while now”. It still takes courage for her to consider going to the leisure centre but she is actively seeking a friend to go with her. Reconciling a previous self as a full time worker with the current self who is “weak” and “dependent” remains a constant source of tension but regaining some social confidence is a new beginning:

I think I was aware of becoming a recluse, it was just easier to do anything you needed to do, and then just curl up on a settee really and stay away from it all I suppose. You know, eventually, as I started getting better, I realized that wasn’t really helping me.

At six months, Laura has been unable to return since she went with her daughter. Getting to the leisure centre is still difficult with her lack of confidence in social situations. “I want to lose that being aware of myself and how I feel, I just want to, just do it”. Instead, she is trying to be more active around the house by getting a keep fit video and running up the stairs with individual items of washing instead of taking it all up in one basket. She has spent some further time in hospital but a change of medication makes her feel like being more active:

Since my last spell in hospital, my medications actually changed anyway so I’ve actually felt more like doing things, as opposed to knowing that I have to do them, I’ve actually felt as though I wanted to do them . . . I don’t feel so sluggish, I don’t know whether that was the medication but I do feel as though I’ve got a bit more zim about me.

Generally, Laura feels things coming together, a recent change in her group at the day hospital was not as bad as she had expected and led her to think that she is being a bit “braver” about things. Talking with her social worker, the idea of joining a local rambling association is discussed as a way of revisiting her previous interest in walking, but in a safe environment with people of similar interests.

This new bravery also lead to an initial recognition of her own body by wanting to lose some weight:

I think it’s part of the self-esteem bit, I’ve let myself go because I couldn’t care less about how I am so perhaps wanting to lose a bit of weight is the
start to perhaps feeling better about myself as well... I try not to think about my body much at all really. I think the self-hate is less now than it was. I mean its silly things like actually achieving to put hand cream on for instance whereas, I wouldn’t get out of the shower, and I would never be able to put moisturizer on, whereas now, I can sit in the evening and sort of put hand cream on and I don’t find that repulsive, you know, in little ways, it is getting better perhaps without you always knowing. But I still abuse my body, so I suppose it’s not gone completely.

She feels more active and that her clothes are not as tight as they once were, “I have started to think about my body”.

A year later and Laura has been visiting the leisure centre once a week for the last six weeks with a friend and her daughter during the holidays. Going with someone else, particularly her daughter, is a big help. During a scheme meeting, another referee (see next case), Dave, offers to accompany her but she feels that he is too serious an exerciser and she would distract him. She enjoys the sessions at the leisure centre when she’s there but is still not sure whether it’s really the thing for her. At home, she is skipping every day “cracking up slabs on the patio” while also being more active around the house. The increase in activity has made her feel physically fitter while overall her psychological health is more stable:

It just seems that the bad days, sometimes I feel the bad days are lower than they were and the good days aren’t too high, somewhere in the middle, you know, you jog along really

Over the year, Laura comes a long way:

When things were really bad, I would just sort of get off the bed, and really move to the settee and just do the minimum amount of things which doesn’t make you feel very good about yourself, I would berate myself at the end of the day and think what have you actually done today, you know, you’re hardly worth being on the planet whereas now, if it is just a little thing like getting the garden tidy, I think, maybe, I am useful after all.
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Attending sessions at the leisure centre leave her feeling a “bit wobbly legged” but it is the “pat on the back” which remains important. Encouragement from her social worker also reinforces such feelings.

6.6.4.1 Summary

The referral scheme was seen as an opportunity for normalisation by promoting social interaction and daily structure. It took twelve weeks before Laura visited the leisure centre. While attendance was sporadic, it still remained a welcome leisure alternative one year later. She found the support of staff at the leisure centre appropriate and individualized. Laura’s social worker expressed an interest in the programme throughout the year and offered encouragement. While attendance provided a sense of achievement for Laura any benefit appeared relatively transient although more subtle changes concerning body image emerged over the year. However, social anxiety was always limiting for Laura. Social support from her daughter was critical but it was also problematic in the sense that it implied that support was necessary which was at odds with Laura’s initial ‘normalising’ motives for attending the leisure centre. Conversely, levels of habitual physical activity had increased over the year. A change in medication was attributed as the cause of this increase.

6.6.5 The Regular: Dave

Since leaving hospital several months ago, Dave has built up to walking his dog for two hours a day most days of the week. As part of his rehabilitation, he sees the referral scheme as an opportunity to do something on a regular basis:

I have pretty low self-esteem and I think doing something like that might make me feel a little better about myself . . . I know through not doing stuff, over a period of time, it’s got much worse, I haven’t been able to deal with things terribly well so I think I need to be doing more to get away from that and it’s quite, well, it’s quite self-destructive, sort of spending all your time getting upset about stuff that other people don’t even think about really.
The referral scheme also seems to be the most realistic option for him to try in comparison to other work or educational schemes. It will also be an opportunity to improve his physical condition. He has tried exercising at home before but has soon lost heart as to whether it was doing him any good. Dave also enjoyed playing sports at school but always lacked confidence in his social interactions. It is the social interaction that presents the biggest barrier:

I'm easily intimidated by people. I've been past the leisure centre walking the dog and that, and all I could see was all these fit people walking in and out and I find that quite intimidating in itself . . . I could write a book about it. It's just that I'm very nervous about crowded situations and I think if the place was packed out I'd probably have difficulty in dealing with that, it's just general anxiety, and perhaps worried about how people might interpret me and whether I will be able to cope with the situation when I was in it.

The referral scheme allows him to negotiate his entry into the leisure centre environment without having to organize everything himself. Initially, two sessions a week in the fitness suite is his goal. In the past, he has been able to maintain attendance at activities offered by the hospital and this makes him confident that he can succeed at this through his own efforts.

After six weeks, Dave progresses to attending three times a week. In addition to walking his dog, Dave feels much more active. Problems with confidence have not evaporated but attempting to enter into social situations is a good start. Once exercising, Dave feels more relaxed and able to focus on what he is doing. He finds the exercise cheers him up “a bit for about an hour or so and then I lapse straight back into my old self, miserable”. Dave met a friend at hospital who had been quite depressed and had recovered claiming exercise to be an important recovery strategy. Despite not perceiving great benefit and still feeling intimidated by the ‘fit’ people at the gym, Dave is determined to see if exercise could work in such a way for him.

While still feeling intimidated by the environment, Dave is attending three times a week as his instructor recommended. After twelve weeks, he is happy to go in, do his workout and leave. He feels fitter and is gradually increasing the difficulty of his programme but still does not perceive any dramatic changes as a result of his
participation. In terms of his depression, he does not feel that much better than when he first went into hospital. "I keep getting told that I’m doing quite well but I don’t actually feel it within myself".

At the end of six months, Dave is still attending three sessions a week. The fact that he is attending regularly is seen as a great success by his social worker and himself to a lesser extent yet he still does not appreciate any real discernible difference physically or mentally. A future focus is trying to feel more confident about his body:

Perhaps I’ve just got strange sort of impressions about what it should look like, but I’ve always felt a bit sort of wimpy and sort of weak and timid and things like that, more sort of how I perceive it should look more manly perhaps, I don’t know, so I actually feel more confident about it. It’s one of my many sort of hang-ups, I worry about what I look like and stuff.

This worry is exacerbated by “being around people who perhaps I aspire to being like, or wanting to sort of be accepted by these sorts of people”. Consequently, Dave goes in to the leisure centre “head down . . . none of this sort of eye contact with other people” and gets on with his exercises and quickly leaves. This creates difficulties because he lacks the confidence to ask the (“very helpful”) staff about the weight machines which he feels will be necessary to improve his body image.

Outside of the scheme, Dave starts a one-day a week work placement which he wouldn’t have contemplated six months ago:

I suppose six months ago, something like doing this was very, very difficult and I couldn’t imagine myself doing it, and now I’m quite surprised that I’ve managed to keep it up. I wouldn’t say that I actually feel more confident in myself than I did before I started going to the leisure centre but I can accept that I am sort of a bit more approachable as far as suggesting doing things like that [the work placement], it’s really difficult to say that I actually feel any sort of improvement but at the same time I can accept that I’ve managed to move on as far as going to the leisure centre and stuff like that.
Managing regular attendance at the leisure centre helps him progress to more difficult demands.

When I talk to Dave after a year, I find him in the middle of “a bad spell”. He has made an application for sheltered accommodation which is rejected. He is now in “a bad frame of mind” which is exacerbated by Laura. At the referral meeting, Dave offered to accompany Laura to the centre but has not seen her since and worries that she is avoiding him. Consequently, he has not been to the leisure centre for several weeks and he is also walking his dog less.

Despite regular attendance over the last year, he repeats concerns about how he looks. “I’m a horrible shape and I wish I was like somebody else... I’ve never felt very good about my physical appearance anyway so I wouldn’t say I feel any better about it now”. However, he recognises a marked improvement in his fitness and is much more active than a year ago. Generally, he thinks his expectations may have been too high. After a year, it’s still a fear of guilt, rather than enjoyment that drives his motivation:

If I don’t go three times a week, then I’m letting it slide a bit, but I think more along the lines of, I must go, rather than looking forward to going to the gym this week. Now I’ve started doing it, I must keep going, I mustn’t drop it off at all.

His CPN has mentioned how much he has progressed but he finds it difficult to get too excited by such things. At the least, Dave is pleased that he’s stuck with the programme so long and the referral is an important opportunity. “It’s a distraction from everything else, however brief, it’s a distraction from your illness”. He plans to maintain his attendance and fitness and thinks that when he moves he might start to feel a bit better about things in the long term. He’s now thinking about going jogging in his local area which he never previously would have contemplated.

6.6.5.1 Summary

As a regular attendee, Dave was self-motivated and did not require or seek support from others in attending. He saw the exercise referral scheme as an important part of his rehabilitation in providing structure to the day. Regular attendance was itself an important outcome rather than any discernible improvement in psychological...
well-being. Dave did not derive any great pleasure from his sustained participation which might be indicative of low self-esteem where the experience of self-enhancement may be less likely (Fox, 1997). In particular, how he saw himself sharply contrasted with how others viewed him. However, he did maintain regular attendance at the leisure centre for nearly a year. This may have contributed to greater confidence in tackling other challenges. Perceptions of external events (accommodation rejection and misreading Laura's motives) affected his psychological well-being and lead to a withdrawal from exercise. He struggled at times to overcome periods of depression and often expressed feelings of guilt that he could not exercise at these times.

6.7 Discussion

The strength of this study lies in its longitudinal nature, through the use of repeat interviews, in exploring the role of physical activity in the lives of four individuals with depression. These unique stories across the year reveal much about the hopes and difficulties faced by them. By returning the participants to the research process, “it is the meaning and context of the issues within people's lives that forms the basis of our understanding” (MHF, 2000, p. 8). At the same time, the profiles presented “should not be regarded as simple reflections of the teller's actual experiences, or transparent windows to their inner private self” (Sparkes, 1998, p. 20). Rather, each must be considered as partial, “contingent upon specific contexts and circumstances, slanted towards a particular ‘audience’ and put together as much with a view to future outcomes as to disinterested reportage of the past” (MacLure, 1993, p. 375). Stories are both personal and social at the same time (Sparkes, 1998) and provide different perspectives on the research question. Comparing and contrasting these stories also draws attention to connective strands that straddle the individual profiles; the benefits of, and barriers to exercise and physical activity, and the importance of life events.

6.7.1 Benefits

Exercise was seen as an important coping strategy in the recovery from depression rather than its alleviation per se. Individuals saw exercise as a ‘next step’ after prior stabilization through medication. Such recovery was principally associated
with the potential of exercise participation in improving self-esteem. The provision of structure during the day and doing something distractive were initially prominent motivators for all individuals. However, motives for exercise varied in their salience throughout the year and reflected different mechanisms underpinning the potential antidepressant effects of exercise. For example, participants placed different emphasis on motives such as social interaction (Laura), health concerns (Terry), improving body image (Dave), and alleviating boredom (Edward). This suggests that any exercise prescription for mental well-being may indeed resemble "a 'horses for courses' phenomenon" (Fox, 2000a, p. 11). Although commonalities exist, the personal weighting of motives and outcomes associated with exercise appear relatively unique and subject to variation.

Of interest, the 'body' became more prominent for most participants either as they reflected on their experiences during the research process or became more comfortable discussing such issues with the researcher. All clients, apart from Edward, discussed concerns with their weight and body image and how it impacted on their self-esteem. Exercising control over the body in terms of how it looks and what it can do emerged as a common desire. Physical self-worth appears to be a valuable indicator of general well-being (Fox, 1997) and may also have valuable life adjustment properties independent of self-esteem (Sonstroem & Potts, 1996). Enhancing physical self-perceptions, particularly body image, thus remains a potentially productive avenue for intervention with these participants. Additionally, as Reynolds (1996) suggested, exercise may be a distinctive vehicle for affective and cognitive metaphorical, expression. For example, Laura talked about how exercise and physical activity subtly challenged her negative views of her body and served to reintegrate her body into a more unified sense of self. This personally valuable change may be independent of any overall clinical improvement in depression. How such an understated process can be communicated to (and between) clients and mental health professionals (see Section 5.4.3) or accepted in the context of evidence based practice remains to be seen (see Section 2.7).

In terms of adherence to exercise, the referral scheme may have been ineffective, as reported by the stage measures in Table 6.1, but it is important to stress that individuals received minimal intervention. It is not known whether a more formal intervention would have increased participation in a structured exercise programme and if such participation would have produced more discernible psychological benefit.
as perceived by participants. At the very least, the referral scheme prompted these individuals to exhibit potential to change which may itself be an appropriate outcome (Riddoch et al., 1998). Many individuals referred to the referral scheme as an important ‘kickstart’ to returning to ‘normal’ functioning. For some, this was overtaken by the opportunity of a job (Terry) and in one case, successful attendance appeared to transfer to the consideration of other opportunities in the community (Dave). It may be that a case study approach to evaluation might be at least as rewarding as a randomised controlled trial in that such wider occupational outcomes and transfer can be identified (Riddoch et al., 1998).

Self-report also indicated that all participants, excluding Edward, increased their habitual physical activity over the year to a level at least commensurate with HEA (1995) recommendations. That such changes occurred without any form of structured counselling suggests the possibility of inherent change processes (Whitelaw, Baldwin, Bunton, & Flynn, 2000), unrelated to any intervention. This is itself a successful outcome. Many significant health benefits are achieved by moving from a sedentary state to a minimal level of physical activity (ACSM, 1998).

Additionally, as reported in the literature (Biddle, 2000), physical activity is consistently associated with positive affect and mood. All individuals reported such feelings after physical activity, particularly a sense of accomplishment. However, such feelings were relatively transient and did not necessarily appear to reinforce future engagement in physical activity. Such a finding corresponds with some clinical psychologists’ concerns regarding the role of physical activity as an antidepressant (see Section 3.4.1) in that any benefits are only short-term. As the research evidence suggests (e.g., Mutrie, 2000), it may be that long-term, structured exercise is necessary for a more pronounced, antidepressant effect. Moreover, when there is congruence between the outcomes of participation and initial motives then psychological benefit might be more likely (Fox, 2000a). Arguably, the case studies did not display such congruence. As the most consistent participant, Dave found the psychological benefits of his exercise sessions to be short-lived but conceded that regular attendance over the year was itself an important sign of progress. However, if physical appearances are not consistent with inner aspirations, then a sense of dissonance may continue to affirm a low self-esteem (Fox, 1997). Body image may be a rich site for intervention but it is also prone to a ‘shifting goal posts’ phenomenon (Fox, 2000c).
Continuing discrepancy between an ideal and perceived body image, despite regular physical activity, was a constant source of tension for Dave and Terry.

6.7.2 Barriers

In terms of barriers, it is difficult to draw any conclusion as to whether the barriers experienced by these individuals differ dramatically from the rest of the population. In particular, a lack of time and conflicts with other roles, limited support from staff and boredom have all been reported as factors influencing adherence to referral schemes (Taylor, 1999). Riddoch et al. (1998) concluded that the leisure centre setting may be inappropriate for some people and this appears equally likely for individuals referred from a Community Mental Health Team. However, only one participant (Terry) was particularly critical of the leisure centre environment to the extent that future attendance was unlikely. Despite the subsidised nature of the scheme, financial worries were also constant for Terry. Other individuals reported satisfaction with support from staff, the environment and the facilities.

At the same time, two barriers were particularly prevalent. As Mutrie (1999) identified, lethargy is a common symptom of depression, and it was this lethargy that participants initially thought might thwart their best intentions and it often did. Despite being aware of the benefits of exercise, participants could not always overcome such feelings. On the contrary, not exercising was often accompanied by feelings of guilt when participation was not possible. Reinforcing the message that exercise is not ‘all or nothing’ and that missed sessions are natural is important. Of interest, all participants reported being confident in starting the exercise programme. Yet, the absence of any recent experience of exercise may have rendered estimates of their own ability unreliable (Clarke & Eves, 1997). Furthermore, a resistance to change, and general ambivalence, characteristic of low self-esteem (Fox, 1997) remained evident for both Edward and Terry.

Graduated exercise programmes, reinforcement of early goal completion, and monitoring energy levels after exercise are all suggested as strategies to help individuals with depression overcome lethargy (Mutrie, 1999). Avoiding an ‘action-oriented prescription’ (Riddoch et al., 1998) may also be important. Most participants reported leisure centre staff recommending a minimum of three sessions a week as being necessary for health benefits. Time spent in the preparation phase may be invaluable in protecting against early relapse through the development of self-efficacy...
and functional processes of change. Evidently, as Laura found, home based activities (Hillsdon & Thorogood, 1996), which consist of shorter bouts of activity (Dunn, 1996), may play a more influential role in the adoption of physical activity. Emphasising the ability to dip in and out of exercise as and when their mental state allows should not be underestimated (Hall, 1996). Individuals can benefit from the experience when possible and avoid feelings of failure or time wasting.

It is acknowledged that attending leisure centres can be intimidating environments (Biddle & Mutrie, 2001). Individuals with depression, such as Laura and Dave, may also struggle with heightened fears of social interaction. While Dave overcame such feelings by being ever more focused on the exercise itself, Laura needed the support of her daughter. All participants thought the option of group activities would assist their adherence. Previous research has called for a range of group options to be available within leisure centre based schemes (e.g., Martin & Woolf-May, 1999). However, there was also a tension between the provision of group options and the desire to return to ‘normal life’. Group options which involve GP referrals as well as those referred from a CMHT may offer a suitable alternative.

Another characteristic that distinguished Laura and Dave from Edward and Terry was the level of perceived support provided by their key worker. Social support has been found to be an important determinant of exercise (Dishman & Sallis, 1994). While no participant could recall any formal exercise counseling, Dave and Laura could remember discussing their progress with the keyworker who also provided encouragement. As Burbach (1997) discussed, “Accepting that physical activity is a therapeutic intervention, and actively promoting its use, appears to be essential if the patients are to engage in an exercise programme, and this will probably influence longer term exercise adherence and lifestyle change” (p. 564). While mental health professionals in this study were aware of the role of exercise, greater involvement in assisting patients with adherence to exercise is still required (Biddle & Mutrie, 2001). Without such counselling, a sustained increase in exercise is unlikely. Legitimising exercise as a component of an overall care programme is a role that can only be performed by these professionals. As discussed in Chapter 5 (see Section 5.6.1), the establishment of training modules for mental health professionals which develop awareness and the skills to promote physical activity within community and inpatient settings needs examination.
Finally, as a regular attendee Dave appeared to have more internalised motives that related to a long term commitment and was realistic in his expectations of change (Jones, Harris & Waller, 1998) seeing exercise as part of the wider process of recovery. However, all participants demonstrated the dynamic, cyclical nature of behavior change (Marcus & Simkin, 1994). In terms of exercise, Terry had moved from contemplation through action and then to precontemplation within one year! In contrast, Edward remained in contemplation throughout while moving from action to contemplation for physical activity. Such stage changes highlight the complexities of behavioural change in general and the difficulties of attaining any notion of stage termination (Courneya & Bobick, 2000) although the self-report nature of the stage measures in this study is a significant weakness.

6.7.3 Life Events

The longitudinal methodology also allowed the identification of contextual events that both facilitated and hindered attempts to be active. As discussed, there were times when exercise was difficult for all participants despite an awareness of its potential benefit. These periods of depression were sometimes nonspecific and temporary. When feeling better, physical activity and exercise resumed. Being declined an accommodation request (Dave) and losing a job (Terry) were instances where exercise became a lower priority. Conversely, Laura found a change of medication allowed her to be active while the presence of her daughter was integral to exercise participation.

This suggests that life events had repercussions for subjective well-being which was then associated with increases or decreases in physical activity. The effects upon ‘well-being’ from circumstances concerning work (e.g., unemployment or a meaningful occupation), treatment (e.g., medication), and other factors (e.g., relationships) may have comparably greater effects upon psychological well-being than exercising three times a week. For example, McTeer and Curtis (1990), in a large survey of Canadian adults, found that there was only limited support for a positive relationship between physical activity and psychological well-being. Rather, changes in income would have stronger consequences for feelings of ‘well-being’ than changes in physical activity. In the exercise literature, modifications in physical activity are generally believed to lead to feelings of well-being. “This is possibly because the opportunity structure for physical activity is easier to alter than are
opportunities for income" (McTeer & Curtis, 1990, p. 342). Similarly, some evidence suggests that meaningful employment may have a greater positive impact on rehabilitation than any other factor (Warner, 1994).

While it is recognized that key life events may be influential in physical activity levels (Oman & King, 2000), these life events may also mediate any concomitant changes in psychological well-being that could conceivably be associated with exercise/physical activity interventions. At the very least, the role of physical activity became more or less prominent and possible in response to contextual influences ranging from the mundane to the extreme. Although exercise adherence in this study was poor, claims as to the causal role of exercise in reducing depression (e.g., Mutrie, 2000) could be seen as naive in this light. As Cummins (2000, p. 15) reminds us:

Exercise is not some form of ultimate goodness. It is one form of human activity among many others that have the potential to enhance our experience of the human condition.

This is not to underestimate the important role physical activity and exercise played for Laura and Dave in particular. However, future exercise intervention research will still need to provide evidence that exercise participation is a treatment for severe depression rather than offering evidence that it has been treated (Salmon, 2001). The differences between clients referred via mental health services and the volunteers who are commonly recruited for exercise trials are likely to be marked (Burbach, 1997; Lawlor & Hopker, 2001). The immediate needs of some clients who are lacking in motivation may be best served by the consideration of alternative, adjunctive therapies. Furthermore, to assert the role of exercise as an antidepressant will entail a broader consideration of environmental, interpersonal and intrapersonal factors.

6.8 Conclusion

Whilst this study reflects the caution recently expressed regarding exercise referral schemes (Riddoch et al., 1998), such schemes still provide a cheap alternative for many individuals who may generally not be able to access leisure facilities. This study found that a CMHT referral scheme was feasible but that further support, provided by leisure and mental health professionals, will be required to assist clients
in attaining regular attendance. Future research is needed that examines exercise
counselling interventions delivered by mental health or leisure professionals in
community settings. Returning the participants to the research process through the
use of case studies revealed that exercise was accepted as a potentially beneficial
adjunct for depression and that the barriers to exercise were similar to those faced by
nonclinical populations. Any psychological benefits from physical activity or exercise
were transient and related to the process of exercising. The differential impact of
habitual physical activity versus structured exercise on clinical depression deserves
further attention. Given its longitudinal nature, this study also demonstrates the
overwhelming importance of considering the wider context of participants’ lives in
order to understand adherence and the relationship between physical activity and
psychological well-being. This association is likely to be complex and highly
idiosyncratic. Of future importance is the consideration of the social context and the
relative impact of other life circumstances, such as occupational or marital status, in
mediating the relationship between physical activity and depression. Understanding
the differential impact and meaning attached to involvement in a broader range of
leisure pursuits may also be revealing. Future research should endeavour to account
for such contextual concerns.
Notes on Chapter 6

1 In this study, participants relied predominantly on the fitness suite. This involved standard aerobic and weight training equipment.

2 Note the contrasting perceptions. Laura perceived Dave to be a very fit and committed exerciser. In contrast, Dave feels “weak and timid”. I met Dave at a referral meeting and he indeed appeared fit and toned.
7.0 CONCLUSION

7.1 A Summary of Results

I began this project by outlining in Chapter Two the growing evidence supporting the consideration of exercise as a strategy for improving mental health in clinical and non-clinical populations. Despite such evidence, I emphasised that the consideration of exercise as a treatment for mental health problems was rare. A number of policy, perceptual and structural barriers were discussed as limiting a broader acceptance of exercise. I finally argued that if exercise was to become a more popular treatment alternative, research must address issues of diffusion. Furthermore, in order to understand how the potential of exercise may be developed we need to take a broader, multi-level and multi-method analysis of the barriers to implementation.

This project adopted such an analysis and explored the barriers to promotion in detail. Table 7.1 summarises the series of studies undertaken. In short, the first study explored the perceptions of exercise held by Course Directors of UK training programmes in clinical psychology. Drawing on Rogers' (1995) model of diffusion, a number of important conceptual barriers were identified. While the majority of participants held favourable attitudes regarding exercise, this was related more to exercise being seen as a positive lifestyle activity worth encouraging rather than exercise being recommended as an adjunctive treatment for mental health problems. Inductive analysis identified four themes that underpinned such a response: inconsistent positions on evidential criteria used to evaluate the role of exercise masked themes regarding the perceived 'simplicity' of exercise interventions, a practical adherence to a mind/body dichotomy, and the incompatibility of exercise with traditional models of understanding and treating clinical conditions.

Little is known about the factors predicting the promotion of physical activity by health professionals. In the second study (Chapter Four), such promotion was examined within one UK mental health Trust. A greater likelihood of promoting physical activity appeared to be a function of stronger intentions, more positive attitudes, perceptions of control and the belief that one's line manager also believes that activity should be promoted. These factors seem most important in getting started but less important once the promotion of activity has been established in the past.
Additionally, participants were less likely to report that they were regularly promoting physical activity if they indicated lack of training and lack of protocols as barriers.

This study was extended in Chapter Five through a qualitative follow-up of inpatient mental health nurses. Their perceptions of exercise were explored in addition to contrasting qualitative and quantitative data regarding the Theory of Planned Behaviour. Exercise was generally considered acceptable and compatible to the roles and duties of these participants. Exercise was seen as a potentially beneficial distracting strategy rather than a potential adjunctive strategy in its own right. Such conceptualisation in addition to a continued adherence to dualistic practices and difficulties in reconciling the promotion of physical activity with the individual rights of clients may weaken efforts at developing the structured provision of exercise opportunities. The work environment reinforced a general ambivalence regarding exercise.

Finally, in Chapter Six, case studies of four individuals with depression returned the research to users of mental health services. This study highlighted the acceptance of exercise as an adjunctive strategy by clients but that little support to be active was available. Furthermore, the context of each person’s life was instrumental in understanding adherence and the experiences associated with participation in exercise and/or physical activity. Exercise referral schemes were also identified as a feasible avenue for promoting physical activity to this client group.

Each of these aforementioned studies make their own unique contribution in terms of practical, theoretical and/or methodological implications which are discussed in each chapter. This chapter will focus on general points regarding the findings from the series of four studies. In Chapter Two, I identified three main aims of the project. In this final chapter, I reflect on the contributions made to these questions. I first address the key problems identified and possible solutions in their alleviation. Second, I identify substantive contributions to the field of exercise and mental health and suggest directions for future research.

7.2 Aim one: Perceptual - How is exercise perceived as a treatment alternative by mental health professionals?

Dissemination should be directed at increasing awareness but also influencing the attitudes held toward a new behaviour (Lomas, 1991). It therefore becomes
essential to understand how an innovation, in this case exercise, is perceived by professionals who have a stake in its implementation. Consequently, Chapter Three and Chapter Five explored how exercise was perceived as a treatment alternative by clinical psychologists and mental health nurses respectively.

7.2.1 Problems and Possibilities

A common factor was the lack of awareness of the existing evidence base supporting the use of exercise, particularly as an antidepressant. This is illustrative of the general ineffectiveness of passive dissemination (e.g., publications in peer reviewed journals, consensus statements) of information in changing practices "no matter how important the issue or how valid the assessment methods" are (Bero, et al., 1998, p. 465). This also reinforces the current gulf between research in the exercise and mental health field and clinical practice. There is a need for developing two-way links between researchers in the physical activity and mental health field with clinical practitioners and their organisations (King et al., 1998). These authors suggest that research funding agencies should adjust their selection criteria to explicitly encourage dissemination of relevant research.

Such dissemination may lead to an increase in the promotion of exercise as a strategy for improving mental health but both Chapters also uncovered important conceptual barriers as to how exercise is perceived. As initially discussed (see section 2.9), a new innovation is not necessarily evaluated purely on its evidential support. As Bagehot wrote in 1873:

One of the greatest pains to human nature is the pain of a new idea. It ... makes you think after all, your favorite notions may be wrong, your firmest beliefs ill-founded ... Naturally, therefore, common men hate a new idea, and are disposed more or less to ill-treat the original man who brings it (p. 335).

It is how a new idea fits into an existing framework of viewing the world, or in this case, a clinical problem, that is overwhelmingly influential. These chapters highlight the importance of compatibility and developing congruence between promoting exercise and existing practice. For the clinical psychology trainers, the models used to understand and develop interventions for clinical conditions, such as depression,
Table 7.1  Summary of Results

<table>
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<tr>
<th>Chapter</th>
<th>Primary Focus &amp; Aims Addressed</th>
<th>Participants</th>
<th>Data Collection: Analysis</th>
<th>Key Findings</th>
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<td>Three</td>
<td>Perceptions of Exercise</td>
<td>Trainers: 21 Directors/Staff of Clinical Psychology Training Programmes</td>
<td>Interviews: Thematic Analysis</td>
<td>No or little awareness of the research literature. Exercise was accepted more as a normalising strategy. Evidential concerns masked barriers of incompatibility, a practical adherence to dualistic tendencies and the ‘simplistic’ nature of exercise.</td>
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<td>Four</td>
<td>Determinants of and barriers to exercise/physical activity promotion</td>
<td>Providers: One Mental Health Trust in the UK. a) 477 staff members b) 394 completed prospective measure</td>
<td>Prospective questionnaire survey: Structural Equation Modelling/Odds Ratio Analysis</td>
<td>A lack of training and protocols were important barriers. The TPB variables of attitude, subjective norms, perceived behavioral control, and intention predict stage of change of physical activity promotion in a health care setting. However, promoting physical activity in the past had a sizeable effect on predicting subsequent promotion. 58% of the variance in stage of change was explained with the inclusion of ‘effort’.</td>
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<td>Five</td>
<td>Perceptions of exercise</td>
<td>Providers: 12 Mental Health Nurses in Inpatient Settings of the above Trust</td>
<td>Interviews: Thematic Analysis</td>
<td>Exercise was considered compatible to the role of nursing and was viewed positively. Exercise was seen as useful for distracting patients but could be ignored due to a preference to avoid questions of lifestyle. Dualistic tendencies remained despite protestations to the contrary. The social context was fundamental in reinforcing a general ambivalence regarding promotion.</td>
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<td></td>
<td>The role of exercise/physical activity in the lives of individuals with clinical depression</td>
<td>Service Users: 6 clients with clinical depression</td>
<td>Sequential Interviews: Case Study Analysis</td>
<td>Exercise was recognised as a potential strategy for recovering from depression. Little support was received to be active. Barriers similar to nonclinical populations. Life events were important for contextualising the role of exercise/physical activity.</td>
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do not incorporate the need for physical activity. Since common models used to understand and treat depression do not incorporate the need for physical activity then ‘exercise’ becomes marginal. In contrast, recommending exercise was possibly seen as more compatible within the role of mental health nursing where a broader problem solving approach was adopted to help clients cope with current and recurring difficulties. However, dualistic tendencies may continue to render any sense of the body ‘absent’. There may still be a tendency to treat physical health and psychological health as separate issues and a failure to consider the potential, psychological benefits of a physical treatment such as exercise (Beesley & Mutrie, 1997).

While others have suggested that dualism is slowly losing influence (e.g., Rejeski & Thompson, 1993), I argue that dualism still holds sway but more for practical reasons rather than any deeply entrenched beliefs regarding the superiority of the mind over the body. Due to the nature of health services, clinicians must be focused on dealing within their area of competency. This is exacerbated by the ever increasing specialisation within health services where areas of competency are becoming more tightly defined. A more subtle issue, discussed in Chapter Five, concerned how we talk about trying to avoid such dualistic tendencies. Nurses, in trying to talk about how their practice unified the mind and body, could also be seen to actually reify such a distinction. It may be that the difficulty lies in finding the words to express how the mind and body are linked, and by extension, how exercise may be one strategy for unifying these two constructs.

If exercise is to become more common as an adjunctive treatment; then it may be important to make ‘exercise’ more compatible to the existing roles and values of mental health professionals (Rogers, 1995). I argued in Chapter Three that one way in which such congruence could be achieved in the future is by developing more explicit links between exercise, Cognitive Behavioural Therapy and activity scheduling.

First, while activity scheduling can be useful for providing structure, the physical activity itself may carry psychological benefit. Promoting moderate activities, such as walking, that can also be accumulated throughout the day, is clearly synonymous with activity scheduling. Second, Cognitive Behaviour Therapy (CBT) is becoming a common treatment modality for many mental health concerns, and indeed CBT techniques are increasingly being used to assist exercise initiation and maintenance. Both CBT and activity scheduling can involve structured exercise or
habitual physical activity. Importantly, exercise can now be reconceptualised to, and by clinicians, as a process through which therapeutic goals may be reached rather than as a seemingly atheoretical therapy in itself. That is, it becomes compatible with existing practice. Change in clinical practice is rarely dramatic with most changes representing more a process of continuity with past behaviour than a radical new departure (Armstrong et al., 1996).

Developing these connections may also reduce any concerns as to the perceived simplicity of the intervention. In Chapter Three, perceived simplicity of 'exercise' was another recurring theme. Specifically, this concerned issues of legitimacy and de-professionalisation if exercise was used as a specific adjunct rather than as a general 'normalising' activity. First, exercise may be seen as a frivolous activity when reflecting on the complexity of factors that may underpin the severe depression being experienced by a client. Second, anyone could recommend exercise! Consequently, it may not be seen as a profession-specific form of intervention.

Finally, in Chapter Five, the notion of 'risk' also provides a useful interpretation of how exercise can be relegated. Exercise was most often considered a lifestyle issue and as such, greater responsibility can be passed to a presenting client. For busy professionals, this seems a rational choice in that time constraints may limit consideration of broader health care. This further marginalises exercise. A potential advantage of exercise, its self-administered nature, is also its weakness. Clearer protocols (see Aim 2), disseminated through appropriate training, may overcome this possible neglect.

Given the constraints on primary care professionals and the financial barriers to providing more specific and formal exercise programming from an external agency, mental health professionals hold an influential role in promoting health behaviours and helping clients develop coping strategies for their illness. These professionals can play a valuable advocacy role in encouraging and promoting physical activity to clients. If dissemination efforts have not been successful then greater consideration could be given to the initial training of mental health professionals where the specific beliefs and values held by individuals can affect subsequent practice (Bellas, Asch, & Wilkes, 2000).

All health professionals are recommended to be involved in the promotion of physical activity (Pate et al., 1995). Therefore, training should incorporate elements of health promotion and prevention. Such initial exposure can increase knowledge
Chapter 7: Conclusion

and self-efficacy in implementing preventive strategies (e.g., Albright et al., 1992). Health care professionals working with people with mental health problems have a potent opportunity to promote a physically active lifestyle. This is a role within psychology long regarded as needing a higher priority in “assisting people develop life-styles more congruent with good, long range health” (Stachnik, 1980, p. 8). As such they should be encouraged and supported in increasing their knowledge of the physical and mental health benefits of the moderate intensity message. This is supported by the mental health promotion standard in the National Service Framework (DoH, 2000), by the notion of equity in health promotion and by the fact that physical activity can address some of the effects of mental health problems (see Section 2.3).

In already overloaded training programmes, the most profitable avenue for raising awareness of the possibilities of exercise may lie in taking advantage of the varying types of ‘personal and professional’ modules that exist on courses of the participants interviewed in Chapter Three. Within these modules, the physical and psychological benefits of exercise could be addressed (within notions of a ‘balanced lifestyle’) by encouraging trainees to think about what would promote their own well-being, and the parallels drawn to their own future work with clients. It is more likely that a clinician would be encouraging a practice in which they were also actively involved (McKenna et al., 1998). Exercise could be encouraged rather than ‘preached’ but such developments would not compete for time with other traditional aspects of training. Furthermore, linking exercise with CBT and activity scheduling also allows its incorporation into the mainstream curricula without reducing it to something outside of professional jurisdiction. How to implement such training is beyond the scope of this thesis but it is certain that such innovation could be stifled by some of the barriers already discussed.

7.2.2 Contributions and Future Directions

Mutrie (2000) has recommended research examining medical professionals' attitudes toward exercise. To my knowledge, these are the first qualitative studies to examine the perceptions held by mental health professionals regarding exercise as a therapeutic adjunct, and certainly the first studies to examine such perceptions within a UK setting in general. Qualitative methods were well suited to understanding how professionals conceptualised the role of exercise within a mental health context (Armstrong et al., 1996). In addressing the first aim, the value in exploring these
perceptions toward exercise is highlighted. Conceptual barriers do exist and through their identification strategies can be formulated to improve dissemination efforts. For example, links were made between exercise and Cognitive Behavioral Therapy. Studies have yet to compare exercise with CBT in interventions for depression (Mutrie, 2000). Future research should attempt such trials but also explore the theoretical and practical similarities between the two.

There still remains a huge public health challenge in promoting physical activity and exercise. Given the general difficulty in getting people active, mental health professionals may be an important resource for helping people do so in the future. The views of clinical psychologists and mental health nurses were examined but future research may extend these findings by examining psychiatrists and psychotherapists. The role of the psychiatrist is to make a diagnosis and decide on treatment which will often include medication (Wilkinson & Kendrick, 1996). How the consideration of exercise fits within their medical perspective (see Section 2.8.1) and the role they can play in legitimising exercise as a treatment alternative has not been investigated. Second, exercise may contribute to some forms of psychotherapy. For example, "the patients' difficulties with exercise, such as motivational problems, fear of interpersonal problems, fear of interpersonal situations, and/or a tendency to transform exercise into a burdensome chore, may shed light on dysfunctional attitudes that can be explored in psychotherapy" (Artal & Sherman, 1998, p. 60). Similarly, for Hays (1994), the focus is on using exercise as a psychotherapeutic medium. "Because the language of exercise is the body, body awareness serves several functions. Body signals can cue clients to information below consciousness; the value of attention to the present moment is underscored; the activity encourages an integration of body and mind" (Hays, 1994, p. 732). The role of psychotherapists in promoting physical activity may be revealing but particularly pertinent might be the insights they can bring to bear on developing an evidence base that is inclusive of such a subtle integration.

In exploring these perceptions, the unique methodology of Conversation Analysis (CA) was introduced in Chapter Three. To my knowledge, this is the first discussion of CA in the field of exercise sciences. Consequently, there is great potential for exploring the opportunities afforded by CA to explore past, present and future research and applied issues. Identifying the specific contribution to the field of sport, exercise and physical education is open to speculation. In terms of research,
CA demonstrates how the interviewer contributes to the research process. Much is made within the 'qualitative' paradigm of addressing the socially constructed nature of research given that knowledge is constructed, and the knower and known are interdependent (Lincoln & Guba, 1985). Yet it is not always clear how this is done apart from offers of self-reflexivity in revealing possible biases and preconceptions at the front door of interpretation. In contrast, CA makes quite explicit (as the transcripts do in Appendix 2) how both the interviewer and respondent work to manage their interaction and so construct the resulting data. Consequently, the role of the researcher now becomes open to interpretation (Finlay & Kitzinger, 2001). “It is easy to get away with the enthusiasm of designing categorical indexing systems and forget that these will have the effect of lifting small sections of data out of their context so they can be compared with other similarly decontextualised sections of data” (Mason, 1996, p. 119). Such decontextualisation, common in thematic analyses, not only detaches material from the broad sweep of the interview (Biddle et al., 2001) but also completely renders the interviewer absent. CA actually provides a means to embrace these issues. Conversation analysis could become a rigorous, and complementary tool within traditional forms of qualitative analyses.

7.3 Aim Two: Structural - What are the structural barriers to the promotion of exercise?

This aim was concerned with identifying possible structural barriers to the promotion of exercise in mental health settings and exploring the factors that may predict the promotion of physical activity and exercise. Chapter Four quantitatively examined the promotion of physical activity within one NHS Trust while Chapter Five followed this up through a qualitative study of mental health nurses in inpatient settings. Such analysis may assist in the development of strategies to increase the occurrence and effectiveness of exercise promotion.

7.3.1 Problems and Possibilities

Results, discussed in Chapter Four, suggest that physical activity is being promoted even in the time congested setting of the inpatient ward. Promotion was greater in rehabilitation and community settings and most commonly delivered by Occupational Therapists and Community Psychiatric Nurses. While the effectiveness
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of such promotion was not assessed, it would appear that there is potential for mental health professionals to be involved in encouraging health behaviours such as exercise.

Given the variations in service provision throughout the UK (DoH, 1998a; 2000), it is not possible to generalise these findings as other Trusts may be better or worse in their provision of exercise promotion and resourcing. However, the two prominent barriers to promotion were a lack of training and lack of protocols in promoting physical activity. That is, participants were not sure what to promote and how to promote it. Educational outreach visits which include participating practitioners in agreeing appropriate changes to clinical practice have been shown to be consistently effective (Bero, et al., 1998) and might be attempted in the future. As little as a one-hour training session can improve confidence in physical activity counselling and ultimately raise the physical activity levels of some clients (Pinto, Goldstein, DePue, & Milan, 1998). While more intensive efforts are required for long term behavioural change (e.g, King et al., 1998), such limited counselling may help some people, be more active, more often.

Including participants in local consensus processes would begin to address the importance of the social context that I discussed in Chapter Five. There was a general ambivalence toward exercise which was exacerbated by safety concerns, the ‘crisis’ nature of the setting, and the reliance on medication as the treatment of choice. As Rogers (1995) reminds us, we are more likely to adopt a new innovation if someone like us (for example, a fellow clinical psychologist or mental health nurse) gives us a positive evaluation of the new idea. Using local opinion leaders (practitioners identified by their colleagues as influential) and allowing the opportunity for team members to discuss the role of exercise, reach a consensus as to its priority, and then agree appropriate promotional strategies may increase commitment to promotion of physical activity within mental health settings. Critically, management support must be evident in prompting and coordinating efforts. Promoters of exercise were more likely to cite a lack of incentives as a barrier to promotion which suggests a perceived lack of support.

An interesting finding concerned the insignificant relationship between personal exercise behaviour and promotion which contrasted with findings from studies examining primary care professionals (McDowell et al., 1997; McKenna et al., 1998). The greater priority placed on preventive care currently within primary care settings may account for this. However, exploring the perceptions of mental health
nurses suggested that personal exercise behaviour was only one of a number of potential characteristics that contributes to a general identity of being a ‘health promoter’ rather than being overly fixated on a more restricted role as a mental health professional. Such an identity was related to perceptions of greater control and confidence in overcoming barriers to promotion and suggests how structural barriers can be overcome by quite subtle, ingrained beliefs. In training (see Section 7.1.1.), emphasising the role of the mental health professional in generic health care may help professionals self-identify with the role of promoting physical activity.

It is quite clear that multifaceted dissemination and implementation strategies are much more likely to increase the adoption and maintenance of an adoption than reliance upon a single intervention (Oxman, Thomson, Davis, & Haynes, 1995; Moulding et al., 1999). It was suggested in Chapter Four, that there may be two promotional processes operating. Some individuals promote physical activity habitually while others do so as a consequence of deliberating over such an action. In line with research examining health care professionals (e.g., Bunce & Birdi, 1998), increasing perceptions of control may be particularly important for increasing intentions to promote and ultimately promotional behaviour. I argued that it may be necessary to take control out of the equation and develop promotion as a habitual behaviour. This might be developed through the use of protocols which identify the cues to promotion and the appropriate promotional response. While educational visits are important to change attitudes, cues or reminders are necessary to initiate and reinforce initial changes in practice. For example, physical activity assessment and counselling should be included within Care Programming (see Section 2.5). If physical activity is included within an individual’s care plan it then becomes an issue to be continually monitored and considered by the mental health professional. How this inclusion would be made has not been addressed.

7.3.2 Contributions and Future Directions

Taylor (1999) drew attention to the lack of theoretically driven studies examining the promotion of physical activity by health care professionals. Chapter Four describes the first prospective study addressing the promotion of physical activity using the Theory of Planned Behaviour (TPB). Results suggest that the TPB may be a useful tool for guiding the promotion of physical activity within mental health settings and in underpinning theoretically derived interventions to increase
professional involvement in such behaviour. It is also clear that the TPB may provide a useful conceptual framework for analysing a wide range of work-related decisions and behaviours.

Methodologically, examining the TPB within a stage of change framework was supported in addition to extending the TPB with the inclusion of an effort variable mediating the intention and behaviour relationship. This increased the variance in stage of change by 26%. While there may be some concerns regarding the overlap between effort and stage of change, analyses supported a direct path to stage of change via effort and that there was no shared error variance between the two constructs. This indicates that the constructs were distinct (Mathur, 1998). As a preliminary investigation, further empirical evidence is required before the usefulness of this addition is supported in demonstrating how intentions are translated into actions. Combined with other research, there also seems to be preliminary support for examining the role of past behaviour within the context of physical activity promotion.

Using both a qualitative and quantitative approach also allowed the emergence of important issues not readily addressed through either approach alone. In particular, the role of the social context was fundamental to how the nurses discussed their consideration of exercise within inpatient settings. In contrast, results in Chapter Four identified subjective norms as the weakest predictor of intentions to promote physical activity. I argue that within the context of this study, the traditional measurement of subjective norms appears weakly conceptualised and further development should be explored. At the same time, a weakness of the TPB is its focus on rational decision making processes which may exclude other important influences. Qualitative research offers valuable insight in its own right but can also complement quantitative findings derived from the TPB. Multi-methodological approaches are strongly recommended in the exercise sciences in order to illuminate areas of divergence in research findings. It is at this point of dissonance where theoretical and methodological progress can be explored.

One significant weakness throughout the research project was its focus on the individual rather than examining the role of policy makers, how policy can be translated into practice, the need for developing multiagency partnerships, and how to make the structural changes that might encourage greater physical activity promotion. To take forward physical activity and mental health promotion will require
imaginative partnership between Mental Health Trusts and local strategies and priorities in health care provision rather than the reliance on localised advocates. A number of strategies could be considered:

- Developing links between mental health services and general health strategies, such as Health Improvement Plans\(^2\), may be an important avenue for increasing the range of leisure possibilities available for appropriate referral. It may be possible to develop links between mental health services and the local authority to support the development of physical activity opportunities within and external to institutional settings. Building dynamic health promotion coalitions – with statutory, voluntary and private sector organisations - will become increasingly important (Leicestershire HPC, 1999).

- Involving users of the Mental Health Trust and user advocacy groups to develop initiatives tailored to the needs of service users. This may also help sustain long-term provision.

- Greater marketing within Mental Health Trusts by Leisure services and health promotion specialists. Providing evidence, education, and training to mental health professionals can be offered. A range of publications and resources in addition to coordinating information regarding leisure opportunities and community groups should also be provided.

- Encourage leisure professionals to be more proactive in developing links with health services to provide options for hard-pressed mental health professionals. A recent initiative concerns the use of ‘volunteers’ working in community settings to promote physical activity (Leicestershire Health Action Zone, 2001). With appropriate training, such volunteers could work in inpatient settings offering physical activity opportunities to patients.

- As with a number of Mental Health Trusts in the UK (Grant, 2000), the possibility of developing specialist teams responsible for physical activity promotion should be explored.

- Developing locally based exercise facilities paid for by the health service would be an innovative development and may be defensible in terms of achieving health gain at a relatively low cost (Munro, Brazier, Davey & Nicholl, 1997).
Chapter 7: Conclusion

- Environmental changes to inpatient settings to reduce sedentary behaviour and increase habitual physical activity by patients and staff (Owen, Leslie, Salmon, & Fotheringham, 2000).

Adopting any of these strategies will require substantial time and commitment by advocates for exercise. Further research must target key stakeholders within UK Mental Health Trusts to ascertain their perceptions as to the potential role physical activity could play and the priority given to developing promotion within Trusts, alone and in partnership with other sectors. Without institutional support which enable and reinforce a change in practice, however, structured physical activity promotion and provision will be neither realistic nor practical (Davis, Thomson, Oxman, & Haynes, 1995; Kreuter, et al., 1997; Sallis, et al., 1998). The role of policy makers, health promotion agencies, commissioners and providers of mental health services in this process must be identified. The development of formal research policies, formalized organizational and structural support, appropriate and targeted funding, formal monitoring of research activity and its dissemination, and ongoing training for both researchers and practitioners will be necessary for exercise as an antidepressant to gain wider acceptance (Nutbeam, 1996). Consequently, future research should endeavour to focus on the systems of care, rather than only at the individual level (Ockene et al., 1997).

7.4 Aim Three: Experiential - How are exercise and its promotion experienced by mental health service clients?

The final aim of this research project was to return the consideration of exercise as a therapeutic adjunct to the users of mental health services. While the initial studies examined the barriers to promotion, this aim hoped to critically explore the role exercise and physical activity can play in the lives of mental health service clients and how one form of promotion, exercise referral schemes, can assist clients to be active. Additionally, giving 'voice' to service users regarding their experiences has become a pressing priority (NHS Executive, 2000). In Chapter Six, case studies of four individuals with clinical depression were reported to address these questions.
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7.4.1 Problems and Possibilities

Exercise was accepted by the four individuals as a potentially useful adjunctive strategy for recovering from depression rather than its strict alleviation per se. This is to be expected given the self-selected nature of the sample but participants continually reported positive, albeit transient, mood changes as a result of exercise or physical activity. A number of potential benefits, such as social interaction, distraction, improving body image, were also acknowledged if not always achieved. This was a naturalistic study of the exercise referral process and did not include an active intervention component. It is not possible to say whether greater participation could have been achieved or if more explicit antidepressant effect would have subsequently followed. Of note, participants could not recall any previous physical activity promotion throughout their time in contact with mental health services.

The use of exercise referral schemes appeared feasible for this client group although greater support is undoubtedly needed in helping similar clients access exercise opportunities and maintain participation. In contrast to findings reported in Chapter Four regarding the frequency of exercise counseling strategies (see Section 4.5.1.4.), participants reported that they only received general encouragement from their keyworkers to participate in the scheme. To these keyworkers, a referral to the exercise scheme was the promotion and any further counseling regarding participation was not offered. Staff at the leisure center also failed to offer any formalised exercise counseling. It is necessary to encourage the collaborative roles to be played by both leisure and mental health professionals in supporting clients to be active. The National Quality Assurance Framework for exercise referral systems (NHS Executive, 2001) may be integral to raising the standards of such schemes and ensuring that professional cooperation is facilitated.

I suggest in Chapter Six that the social and psychological factors known to influence physical activity are not vastly different from the community in general. However, lifestyle approaches (Dunn, Anderson, & Jakicic, 1998) may be more suitable for this population than traditional exercise interventions. Lifestyle interventions have been shown to be effective in increasing and sustaining physical activity, improving fitness and having positive effects on cardiovascular disease risk factors and may be as equally effective as structured exercise interventions in increasing levels of physical activity (Dunn, Garcia, Marcus, Kampert, Kohl & Blair, 1998). Their flexibility and easy integration into daily schedules is an advantage that
might be particularly appealing to individuals with depression. Again, clear and compatible links can be made to activity scheduling (see Aim 1). However, I am aware of no research that has evaluated such interventions in terms of mental health outcomes and future research is strongly encouraged.

As an alternative, given the common symptoms of lethargy involved in depression, intervention efforts may also be guided by examining the determinants of sedentary behavior. In particular, environmental changes that increase the proximity and convenience of physical activity while decreasing access to sedentary activities (Epstein, 1998) may be a fruitful research development for this population. Inpatient settings most certainly reinforce sedentary behavior while mental health problems are commonly associated with sedentary behaviors such as television watching and sleeping (Pelham & Campagna, 1991). Understanding the nature and extent of sedentary behavior, and why and how individuals with depression engage in such behavior, may provide further insight into how interventions should be designed to encourage more active lifestyles.

Finally, the results of Chapter Six indicate a more complex relationship between exercise and depression with individuals having different motives for participation, and seeking and experiencing several of the mechanisms suggested to underpin such a relationship. On the question of mechanisms, perhaps the most satisfying conclusion in the mechanisms debate has been offered by Fox (1999). In acknowledging the huge diversity of potential triggers (such as exercise type, environment, social context) and individual circumstances (such as state of mental health, needs, preferences, and personal background) Fox suggests that several mechanisms most likely operate in concert with the precise combination being highly individual-specific. That is, different processes operate for different people at different times. It is from this perspective that Carless and Faulkner (in press) propose future research should be conducted in order to include as many aspects of the 'physical activity experience' as possible. Rather than focussing on specific mechanisms for mental health benefit, results from Chapter Six suggest it is currently more important to allow for individual variation through the adoption of an appropriately broad theoretical stance and suitably inclusive research methods. Such an approach may also be more context sensitive. What was happening in the lives of the four reported individuals very much impacted on adherence and the meanings ascribed to exercise participation. How does the social context and the relative impact of other life
circumstances, such as marital status or occupational opportunities, mediate the relationship between exercise participation and depression? Such questions do not infer that exercise cannot have an antidepressant effect but that for these four participants at least, it is impossible to divorce the potential role of exercise from the impact of life events.

7.4.2 Contributions and Future Directions

The study reported in Chapter Six serves to complement the preceding studies by examining the perceptions of service users who are the recipients of any promotional efforts by health care professionals. There are surprisingly few qualitative studies examining the relationship between exercise and mental health and such studies have been recommended (Mutrie, 2000). This study also adds to the existing literature on exercise and depression by highlighting the acceptance of exercise as an adjunctive strategy, and the range of potential benefits and barriers to exercise participation for individuals with clinical depression. Most importantly, it increases our awareness of the importance of viewing exercise, and its potential antidepressant effect, within the wider context of the lives of service users. Marking a departure from standard thematic analyses reported in the sport and exercise science literature (Biddle et al., 2001), the case studies also offer a different format for representing qualitative data that encompasses the variability and contextuality of individuals' lives (Stake, 1995; Wilkinson, 2000).

In examining the promotion of physical activity, a prominent belief expressed by participants in Chapter Three and Chapter Five was the difficulty in getting depressed individuals to be active in the first place. The issue of client acceptance of exercise is important. It is clear that exercise may be particularly pertinent for those clients where physical activity played a key part of their self-identity and for whom body image may have been 'compromised'. Certainly, individual cases will vary in their reaction to the suggestion of exercise and in their preferences for certain types of treatment. Studies by Sexton, Maere and Dahl (1989) and Martinsen and Medhus (1989) reported patients ranking physical fitness training as the therapeutic element that had helped them most in comparison to other forms of treatment including psychotherapy and medication.

It is unfortunate that most studies do not report how people get active. Such efforts may themselves include critical treatment components (Salmon, 2001) but
developing evidence-based practice is essential. Such process research is now required. Future research into exercise as an antidepressant should be focused around the development of clinical practice guidelines. For example, Barlow et al. (1999) suggest confidence in treatment efficacy should be based on two simultaneous considerations. First, the efficacy of a given intervention should be based on results from systematic studies (ideally, RCT's) in controlled clinical research contexts. Second, the feasibility (e.g., patient acceptability, probability of compliance, ease of dissemination), generaliseability (e.g., patient characteristics, contextual factors) and cost effectiveness must be identified. Arguably, we have the basis for the first consideration but little knowledge of the second.

Exercise may be particularly suitable to patients who reject psychological diagnoses and treatments (Salmon, 2001). At the same time, people may be more likely to accept exercise as a therapeutic treatment if the psychological benefits are more widely advocated (Grant, 2000). Lay individuals develop complex theories as to the causes of, and cures for mental health problems. If these beliefs clash with a given rationale for greater physical activity then such a treatment may not be endorsed by the patient or adhered to (Ross & Hardy, 1999). Issues of feasibility and generaliseability should become a priority for researchers in the exercise and mental health field. Such development will also make the consideration of exercise more readily acceptable to purchasers and providers of health care while also informing best practice itself.

7.5 Closing Comment

This project was aimed at addressing the gulf between research and practice within the field of exercise and mental health. In doing so, it first identified common conceptual barriers to exercise promotion and suggested possible strategies to alleviate such concerns. Second, the factors underpinning the promotion of physical activity were examined and the barriers to greater promotion identified within one Mental Health Trust. Third, further evidence was provided for the potential of exercise in improving the quality of life of individuals with depression. At the same time, the difficulties in maintaining exercise participation was noted in addition to the important impact that contextual factors play in mediating the relationship between exercise and mental health.
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In Chapter One I discussed how the motivation for this research project was derived from my experiences running an exercise intervention in a hostel for individuals with mental health concerns. Where does the current research project leave Barry? I am now in a position to understand how exercise may have been marginalized in considering his care and rehabilitation. I can also think about how I might have tackled the ambivalence regarding exercise within his hostel setting. Making exercise more compatible to the existing roles of the staff may have increased its consideration. I could also seek ways in which its promotion could become more habitual and less prone to conscious deliberation. Including physical activity counseling in his care plan would have been a good place to start. It is hoped that these findings, and the suggested directions for future research, can assist in the development of more structured exercise opportunities for individuals like Barry. However, this project leaves me feeling that there is still much work to be done to make exercise a more popular consideration. In particular, my research reinforces the need for a commitment within exercise sciences to developing an infrastructure for linking research to practice.
Notes on Chapter 7

1 As a result of the work reported in Chapter Three, I have been delivering training days on exercise and mental health to two training programmes in Clinical Psychology. Not surprisingly, the course directors of both courses were the most positive in the interviews regarding the role of exercise.

2 Health Improvement Programmes: Local strategies for improving health and healthcare. Led by the health authority, a health improvement programme will bring together the local NHS with local authorities and others, including the voluntary sector, to set the strategic framework for improving health, tackling inequalities, and developing faster, more convenient services of a consistently high standard to meet the needs of local people (DoH, 1999).
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References


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APPENDIX 1 – INTERVIEW GUIDE

INTRODUCTION

Interviewer background: My name is Guy Faulkner and I am a research student at Loughborough University in Exercise Psychology.

Purpose of study: Recent policy initiatives are pushing exercise and physical activity as a strategy to improve mental health for the population as a whole but also for clinical populations. Our general focus is seeking to understand how exercise will be promoted for mental health and who would promote exercise as such. Specifically, this study aims to investigate attitudes toward exercise as an adjunctive treatment for mental illness and whether exercise is covered within clinical psychology curricula.

Confidentiality –
- In any writing, I undertake, you will not be identified or described in any way that would reveal identity.
- The only person to listen to the audio-tapes of the interview and transcribe them will be me.
- Drafts of any article written for public consumption will be made available to you to check the accuracy of the data presented and the fairness of my interpretation.
- You are free to terminate the interview without need to give an explanation.
- Do I have permission to tape record the interview?

Any questions?

BACKGROUND

A1 Can you tell me about your professional background such as qualifications, current responsibilities and research interests?

THROUGHOUT THE INTERVIEW PHYSICAL ACTIVITY IS USED AS THE TERM TO DESCRIBE ANY FORM OF ACTIVITY WHILE EXERCISE IS USED TO DESCRIBE SYSTEMATIC PROGRAMMES OF ACTIVITY WHICH ARE OFTEN SUPERVISED.

BELIEFS ABOUT EFFECTIVENESS

B1 Do you think exercise can play a role in the treatment/rehabilitation/management of clinical conditions?

B2 In what way?

B3 In your opinion, are there specific clinical groups who would particularly benefit from being more active? Who?

B4 Are there any clinical groups for whom you think exercise would not be effective? Who?

B5 Why/Why not would exercise be effective?

B6 Do you think perceptions of the effectiveness/benefits of exercise would differ amongst professionals within mental health? Among different therapeutic orientations? Why?
B7 How compatible do you think exercise as a therapeutic modality would be with the traditional roles and values of clinical psychologists?

B8 Generally, does clinical psychology recognise and address the body of clients? Why/why not?

COURSE CURRICULA
C1 Is there any discussion of exercise as a therapeutic treatment either alone or as an adjunctive treatment?

C2 In general, is there any discussion of health behaviour modification?

C3 How would you feel about exercise being promoted as an adjunct treatment within your course, for example, for depression?

C4 Is there any sense in which the students’ own health is mentioned in the course you co-ordinate or in the clinical programme as a whole?

C5 Does the curricula prepare students with the knowledge/skills needed to promote, positive mental health in addition to the treatment of mental illness?

C6 What is necessary before you would consider incorporating exercise as an element of your curriculum?

C7 Is the current demand from the NHS Executive for evidence-based practice important when considering the inclusion of elements to your course?

EXERCISE PROMOTION TO CLIENTS
D1 In your opinion, how common would you say it is that clinical psychologists recommend exercise to their clients?

D2 Do clinical psychologists have a role to play in an integrated effort to increase physical activity of clients?

D3 What would/do you consider the advantages/disadvantages of clinical psychologists being involved in such efforts?

D4 What are the barriers that prevent greater exercise promotion to clients by clinical psychologists?

D5 Would you say that assessing activity levels and promoting physical activity is considered within a typical care programming approach?

CONCLUSION
E1 Is there anything else you would like to add or anything important you think I have not considered?

E2 Would you like a copy of the interview transcript?
E3 A copy of the final report?

E4 Do you know of anyone else who may be interested in being interviewed?

THANK YOU FOR YOUR TIME AND ASSISTANCE.
NOTE: This introduction to Conversation Analysis was co-written with Dr Sara-Jane Finlay (Southampton Institute).

Arising from the field of ethnomethodology, and based on the work of Harvey Sacks (1992), Conversation Analysis (CA) can be viewed as the most micro-analytic variety of discourse analysis (Pomerantz & Fehr, 1997; Wood & Kroger, 2000). It is interested in the elaborate and complex way in which speakers construct and understand conversation (Antaki, 1994; Edwards, 1997; Hutchby & Wooffitt, 1998; Potter, 1996; Schegloff, 1997; ten Have, 1999). CA attends to the fine details of talk and emphasises its action orientation whereby all utterances "are treated as actions, that is, as meaningful, social doings" (Wood & Kroger, 2000, p. 12). Most interview-based research deletes the presence of the interviewer and researchers present their own involvement as no more than amanuensis or conduit for participants' own experiences (see Frith & Kitzinger, 1998). Extracts from talk are assumed to 'speak for themselves', but are decontextualised and interpreted as if they were produced in a neutral and disinterested way by participants concerned only to report on their lives as accurately as possible. From a conversation analytic perspective, talk is always occasioned and produced in a context, in interaction with others.

McGannon and Mauws (2000) suggest a discursive analysis differs from representational or cognitive approaches to analysis because:

...it challenges conventional understandings of psychological theories and that which they purport to represent [...] it begs the question of what the individuals we investigate are doing with their words; i.e., if not describing and representing their inner states and cognitive processes, what is being accomplished by their speaking as they do? (p. 151).

CA examines the finer details of talk-in-action so that the conversation becomes the focus or topic and is not seen as a route or resource to the inner workings of participants' minds (Wood & Kroger, 2000). Talk is a "species of social activity" rather than a "means of expressing speakers' intentions" (Edwards, 1997, p. 74). Its analysis is based on the sequential organization of conversation and its occasioned
phenomenon. Talk is seen to accomplish interactional business (Edwards, 1997) and as such, in interview situations, the contributions of both the interviewer and the participant are made available for analysis (Finlay & Kitzinger, 2001). Rather than imposing analytical or explanatory categories from outside the conversational framework (as in broader discursive or thematic analysis), CA is grounded in talk. As such, analysis works up from the conversation rather than down from the etic perspective of the researcher as ‘outsider’.

Language becomes not simply a tool for communication or description, but a “social practice [. . . ], a way of doing things” (Wood & Kroger, 2000, p. 4). And what the person might be doing with their talk depends on the context in which it is occurring, the people involved and the situations that need to be accounted for and managed. As Edwards (1997) writes “What is ‘meant’ by their talk is at stake for participants, and realized as they proceed, as a practical matter in the making” (p. 82). Therefore CA is (Heritage, 1984):

... primarily concerned with the ways in which utterances accomplish particular actions by virtue of their placement and participation with sequences of actions. It is sequences and turns-within-sequences which are thus the primary units of analysis (p. 245).

In its most basic form, CA is concerned with turn-taking and sequential organisation of talk, for example an assessment pair which requests information on a person’s health begins ‘how are you?’, and is usually followed by the response ‘I’m fine’. Because of its social nature, conversation is generally constructed around preferred responses. So returning to the example above, when asked how you are, it is unlikely you will reply honestly that you feel awful, your work is going badly or that you have a particularly bad headache, instead, you manage the situation, by offering the preferred response, I’m fine (and note as well that it is unconventional to respond ‘I’m wonderful’ or ‘I’m fantastic’). Yet, at the same time, there may be instances when the conversants wish to reply in a negative way, and this too must be managed in the conversation. In the following examples, I look in more detail at the way people manage these ‘dispreferred’ responses in conversation, and their possible implications for the study of sport, exercise and physical education.

Managing Disagreement

Within CA a considerable amount of attention has been paid to the way in which people disagree in ordinary conversation (e.g. Pomerantz, 1984). The analysis has
made apparent conversants’ attention to the small details of talk and their interactional relevance. Pomerantz (1984) suggests that:

In general, agreement turns/sequences are structured so as to maximize occurrences of stated agreements and disagreement turns/sequences so as to minimize occurrences of stated disagreements (p. 64).

Agreement with an initial question or assessment usually involves a simple acceptance or a reply without any hesitation or delay (Heritage 1984). However, disagreement involves far more conversational work and creates a situation that is "uncomfortable, unpleasant, difficult, risking threat, insult or offence" (Pomerantz, 1984, p. 77). Pomerantz (1984) notes that there are two features that may be apparent in a stated disagreement:

1. the inclusion of delay devices prior to stated disagreements like silences, hesitating prefaces, requests for clarification, and/or
2. the inclusion of weakly stated disagreement components, that is, partial agreements/partial disagreements (p. 75).

For instance, if someone was to invite you out for dinner, you are unlikely to simply say ‘no, I don’t want to come’. Rather, you might respond by saying, ‘well, that’s very nice of you, do you mean this evening?’ In this instance, you are delaying a response by asking for clarification about the date or time of the invitation. Your request for clarification implies to the listener that you may have other engagements. In another situation, you might say ‘Yes, I’d really like to join you, but I’m afraid I’m busy this evening’. In this response you appear to initially offer agreement before finally declining.

A detailed look at an extended example arising from an interview reported in Chapter Three will illustrate the management of disagreement in conversation. The taped interviews were transcribed orthographically. Unlike the ‘cleaned up’ data upon which qualitative analysis is based, CA uses a more elaborate system to communicate some of the finer details of interaction. Gail Jefferson (cf. Atkinson & Heritage, 1984) is credited with creating the most widely used system (the Jeffersonian transcription system) and it involves the transcription of all the words and expressive...
features of the conversation including pauses, partial words, elongation and volume. The data presented here draws on her transcription devices in a simplified form. Numbers in brackets indicate the length of pauses in seconds, square brackets designate overlapped speech, while the symbol ‘=’ show that turns follow directly on from each other, latching the responses. In the following extracts, the ‘interviewer’ refers to myself and the ‘respondent’ refers to one of two course directors.

Managing Dispreferreds

In this example, the interviewer is asking his participant questions about the effectiveness of exercise in alleviating mental health concerns. The interviewer has made it clear to them that he thinks exercise is an effective adjunct treatment for mental health. This respondent is not convinced but having agreed to the interview he must manage their disagreement. In the example there are many of the features that Pomerantz (1984) discusses.

Extract 1: GF/CD21 16/4/99

1  Int   I mean firstly
2  Int   do you think exercise can play,
3  Int   play a role
4  Int   as ah an adjunctive treatment
5  Int   ah for clinical conditions?
6       (2.2)
7  Res   Uhmmm
8  Int   So just a general one to start
9       (1.6)
10  Res  Well, uhm (1.2)
11  Res  yes I guess so,
12  Res  broadly generally
13  Res  it can’t be a bad thing can it?
14  Res  Hehh heh uhm,
15  Res  I (1.2) well
16  Res  at what point do we get specific?
17  Res  [Perhaps later-]
one of the more common ones that are often brought up is depression.

Um, so for example, there is support for a causal link between exercise and decreased depression. I mean how would you feel about that?

Uhm (well I guess ah yeah I guess I'd go along with activities sometimes activity of all sorts)

Mm-hm Uhm, physical and practical er would probably be quite good in uhm some conditions particularly like depression where people are-

Mm-[hm] [So] at least it- uhm might get them involved with other particularly if they're joining some kind of- I dunno exercise group or whatever
as people often do,

uhm, I suppose you know

my (1.0) haa (1.2) wh-what

my last clinical post

part of my work was in health psychology

right

and er, and ah-ah and

some of that involved

ahhh input to

the uhm (0.8) intensive care unit hear-heart attack client

group yeah.

And I mean very clearly

there (.) there was a uhm,

a kind of stress management plus exercise plus graded,

you know (0.6) exercise stuff,

which linked in

with kind of m-m-moving the whole person forward

right

And (0.8) and-and clearly that (0.8)

Uhm (0.6) ah was of obvious benefit

I-I felt, there.

Uhm (0.4) you know

looking at the role of stress

looking at ways to reduce stress

looking at how exercise might be uhm,

a-a-a-a good component of that.

right.

Uhm (1.8) right sorry
In his final response, the participant eventually states that he does not think exercise is a 'particularly important component'. Several of the features of dispreferreds are apparent in this extract and indicate that the respondent does not support exercise as an adjunctive treatment for mental illness and that the interviewer acknowledges this. If one proceeds through the data, examining each turn-taking sequence, the respondent’s hesitancy to explicitly say no and his management of the conversation becomes clearer.

The interviewer begins (in lines 1-5) to ask his initial question. He starts by asking about exercise’s role as an adjunctive treatment. He makes a show of stressing the word ‘adjunctive’ to emphasise that he is not suggesting it can replace traditional therapies, but could perhaps work alongside them. Suggestions that exercise could replace traditional methods of treatment must be dealt with delicately. In this situation, the preferred response would be something like ‘yes of course, exercise does
make a good adjunct treatment, although it, of course, cannot replace some of the more scientific methods'. This response not only provides the preferred answer (agreement with the interviewer whose research is based on this premise) but also manages the importance of traditional methods to the respondent. In not providing this response (or a similar one), the respondent is indicating his disagreement with the interviewer's assumption. In line six there is the first indication that the respondent does not agree with the interviewer. A 2.2 second pause is extremely long in conversation. Jefferson (1989) notes that the longest allowable gap in conversation is about one second – 2.2 seconds is a long time to wait for a response. When he does respond, he beings with a long, drawn out 'uhm'. Pomerantz (1984) would see both the pause and his initial uhm as a delay, first by not providing any forthcoming conversation and then by providing a 'repair initiator' that prompts the interviewer to step back in and "resume talk in the emergent gap" (p. 76). The interviewer attempts to manage the impending dispreferred by deflating the importance of the question. Rather than acknowledging that his initial statement is central to his research, he downgrades its importance by suggesting that it is 'just a general one to start' (line 8).

The respondent pauses again and then begins with a preface or a hedge - 'well, uhm' - that both acknowledges it is his turn to respond while at the same time providing more delay. When he does respond to the question, he provides what Pomerantz (1984) calls a 'token' agreement – so he agrees that 'broadly' exercise has benefits, but this is hidden in an unnecessary double negative. He does not say 'generally, it's a good thing', but rather 'it can't be a bad thing' (line 13), which coupled with his hesitation and hedges masks his dispreferred statement.

Pomerantz (1984) also notes the use of questions of clarification to act as delaying agents in situations where a respondent is going to disagree. In line 15, the respondent is asking a question which works not only as a delaying tactic, but also opens up a way for him to manage the conversation in a more positive way. The interviewer provides clarification re-orienting away from mental health broadly to the 'more common' (line 19) area of depression. In an interesting move to further remove the challenge from the question, the interviewer does not ask for the respondent's thoughts on exercise and mental health (in this case depression) but rather how he feels about it (line 29). The interviewer is also trying to manage the possible dispreferred response of the respondent by removing it from the arena of science (where the professional may be made to look silly because he is unaware of the...
evidence), to one of emotion, where the respondents' experience and feelings become central.

Again the respondent delays replying (line 30), and his brief hedge is followed by an extraordinarily long pause (line 31) where it is possible the respondent is re-orienting to the new direction of the conversation. Although these ingredients usually preface a dispreferred response, the respondent does reply in the affirmative — 'yeah, I guess I'd go along with activities' (line 32) — but this is a weakened agreement (Pomerantz 1984), surround by qualifiers — 'uhm' 'well I guess', 'I guess'. By re-orienting the question away from 'thoughts' to 'feelings' and by specifying a condition (depression), the interviewer has managed to receive a weakened preferred response. Pomerantz (1984) writes that:

The combination of conversants' delaying or withholding their disagreements together with fellow conversants' modifying their positions permits stated disagreements to be minimized and stated agreements to be maximized. It is not only that what would be a disagreement might not get said, but that what comes to be said may be said as an agreement (p. 77).

Once this weakened agreement has been achieved, the respondent is able to expand on his qualified statement. He does this at great length (lines 36 to 74) taking a long turn at conversation that details personal experiences of the use of exercise. The interviewer only offers continuers (Schegloff, 1982) that can act to both encourage the respondent and force him to continue explaining himself. The respondent does provide openings (transition relevant points) for the interviewer to take up a turn (line 51, line 67 and line 70) but he declines this opportunity and allows the respondent to continue highlighting the importance of exercise for depression (prevents isolation, encourages joining in) and, from his experience, heart attack clients (stress management, whole person treatment). Having found an area upon which he can agree with the interviewer, the respondent continues at length. In lines 71, 72 and 73 one finds the respondent employing a 'three part list'. This rhetorical device is frequently used in conversation to emphasise a point. Here the respondent is enumerating the obvious benefit of whole person treatment that could include exercise as a component. The interviewer seems to orient to his long turn (and possibly to his
divergence away from the topic of exercise and mental health), inviting the respondent to take a turn by asking the question ‘sorry what else’ (line 77).

Having received a preferred answer from the respondent in terms of ‘feelings’ (line 69), exercise and depression, the interviewer returns to his original question asking whether exercise in general would be good for mental health conditions (lines 78 to 85). In an attempt to affiliate with the respondent, the interviewer echoes his own words back to him. Rather than suggesting that exercise is a good thing, the interviewer mirrors the formula used by the respondent and asks ‘well can’t be- a bad thing?’ (line 85). Again this provides an apparent agreement from the respondent in line 87 – ‘Well, yes, it’s not a bad thing’ (it would be difficult for him to say otherwise, exercise is commonly understood as beneficial). But this apparent agreement only masks the dispreferred with which the extract closes – in cases other than those he mentioned (depression for social reasons and heart clients for stress management), exercise might not be as important a component.

Pomerantz (1984) states that disagreements may be delayed through several turns and at times provide apparent agreement. She suggests that both people involved in the conversation work to prevent clearly stated disagreement in the production of “delays, such as ‘no talk,’ requests for clarification, partial repeats, and other repair initiators” (p. 70). If the above excerpt was reduced to a simplified question and answer structure, it might read as follows: -

Do you think exercise can be an adjunctive treatment for mental health problems?

No, in most cases it is an inappropriate form of treatment.

That it takes almost 100 lines worth of dialogue to provide this answer shows the importance within conversation to manage disagreement. It also highlights the reductive nature of most analysis that would simply count this as a negative response – it is, in fact, much more detailed than that. The respondent has not said no, he has disagreed with some important qualifications (there are contexts where exercise is an appropriate treatment). As well, both the interviewer and respondent have employed particular rhetorical devices to manage the disagreement (changing the question from one based on thought to one based on emotion; affiliation through the mirroring of language) and to stress their point (experiential stories; three part lists). The more detailed analysis reveals the importance for both conversants to ensure the smooth
flow of conversation and emphasises the commitment of the respondent to his perspective. In the next section, another example of a dispreferred response is examined that also highlights the attempts by co-conversants to manage the conversation, while at the same time stating disagreement.

Show Concessions

Another way to manage disagreement in a conversation is to concede by agreeing to a position with which one might earlier have disagreed. Concessions in conversation have usually been understood as a participant’s acknowledging as true or correct an argument with which s/he has previously been in disagreement. For example, once presented with extensive evidence of the benefits of using exercise to treat depression, a co-conversant may concede that exercise can actually be helpful. Show concessions, in which someone makes a show of conceding, acts in a stronger fashion. Unlike an ordinary concession, the show concession can either reinforce the conversant’s perspective or bring it into line with one stated earlier. According to Antaki and Wetherell (1999), show concessions are ‘hearably in the speaker’s own interest’ (p. 7). They are defined by a three-part ‘proposition-concession-reprise’ structure which consists of “(i) saying something vulnerable to challenge; (ii) conceding something to that challenge, then (iii) qualifying that concession and reasserting what one first said” (p. 8-9).

The proposition is a statement that, within the context of the conversation, could be considered as challengeable. If the extract above is used as a rough outline, the respondent could have stated ‘exercise is not beneficial for patients with mental health problems’. Clearly this has disputable implications. The interviewer could respond by quoting health statistics or by saying ‘well then why the hell am I doing this research’. While virtually anything is potentially challengeable (and therefore could become a proposition in a show concession), only some statements in some contexts are oriented to by the speakers themselves as challengeable. The use of a show concession is evidence that speakers themselves are treating their prior statements as potentially open to challenge.

In making a concession, the speaker above could have said, ‘well maybe it is helpful for people with depression in terms of social factors, or for heart patients in terms of stress management’. Concessions are usually marked by words such as ‘okay’, ‘all right’, ‘well’, ‘of course’, ‘I mean’, ‘you know’, ‘fair enough’, or a modal verb conceding in the sense of figuratively granting permission (‘you can . . . ’) or
citing possibility ('you can have ...'). These act to retrospectively cast what has gone before as being in some way 'disputable' while introducing what is to come immediately next as being material offered as counter-evidence to (what it has just cast as) the proposition.

The reprise reproduces some recognisable version of the original proposition, usually preceded by a contrastive conjunction like 'but', 'nevertheless', 'whereas', which signals that the concessionary material is over, and heralds that what is to come is in opposition to what has gone before. So the respondent above may have then restated his initial response, re-affirming that exercise is unhelpful – 'but in most instances exercise would not be beneficial'.

Below is an example from the same data set as the first extract. Earlier the interviewer has suggested that there is evidence that exercise can be beneficial for depression. In replying the respondent has talked at length about the drawbacks in using exercise for patients with anorexia and bulimia and has referred to a review on the effectiveness of psychotherapy that excluded exercise.

**Extract 2: GF/ L12 23/2/99**

1  Res   Ahhh (1.2)
2       until the end of the day (1.6)
3       ahhh physical exercise (0.4) doesn't feature.
4       (0.4)
5  Int    Mm (0.2)
6       Oh in terms of anorexia and bulimia?
7       (0.4)
8  Res    Well, in terms of anything really
9  Int    Oh right, OK.
10      (1.8)
11  Res   So there is no evidence
12       although you might find the odd (0.6) paper
13       which says that exercise is effective here and there (0.6)
14       ya ahhh as far as treating clinical problems,
populations with psychological and psychiatric problems to my knowledge ahhhh there is no evidence.

No it's generally I mean one of the kind of things driving this is that the research that does exist is generally published in sport and exercise psychology journals

The respondent begins his show concession in lines 1 and 3. He concludes his last statement by suggesting that physical exercise is not a factor in the treatment of mental health. The interviewer refers to the earlier discussion and the respondent makes clear in line 8 that the evidence he has encountered does not suggest exercise is a factor for any illnesses. The interviewer's small pause (line 5) and the rather longer pause in which neither co-conversant speaks suggests to the respondent that the interviewer disagrees with him, and prompts the respondent into making a show of conceding. Returning to the information in his previous statement, in line 11 the respondent states in stronger terms that there is no evidence (presumably for exercise as an adjunctive treatment for mental illness). This is a very strong statement to make in the context of the conversation and it is clearly challengeable (e.g. see Craft & Landers, 1998; Mutrie, 2000). The interviewer has just suggested that evidence does exist and the respondent has contradicted this statement. The concern is that the interviewer could respond by saying 'didn't you just listen to what I said?' or 'well that's stupid I've got the statistics in front of me'. The respondent must move to defend this position and work at the same time to manage both the dispreferred that he has stated so clearly, and the interviewer's disagreement.

The beginning of his concession is marked by 'although' (line 12), and he goes on to concede that you might find the odd paper that shows that exercise is occasionally effective. This is a strong concession because it manages the suggestion made earlier by the interviewer (that there is evidence for the relationship between exercise and depression) by implicitly undermining the seriousness of depression.
when compared to other clinical populations with real psychological or psychiatric problems. Antaki and Wetherell (1999) claim that show concessions are 'robust' and that their use has the effect of 'proving the speaker against complaint' (p. 25) while also weakening the other's perspective. They suggest that there are three ways in which this can occur (i) Trojan horses - where the other's perspective is caricatured, (ii) stings in the tail - which turns the reprise into a reversal of the concession, or (iii) a cheapener - where the concession devalues the other's perspective. The concession offered here clearly acts as a cheapener, suggesting the unimportance of the evidence and the superficial nature of exercise in treating mental health concerns such as depression. Again, this is a dangerous ploy - it too is challengeable - but the strength and robustness of the structure is such that few co-conversants challenge it.

The reprise (line 17) offered by the respondent ensures this, having conceded that there maybe little bits of evidence about, he restates his claim that, in his opinion, there is no evidence. The slight emphasis on 'my' in line 16 does delicate work by limiting the range of the discussion and prevents the interviewer from responding with an aggressive list of evidence. Antaki and Wetherell (1999) suggest that participants' orientation to the three-part structure bolsters its robustness, and in returning the structure to its context, there appears evidence for its strength (Finlay & Kitzinger, 2001). The interviewer does not challenge the statement made by the respondent. He treats it as an acceptable way to make dispreferred assessments and rather than arguing, provides limited agreement (line 18-23 - although in the form of a weakened agreement [Pomerantz 1984]), suggesting that one of the difficulties is the unavailability of the evidence to mental health professionals.

Like the analysis presented above, the use of the show concession device within conversation is a way of managing dispreferred responses. It proofs the speaker against criticism and allows them to not only state their disagreement but to protect the perspective from challenge - it can be both an offensive and defensive rhetorical move. Again, a more superficial analysis of this statement might simply see it as a negative response to the question of exercise and mental health. The more detailed analysis highlights that not only is it a negative response but that, in the opinion of this clinical psychologist, the evidence available so far has not been good enough. Note as well the rhetorical effect of the use of the show concession. He begins with what could be considered a series of extreme case formulations (Pomerantz, 1986) - 'until the end of the day' (line 2) and 'well, in terms of anything
really' (line 8), which act to bolster his eventual dismissal of all the evidence. His proposition is clearly easy to disconfirm and the speaker moves to defend his claim by conceding. His show concession draws attention to the contestable nature of his statement and rebuts it, making his original proposition sound stronger when reprised (although it hasn’t changed at all). Identifying the show concession within the data highlights the matters of stake, interest and intention that are involved in data and reveals the mundane use of rhetoric in conversation. Furthermore, such an analysis assisted the interpretations offered in Chapter Three.
References


APPENDIX 3 – PHYSICAL ACTIVITY QUESTIONNAIRE

Section A.

A1. Age (in years): [   ]
A2. Sex: Male / Female (circle one)

A3. Please identify your professional title (e.g., psychiatrist, occupational therapist, CMHT manager, locum, keyworker, health visitor, hostel manager, CPN, etc.):

________________________________________________________________________

A4. Please describe the setting where you work (e.g., hostel, rehabilitation home, in-patient, CMHT etc.):

________________________________________________________________________

Section B

From Section B to Section E, PHYSICAL ACTIVITY is defined as moderate activity, for 30 minutes, at least twice a week (e.g., walking, swimming, cycling, heavy housework, dancing). You can count two periods of 15 minutes’ continuous activity as long as they were on the same day.

NOTE: This descriptor was included as a header on each page of the questionnaire.

B1. Which of the following best describes your current promotion of physical activity to your clients?

1. I don’t promote physical activity and I don’t intend to start. [  ]
2. I don’t promote physical activity but I’m thinking of starting. [  ]
3. I promote physical activity sometimes but not regularly. [  ]
4. I promote physical activity regularly but only started within the past six months. [  ]
5. I promote physical activity regularly and have done so for longer than 6 months. [  ]
6. I have promoted physical activity in the past but not now. [  ]

If you selected option 6, which of the statements below BEST describes your current position? (tick one only)

I don’t intend to start promoting physical activity again. [  ]
I’m thinking of starting to promote physical activity again. [  ]

B2. To what extent do you promote physical activity to your clients? (circle ONE)

<table>
<thead>
<tr>
<th>All clients</th>
<th>Most</th>
<th>Some</th>
<th>Hardly any</th>
<th>None</th>
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B3. In six months time, I will be promoting physical activity to my client group:

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<td></td>
<td>Strongly Disagree</td>
<td>Neutral</td>
<td>Strongly Agree</td>
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B4. How often do you ask clients with the following 'diagnoses' about their physical activity habits (tick)?

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Never</th>
<th>Rarely</th>
<th>Occasionally</th>
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<tr>
<td>Schizophrenia</td>
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<td>Depression</td>
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<td>Affective psychosis</td>
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<td>Situational disturbance/other</td>
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<td>Drug/alcohol disorder</td>
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B5. For each 'diagnosis', how likely would you recommend clients to increase their level of physical activity? (tick).

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<tr>
<th>Diagnosis</th>
<th>Never</th>
<th>Rarely</th>
<th>Occasionally</th>
<th>Sometimes</th>
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<tbody>
<tr>
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<td>Drug/alcohol disorder</td>
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B6. In general, how important would you say it is that YOU promote physical activity to your clients (circle one)?

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<tr>
<td></td>
<td>Not at all Important</td>
<td>Neutral</td>
<td>Very Important</td>
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B7. If you give advice to your clients about physical activity, what is the typical content of that advice? (For example, how often, how intense, for how long and what type?)

________________________
________________________
________________________
**Section C.**

Please circle the number that best represents your answer on each of the questions.

C1. I intend promoting physical activity to my client group over the next six months.

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<td>Strongly Disagree</td>
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C2. How confident are you in your ability to successfully promote physical activity to your client group over the next six months?

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<td>Strongly Disagree</td>
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C3. How much opportunity do you have over your working programme in terms of promoting physical activity over the next six months?

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C4. How easy or difficult do you think you would find it to promote physical activity over the next six months?

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<tr>
<td></td>
<td>Very Easy</td>
<td>Neutral</td>
<td>Very Difficult</td>
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C5. I think that promoting physical activity is something that my line manager thinks I should do.

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<td>Strongly Disagree</td>
<td>Neutral</td>
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C6. It is mostly up to me whether I promote physical activity to my client group:

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<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Strongly Disagree</td>
<td>Neutral</td>
<td>Strongly Agree</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

C7. How much control do you have over promoting physical activity to your clients?

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>A lot</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Very little</td>
<td>Neutral</td>
<td>A lot</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
C8. I would find promoting physical activity to my client group:
(Please circle the number that best represents your answer on the five items below)

<table>
<thead>
<tr>
<th>BAD</th>
<th>GOOD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5</td>
<td>6 7</td>
</tr>
<tr>
<td>UNPLEASANT</td>
<td>PLEASANT</td>
</tr>
<tr>
<td>1 2 3 4 5</td>
<td>6 7</td>
</tr>
<tr>
<td>HARMFUL</td>
<td>BENEFICIAL</td>
</tr>
<tr>
<td>1 2 3 4 5</td>
<td>6 7</td>
</tr>
<tr>
<td>ENJOYABLE</td>
<td>ENJOYABLE</td>
</tr>
<tr>
<td>1 2 3 4 5</td>
<td>6 7</td>
</tr>
<tr>
<td>USEFUL</td>
<td>USELESS</td>
</tr>
<tr>
<td>1 2 3 4 5</td>
<td>6 7</td>
</tr>
</tbody>
</table>

C9. Generally speaking, I want to do what my line manager thinks I should do.

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

Strongly Disagree Neutral Strongly Agree
Section D.

PLEASE RATE HOW OFTEN YOU ASSIST YOUR CLIENTS THROUGH THE FOLLOWING ACTIVITIES, WHETHER OR NOT THE CLIENT IS INTERESTED IN BEING PHYSICALLY ACTIVE. (CIRCLE ONE RESPONSE PER ROW)

D1. Express concern/willingness to help clients adopt a pattern of physical activity.

<table>
<thead>
<tr>
<th>Never</th>
<th>Occasionally</th>
<th>Often</th>
<th>Almost Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

D2. Personalise the benefits of physical activity.

<table>
<thead>
<tr>
<th>Never</th>
<th>Occasionally</th>
<th>Often</th>
<th>Almost Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

D3. Negotiate with the client to overcome barriers or problems.

<table>
<thead>
<tr>
<th>Never</th>
<th>Occasionally</th>
<th>Often</th>
<th>Almost Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

D4. Provide a specific physical activity prescription.

<table>
<thead>
<tr>
<th>Never</th>
<th>Occasionally</th>
<th>Often</th>
<th>Almost Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

D5. Provide printed self-help materials about physical activity.

<table>
<thead>
<tr>
<th>Never</th>
<th>Occasionally</th>
<th>Often</th>
<th>Almost Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

D6. Identify resources (e.g., social supports, referrals) to aid adoption of a physical activity routine.

<table>
<thead>
<tr>
<th>Never</th>
<th>Occasionally</th>
<th>Often</th>
<th>Almost Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

D7. Arrange a follow-up visit to discuss physical activity.

<table>
<thead>
<tr>
<th>Never</th>
<th>Occasionally</th>
<th>Often</th>
<th>Almost Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
USING THE SCALE BELOW, PLEASE RATE YOUR LEVEL OF CONFIDENCE IN PERFORMING EACH ACTIVITY.

E8. Adapting my counseling approach for those clients who are resistant to being more active.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Definitely Not Confident</td>
<td>Neutral</td>
<td>Definitely Confident</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Definitely Not Confident</td>
<td>Neutral</td>
<td>Definitely Confident</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

E10. Negotiating an individualised plan with my clients to be more active.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Definitely Not Confident</td>
<td>Neutral</td>
<td>Definitely Confident</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

E11. Identifying appropriate resources (e.g., exercise materials, community activities).

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Definitely Not Confident</td>
<td>Neutral</td>
<td>Definitely Confident</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

E12. Helping clients learn how to cope with situations or triggers that might lead to a return of sedentary habits.

<table>
<thead>
<tr>
<th></th>
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<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Definitely Not Confident</td>
<td>Neutral</td>
<td>Definitely Confident</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

E13. Providing physical activity counseling interventions in a cost effective manner.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
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<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Definitely Not Confident</td>
<td>Neutral</td>
<td>Definitely Confident</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

E14. Consistently incorporating physical activity counseling strategies into regular client visits.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Definitely Not Confident</td>
<td>Neutral</td>
<td>Definitely Confident</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
SECTION F.

PLEASE ANSWER THE NEXT QUESTION REGARDING YOUR OWN PHYSICAL ACTIVITY PATTERNS. IN THIS CASE, INCLUDE ACTIVITY WHICH IS AT LEAST OF A MODERATE LEVEL (WHICH MAKES YOU BREATHE A BIT HARDER, OR MADE YOU FEEL WARM) FOR AT LEAST THIRTY MINUTES ON MOST, PREFERABLY ALL DAYS OF THE WEEK (YOU CAN COUNT TWO PERIODS OF 15 MINUTES' CONTINUOUS ACTIVITY AS LONG AS THEY WERE ON THE SAME DAY).

F1 Which of the following best describes your current physical activity and exercise pattern?

(tick ONE ONLY)

1. I am not physically active and I don’t intend to start. [ ]
2. I am not physically active but I’m thinking about starting. [ ]
3. I am physically active once in-a-while but not regularly. [ ]
4. I am physically active regularly but started only in the past six months. [ ]
5. I am physically active regularly and have been so for longer than 6 months. [ ]
6. I was physically active regularly in the past, but not now. [ ]

If you selected option 6, which of the following BEST describes your current position?

I don’t intend to start being physically active again. [ ]
I’m thinking of starting to be physically active again. [ ]
SECTION G.

G1. What actually limits you promoting physical activity to your clients? Please tick the best description of how limiting each of the factors below is for you in promoting physical activity.

<table>
<thead>
<tr>
<th>Factor</th>
<th>Never</th>
<th>Rarely</th>
<th>Occasionally</th>
<th>Sometimes</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lack of success in promoting physical activity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lack of resources</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lack of interest from clients</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lack of protocols</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lack of incentives</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lack of support</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Legal issues</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lack of training</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other (please specify)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

We're conducting a pilot project to help mental health professionals increase the promotion of physical activity with their clients. If you are interested in participating in the project please indicate your interest below. We will contact you within the next 2 months. Thank you for your time and co-operation!

[ ] YES I am interested in participating

Name:
Contact phone number:

[ ] NO I am not interested in participating.

Thank you for completing this questionnaire. Please return it using the enclosed addressed, FREEPOST envelope.

APPENDIX 4 – PHYSICAL ACTIVITY QUESTIONNAIRE

For questions A-C, PHYSICAL ACTIVITY is defined as moderate activity, for 30 minutes, at least twice a week (e.g., walking, swimming, cycling, heavy housework, dancing). You can count two periods of 15 minutes’ continuous activity as long as they were on the same day.

Please circle the number that best represents your agreement or disagreement with the following statement:

A. I have worked hard at promoting physical activity in the last six months:

1 2 3 4 5 6 7

I did not try at all I tried very hard

B. Which of the following best describes your current promotion of physical activity to your clients?

1. I don’t promote physical activity and I don’t intend to start. [ ]
2. I don’t promote physical activity but I’m thinking of starting. [ ]
3. I promote physical activity sometimes but not regularly. [ ]
4. I promote physical activity regularly but only started within the past six months. [ ]
5. I promote physical activity regularly and have done so for longer than 6 months. [ ]
6. I have promoted physical activity in the past but not now. [ ]

If you selected option 6, which of the statements below BEST describes your current position?

I don’t intend to start promoting physical activity again. [ ]
I’m thinking of starting to promote physical activity again. [ ]

Please circle the number that best represents your agreement or disagreement with the following statement:

C. In the last six months, I have worked hard in the sense of spending time planning the promotion of physical activity:

I did not try at all I tried very hard

1 2 3 4 5 6 7

THANK YOU
APPENDIX 5 – ANALYSES BY STATUS AND PROFESSION

A5.1 Professional Status

Examining the sample as a function of professional status reveals a significant relationship between promotional behaviour and professional status (see table A5.1). However, there were no significant differences in the general extent of physical activity promotion reported and the perceived importance of promoting physical activity as a function of professional title (Table A5.2).

Table A5.1 Physical Activity Promotion and Professional Status

<table>
<thead>
<tr>
<th></th>
<th>Nurse (195)</th>
<th>OT (41)</th>
<th>Psychiatrist &amp; Clinical Psychologists (47)</th>
<th>CPN (66)</th>
<th>Health Care Support Worker (111)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Promotion</td>
<td>32</td>
<td>1</td>
<td>3</td>
<td>4</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>24.6</td>
<td>5.2</td>
<td>5.9</td>
<td>8.3</td>
<td>14</td>
</tr>
<tr>
<td>Irregular Prom</td>
<td>89</td>
<td>21</td>
<td>31</td>
<td>24</td>
<td>43</td>
</tr>
<tr>
<td></td>
<td>88.2</td>
<td>18.5</td>
<td>21.3</td>
<td>29.8</td>
<td>50.2</td>
</tr>
<tr>
<td>Regular Prom</td>
<td>74</td>
<td>19</td>
<td>13</td>
<td>38</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>82.2</td>
<td>17.3</td>
<td>19.9</td>
<td>27.8</td>
<td>46.8</td>
</tr>
</tbody>
</table>

N=460, Pearson Chi-Square = 24.68 (8 df.), Sig, p < .01

Table A5.2 Extent and Importance of Physical Activity Promotion by Profession

<table>
<thead>
<tr>
<th></th>
<th>Nurse</th>
<th>OT</th>
<th>Psychologist/iatrist</th>
<th>CPN</th>
<th>HCSW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extent Mean</td>
<td>3.65</td>
<td>3.34</td>
<td>3.94</td>
<td>3.31</td>
<td>3.69</td>
</tr>
<tr>
<td>Extent SD</td>
<td>1.51</td>
<td>1.26</td>
<td>1.15</td>
<td>1.30</td>
<td>1.71</td>
</tr>
<tr>
<td>F (4, 455)</td>
<td></td>
<td></td>
<td></td>
<td>1.70</td>
<td></td>
</tr>
</tbody>
</table>

Importance Mean

| Nurse           | 5.31  | 5.51 | 4.89 | 5.57 | 5.27 |
| OT              | 5.31  | 5.51 | 4.89 | 5.57 | 5.27 |
| Psychologist/iatrist | 5.31 | 5.51 | 4.89 | 5.57 | 5.27 |
| CPN             | 5.31  | 5.51 | 4.89 | 5.57 | 5.27 |
| HCSW            | 5.31  | 5.51 | 4.89 | 5.57 | 5.27 |

F (4, 455) = 2.08, p > .05

Extant scale 1-7: 1 = all clients, 4 = some, 7 = none
Importance scale 1-7: 1 = not at all important, 4 = neutral, 7 = very important

A significant interaction was found between professional status and assessing physical activity levels (Wilks lambda=.883, F(24, 1571) = 2.4, p < .001) but not
In terms of assessing physical activity levels and recommending physical activity (Table A5.3), occupational therapists and community psychiatric nurses generally reported greater assessment and recommendation for each diagnosis. Of particular interest, are the low means for Health Care Support Workers across all diagnoses.

Table A5.3 Assessing and Recommending Physical Activity by Profession

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Assessing Physical Activity</th>
<th>Recommending Physical Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N=460 Mean (SD) F (4, 455) Post-hoc</td>
<td>N=460 Mean (SD) F (4, 455) Post-hoc</td>
</tr>
<tr>
<td>Schizophrenia:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nurse</td>
<td>3.58 (1.14) 4.04 (.92)</td>
<td>OT&gt; HCSW 3.65 (.98) 4.04 (.77) 3.66 (.88) 3.89 (.76) 3.53 (1.13) 2.918 p &lt; .05</td>
</tr>
<tr>
<td>OT</td>
<td>4.04 (.92) 4.04 (.77)</td>
<td></td>
</tr>
<tr>
<td>Psychologist/iatrist</td>
<td>3.7 (.99) 3.95 (.92)</td>
<td></td>
</tr>
<tr>
<td>CPN</td>
<td>3.95 (.92) 3.95 (.92)</td>
<td></td>
</tr>
<tr>
<td>HCSW</td>
<td>3.37 (1.19) 3.37 (1.19)</td>
<td></td>
</tr>
<tr>
<td>Depression:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nurse</td>
<td>3.88 (1.07) 4.34 (.73)</td>
<td>Nurse&lt; OT, CPN. Nurse, OT, CPN &gt; HCSW 3.94 (.89) 4.17 (.67) 4.00 (.96) 4.21 (.64) 3.72 (1.1) 3.76 p &lt; .05</td>
</tr>
<tr>
<td>OT</td>
<td>4.34 (.73) 4.34 (.73)</td>
<td></td>
</tr>
<tr>
<td>Psychologist/iatrist</td>
<td>4.02 (1.03) 4.30 (.8)</td>
<td></td>
</tr>
<tr>
<td>CPN</td>
<td>4.30 (.8) 4.30 (.8)</td>
<td></td>
</tr>
<tr>
<td>HCSW</td>
<td>3.51 (1.09) 3.51 (1.09)</td>
<td></td>
</tr>
<tr>
<td>Anxiety:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nurse</td>
<td>3.77 (1.06) 4.37 (.76)</td>
<td>OT, CPN&gt; Nurse, OT&gt; Psych, HCSW 3.79 (.92) 4.12 (.81) 3.69 (1.03) 4.16 (.64) 3.63 (1.05) 4.82 p &lt; .05</td>
</tr>
<tr>
<td>OT</td>
<td>4.37 (.76) 4.37 (.76)</td>
<td></td>
</tr>
<tr>
<td>Psychologist/iatrist</td>
<td>3.82 (.92) 4.22 (.87)</td>
<td></td>
</tr>
<tr>
<td>CPN</td>
<td>4.22 (.87) 4.22 (.87)</td>
<td></td>
</tr>
<tr>
<td>HCSW</td>
<td>3.44 (1.14) 3.44 (1.14)</td>
<td></td>
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<tr>
<td>Affective Psych.:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nurse</td>
<td>3.57 (1.09) 3.82 (.79)</td>
<td></td>
</tr>
<tr>
<td>OT</td>
<td>3.82 (.79) 3.82 (.79)</td>
<td></td>
</tr>
<tr>
<td>Psychologist/iatrist</td>
<td>3.59 (.93) 3.62 (1.05)</td>
<td></td>
</tr>
<tr>
<td>CPN</td>
<td>3.62 (1.05) 3.62 (1.05)</td>
<td></td>
</tr>
<tr>
<td>HCSW</td>
<td>3.49 (1.13) 3.49 (1.13)</td>
<td></td>
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<tr>
<td>Situational Disturb:</td>
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<td></td>
</tr>
<tr>
<td>Nurse</td>
<td>3.34 (1.11) 3.99 (.9)</td>
<td>Nurse&lt; CPN, OT, CPN&gt; HCSW 3.52 (.96) 3.75 (.82) 3.42 (1.14) 3.79 (.82) 3.39 (1.0) 2.450 p &lt; .05</td>
</tr>
<tr>
<td>OT</td>
<td>3.99 (.9) 3.99 (.9)</td>
<td></td>
</tr>
<tr>
<td>Psychologist/iatrist</td>
<td>3.52 (1.01) 3.78 (96)</td>
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</tr>
<tr>
<td>CPN</td>
<td>3.78 (96) 3.78 (96)</td>
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</tr>
<tr>
<td>HCSW</td>
<td>3.27 (1.06) 3.27 (1.06)</td>
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</table>
Table A5.3 (cont). Assessing and Recommending Physical Activity by Profession

<table>
<thead>
<tr>
<th>Drug/Alcohol</th>
<th>Assessing Physical Activity</th>
<th>Recommending Physical Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nurse</td>
<td>3.42 (1.15)</td>
<td>3.64 p &lt; .05</td>
</tr>
<tr>
<td>OT</td>
<td>4.02 (.77)</td>
<td>Nurse &lt; OT</td>
</tr>
<tr>
<td>Psychologist/iatrist</td>
<td>3.45 (1.09)</td>
<td>NCSW &lt; OT</td>
</tr>
<tr>
<td>CPN</td>
<td>3.63 (1.07)</td>
<td>3.79 (.66)</td>
</tr>
<tr>
<td>HCSW</td>
<td>3.30 (1.12)</td>
<td>3.46 (.11)</td>
</tr>
</tbody>
</table>

Scale 1-5: 1 = never, 3 = occasionally, 5 = always
Post-Hoc tests significant (p < .05)

Reviewing the means for specific components of physical activity counselling suggests that components were infrequently delivered (Table A5.4). There was a significant interaction between professional status and counselling strategies (Wilks lambda=.83, F(28, 1620)=3.14, p < .01). Overall, OT’s and CPN’s reported significantly greater total physical activity counselling scores while psychiatrists/psychologists reported the lowest. Post-Hoc analyses reveal significant differences between OT’s/CPN’s and Psychiatrists/psychologists. No significant differences were found for personalising benefits, providing prescriptions, and arranging follow-ups amongst the professional groups. All professions reported significantly greater provision of materials than psychologists/psychiatrists. OT’s and CPN’s reported significantly greater identification of resources than Health Care Support Workers.

Table A5.4 Physical activity counselling components delivered

<table>
<thead>
<tr>
<th>Counselling Components (N=460)</th>
<th>Mean</th>
<th>SD</th>
<th>F (4, 455)</th>
<th>Post-hoc</th>
</tr>
</thead>
<tbody>
<tr>
<td>Express concern/willingness</td>
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<td>1.39</td>
<td>3.071</td>
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</tr>
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<td>1.30</td>
<td>p &lt; .02</td>
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</tr>
<tr>
<td>Psychologist/psychiatrist</td>
<td>3.53</td>
<td>1.33</td>
<td></td>
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</tr>
<tr>
<td>CPN</td>
<td>4.06</td>
<td>1.28</td>
<td></td>
<td></td>
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<tr>
<td>HCSW</td>
<td>4.10</td>
<td>1.58</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personalise benefits</td>
<td></td>
<td></td>
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</tr>
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<td>2.886</td>
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<td>1.48</td>
<td>p &lt; .05</td>
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</tr>
<tr>
<td>Psychiatrist/psychiatrist</td>
<td>3.81</td>
<td>1.46</td>
<td></td>
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<td>1.19</td>
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Table A5.4 (cont). Physical activity counselling components delivered.

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<th>Post-hoc</th>
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<td>4.94</td>
<td>1.23</td>
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<tr>
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<td>4.07</td>
<td>1.26</td>
<td>p &lt; .02</td>
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<td>1.17</td>
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<tr>
<td>HCSW</td>
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<td>1.53</td>
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<td>Provide prescription</td>
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<td>1.63</td>
<td></td>
<td></td>
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<tr>
<td>Provide materials</td>
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<td>Nurse, OT, CPN, HCSW &gt; Psych</td>
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<td>1.53</td>
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<td></td>
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<tr>
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<td>1.54</td>
<td>p &lt; .02</td>
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</tr>
<tr>
<td>Psychologist/psychiatrist</td>
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<td>1.03</td>
<td></td>
<td></td>
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<td>1.36</td>
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<td>HCSW</td>
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<td>Identify resources</td>
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<td>OT &gt; HCSW CPN &gt; HCSW</td>
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<td>1.66</td>
<td>p &lt; .02</td>
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<td>1.44</td>
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<td>1.76</td>
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<tr>
<td>Arrange follow-up</td>
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<td>OT, CPN &gt; Psychiatrist/psychologist</td>
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<td>1.69</td>
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</tr>
</tbody>
</table>

Scale 1-7: 1 = Never, 7 = Almost Always
Post-Hoc tests significant (p < .05)

A significant interaction was found between professional status and confidence in the physical activity counselling strategies (Wilks Lambda=.87, F(28, 1620) = 2.38, p < .01). No significant differences were found for mean confidence scores in counselling physical activity (Table A5.5). For specific components, post-hoc analyses reveal that psychiatrists/psychologists were more confident assessing history
of physical activity than Health Care Support Workers. OT’s and CPN’s were more confident than psychiatrists/psychologists in identifying resources.

Table A5.5  Confidence in delivering physical activity counselling components

<table>
<thead>
<tr>
<th>Counselling components (N=460)</th>
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<th>SD</th>
<th>F (4, 455)</th>
<th>Post-hoc</th>
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<tbody>
<tr>
<td>Adapting approach to resistance</td>
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<td>1.935</td>
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</tr>
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<td>4.49</td>
<td>1.27</td>
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<td>CPN</td>
<td>4.58</td>
<td>1.32</td>
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<td></td>
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<td>Assessing history of PA</td>
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<td>1.32</td>
<td>p &lt;.05</td>
<td></td>
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<td>4.83</td>
<td>1.45</td>
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<td></td>
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<tr>
<td>Psychologist/ psychiatrist</td>
<td>4.93</td>
<td>1.58</td>
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<td>1.48</td>
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<tr>
<td>Negotiating individualised plan</td>
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<td>4.59</td>
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<td>HCSW</td>
<td>4.45</td>
<td>1.47</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Identifying appropriate resources</td>
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</tr>
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</tr>
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<td>OT</td>
<td>5.15</td>
<td>1.17</td>
<td></td>
<td></td>
</tr>
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<td>Psychologist/ psychiatrist</td>
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<td>1.24</td>
<td></td>
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<tr>
<td>HCSW</td>
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### Table A5.5 (cont). Confidence in delivering physical activity counselling components

<table>
<thead>
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<th>Counselling components</th>
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<th>SD</th>
<th>F (4, 455)</th>
<th>Post-hoc</th>
</tr>
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<tbody>
<tr>
<td><strong>Coping with relapse</strong></td>
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<td>4.74</td>
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<td>1.05</td>
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</tr>
<tr>
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<td>CPN</td>
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<td>HCSW</td>
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<td>1.33</td>
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<td><strong>Providing intervention effectively</strong></td>
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<td>1.33</td>
<td>.538</td>
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<td>3.85</td>
<td>1.28</td>
<td>p &gt; .05</td>
<td></td>
</tr>
<tr>
<td>Psychologist/ psychiatrist</td>
<td>3.85</td>
<td>1.49</td>
<td></td>
<td></td>
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<td>CPN</td>
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<td>3.92</td>
<td>1.43</td>
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<td><strong>Incorporating PA counselling into regular contact</strong></td>
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<td>1.29</td>
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<td>.97</td>
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<tr>
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<td>.90</td>
<td>p &gt; .05</td>
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<td>1.07</td>
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<tr>
<td>HCSW</td>
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<td>1.24</td>
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</tr>
</tbody>
</table>

Scale 1-7: 1 = Never, 7 = Almost Always
Post-Hoc tests significant (p < .05)

In terms of barriers, psychiatrists/psychologists self-reported all barriers as having the lowest effect on promotion of physical activity (Table A5.6). Given that psychiatrists/psychologists also self-report the least extent of promotion and rate the promotion of physical activity as least important in contrast to other professionals groups, suggests that the barriers may not be pertinent. There was a significant interaction between professional status and barriers (Wilks lambda=.86, F(36, 1676)=1.98, p < .01). Lack of protocols, legal issues, lack of training and lack of incentives were more frequent barriers for the Health Care Support Workers and nurses in comparison to psychiatrists/psychologists.
Table A5.6  Barriers by Profession

<table>
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<td>.97</td>
<td>1.82, p &gt; .05</td>
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<tr>
<td>OT (41)</td>
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<td>.82</td>
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<td>Psychologist/ psychiatrist (47)</td>
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<td>CPN (66)</td>
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<td>1.02, p &gt; .05</td>
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<td>.87</td>
<td>-</td>
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<tr>
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<td><strong>Lack of Interest</strong></td>
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<td>.62</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>CPN</td>
<td>3.70</td>
<td>.68</td>
<td>-</td>
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<tr>
<td>HCSW</td>
<td>3.90</td>
<td>.94</td>
<td>-</td>
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<td><strong>Protocol</strong></td>
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</tr>
<tr>
<td>Nurse</td>
<td>3.09</td>
<td>1.18</td>
<td>3.18, p &lt; .05</td>
<td>HCSW, Nurse &gt; Psychiatrist/Psychologist</td>
</tr>
<tr>
<td>OT</td>
<td>2.79</td>
<td>1.11</td>
<td>-</td>
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</tr>
<tr>
<td>Psychologist/iatrist</td>
<td>2.56</td>
<td>1.35</td>
<td>-</td>
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</tr>
<tr>
<td>CPN</td>
<td>3.03</td>
<td>1.29</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>HCSW</td>
<td>3.22</td>
<td>1.04</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td><strong>Lack of Incentives</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nurse</td>
<td>3.13</td>
<td>1.22</td>
<td>3.91, p &lt; .05</td>
<td>HCSW, Nurse &gt; Psychiatrist/Psychologist</td>
</tr>
<tr>
<td>OT</td>
<td>3.08</td>
<td>.9843</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Psychologist/iatrist</td>
<td>2.58</td>
<td>1.28</td>
<td>-</td>
<td></td>
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<tr>
<td>CPN</td>
<td>2.84</td>
<td>1.21</td>
<td>-</td>
<td></td>
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<tr>
<td>HCSW</td>
<td>3.31</td>
<td>1.11</td>
<td>-</td>
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Table A5.6 (cont.)  Barriers by Profession

<table>
<thead>
<tr>
<th>N = 460</th>
<th>Mean</th>
<th>SD</th>
<th>F (4, 455)</th>
<th>Post-Hoc</th>
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<tbody>
<tr>
<td>Lack of Support</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Nurse</td>
<td>2.99</td>
<td>1.16</td>
<td>.81, p &gt;.05</td>
<td>-</td>
</tr>
<tr>
<td>OT</td>
<td>2.89</td>
<td>.99</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychologist/iatrist</td>
<td>2.67</td>
<td>1.08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CPN</td>
<td>2.94</td>
<td>1.14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HCSW</td>
<td>2.87</td>
<td>1.13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Legal Issues</td>
<td></td>
<td></td>
<td>6.76, p &lt; .01</td>
<td>Nurse, OT, CPN, HCSW &gt; Psychologist/Psychiatrist</td>
</tr>
<tr>
<td>Nurse</td>
<td>2.86</td>
<td>1.23</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OT</td>
<td>2.65</td>
<td>1.20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychologist/iatrist</td>
<td>1.88</td>
<td>.98</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CPN</td>
<td>2.73</td>
<td>1.26</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HCSW</td>
<td>2.81</td>
<td>1.14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Training</td>
<td></td>
<td></td>
<td>5.27, p &lt; .01</td>
<td>Nurse, CPN, HCSW &gt; Psychologist/Psychiatrist</td>
</tr>
<tr>
<td>Nurse</td>
<td>3.30</td>
<td>1.24</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OT</td>
<td>3.12</td>
<td>1.02</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychologist/iatrist</td>
<td>2.42</td>
<td>1.22</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CPN</td>
<td>3.29</td>
<td>1.20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HCSW</td>
<td>3.27</td>
<td>1.24</td>
<td></td>
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</tr>
</tbody>
</table>

A5.2 Professional Setting

An alternative way of examining the promotion of physical activity is by the function of setting. Chi-square tests again reveal a significant relationship between setting and promotional behaviour (Table A5.7).

Table A5.7 Physical Activity Promotion and Setting

<table>
<thead>
<tr>
<th>N = 455</th>
<th>Inpatient</th>
<th>Rehabilitation</th>
<th>Community</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Promotion</td>
<td>29</td>
<td>25</td>
<td>8</td>
</tr>
<tr>
<td>Expected</td>
<td>24.9</td>
<td>21.8</td>
<td>15.3</td>
</tr>
<tr>
<td>Irregular Promotion</td>
<td>97</td>
<td>61</td>
<td>43</td>
</tr>
<tr>
<td>Expected</td>
<td>80.8</td>
<td>70.7</td>
<td>49.5</td>
</tr>
<tr>
<td>Regular Promotion</td>
<td>57</td>
<td>74</td>
<td>61</td>
</tr>
<tr>
<td>Expected</td>
<td>77.2</td>
<td>67.5</td>
<td>47.3</td>
</tr>
</tbody>
</table>

N=455, Pearson Chi-Square = 19.9 (4df). Sig, p < .001

One-way ANOVA's and post hoc comparisons reveal that there is a greater extent of physical activity promotion in community and rehabilitation settings compared to inpatient/outpatient settings. In addition, physical activity promotion is considered more important in these former settings (Table A5.8).
Table A5.8  Extent and Importance of Physical Activity Promotion

<table>
<thead>
<tr>
<th>N =455</th>
<th>Mean (SD)</th>
<th>F (2, 452)</th>
<th>Post-hoc</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extent</td>
<td>Inpatient</td>
<td>3.98 (1.53)</td>
<td>8.165, p&lt; .001</td>
</tr>
<tr>
<td></td>
<td>Community</td>
<td>3.48 (1.39)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rehabilitation</td>
<td>3.34 (1.5)</td>
<td></td>
</tr>
<tr>
<td>Importance</td>
<td>Inpatient</td>
<td>5.01 (1.36)</td>
<td>6.681, p &lt; .001</td>
</tr>
<tr>
<td></td>
<td>Community</td>
<td>5.43 (1.31)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rehabilitation</td>
<td>5.52 (1.32)</td>
<td></td>
</tr>
</tbody>
</table>

Extant scale 1-7: 1 = all clients, 4= some, 7 = none
Importance scale 1-7: 1 = not at all important, 4 = neutral, 7 = very important

This trend is repeated when considering specific diagnoses (Table A5.9) where a significant interaction between setting and assessment (Wilks lambda=.88, F(12, 884)= 4.96, p < .001) and recommendation (Wilks lambda=.91, F(12, 884)= 3.5, p < .001) was found. Significant differences exist for assessing and recommending physical activity excluding the assessment of physical activity levels in individuals with affective psychosis. Generally, there is greater assessment and recommendation for each diagnosis in community and rehabilitation settings compared to inpatient settings.

Table A5.9  Assessing and Recommending Physical Activity by Setting

<table>
<thead>
<tr>
<th>N =455</th>
<th>Mean (SD)</th>
<th>F (2, 452)</th>
<th>Post-hoc</th>
<th>Mean (SD)</th>
<th>F (2, 452)</th>
<th>Post-hoc</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schizophrenia:</td>
<td>Inpatient</td>
<td>3.36 (1.17)</td>
<td>9.429</td>
<td>Inpatient &lt; Community, Rehabilitation</td>
<td>3.46 (1.01)</td>
<td>7.681</td>
</tr>
<tr>
<td></td>
<td>Community</td>
<td>3.92 (.99)</td>
<td></td>
<td></td>
<td>3.85 (.84)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rehabilitation</td>
<td>3.72 (1.1)</td>
<td></td>
<td></td>
<td>3.83 (.94)</td>
<td></td>
</tr>
<tr>
<td>Depression:</td>
<td>Inpatient</td>
<td>3.81 (1.12)</td>
<td>5.785</td>
<td>Inpatient &lt; Community Rehabilitation</td>
<td>3.82 (1.01)</td>
<td>3.615</td>
</tr>
<tr>
<td></td>
<td>Community</td>
<td>4.18 (.93)</td>
<td></td>
<td></td>
<td>4.13 (.81)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rehabilitation</td>
<td>3.77 (1.03)</td>
<td></td>
<td></td>
<td>3.97 (.91)</td>
<td></td>
</tr>
<tr>
<td>Anxiety:</td>
<td>Inpatient</td>
<td>3.65 (1.13)</td>
<td>7.746</td>
<td>Inpatient &lt; Community Rehabilitation</td>
<td>3.61 (1.08)</td>
<td>8.476</td>
</tr>
<tr>
<td></td>
<td>Community</td>
<td>4.14 (.97)</td>
<td></td>
<td></td>
<td>4.08 (.84)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rehabilitation</td>
<td>3.73 (1.04)</td>
<td></td>
<td></td>
<td>3.87 (.85)</td>
<td></td>
</tr>
</tbody>
</table>
Table A5.9 (cont). Assessing and Recommending Physical Activity by Setting

<table>
<thead>
<tr>
<th></th>
<th>Mean (SD)</th>
<th>F (2, 452)</th>
<th>Post-hoc</th>
<th>Mean (SD)</th>
<th>F (2, 452)</th>
<th>Post-hoc</th>
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</thead>
<tbody>
<tr>
<td><strong>Affective Psych.</strong></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inpatient</td>
<td>3.57 (.11)</td>
<td>.392</td>
<td>p &gt; .05</td>
<td>3.28 (1.06)</td>
<td>12.630</td>
<td>Inpatient &lt; Community, Rehabilitation</td>
</tr>
<tr>
<td>Community</td>
<td>3.64 (.94)</td>
<td></td>
<td></td>
<td>3.75 (.82)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rehabilitation</td>
<td>3.53 (.11)</td>
<td></td>
<td></td>
<td>3.73 (.85)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Situational Dist.</strong></td>
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</tr>
<tr>
<td>Inpatient</td>
<td>3.19 (1.12)</td>
<td>10.123</td>
<td>p &lt; .0001</td>
<td>3.27 (1.04)</td>
<td>10.251</td>
<td>Inpatient &lt; Community, Rehabilitation</td>
</tr>
<tr>
<td>Community</td>
<td>3.77 (.01)</td>
<td></td>
<td></td>
<td>3.73 (.9)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rehabilitation</td>
<td>3.48 (.03)</td>
<td></td>
<td></td>
<td>3.67 (.91)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Drug/Alcohol</strong></td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Inpatient</td>
<td>3.19 (1.18)</td>
<td>8.874</td>
<td>p &lt; .0001</td>
<td>3.35 (1.1)</td>
<td>6.525</td>
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</tr>
<tr>
<td>Community</td>
<td>3.62 (1.07)</td>
<td></td>
<td></td>
<td>3.67 (.93)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rehabilitation</td>
<td>3.66 (1.04)</td>
<td></td>
<td></td>
<td>3.74 (.96)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Scale 1-5: 1 = never, 3 = occasionally, 5 = always
Post-Hoc tests significant (p < .05)

Similarly, in terms of specific counselling behaviours, there was a significant interaction (Wilks lambda= .82, F (14, 892)= 6.54, p < .001). Post-hoc analyses reveal that there is significantly less of each behaviour in inpatient settings than in community and rehabilitation settings (Table A5.10). Providing specific prescriptions is greater only in rehabilitation than inpatient/outpatient settings.

Table A5.10 Physical activity Counselling Components Reported

<table>
<thead>
<tr>
<th>Counselling Components</th>
<th>Mean (SD)</th>
<th>F (2, 452)</th>
<th>Post-Hoc</th>
</tr>
</thead>
<tbody>
<tr>
<td>Express concern/willingness</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inpatient</td>
<td>3.71 (.43)</td>
<td>10.878</td>
<td>Inpatient &lt; Community, Rehabilitation</td>
</tr>
<tr>
<td>Community</td>
<td>4.17 (.36)</td>
<td>p &lt; .0001</td>
<td></td>
</tr>
<tr>
<td>Rehabilitation</td>
<td>4.43 (.41)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personalise benefits</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inpatient</td>
<td>3.78 (.55)</td>
<td>15.449</td>
<td>Inpatient &lt; Community, Rehabilitation</td>
</tr>
<tr>
<td>Community</td>
<td>4.58 (.13)</td>
<td>p &lt; .0001</td>
<td></td>
</tr>
<tr>
<td>Rehabilitation</td>
<td>4.56 (.49)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negotiate barriers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inpatient</td>
<td>3.95 (.45)</td>
<td>13.808</td>
<td>Inpatient &lt; Community, Rehabilitation</td>
</tr>
<tr>
<td>Community</td>
<td>4.76 (.26)</td>
<td>p &lt; .0001</td>
<td></td>
</tr>
<tr>
<td>Rehabilitation</td>
<td>4.57 (.35)</td>
<td></td>
<td></td>
</tr>
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</table>
Table A5.10 (cont). Physical activity counselling components delivered.

<table>
<thead>
<tr>
<th>Counselling Components</th>
<th>Mean (SD)</th>
<th>F (2, 452)</th>
<th>Post-Hoc</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provide prescription</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inpatient</td>
<td>2.76 (1.55)</td>
<td>7.592, p &lt; .001</td>
<td>Inpatient &lt; Rehabilitation</td>
</tr>
<tr>
<td>Community</td>
<td>2.99 (1.43)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rehabilitation</td>
<td>3.43 (1.68)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Provide material</td>
<td></td>
<td>17.463, p &lt; .0001</td>
<td>Inpatient &lt; Community, Rehabilitation</td>
</tr>
<tr>
<td>Inpatient</td>
<td>2.05 (1.25)</td>
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</tr>
<tr>
<td>Community</td>
<td>2.62 (1.42)</td>
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</tr>
<tr>
<td>Rehabilitation</td>
<td>2.99 (1.69)</td>
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<td></td>
</tr>
<tr>
<td>Identify resources</td>
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<td>17.469, p &lt; .0001</td>
<td>Inpatient &lt; Community, Rehabilitation</td>
</tr>
<tr>
<td>Inpatient</td>
<td>3.10 (1.6)</td>
<td></td>
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</tr>
<tr>
<td>Community</td>
<td>4.19 (1.39)</td>
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<td></td>
</tr>
<tr>
<td>Rehabilitation</td>
<td>3.82 (1.71)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Provide follow up</td>
<td></td>
<td>18.881, p &lt; .001</td>
<td>Inpatient &lt; Community, Rehabilitation</td>
</tr>
<tr>
<td>Inpatient</td>
<td>1.97 (1.36)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community</td>
<td>2.79 (1.62)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rehabilitation</td>
<td>2.96 (1.68)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean Counselling Score</td>
<td></td>
<td>22.85, p &lt; .001</td>
<td>Inpatient &lt; Community, Rehabilitation</td>
</tr>
<tr>
<td>Inpatient</td>
<td>3.04 (.053)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community</td>
<td>3.73 (1.04)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rehabilitation</td>
<td>3.82 (1.25)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Scale 1-7: 1 = Never, 7 = Almost Always
Post-Hoc tests significant (p < .05)

There was a significant interaction between setting and confidence in providing the counselling strategies (Wilks lambda = .91, F (14, 892)= 2.99, p < .001). Mean confidence scores were also significantly greater for those in rehabilitation and community settings compared to inpatient/outpatient settings (Table A5.11). There were no significant differences between the groups in assessing history of physical activity and providing physical activity interventions effectively.
Table A5.11  Confidence in Counselling Skills by Setting

<table>
<thead>
<tr>
<th>N =455</th>
<th>Mean (SD)</th>
<th>F (2, 452)</th>
<th>Post-hoc</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adapting approach to resistance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inpatient</td>
<td>4.27 (1.34)</td>
<td>4.361, p&lt; .05</td>
<td>Inpatient &lt; Community</td>
</tr>
<tr>
<td>Community</td>
<td>4.70 (1.23)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rehabilitation</td>
<td>4.57 (1.19)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assessing history of PA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inpatient</td>
<td>4.35 (1.44)</td>
<td>2.018, p &gt; .05</td>
<td>-</td>
</tr>
<tr>
<td>Community</td>
<td>4.55 (1.35)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rehabilitation</td>
<td>4.65 (1.31)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negotiating individualised plan</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inpatient</td>
<td>4.39 (1.37)</td>
<td>4.5, p &lt; .012</td>
<td>Inpatient &lt; Rehabilitation</td>
</tr>
<tr>
<td>Community</td>
<td>4.71 (1.41)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rehabilitation</td>
<td>4.82 (1.30)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Identifying appropriate resources</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inpatient</td>
<td>4.29 (1.36)</td>
<td>14.452, p &lt; .0001</td>
<td>Inpatient &lt; Community, Rehabilitation</td>
</tr>
<tr>
<td>Community</td>
<td>4.98 (1.24)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rehabilitation</td>
<td>5.01 (1.4)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coping with relapse</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inpatient</td>
<td>4.48 (1.21)</td>
<td>6.412, p &lt; .002</td>
<td>Inpatient &lt; Community, Rehabilitation</td>
</tr>
<tr>
<td>Community</td>
<td>4.92 (1.18)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rehabilitation</td>
<td>4.87 (1.19)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Providing intervention effectively</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inpatient</td>
<td>3.82 (1.41)</td>
<td>2.986, p &gt; .05</td>
<td>-</td>
</tr>
<tr>
<td>Community</td>
<td>4.11 (1.36)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rehabilitation</td>
<td>4.17 (1.35)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Incorporating PA counselling into regular contact</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inpatient</td>
<td>3.62 (1.33)</td>
<td>8.179, p &lt; .0001</td>
<td>Inpatient &lt; Community, Rehabilitation</td>
</tr>
<tr>
<td>Community</td>
<td>4.18 (1.38)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rehabilitation</td>
<td>4.12 (1.31)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean confidence scores (self-efficacy)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inpatient</td>
<td>4.1384 (1.05)</td>
<td>9.12, p &lt; .001</td>
<td>Inpatient &lt; Community, Rehabilitation</td>
</tr>
<tr>
<td>Community</td>
<td>4.5930 (1.06)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rehabilitation</td>
<td>4.5886 (1.05)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Scale 1-7: 1 = Definitely not confident, 7 = Definitely confident
Post-Hoc tests significant (p < .05)

There was a significant interaction between barriers and setting (Wilks lambda=.92, F (18, 888) = 2.00, p < .01). When examining barriers by setting, analyses reveal small but significant differences for lack of time, lack of interest, lack of support and legal issues (Table A5.12). Lack of time and support and legal issues are significantly higher barriers in inpatient settings in comparison to community, rehabilitation, and rehabilitation and community settings respectively. Lack of
interest is a significantly more frequent barrier in rehabilitation settings in comparison to community settings.

Table A5.12  Barriers by Setting

<table>
<thead>
<tr>
<th>N= 450</th>
<th>Mean</th>
<th>SD</th>
<th>F (2, 452)</th>
<th>Post-hoc</th>
</tr>
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<tbody>
<tr>
<td><strong>Time</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inpatient (181)</td>
<td>3.75</td>
<td>.950</td>
<td>3.31, p &lt; .05</td>
<td>Inpatient &gt; Community</td>
</tr>
<tr>
<td>Community (109)</td>
<td>3.49</td>
<td>.92</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rehabilitation (160)</td>
<td>3.73</td>
<td>.77</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Lack of Success</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inpatient</td>
<td>3.14</td>
<td>1.02</td>
<td>2.01, p &gt; .05</td>
<td>-</td>
</tr>
<tr>
<td>Community</td>
<td>2.96</td>
<td>.96</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rehabilitation</td>
<td>3.20</td>
<td>.94</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Lack of Resources</strong></td>
<td></td>
<td></td>
<td>0.65, p &gt; .05</td>
<td>-</td>
</tr>
<tr>
<td>Inpatient</td>
<td>3.47</td>
<td>1.22</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community</td>
<td>3.33</td>
<td>.98</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rehabilitation</td>
<td>3.36</td>
<td>1.07</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Lack of interest</strong></td>
<td></td>
<td></td>
<td>3.36, p &lt; .05</td>
<td>Rehabilitation &gt; Community</td>
</tr>
<tr>
<td>Inpatient</td>
<td>3.74</td>
<td>.87</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community</td>
<td>3.69</td>
<td>.67</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rehabilitation</td>
<td>3.93</td>
<td>.87</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Lack of Protocols</strong></td>
<td></td>
<td></td>
<td>0.86, p &gt; .05</td>
<td>-</td>
</tr>
<tr>
<td>Inpatient</td>
<td>3.15</td>
<td>1.19</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community</td>
<td>2.98</td>
<td>1.25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rehabilitation</td>
<td>3.03</td>
<td>1.07</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Lack of Incentives</strong></td>
<td></td>
<td></td>
<td>2.8, p &gt; .05</td>
<td>-</td>
</tr>
<tr>
<td>Inpatient</td>
<td>3.20</td>
<td>1.21</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community</td>
<td>2.88</td>
<td>1.16</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rehabilitation</td>
<td>3.15</td>
<td>1.11</td>
<td></td>
<td></td>
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</table>
Table A5.12 (cont.) Barriers by Setting

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
<th>F (2, 452)</th>
<th>Post-hoc</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of Support</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inpatient</td>
<td>3.11</td>
<td>1.16</td>
<td>3.54, p &lt; .05</td>
<td>Inpatient &gt; Rehabilitation</td>
</tr>
<tr>
<td>Community</td>
<td>2.83</td>
<td>1.09</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rehabilitation</td>
<td>2.83</td>
<td>1.06</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Legal Issues</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inpatient</td>
<td>2.96</td>
<td>1.23</td>
<td>5.6, p &lt; .01</td>
<td>Inpatient &gt; Community, Rehabilitation</td>
</tr>
<tr>
<td>Community</td>
<td>2.51</td>
<td>1.18</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rehabilitation</td>
<td>2.65</td>
<td>1.16</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lack of Training</td>
<td></td>
<td></td>
<td>3.01, p &gt; .05</td>
<td>-</td>
</tr>
<tr>
<td>Inpatient</td>
<td>3.39</td>
<td>1.26</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community</td>
<td>3.08</td>
<td>1.22</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rehabilitation</td>
<td>3.13</td>
<td>1.15</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A5.3 TPB Variables across Profession and Setting

MANOVA revealed a significant interaction between the TPB variables and professional status (Wilks’ lambda=.79, F(16,1381)= 7.01, p < .001)(Table A5.13). Occupational therapists expressed the highest intention to promote physical activity, significantly more so than nurses and Health Care Support Workers. There were no significant differences between all five professions in terms of attitude toward promoting physical activity. Significant differences were revealed in relation to perceived behavioral control and subjective norms. Post-hoc analyses reveal that occupational therapists and CPN’s perceived greater control than nurses and Health Care Support Workers (HCSW). Psychiatrists/psychologists also perceived greater control than HCSW’s. Health Care Support Workers reported the highest mean for subjective norms to promote physical activity, significantly higher than CPN’s and Psychiatrists/psychologists. Finally, OT’s reported significantly higher subjective norms than CPN’s and Psychiatrists/psychologists.
Finally, examining the TPB variables revealed a significant interaction (Wilks lambda = .82, F (8, 898) = 11.89, p < .001) as a function of setting. Intentions were significantly higher in community and rehabilitation settings. Greater perceived behavioral control was reported in community settings compared to inpatient/outpatient and rehabilitation settings and higher subjective norms in rehabilitation settings compared to inpatient and community settings (Table A5.14). As when exploring professional status, there was no significant difference for attitude.
Table A5.14  TPB variables by Setting

<table>
<thead>
<tr>
<th></th>
<th>Setting 1</th>
<th>Setting 2</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Intention</strong></td>
<td>4.57</td>
<td>5.18</td>
<td>7.69, p &lt; .001</td>
</tr>
<tr>
<td>Inpatient</td>
<td>4.57</td>
<td>5.18</td>
<td>7.69, p &lt; .001</td>
</tr>
<tr>
<td>Community</td>
<td>5.18</td>
<td>4.93</td>
<td>1.75, p &gt; .05</td>
</tr>
<tr>
<td>Rehabilitation</td>
<td>4.93</td>
<td>1.29</td>
<td></td>
</tr>
<tr>
<td><strong>Attitude</strong></td>
<td>5.01</td>
<td>5.22</td>
<td>1.75, p &gt; .05</td>
</tr>
<tr>
<td>Inpatient</td>
<td>5.01</td>
<td>5.00</td>
<td></td>
</tr>
<tr>
<td>Community</td>
<td>5.00</td>
<td>5.22</td>
<td></td>
</tr>
<tr>
<td>Rehabilitation</td>
<td>5.00</td>
<td>5.22</td>
<td></td>
</tr>
<tr>
<td><strong>PBC</strong></td>
<td>25.88</td>
<td>4.26</td>
<td>25.88, p &lt; .0001</td>
</tr>
<tr>
<td>Inpatient</td>
<td>25.88</td>
<td>4.26</td>
<td></td>
</tr>
<tr>
<td>Community</td>
<td>4.26</td>
<td>5.24</td>
<td></td>
</tr>
<tr>
<td>Rehabilitation</td>
<td>4.36</td>
<td>5.24</td>
<td></td>
</tr>
<tr>
<td><strong>Subjective Norms</strong></td>
<td>3.96</td>
<td>4.03</td>
<td>9.22, p &lt; .0001</td>
</tr>
<tr>
<td>Inpatient</td>
<td>3.96</td>
<td>4.03</td>
<td></td>
</tr>
<tr>
<td>Community</td>
<td>4.03</td>
<td>4.60</td>
<td></td>
</tr>
<tr>
<td>Rehabilitation</td>
<td>4.03</td>
<td>4.60</td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX 6 - PROSPECTIVE ANALYSIS: RESPONDERS VS. NON-RESPONDERS

Nonresponders at time 2 did not differ from responders on gender, age, professional status, setting, stage of change or the TPB variables and were excluded from the prospective analyses.

Table A6.1 Gender

<table>
<thead>
<tr>
<th></th>
<th>Non-responders</th>
<th>Responders</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>28</td>
<td>131</td>
<td>159</td>
</tr>
<tr>
<td>Female</td>
<td>55</td>
<td>263</td>
<td>318</td>
</tr>
<tr>
<td>Total</td>
<td>83</td>
<td>394</td>
<td>477</td>
</tr>
</tbody>
</table>

Chi-square = .001 (1 df.), p > .05

Table A6.2 Age

<table>
<thead>
<tr>
<th>Age</th>
<th>Mean (SD)</th>
<th>t (475)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Responders</td>
<td>38.44 9.42</td>
<td>.1, p &gt; .05</td>
</tr>
<tr>
<td>Responders</td>
<td>38.56 9.42</td>
<td></td>
</tr>
</tbody>
</table>

Table A6.3 Profession

<table>
<thead>
<tr>
<th>Profession</th>
<th>Non-responders</th>
<th>Responders</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>nurse</td>
<td>34</td>
<td>161</td>
<td>195</td>
</tr>
<tr>
<td>OT</td>
<td>5</td>
<td>36</td>
<td>41</td>
</tr>
<tr>
<td>psychiatrist &amp; psychologist</td>
<td>7</td>
<td>40</td>
<td>47</td>
</tr>
<tr>
<td>CPN</td>
<td>9</td>
<td>57</td>
<td>66</td>
</tr>
<tr>
<td>health care</td>
<td>24</td>
<td>87</td>
<td>111</td>
</tr>
<tr>
<td>support worker</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>79</td>
<td>381</td>
<td>460</td>
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</table>

Chi-square = 3.02 (4 df.), p > .05

Table A6.4 Setting

<table>
<thead>
<tr>
<th>Setting</th>
<th>Non-responders</th>
<th>Responders</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>inpatient</td>
<td>36</td>
<td>147</td>
<td>183</td>
</tr>
<tr>
<td>community</td>
<td>13</td>
<td>99</td>
<td>112</td>
</tr>
<tr>
<td>rehabilitation</td>
<td>28</td>
<td>132</td>
<td>160</td>
</tr>
<tr>
<td>Total</td>
<td>77</td>
<td>378</td>
<td>455</td>
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</table>

Chi square = 3.27 (2 df.), p > .05
Table A6.5  Stage of Change

<table>
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<th>Stage of Change</th>
<th>Non-responders</th>
<th>Responders</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>precontemplation</td>
<td>7</td>
<td>26</td>
<td>33</td>
</tr>
<tr>
<td>contemplation</td>
<td>3</td>
<td>27</td>
<td>30</td>
</tr>
<tr>
<td>preparation</td>
<td>43</td>
<td>169</td>
<td>212</td>
</tr>
<tr>
<td>action</td>
<td>1</td>
<td>10</td>
<td>11</td>
</tr>
<tr>
<td>maintenance</td>
<td>29</td>
<td>162</td>
<td>191</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>83</strong></td>
<td><strong>394</strong></td>
<td><strong>477</strong></td>
</tr>
</tbody>
</table>

Chi-square = 3.88 (4df.), p > .05

Table A6.6  TPB variables

<table>
<thead>
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<th>Mean (SD)</th>
<th>t (475)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intention</td>
<td></td>
<td>1.9, p &gt; .05</td>
</tr>
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<td>Non-Responders</td>
<td>4.6</td>
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</tr>
<tr>
<td>Responders</td>
<td>4.94</td>
<td>1.30</td>
</tr>
<tr>
<td>Attitude</td>
<td></td>
<td>.4, p &gt; .05</td>
</tr>
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<td>Non-Responders</td>
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<td>1.11</td>
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<td>Responders</td>
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<td>1.06</td>
</tr>
<tr>
<td>PBC</td>
<td></td>
<td>1.9, p &gt; .05</td>
</tr>
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<tr>
<td>Responders</td>
<td>4.61</td>
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</tr>
<tr>
<td>Subjective Norms</td>
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<td>.48, p &gt; .05</td>
</tr>
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<tr>
<td>Responders</td>
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<td>1.49</td>
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</table>
APPENDIX 7 - INTERVIEW RESPONDERS VS. NON-RESPONDERS

Individuals declining to participate in a follow-up interview did not differ from those who did as a function of promotional stage of change, age, gender, or the TPB variables.

Table A7.1  Promotional Stage of Change

<table>
<thead>
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<th>Stage of Change</th>
<th>Non-responders</th>
<th>Responders</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>precontemplation</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>contemplation</td>
<td>1</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>preparation</td>
<td>5</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>maintenance</td>
<td>5</td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>12</strong></td>
<td><strong>12</strong></td>
<td><strong>24</strong></td>
</tr>
</tbody>
</table>

Chi-square = 3.30 (3 df.), p > .05

Table A7.2  Age

<table>
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<th>Age Group</th>
<th>Mean (SD)</th>
<th>t (21)</th>
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</thead>
<tbody>
<tr>
<td>Responders</td>
<td>35.25</td>
<td>1.4, p &gt; .05</td>
</tr>
<tr>
<td>Non-Responders*</td>
<td>40.73</td>
<td>11.24</td>
</tr>
</tbody>
</table>

*One non-responder did not enter an age.

Table A7.3  Gender

<table>
<thead>
<tr>
<th>Gender</th>
<th>Non-responders</th>
<th>Responders</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>3</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>female</td>
<td>9</td>
<td>9</td>
<td>18</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>12</strong></td>
<td><strong>12</strong></td>
<td><strong>24</strong></td>
</tr>
</tbody>
</table>

Chi-square = .000 (1 df.), p > .05
Table A7.4 TPB variables

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<th>Mean (SD)</th>
<th>t (22)</th>
</tr>
</thead>
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<tr>
<td>Non-Responders</td>
<td>5.31</td>
<td>1.52</td>
</tr>
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<td>Responders</td>
<td>4.95</td>
<td>0.89</td>
</tr>
<tr>
<td><strong>Attitude</strong></td>
<td></td>
<td>0.64, p &gt; .05</td>
</tr>
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<td>Non-Responders</td>
<td>5.59</td>
<td>1.13</td>
</tr>
<tr>
<td>Responders</td>
<td>5.31</td>
<td>1.09</td>
</tr>
<tr>
<td><strong>PBC</strong></td>
<td></td>
<td>0.67, p &gt; .05</td>
</tr>
<tr>
<td>Non-Responders</td>
<td>4.34</td>
<td>1.35</td>
</tr>
<tr>
<td>Responders</td>
<td>4.00</td>
<td>1.07</td>
</tr>
<tr>
<td><strong>Subjective Norms</strong></td>
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<td>0.03, p &gt; .05</td>
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APPENDIX 8: INTERVIEW SCHEDULE

Interviewer background: My name is Guy Faulkner and I am a research student at Loughborough University in Exercise Psychology.

Purpose of study: Recent policy initiatives are pushing exercise and physical activity as a strategy to improve mental health for the population as a whole but also for clinical populations. Our general focus is seeking to understand how exercise will be promoted for mental health and who would promote exercise as such. Specifically, this study aims to investigate attitudes toward exercise as a strategy for promoting mental health within inpatient settings.

Confidentiality –
• In any writing, I undertake, you will not be identified or described in any way that would reveal identity.
• The only person to listen to the audio-tapes of the interview and transcribe them will be me.
• Drafts of any article written for public consumption will be made available to you to check the accuracy of the data presented and the fairness of my interpretation.
• You are free to terminate the interview without need to give an explanation.
• Do I have permission to tape record the interview?
• Any questions?

Can you briefly describe the setting in which you work? Can you describe the nature of the clients you generally cater for?

Exercise & Mental Health Knowledge
Do you think exercise can play a role in the management of clinical mental health conditions?

What are some of the advantages/disadvantages for your clients if they became more physically active?

How/why?

Any negative consequences?

Where does this knowledge come from?

Importance of Physical Activity
Is it more or less important for your clients to do physical activity? (As someone with an enduring mental illness) Why?

Anything about their health / ‘diagnosis’ that prevents them from being physically active?

Do you think they should be any less active because of enduring mental illness?
How important is physical activity compared to other health behaviours or actions that you promote/could promote to your clients? (Why?)

- not smoking
- good diet
- not drinking/drugs
- sleep
- withdrawal

**Promotion**

Do you promote physical activity to your clients? Why/why not?

IF NO, What would influence you to change?

If YES, how do you promote pa? What do you promote?

How do you present and discuss the idea of physical activity with your clients?

How many clients with whom you come into contact, would you promote physical activity to?

What distinguishes those who you do promote physical activity to from those who you do not?

**Importance of Promotion**

What role do you think you could/should play in relation to the promotion of physical activity?

What would be the advantages and/or disadvantages of YOU promoting physical activity to your clients? Any benefits for YOU?

Relatively speaking, how important do you perceive promoting physical activity to be in comparison to your other duties?

How compatible do you think promoting physical activity is with your usual roles and duties?

Do you see yourself as someone who promotes healthy behaviours such as exercise? Why do you promote? Personal Norms?

**Implementation**

How successful are you in promoting physical activity? What works? What doesn’t?

How easy/difficult is it to promote physical activity to your clients?

Do you make plans to promote physical activity?

What are the barriers that limit you promoting physical activity to your clients?
How do/can you attempt to overcome these?

How confident are you that you can overcome these?

How much control do you have in promoting physical activity throughout a working day?

Can you think of any factors that are critical to the success of promoting physical activity to your clients?

In general, how confident do you feel in promoting physical activity? How does a lack of confidence affect you?

Norms
What do you think other people’s [staff] perceptions of physical activity are?

Can those perceptions influence your feelings about physical activity and its promotion?

Do you know other colleagues who promote physical activity to clients?

List any people or groups who would approve or disapprove of you promoting physical activity?

Is promoting physical activity, something that your line manager thinks you should do?

Is it important that you do what your line manager thinks you should do?

Training Needs
What would help you promote physical activity to your clients?

Are there specific aspects of physical activity and/or its promotion that you need to know more about?

What would encourage you to promote more physical activity?

What support do you need to promote physical activity to your clients?
   Line manager
   Resources
   Materials

Conclusion
If this was the only record . . .
APPENDIX 9: INFORMATION SHEET

Research Project Entitled:
Exercise and Mental Health: Evaluation of a CMHT Exercise Referral Scheme

What is the purpose of this study?

If you are not already aware, your Community Mental Health Team is referring clients to the Market Harborough Leisure Centre for an exercise programme supervised by experienced instructors. Many benefits have been reported to result from participation in such schemes and it is the purpose of this study to carefully evaluate these claims.

The study will involve monitoring physical activity levels and perceptions of referred clients over a six-month period.

What will you be asked to do in the study?

1. Upon return of the attached response from your key worker, the Principal Investigator will contact you to confirm a suitable date and time for you to attend an initial appointment at the Leisure Centre.

2. At the initial appointment, you will be introduced to the researcher, who will
   a) ensure that you fully understand what will be involved in the study
   b) ask you questions about your background, physical activity levels and attitudes to exercise.

3. Five weeks after your first exercise session at the Leisure Centre, you will have the opportunity of answering questions about your recent perceptions of health and lifestyle by phone or postal survey.

4. Twelve weeks after your first session at the leisure centre, there will be a similar opportunity by phone or postal survey.

5. A final visit to the Leisure Centre will be arranged six months after the last interview. This interview will consider your general thoughts on involvement in the exercise referral scheme.
Will you be suitable for the study?

1. You have been identified by your keyworker as being suitable to participate in the study.

2. There is nothing involved in the interviews or exercise programme that your keyworker feels, from available information, you will be unable to complete, or will provide greater risk than the activity you may do in every day life.

Will information obtained in the study be confidential?

All the information you provide to the researcher will be kept in the strictest confidence. You will not be identified in any documents relating to the research. The findings of the research will be available upon request at the end of the study.

What happens if I do not wish to participate in this study or wish to withdraw from the study?

If you do not wish to participate in this study or the exercise referral scheme, or if you wish to withdraw from the study, you may do so without justifying your decision and with no prejudice or disadvantage to yourself.

If you would like any further information about any aspect of the study please contact:

Principal Investigator: Guy Faulkner

Address: Department of PE, Sport Science and Recreation Management, Loughborough University, Loughborough, LE11 3TU. Phone: (01509) 22 8450
Response Form

PLEASE RESPOND TO THE FOLLOWING AND RETURN THIS FORM IN THE
ENCLOSED STAMPED ADDRESSED ENVELOPE OR RETURN TO YOUR
KEYWORKER.

I have read the information about this study and: (please tick one)

a) I need no further information and await a telephone call to
   arrange the first assessment session.
   
b) I am interested in being in the study but would like further
   information if you could telephone me.
   
c) I am not really interested in being in the study but would
   like further information if you could telephone me.
   
d) I definitely don't wish to be in the study and don't wish
   you to telephone me.

Please print your:

NAME: ____________________________
ADDRESS: ________________________

TELEPHONE NUMBERS:

HOME: ___________________________
WORK: ___________________________

Please tick the best time to call and cross the times when you definitely do not wish to
be called. If you have no preferences then leave the grid blank.

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APPENDIX 10: CONSENT FORM

Exercise and Mental Health: Evaluation of a CMHT Exercise Referral Scheme
Investigator: Guy Faulkner

This form should be read in conjunction with the Patient Information Leaflet

I agree to take part in the above study as described in the Information Sheet.

I understand that I may withdraw from the study at any time without justifying my
decision and without affecting my normal care and medical management.

I have read the information leaflet on the above study and have had the opportunity to
discuss the details with ........................................................and ask any questions.
The nature and the purpose of the tests to be undertaken have been explained to me
and I understand what will be required if I take part in the study.

In order to screen for and monitor health problems which may influence involvement
in exercise it is important that you disclose any undue feelings or symptoms during the
study to the researcher, exercise instructor, keyworker or GP.

Signature of patient.......................................................... Date......................................

(Name in BLOCKLETTERS)...............................................................................................

I confirm I have explained the nature of the study, as detailed in the Information
Sheet, in terms which, in my judgement, are suited to the understanding of the patient.

Signature of Investigator .................................................. Date......................................

(Name in BLOCK LETTERS)...................................................................................................
APPENDIX 11: PARTICIPANT INTERVIEW SCHEDULE

- The following questions would be slightly adapted to make allowances for the time of assessment and the clients' current level of physical activity participation.

1. Have there been any changes in your activity since we last met?
2. Can you recall the physical activity you have been doing in the past 7 days?
   a) Have you done any vigorous/moderately intensive activities?
3. What were your initial attitudes towards being referred to the leisure centre? Have these attitudes changed in any way?
4. Were there any goals that you hoped would be realised as a result of participating in the exercise scheme? Are you progressing toward these goals?
5. Did you have any fears or apprehensions about attending? Do you consider that these feelings were justified?
6. After your first session at the leisure centre, did you intend to go there for exercise regularly? Have you been able to maintain this? What has affected your ability to fulfil your attentions?
7. Do you feel you have received adequate support in attending the leisure centre?

EXPERIENCES DURING EXERCISE
8. Do you feel that your exercise programme is individually tailored for you? Does it feel right?
9. Is your progress regularly checked by an instructor? Do you feel that the instructors provide you with the right level of support?
10. Describe how you feel during exercise? How do you feel afterwards?

HEALTH BEHAVIOURS
11. Would you say that you feel any different about yourself and your health since the last assessment?
12. Have you made any changes in other health related behaviours since we last met?
13. What have you found most difficult about attending the leisure centre? What have you enjoyed the most? Has anything discouraged you?
14. How do you see exercise playing a role in the future?
APPENDIX 12: CASE STUDIES

A12.1 Robert

Robert had retired from teaching in London where he finished as a head teacher of a large comprehensive school. Since retiring, Robert has suffered from depression and finds it difficult to do anything:

Just sheer lethargy and the desire to just lie in bed and shut down and not get to grips with the day . . . . There are days when I sort of find it impossible to really get activated and spend a lot of time lying around.

This inactivity has led to weight gain, which has never been a problem in his working life and he can remember feeling better for being active in the past:

There's no doubt that physical activity helps you to, partly if you've got to concentrate enough on it, it takes you away from having negative thoughts about yourself all the time, the brooding and reminiscing or whatever, so it helps mentally from that point of view.

He has decided to do something about his weight. Due to the reduced price, he hopes to make the gym three sessions a week in order to lose 15 kilograms. He doesn't feel apprehensive about the leisure center but is less confident of making it a regular routine. He hopes to keep a record of his attendance as an incentive.

Six weeks later, Robert is enjoying three sessions a week at the leisure centre. Most days of the week, he also manages to walk for thirty minutes. Feeling more active, he also speaks of the difficulty he sometimes has in making the center:

Just a sense of lethargy really and depression. To get out and get on with it, it sounds bad, but it's just a kind of inner laziness which comes with depression. But when I do go I feel much better afterwards, I feel more confident and happier with myself once I've been there. . . . Its just getting the willpower to do that really as opposed to trying to shut everything out by lying on a bed or something.
Robert could not overcome such feelings but would go to leisure centre the following
day when he invariably felt better. A sense of achievement and purpose makes Robert
feel better for some hours after these sessions and he feels that he is “moving towards
a better weight”. However, concerns about the loud music at the center, a lack of
individual support from staff and the boredom involved in the CV equipment are
raised. Despite these concerns, Robert plans to continue as well as incorporating more
walking into his day.

Robert, after twelve weeks, has stopped going to the leisure center. He finds
regular cycling in the country to be more fun, particularly when the weather is nice. A
day wouldn’t go by when he wouldn’t do some activity that makes him breath heavily
and sweat. He feels that a lack of monitoring at the leisure center makes it easier for
him not to bother:

I suppose that sounds very weak willed but I suppose you know there’s a
feeling on being a real referral, as you would be referred to certain other
doctors or something like that, it would be rather different but it’s very
much under my control as to when I go and what I do.

Since starting, he feels that he has lost some weight and that his psychological health
has improved. In particular, the summer months have helped when he is able to do
things in the garden and go for long bike rides. These continue to help his
psychological well-being:

I have a sort of gut feeling that the sheer physical activity, release of
endorphins or whatever it is and that sort of thing actually does help your
mental well-being. It helps to distract you from other things, apart from
anything else, and you’ve got to concentrate on what you’re doing and the
fact that you’re actually doing something, however slight, affects your
psychological thinking really.

For Robert, exercise is a way to break down the day into “purposeful units”, which is
often blurred by depression. In particular, Robert notes the lack of opportunities to be
active while at the inpatient setting in Leicester. He has always been an active person,
teaching in large schools in London but finds the real strength to be active again
through the support of a new partner who has moved in with him. “I think if I was
here on my own all the time, I wouldn’t have the same self-will to be honest about it and I would tend to spend more time just sitting reading or whatever”. Robert plans to return to the gym in an effort to further control his weight and do something constructive yet he is not convinced that the exercise sessions were as strenuous as his cycling or gardening.

After six months, Robert has not returned to the leisure center but is managing three ‘vigorous’ thirty-minute walks a week into town and back. He has been thinking about returning to the leisure center but is turned off by the repetitive nature of much of it, the piped in music and his inability to overcome his own ‘laziness’:

I think it’s laziness, I can’t think of anything else really that it could be described as. Which is amazing really because I’ve never, I’ve never thought of myself during my working life anyway, as being a lazy person, and physically certainly not lazy. But I think that’s part of the depression really, that you don’t value yourself highly enough to really get off your backside and do something.

Greater encouragement and monitoring would be helpful:

When I last went, I see the psychiatrist about once every twelve weeks or so, and she’s not sort of mentioned it, or chivvied me or said anything about it as part of the treatment as it were. But it is in a sense part of the overall treatment. I think it would help if it had been seen as important as taking drugs.

Robert still wants to improve his overall fitness and lose some weight and talks about his hopes of returning to the gym. Doing some group activities might also help. Despite not attending he feels that his psychological health has stabilised in contrast to when he initially joined the programme. He returns to playing the bassoon, a hobby he had long given up and becomes actively involved in the local church group. He has developed some other positive interests so that exercise is no longer of high priority, although he still recognises it as being of great benefit potentially. Planning to visit the leisure center the following week, Robert is also looking forward to the summer and getting on his bike again.
A year after first talking to Robert, the sun has returned and Robert is trying to be active for an hour a day with his partner. Weight is still his major motive for being active and he is determined to lose three stone. He's always prided himself on being slim and the extra weight is a concern. He no longer visits the leisure center due to boredom and because he is not like all the "young, muscle bound people who want to get extra lean and fit". An inner laziness that comes from depression is also a problem as he knows the exercise sessions would be beneficial:

If you're depressed, I think there's a tendency just to want to lie down and not do anything at all, and just sink into a sloth of despondency, and everytime I've just walked from the center of town, and I feel after that walk, you do feel more able to cope and so forth. It does seem to help quite a lot rather than sitting and brooding.

He believes it is the right thing to do and castigates himself for not attending regularly. However, he is more active than he was a year ago particularly in the summer months. A partner moved in and she's managed to get him off his backside. The walking and cycling has been "like a tonic that then sort of lasts a few hours after you've stopped" before sinking back into lethargy. The distraction is most important and the activity provides an opportunity free from brooding and reminiscing. Additionally, Robert is still practicing the bassoon and now playing the organ at the local church. These activities provide a similar distractive function and some structure to the day. But he feels that his walks and rides are qualitatively different:

There's something inside me that says, maybe chemically speaking there is a kind of causal link between taking activity and pushing oneself a bit.

Robert finds that physically demanding activities "with plenty to look at" are the most beneficial.

Generally, Robert feels that his psychological health has improved over the year for no particularly obvious reason, "just better able to see, to see what's happening, and to take necessary action, just more aware of certain states of mind and knowing how to deal with them using distraction". Still on medication, he is now interested in doing some voluntary work to give himself a new goal during the week. In the future he also plans to maintain an hour a day of moderate activity and possibly
return to the leisure centre as being on a programme would give him some feedback as to progress. “Just getting there” remains a problem as he feels confident once there and comfortable in the gym environment if it wasn’t for the piped in music. To overcome his sense of lethargy, setting goals has become important and he plans to use a chart to track how much activity he is doing. Greater contact with an individual instructor who monitored his progress might help as would greater emphasis from mental health professionals that exercise was seen as a part of the overall treatment package. They generally “just don’t ask”.

A12.2 Julie

Julie had a nervous breakdown five years ago due to the stress at work. Then her partner got cancer and she nursed him through that. After she went into remission, she found herself unable to “go back out into the real world” and be independent and subsequently suffered from depression. Her goals for taking part in the referral scheme are clear:

Basically, get back to normal, what I call normal life. I tend to cocoon myself at home, I found solace in my garden, by putting my garden right and I tend to look after everybody else and forget about myself and [psychologist] is trying to get me to look after myself more than looking after everybody else because I put myself last.

Currently inactive, Julie and her psychologist hope that exercising would provide some “set rules that keeps your whole day going”. She also wants to lose three stone. However, based on previous experiences she is apprehensive about going to the center:

Like when I tried to do it before, and I was overweight, you tend to stand at the back of the class and you get all the people with superb figures and everything at the front of the class all doing the exercises fantastically and you get all the fatties at the back who are trying to . . . it’s a bit like a competition.

She hopes that this time it will be more individually tailored for her even at the reduced price.
Six weeks later, Julie has not been able to attend the induction due to health problems. Taking Beta Blockers for panic attacks leaves her feeling breathless and tired. Her GP has taken her off these and Julie is waiting for his clearance before starting the programme. She is still looking forward to starting and using it as a strategy “to get back to feeling like a normal human being”. After twelve weeks, Julie makes the induction and attends the leisure center twice. She is apprehensive when she first goes and has totalk herself into entering the leisure centre for the first time. However, she thoroughly enjoys these sessions:

I felt like I was doing something for myself. Everybody else, I’m always doing things for everybody else and they’ve never got time to do things for me so the fact that I stopped what everybody else wanted me to do and did something for myself was very rewarding.

Finding the time is always a struggle after she has finished looking after her husbands needs. Without the referral, Julie believes she wouldn’t have started at all and it is now proving to be an important avenue for control:

If it was left to other people to jog me, I’d never get there. I’ve really had to sort of say to myself, c’mon, this is for you and because I’m such a nervous person anyway, I have to really force myself to do things for myself. It’s giving me confidence to speak up for myself.

Additionally, concerns with her body have come to the fore as she considers “I’m not a fat person but I feel I am”. When she gave birth to her son, her pelvic bones and back were injured resulting in an extended stomach. She is now planning on having an androplasty done to correct the overbalance of her hip and pelvic floor. This operation, she believes, will give her much greater confidence about herself. Exercise both before and after the operation will be important for helping her subsequent recovery.

Julie is still waiting for her operation after six months but has told her psychologist how much she loves the referral scheme and how good it has been for her. She’s been going once a week with a neighbour and enjoying all the facilities the center has to offer. She has even re-evaluated the role of the leisure centre within the
community having always seen it as “a big white elephant”. After several false starts and many months thinking about attending, Julie has finally managed some consistency to her visits:

It gives me two to three hours to myself and it makes me do something that is good for me and also it, it’s doing me good, it’s getting me out and it’s also give me a great deal of self-worth.

She still has to force herself to go and sets herself a whole day a side in order to attend. Going during Ladies Leisure Morning, she has found other women to exercise with and chat to but enjoys a quick cigarette break between the swimming and Jacuzzi. Overall, the physical and mental timeout spent on herself is rewarding although her problems will “not change overnight”. Due to have her operation to realign her pelvis, Julie is planning with an instructor at the leisure center a rehabilitative exercise programme to help her recover. She feels lucky to have such friendly, individualised support at the leisure center given that noone had ever encouraged her to be active before when passing through mental health settings. She also prefers not belonging to some form of ‘mental health group’.

The operation for Julie has not been a total success when I spoke to her after a year. While an “overhang of very hard fat” has been removed she is left with an ugly scar that did not heal. Further surgery is required. After the operation in December she has managed to attend the gym several times but she stopped four months ago. Other events in her life have taken over which ultimately lead to her splitting from her partner two weeks ago:

I used this metaphor of trying to explain to him how I felt like I was on a busride with all these people that were really emotionally draining me, and I got to the point where I couldn’t stand the hum of the bus, the bubble of their voices, and everything so I just got up and walked to the front of the bus, yanked on the break, and got out and I didn’t feel responsible for whatever was going on on that bus. I just walked down the road, and the farther I walked down that road, the sunnier and warmer I felt, and the better I felt, and that’s how I feel about myself at the moment.
Consequently, Julie is being as active as possible around the house and garden in order to avoid dwelling on the break up. She is apprehensive but optimistic for the future. She will have more time for herself and feel less drained by attending to the needs of others. She believes this is a common problem for women with mental health problems:

I mean most of the time, with people with mental health problems like my own, is because they feel that they have no purpose left, and because they’ve either brought up a family and put every available second and energy that they’ve got into making sure that their family’s right and they’ve forgotten to look after themselves.

Julie has turned a corner in her life and sees future attendance at the leisure center as something to focus on, for herself. She plans to go next Tuesday and has her gear packed waiting in the spare bedroom.
APPENDIX 13 - LETTERS OF ETHICAL APPROVAL FOR THE STUDIES REPORTED IN CHAPTER FOUR, FIVE AND SIX
19 January 1999

Professor S Biddle
Professor of Exercise and Sport Psychology
Loughborough University
Loughborough
Leicestershire LE11 3TU

Dear Professor Biddle

Exercise and Mental Health: Evaluation of a CMHT Exercise Referral Scheme - our ref. no. 5347

Further to your application dated 27 November 1998, you will be pleased to know that the Leicestershire Research Ethics Committee at its meeting held on the 8 January 1999 approved your request to undertake the above-mentioned research conditional upon:

1. Consent being obtained from subjects individually and not as part of a group where they might feel under pressure to agree to take part
2. The letters being sent out on headed notepaper and in a larger print
3. The Committee having sight of the letters to General Practitioners
4. The Committee having sight of the questionnaire when it is developed

Your attention is drawn to the attached paper which reminds the researcher of information that needs to be observed when ethics committee approval is given.

Yours sincerely

R F Bing
Chairman
Leicestershire Research Ethics Committee

(NB All communications relating to Leicestershire Ethics Committee must be sent to Committee Secretariat at Leicestershire Health)
To all Trust Staff:

**EXERCISE & MENTAL HEALTH: EXERCISE PROMOTION IN MENTAL HEALTH SETTINGS**

This open letter is intended to inform all staff regarding the above project. The researchers are based at Loughborough University, and approached the Trust in December 1998 to act as the key centre for the investigations. At the Trust R&D Operational Panel meeting in January 1999, the project was fully approved, and subsequently received ethical approval from the Leicestershire Research Ethics Committee. In the light of these endorsements, staff are recommended to support and participate in the research programme wherever possible.

- The purpose of the research is to identify the nature and extent of exercise promotion to clients within the Trust and examine the attitudes and perceptions held by mental health professionals toward such promotion.
- The project's lead investigator is Professor Stuart Biddle; the primary researcher is Guy Faulkner (both of Loughborough University).
- Details can be confirmed with the Dave Clarke at the Trust Research Office on 0116-225-6307.
- It is expected that the products of the research will be presented to the Trust at an appropriate forum at a later date.

In summary, if you approached by the investigators to take part in this project, please be assured that it is fully endorsed by the Trust.

Yours faithfully,

Dave Clarke
[R&D Manager]