

Chapter 1:

INTRODUCTION

1.0 Introduction

Exercise or physical activity is central to quality of life. But despite the broad awareness of the physical and psychological benefits of frequent exercise (American College of Sports Medicine [ACSM], 2007) and the realistic and achievable nature of the current recommended daily physical activity guidelines (ACSM, 2007), over half of the Irish population do not adhere to the recommended daily physical activity guidelines, with some countries reporting up to 75% of the population being physically inactive (SLAN, 2007).

Roughly half of those who commence a supervised physical activity program drop out of it within the first six months (Dishman, 2001). Of those individuals who dropout, the majority indicate having no time as the main barrier to physical activity (SLAN, 2007). Global statistics provided by the World Health Organisation (WHO) propose that 2 million fatalities annually can be directly attributed to exercise patterns.

Wilson et al., (2008) stress the importance of understanding the components that motivate health behaviour such as physical activity. The significance of such behaviour has considerable effects on promoting physical and mental health. Motivation is defined as factors so as to initiate, or sustain action (Moran, p. 285, 2004). These behaviours include choice, persistence, continuing motivation and intensity (Biddle & Mutrie, 2001, p. 47). Motivation is said to be the cornerstone of individuals committing to an exercise program and a concise comprehension of what may illicit such commitment should be understood. This knowledge can aid researchers as to why such high levels of decline exist in physical activity at the early stages (Buckworth et al., 2006).

A common approach to the study of motivation in physical activity settings has been to look at participation motives. Understanding what drives people to become physically active highlights the individual's reasoning in deciding to participate in exercise (Morgantown, 2001). Hence understanding what motivates individuals could support in organising, promoting, and maintaining individual's involvement in exercise. (Ashford, Biddle & Goudas, 2005).

1.1 The Theory of Planned Behaviour

Created initially by Ajzens (1985) the model was designed to predict people's health behaviours. The model was applied to a variety of health behaviours such as alcohol consumption, smoking and general risky behaviours. The model while viewed as effective for many years has since been reviewed and elaborated upon. Hagger and Chatzisarantis (2008) Extended Theory of Planned Behaviour is a comprehensive framework for the understanding of participation levels in physical activity. However there are areas within the body of research which have not been fully explored or understood. There are distinct areas in where a minimal amount of research has been conducted.

The objective of the research is to analyse the effectiveness of Hagger and Chatzisarantis Extended Theory of Planned Behaviour. The research intends to investigate the beliefs, attitudes and motivations surrounding a person's "*intentions to engage in physical activity. Despite the existing literature on the Extended Theory of Planned Behaviour*", given its relevant recent formation there is a gap in the literature associated with the Theory. The nature of this study has important implications, not only for academics interested in exploring the issues related to exercise participation, but also to health practitioners who strive to improve participation rates during this obesity epidemic

1.2 Research Question

The primary research question is:

To explore Hagger and Chatzisarantis Extended Theory of Planned Behaviour and its effectiveness in predicting intentions to engage in exercise.

1.3 Objectives of the Study

The following are objectives derived from the research question:

1. To contrast peoples' intended physical activity behaviour against their actual behaviour
2. To analyse the significance of attitude in determining intentions to engage in regular leisure-time physical activity
3. A) To analyse the influence of social interaction has on intentions to engage in regular leisure time physical activity
 B) To explore the opportunities barriers that are present in exercise participation.

4. To compare and contrast how the implication of gender applies to the Theory of Planned Behaviour

1.4 Dissertation Structure

The study consists of six chapters. A brief description of the contents of each chapter will now be outlined.

Chapter one is an introductory chapter to the successive chapters. It provides a general overview of the research including the study area as well as the study rationale, methodology and contribution.

Chapter two encompasses the literature review, with an examination of the area of the existing model of the Theory of Planned Behaviour and how Hagger and Chatzisarantis (2008) have developed it. It also describes the other issues which contribute to the study such as attitude, social interaction, opportunities and barriers and gender.

Chapter three offers a description of the methodology employed in conducting the primary research.

The fourth chapter demonstrates the results from the primary research carried out.

Chapter five provides the synthesis and discussion of these findings with the literature.

A conclusion is then derived from the previous research. The study also makes suggestions for the effectiveness of the Extended Theory of Planned Behaviour and its potential application in an Irish context.

1.5 Research Methodology

Quantitative methods were adopted as the most suitable research means for a study of this type. Given the nature of the objectives the research deemed it necessary to supply the sample group with a questionnaire to attain the relevant data. The information gathered from the questionnaires afforded the research to formulate the research findings and subsequently addressing the research objectives.

1.6 Scope and Limitations

The research limits the study to the topic of the theory of planned behaviour. The study conducted questionnaires on patrons of a local sports and leisure centre. The breath of

research is limited due to the time constraints present. Quantitative methods were used to obtain the required data. A larger group sample would have been preferable but limitations on resources constrained the sample size. Time and money also limited the amount of research that that was plausible to be carried out in the field.

1.7 Conclusion

This section introduced the paper, the structure, and its contents. The rationale for the study was presented to introduce the research area and inform the reader as to the justification for the study to commence. The various contributions to this research were also noted, with particular reference to how it may add to the existing body of literature. A brief outline was provided for the structure of the study.

Chapter 2

LITERATURE REVIEW

2.0 Introduction

Physical activity is recognised to have many health benefits. Exercise has been defined by the World Health Organisation (WHO), (2010) “*as any movement produced by skeletal muscles that require energy expenditure*”. It is recommended that no less than 30 minutes of frequent, moderate-intensity exercise almost every day decreases the likelihood of various diseases, including cardiovascular disease, diabetes and certain types of cancer (colon). In addition to the health benefits, mental health and social benefits can be gained through exercise participation (WHO, 2010). The recommendations outline 20-60 minutes of continuous activity for five days per week for a non-athlete. It is further suggested that individuals should partake in exercise throughout their life to maintain the benefits. (WHO, 2010).

According to Survey of Lifestyle, Attitudes & Nutrition (SLAN) the level of day to day physical activity and exercise participation has decreased significantly among the population over the past decades. This has come about as a result of modernisation, improved technology, sedentary employment and changing cultures. A recent study by Morgan et al., (2008) carried out in Ireland found that “over half the respondents (55%) reported being physically active. Almost one-quarter (24%) reported some activity but not enough to be considered ‘physically active’. Over one-fifth of respondents 22% reported being physically inactive”. Non participation in exercise is considered an independent indicator for an individual’s health. The World Health Organisation estimates that 1.9 million deaths globally can be contributed to inactivity. (WHO, 2010).

A sedentary lifestyle can be severely damaging to one’s health (EU Physical Activity Guidelines, 2008). Increasing ones level of exercise particularly for individuals who are sedentary has multiple beneficial health effects. The benefits for inactive people participating in exercise are twofold. Individuals who maintain exercise over time report feeling better physically and mentally and overall report a better quality of life (EU Physical Activity Guidelines, 2008). Research by Medibank (2007) aimed at evaluating the cost of non communicable diseases. The results illustrated as much as 17% of total health costs are spent on treating health conditions attributed to physical inactivity. Subsequently this cost is

estimated at \$1.5 billion in health care costs. The study further collaborates the strong link between inactivity and premature death.

There is substantial evidence showing that physical activity is beneficial for an individual's well being and quality of life (Warburton et al, 2006). Research by Charlinton (2008) stated that physical activity has similar benefits for both males and females. According to the World Health Organisation (2010) inadequate levels of physical activity has resulted in many adults worldwide suffering from non communal diseases such as Coronary heart disease. Cardiovascular disease accounts for 50% of deaths in all adults worldwide who are over the age of 50, while diabetes now affects approximately 70 million adults worldwide and it is predicted to double by 2025 (World Health Organisation 2010). Research carried out by Nelson, Lichtenstein & Lindner (2006) state that adults who regularly walk at a brisk pace for at least three hours a week reduce their risk of diabetes, heart attacks and other coronary events by 35%, compared to adults who walk only occasionally. The WHO (N/D check) also states that osteoporosis, which is a disease that causes bones to become fragile and more likely to break, is most frequent in post-menopausal inactive females.

Exercise has not only been linked with improving and helping the prevention of the aforementioned diseases named for adults, but also improving mental well being by reducing levels of stress, anxiety and depression (Roshanaei-Moghaddam, 2009). This can be an effective part of treatment for those that suffer with depression which is documented to be twice as prevalent in women as men. Burger (2007) stated that women are more likely to suffer from depression than males. The benefits of exercise participation for counteracting depression are examined by Adam et al, (2007) stating that women who participate in physical activity are less likely to report depressive symptoms while additional studies by Phillips et al, (2003) states that physical activity appears to be just as effective for treating depression as medication and psychotherapy.

The importance of physical activity has been well documented. It is clear obesity and inactivity are global problems. Ireland has been shown to be a key offender in this unwelcome trend. Only 55% of Irish people report taking part in regular physical activity (SLÁN, 2007). The recently published physical activity guidelines for Ireland (2009) indicate that only 29% of girls aged 13 reach the recommended levels of physical activity and by 15 years of age, almost nine out of 10 girls don't achieve the recommended levels. Connor (2003) evaluated how European adolescents are adopting active lifestyles. In order to prevent

or curtail the causes of an inactivate lifestyle such as an obesity and a diabetes epidemic (Rocchini 2002), it is essential to increase physical activity participation especially among the low rated groups such as females. The area of physical activity among females has been well researched (Wilson and Dollman, 2009; Saxena, Borzekowski, & Rickert, 2002). However, there is limited research on the attitudes of Irish females and young female adults towards physical activity.

SLÁN (2007) reported that only 41% of adults take part in moderate or strenuous physical activity for 20 minutes three or more times a week. However according to the Irish physical activity guidelines (2009) Irish adults should partake in at least 30 minutes a day of moderate activity on 5 days a week (or 150 minutes a week). Obesity is also recorded to have increased among adults (Flegal, Carroll, Ogden, & Curtin, 2010). The physical activity guidelines (2009) reported that the healthcare system would benefit if the Irish population became more active. An Australian study estimated that if Australian people became more active for just 30 minutes per day, it could save €815 million in health care costs. Surprisingly, the physical activity guidelines (2009) reported that levels of inactivity in Ireland are higher than those in Australia, therefore the potential cost benefits of increased activity may be even proportionally greater. Despite the health and the cost benefits of an active lifestyle 40% of adults in the United States lead an inactive or (sedentary) lifestyle. (United States Department of Health and Human Services 2000). These figures are repeated in Ireland with 41% of adults participating in moderate or strenuous exercise for at least 20 minutes three or more time a week (SLAN 2007).

2.1 Theories on Exercise Motivation

Historically, human motivation has been viewed from the perspectives of ‘people as machines’ (drive theory), personality (achievement motivation theory), and social cognition theory (self-efficacy and attribution theories) (Weiner, 1991). Research suggests that the study of participation motives at a descriptive level needs to progress towards a more theoretical approach (Klint & Weiss, 1987). Certainly the understanding of exercise motivation will be furthered by an ability to provide theoretically-based models.

According to (Rosenstock, 1974; Bandura, 1977) the intial research in the feild associate motivation to be a principal function of cognition. The Social cognitive theory (SCT) supports the idea that any change in behaviour is facilitated through logical reasoning (Bandura, 1977). This work states that “motivational desire is affiliated to the commencement

as well as the maintenance of behaviour”. According to Lee et al., (2008) self efficacy beliefs are important in understanding exercise behaviours. The belief that one can exercise under the circumstances of constraints and impediments, is likely to be associated with a greater probability of undertaking exercise (Clark, 1996; Sallis et al., 1998) similarly, McAuley et al., (1991) concluded that self-efficacy impacts substantially on the relationships with physical activity for both men and women (Phongsavan et al., 2006). Booth et al. (2000) noted that high self-efficacy among older adults was significantly associated with been active. Some studies indicate that interventions significantly increase self efficacy, or that self-efficacy is significantly related to physical activity behaviour, or both (Pinto et al., 2001; McAuley et al. 1994)

The Health Belief Model (HBM) is a psychological model which attempts to explain and predict health behaviours. The (HBM) was first developed in 1950s by Hochbaum, Rosenstock and Kegels. The model was devised in response to the failure of a free tuberculosis health screening program. Since then it has been used to explore a variety of health behaviours but never deemed appropriate for the use in understanding physical exercise patterns. “It involves primarily the motivational and attitudinal components of perceived susceptibility and severity of a disease, as well as the costs and benefits of directed action” (Becker et al., 1972).

The Protection Motivation Theory is descendant from the HBM. The “Protection Motivation Theory is a mix model inclusive of the motivational and attitudinal components of the HBM as well as the self-efficacy derived from the Social Cognitive Theory SCT. The Protection Motivation Theory includes perceived severity of threat, vulnerability to threat and effectiveness of intervention at controlling threat” (Rodgers. 1975). Early motivational theories were simplistic in nature, however the motivation required for exercise is a complex issue with many significant variables.

2.2 The Theory of Planned Behaviour

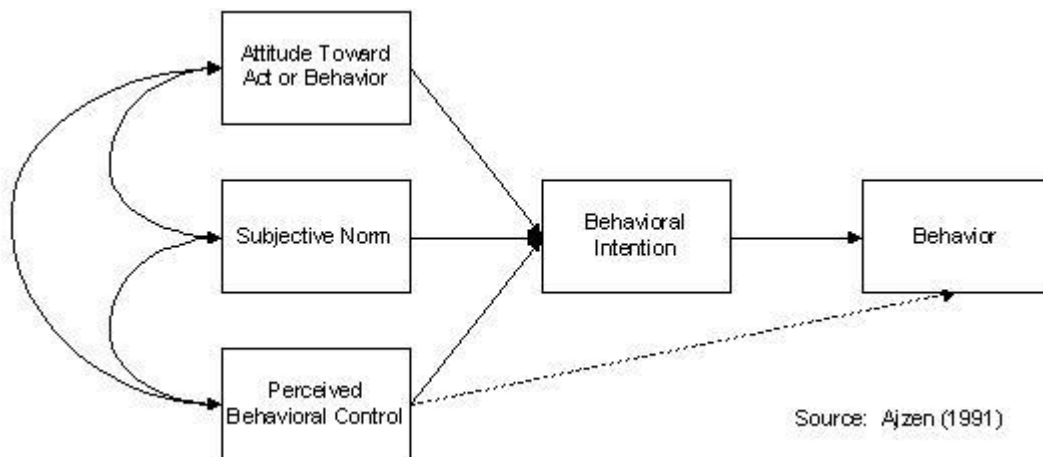
The theory suggests, human behaviour is facilitated by three types of thought: a belief about the probable consequences of the action (behavioural beliefs), belief about the likely expectations of others (normative beliefs), and beliefs about the possible opportunities or barriers that may facilitate or impede the ability to perform the action (control beliefs). In their order, *“behavioural beliefs produce a favourable or unfavourable attitude toward the behaviour; normative beliefs result in perceived social pressure or subjective norm; and*

control beliefs give rise to perceived behavioural control. In combination, attitude toward the behaviour, subjective norm, and perception of behavioural control lead to the formation of a behavioural intention” (Hagger and Chatisarantis 2008). The theory vindicates that a high level of positive attitude coupled a greater perceived control the more likely taht individual is to carry out the behaviour in question subsequently,if afforded a high degree of control over a behaviour individuals are predicted to perform the behaviour when the opportunity thus it is assumed that intention is a key predictor of behaviour. However the theory also advocates examining the role of perceived behaviour control in predicting behaviour in addition to intention. To the extent that perceived behavioural control is veridical, it can serve as a proxy for actual control and contribute to the prediction of the behaviour in question. The following figure is a schematic representation of the theory.

The Theory of Planned Behaviour (TPB); Ajzen, 1985, 1991, 2002a) is a popular theoretical Model for explaining informational and motivational influences on behaviour. Further, the TPB has been used extensively to understand health behaviour. According to Armitage 2010 TPB is now used as a foundation for health behaviour interventions.

The Theory of Planned Behaviour (TPB) deals with attitudes beliefs and motivation between these beliefs and behaviours. The development of theoretical foundations of TPB was established to determine why people followed certain lifestyle choices. The theoretical framework was originally created by Azjen 1975 & Fishbein 1980 and known as the Theory of Reasoned Action. This was modified into the Theory of Planned Behaviour by Azjen 1985 & Godin 1994. The modified theory considered individual attitudes and social norms as accurate predictors of intentions.

Table 2.0 The Theory of Planned Behaviour



The theory can be evaluated through the application of “global measures or postulated determinants of leisure behaviour (attitudes towards a behaviour, subjective norms associated with the behaviour, and perceived behavioural control) or measures of salient beliefs relevant to these three determinants. These two measures are consistently found to be highly correlated the assessment of specific beliefs providing more detailed insight into the behaviours under investigation”. (Ajzen & Fishbein 1980),

The ability of the theory to forecast leisure intentions and behaviour through the use of global measures were reported in an article by Ajzen & Driver (2007). The study analysed, intentions to perform five different exercise activities, together with perceptions of behavioural control were shown to predict the extent of which participants engaged in these activities over a 12 month period. This study highlighted that behavioural intentions were closely linked with attitudes towards the exercise activity.

Ajzens (1985) claims that an “individual’s underlying beliefs about a certain behaviour can assist in determining his/her attempts to behave in that way. He also claims that the individuals intention to act in a certain way might be altered if the individual feels that the behavioural goal is not under his/her own will (e.g. an external factor beyond the control of individual, could deter an individual from behaving in a certain way).”

According to Blanchard et al (2008), “the basis of the theory of planned behaviour lies in the assumption that ones intention to behave in a certain way is the most accurate forecaster of his/her willingness to exert effort (i.e to carry out a behaviour). This is known as behavioural

intention. The TPB Model (See Fig 1.1) suggests that behavioural intention is affected by three forms of beliefs:

It is these salient beliefs that are thought to be the prevailing determinants of a person's behaviours. Three salient beliefs are determined: (1) *behaviour beliefs* which are assumed to influence attitudes towards the behaviour, (2) *normative beliefs* which constitute the underlying determinants of subjective norms, and (3) *Control beliefs* which provide the basis for perceptions of behavioural control.

1. *Behavioural Beliefs*

According to Ajzen (2006) "behavioural beliefs are the beliefs a person has about the likely outcome of certain behaviour and the assessment of this outcome". Rhodes et al (2006) elaborates on this point indicating that the likelihood of an individual engaging in behaviour is dependant largely upon the attitudes of an individual towards that behaviour. "*Attitude is arguably the most fundamental construct in social psychology and is a strong determinant of behaviour.*" Courneya and Bobick, (2000) indicate that "there are two types of attitudes that determine behaviour – affective attitudes and instrumental attitudes."

Hagger and Chatzisarantis (2008) indicate "that affective attitudes are those that are interlinked with an emotional belief about engaging in behaviour. This element of affective attitude plays a critical role in determining sustained participation in behaviour". "*Exerts an important influence on the intention to remain physically active and by so doing, could increase or decrease the likelihood of future participation.*" This would signify that the greater positive attitude an individual has towards behaviour the more likely they are to partake in that behaviour.

Instrumental attitudes are also said to play a role in determining behaviour outcomes. "Hagger and Chatzisarantis (2008) state "instrumental or "cognitive" attitudes represent those internal beliefs that one maintains over the purpose of engaging in behaviour". "*Cognitive attitudes reflect beliefs regarding the instrumental or usefulness of the behaviour to produce positive outcomes.*" For example, an individual may believe that by partaking in regular physical activity they can achieve a more favourable body composition. Therefore if "the behaviour is deemed of benefit, the individuals intentions to engage in that behaviour will be far greater rather than if the person deems the behaviour as having harmful outcomes." (Rhodes et al., 2006)

2. Normative Beliefs

Normative beliefs are those beliefs associated with the role that social influences play in decision making. These are categorised “as friends and family members (injunctive norms) and the level of conformity that is present to adhere to expected behaviours (descriptive norms).” Injunctive norms suggest individuals perceive a need to conform to expected behaviour. According to Ravis and Sheeran (2003) “*pressure from significant others to engage in the target behaviour.*” Smith and Lewis highlight that “injunctive norms are a representation of how the majority of peers view a particular behaviour”, thus it is argued that many individuals embark in behaviour for “*the social rewards and punishments associated with engaging or not engaging in the desired behaviour*”

Descriptive norms are essentially being influenced by what an individual observes their influential peers doing. This target behaviour is then often copied and considered the norm for the individual to partake in. Hagger and Chatzisarantis allude to the fact that this influence can be both a positive or negative influence on one’s health, as well as this form of influence tending to be stronger among young people. Smith and Lewis (2008) present that when a person observes a behaviour consistently, that individual grows a greater propensity to also engage in that behaviour. The justification of this normative behaviour according to Smith and Lewis is the individuals will often copy others for social approval. In addition individuals will also forge attitudes and beliefs towards a behaviour that is common among the group that they are a part of.

3. Control Beliefs

Control beliefs are said to be those beliefs about the things outside of an individual’s control. “*The external dynamics that may act as a facilitator or a barrier to a specific behaviour, thus positively or negatively affecting their ability to behave in a certain way, and the apparent power of those dynamics*” (Ajzen, 2006)

While people often have intentions to perform a particular task they often don’t engage in the behaviour due to a perceived obstacle Li and Chan (2008). The barriers that people are presented with can be perceived instead of any real obstacles. Individuals “who perceive a task in being too difficult may be less likely to attempt the task” (Rhodes and Courneya 2004)

It is the claim of Ajzen and Driver (1991) “that the overall intention to perform behaviour will be greatly affected by the three types of beliefs previously mentioned”. As such it is put

forward “that if the individual believes the behaviour will be positive, shall be looked upon favourably by peers, and there are no barriers to participation it is hypothesised that the individual will embark in the target behaviour.”

2.3 TPB and Exercise

“The theory of planned behaviour has often been used by researchers to predict peoples intentions to participate in physical activity.” Ajzens an driver (1991) found “that individuals often engage in exercise as they believe by doing so, they can achieve positive outcomes (behavioural belief). They also concluded that those who participated in physical activity did so because they believed that their friends/family showed support for their participation (normative belief), and that they possessed the necessary resources to participate in particular exercise.”

Behavioural is explained as “being significant determinants in measuring intentions to participate in exercise. Marttila and Nupponen (2000) derived that individuals who participate in regular physical activity and have an active commute, have much more of a positive attitudinal belief towards such activities. Behavioural beliefs also influence individuals intentions to participate in exercise as they are aware of the negative outcomes of inactivity.”

Subjective norms are regularly shown have an significant predictive power too individuals to participate in physical activity. This can equally work as a negative factor or a motivator towards exercise participation. However the influence exerted is said to be less significant as an individual grows older. (White 2008)

Hamilton and White (2008) argue “that influential groups and friends that adolescents regularly engage with are extremely important figures in terms of determining adolescent’s intentions to participate in regular exercise. Consistently adolescents will make behavioural decisions in terms of exercise participation based on what they see and hear from these significant others.”

“Perceived behavioural control can also be an influential determinant in predicting individuals’ intentions to participate in exercise.” Trost et al (2002) stated “peoples intentions to participate in exercise were hindered by their perceived barriers to exercise. Examples of perceived barriers listed include: lack of access to exercise amenities in the general proximity. It is also argued that a sudden change in an individuals intention to embark in

exercise could be the result of goal conflict, whereby the goal of exercise clashes with that of another goal (i.e. a academic objective). If the intention to achieve the second goal surpasses the intention to engage in physical activity, then the actual behaviour (i.e. performing the physical activity) may be put on hold in favour of achieving the other primary objective, which may have been unforeseen and thus out of the control of the individual himself/herself" (Chan 2008). Brownson et al., (2001) also states that there are several other key barriers individuals stipulate such as time, tiredness and illness.

2.4 Intentions as a Key Predictor of Exercise Adherence

Ajzen & Fishbein 1985 stated that intention is a significant indicator of a behaviours performance. Ajzen (2006) stated that perceived control over performance of behaviour can account for considerable variance in intentions and actions. A study implementing the theory carried out by Sneithotla et al (2005) established that three factors (planning, maintenance self-efficacy, and action control) act as a predictive tool among early exercise intentions and later exercise participation. A study along a similar premise by Hagger et al (2001) effectively demonstrated that young adults that possess positive attitudes and high self-efficacy are probable to establish intentions to partake in exercise.

There are many different variables that may affect ones motivation to exercise such as age, gender, ethnicity, psychological and physical needs, socio-economic-status, education level, behavioural intention, self esteem, and self-efficacy. Dishman et al. (1985) categorised these variables/determinants as personal, environmental, or characteristic of the exercise. However, it should be noted that the determinants of physical activity are not isolated variables; rather, they influence each other as they contribute to behavioural outcomes (King et al., 1997). Identifying reliable predictors of exercise behaviour allows researchers and practitioners to effectively structure interventions that maximise programme adherence and long-term exercise behaviour (McAuley et al., 2003)

A significant amount of research is required to ascertain exercise interventions that evoke long term commitment and that are cost effective. Over the past quarter of a century health practitioners have created a variety of interventions that have been promising in increasing adoption and maintenance. Garret & Elley (2011) stated that participation levels in physical activity rose between 50% and 67% after exercise intervention programmes. The figures are however somewhat flattering, the overall exercise rates of the entire population have not followed the percentages of participation. The reason for this is not with the actual content of

the intervention that proved successful in studies, rather the inability to fully understand and appreciate the complex thought process people undertake before participating in physical activity.

2.5 Attitudes towards Physical Activity:

Attitudes are individual's beliefs, perceptions or judgments in relation to a particular action. According to Ajzen (1988) research suggests that attitude is a crucial predictor of behaviour. The embracing of a more physically active lifestyle is often said to yield positive attitudes towards exercise. Thus, the configuration of positive attitudes towards physical activity is of key importance, factoring into deliberation exercise has been scientifically proven to improve public health. Biddle (1987) suggests that physical education could be the key to enhancing individuals attitudes towards exercise. A recent study which collaborates with this was conducted in Greece, where it was determined a positive attitude in the early years was a significant predictor of exercise patterns in the future. Various research has shown that attitude can be changed through education and good practice. (e.g., Theodorakis, Goudas, & Kouthouris, 1992). Ajzen (1988) also argues that attitudes can change with better understanding. Thus it is important to note that while attitude plays an important role in predicting a person's behaviour these attitudes can be changed. Telama et al (1997) further illustrates the point when they stated the importance of having a positive attitude towards physical activity it is of crucial importance if participation in lifetime physical activity is to occur. A positive approach toward physical activity can play a key role in continuing an active lifestyle throughout one's life. Opportunities for physical activity can provide a means to influence individuals attitudes toward physical activity given that it has the ability to reach most people (McKenzie, 2003).

2.6 Opportunities and Barriers to Exercise

Physical activity, exercise and sport provide opportunity through participation and involvement. However, opportunities must also arise so that one can participate in activities. Mithaug (1996) notes, that everyone has the right to achieve an optimal chance of a good life. Through self determination and capacity, opportunities may be received. For some people, opportunities are already available due to personal, social and economic factors. In order to gain opportunities through physical activity, the opportunity to participate must be available

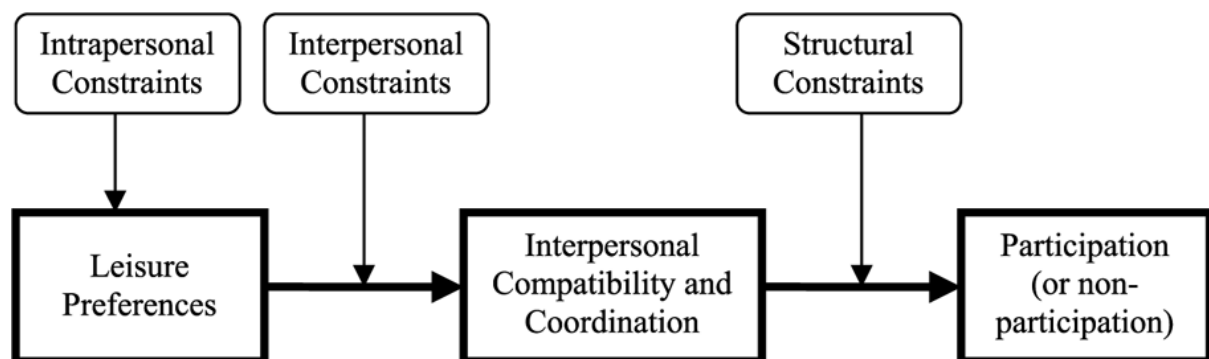
to all individuals. Through participation, it allows for people to have the opportunity to engage in activity and to develop social networks.

Woods et al. (2005) found that over 50% of males perceive their body image as being satisfactory whereas over 30% of females perceive their body image as being satisfactory. The more satisfied an individual is with their body image the more likely they are to be active as they may feel that they fit in better than individuals who have a poor body image.

Although physical activity and sport can create opportunities, individuals can also experience barriers towards participation. It is apparent that barriers exist in physical activity for some individuals, as not all people are catered for. For example individuals with disabilities are unable to participate in many activities. Even though physical barriers are evident, other barriers such as social class groupings and gender are present. Connor (2003) discussed barriers to participation within an Irish context. It was not until 1998 that women were allowed to subscribe to full membership in Fitzwilliam Lawn Tennis Club. Therefore gender differences can act as barriers to sports participation. Factors such as economic constraints prevent many people from participation in physical activity and sport as they have to prioritise their time and money elsewhere.

De Roiste and Dinneen (2005) surveyed over 2,260 young adults from 51 different colleges in the Republic of Ireland. They focused their study on finding out what young adults do in their spare time and they explored the barriers and supports that existed for them. From their study they found that 88% of the sample had previously some involvement in sport 65% were active in one or more hobbies and 32% are involved in one or more community clubs or groups. They used the hierarchical model of leisure constraints by Crawford, Jackson and Godbey (1991) to help determine the different relevance of interpersonal constraints, intrapersonal constraints and structural constraints. In their study they highlighted barriers or opportunities that can arise due to family, peer influences, money, time, transport and provision of resources. Other studies have found similar results O'Dea (2003); Allison, Dwyer and Makin (1999); Tappe, Duda and Ehrnwald (1989) and Daskapan, Tuzun and Eker (2006) report more or less the same barriers to participation in exercise. The barriers that get reiterated are time constraints, feeling tired or unmotivated, work/family commitments.

Table 2.1 Constraints to exercise participation



Crawford et al (2003)

They noted that 15% of the sample reported money to be a barrier for participation in physical activity and sport. The level of dropout of this age group represents 72% of the sample with dance and soccer the predominant activities which individuals dropped out of. The findings highlighted loss of interest for the main reason for dropout. 72% of the sample desired joining a new club or organisation however the location of the facilities was found to be the main barrier to joining.

Authors such as De Roiste and Dinneen (2005) Connor (2003) and Woods et al. (2005) have noted an increase in the levels of dropout from activities in young adults. They also recognised, as a result of a decrease in participation, it will have a significant implications for the public health sector. As research has been found that regular physical activity patterns developed at a young age will be carried on into adulthood (National Heart alliance 2001; Department of health and children, 1998). Work by Nieman (1998) and Hardman and Stensel (2003), highlight the notion that exercise has a positive influence on one's health.

2.7 Social interaction and support

“Social influences can have a major impact on individuals behaviours, particularly exercise (Hagger and Chatzisarantis, 2008). The Extended Theory of Planned Behaviour that addresses this new emphasis on social factors as predictors.

Brownson (2001) explains that social support can come in two distinct forms. Tangible and intangible, tangible are refereeing to gym membership or indeed a lift to the gym. Intangible refers a friend providing morale support and possibly participating in the activity. Smith and Terry (2003) claim that an individual is far more likely to endeavour to behave in a certain way if they have the support of their family and friends around them. Robbins et al., (2008) performed a study on a middle-school and concluded that support from parents at these years was critical to them engaging in exercise. Furthermore support from the students father being the most significant predictor of exercise behaviour.”

Social backgrounds refer to where a person has come from in society. There are many contributors to ones social background. Such contributors include family history and ones financial status among others. A person’s social background can influence their participation in physical activity and sport. According to Connor (2003), young adults from higher class groupings are more likely to be involved in particular activities such as sailing or polo. It is through families and opportunities that people become involved in activities. This can also influence the individual’s type of activity or sporting endeavour. When observing social backgrounds, there are three major factors associated with it. They include socio-economic status, social class and social mobility.

Socio-economic status works in correlation with economic circumstances. Financial influences may act as drivers or constraints to participation in physical activity and sport. For many people, economic constraints exist. There is consistent evidence that shows socio-economic influences have a major impact on participation rates (Connor, 2003; Coakley, 2007). The cost of participation in physical activity and sport is perceived as being expensive. However in a study carried out by Glasgow City Council (1998) it showed that a person’s financial situation was not the sole cause for low participation rates. An analysis took place which consisted of two swimming pools, in similar disadvantaged areas. One swimming pool kept its regular prices whereas the second pool offered free swimming over a six month period. As a result of the study there was only an increase of two percent in the pool which provided swimming for free, whereas the other pool stayed the same. Even though people have strong perceptions about the cost of participation, in reality it comes down to people’s perceptions and the value they place on it. For example, walking is not a costly method of exercise however if a person has to travel to a walking destination it can be expensive. According to Romero (2005), the availability and location of facilities are not barriers to

vigorous activity to individuals from low income families. However more than 50% that were surveyed, perceived that their parents would not be willing to pay for the facilities.

Numerous authors have studied the concept of social class and its link to sport and physical activity (Mcpherson et al, 1989;Giddens, 1994, Connor, 2003). There are several factors that influence social class. Factors include education, income, wealth and factors in relation to property. Connor (2003) found that people from the middle classes are significantly more likely to be involved in sporting activities in comparison to their working class counterparts. Stodolska (1998) examined the different constraints that prevent or reduce participation rates for immigrant populations. As part of the study, 236 immigrants living in Alberta, Canada were surveyed through questionnaires. The findings suggest that immigrants experience constraints that are not normally found in the general population such as poorer standards of living.

Even though it can be argued that physical activity is inexpensive, income does provide a means for participation on a broader spectrum. Social class status can affect the types of activities in which people become involved in because many people hold the perception that some sports or activities are specific to a certain class, group or culture.

2.8 Gender and physical activity

A significant trend in Ireland documented that females partake in less physical activity than that of males. The reason for this is still somewhat unclear. A key study in the area conducted by Spence (2010) intended to determine the relationship that exists between self-efficacy and physical activity. The study concluded a number of significant findings. Self-efficacy was shown to be of far greater importance to females in determining physical activity, however males reported substantially higher in terms of self-efficacy in comparison to females. This essentially resulted in males partaking in physical activity far more often than females. A further study completed in Portugal in 12,568 adolescents found that males were active for more than four hours per week versus between one and two hours for females. Males were also found to engage in activities at a higher intensity (Seabra, et al 2007). A study in Iceland produced similar results. The study featured 3,434 year ten and twelve students and similar trends were presented.

Many studies such as Kremer et al, (1997) and Hendry et al (1993) suggest that woman participate in a narrower range of sporting activities and have less leisure-time compared with men. Garcia et al (1998) found that boys were more active than girls during the transition

from high school to college (Garcia et al 1998). However this trend can change over a period of time as Kahn et al (2008) noted that out of 9,039 girls and 9,843 boys, the males participated in more hours of physical activity compared with females, but, after the age of 12 girls had a higher increase in physical activity levels compared with males.

An investigation examined the physical activity levels among adolescents in Boston. 250 girls and boys between the ages of 15-18 took part in the study. The survey found that Boston girls participate in sports and physical activity programs at about half the rate of boys and females occupy only 33% of total participation opportunities, whereas, males occupy 67% (Ayadi, et al 2002).

A study along a similar premise examined the relationship between the barriers and support structures that exist for promoting physical activity in adolescence. The study was conducted on 205 adolescents (102 males, 103 females). It found support from the family unit had the highest positive relationship between physical activity for both male and female participation. This relates strongly back to Hagger and Chatzisarantis (2008) who postulate the significance the important role social support plays when influencing physical activity.

2.9 Conclusion

Ajzens (1985) proposes “that one’s underlying beliefs regarding a particular behaviour can assist in determining his/her attempts to behave in that way. TPB is based on the premise that intentions to behave are influenced by three factors; Behavioural Beliefs, Normative Beliefs and Perceived Control.

From viewing the information provided above, one can conclude that indeed these factors do play a significant role in determining people’s intentions to perform certain behaviours (Smoking, Safe sex, risky behaviours and physical activity).

Hagger and Chatzisarantis (2008) provide a unique extension of the TPB model which they believe can act as a greater predictor of intention to engage in behaviours. From reviewing the literature in the field of exercise behaviour, one can deduct that the Extended Model of TPB can aid in the prediction of intentions to exercise. Each of the extended variables (i.e. an attitude strength, social support and opportunities and barriers) have all proven to be accurate predictors of individuals’ intentions to engage in exercise and physical activity.”

Chapter 3

METHODOLOGY CHAPTER

3.1 Introduction

This chapter will layout the methodology applied in the study. The function of the research is to explore the beliefs, attitudes and motivations towards engaging physical activity. The compilation of both primary and secondary data will assist the research method employed to conduct the study. The collection of the primary data will be intrinsic to the research. The research will be applied using a set of questionnaires derived from previous peer reviewed studies concerning the Theory of Planned Behaviour (1985). It shall also present the research process and the research design.

3.2 What is Research

“Research is conducted to expand the boundaries of knowledge itself, conducted to verify the acceptability of a given theory” (Zikmund, 1994).

3.2.1 Primary Research Problem

According to the World Health organisation (2009) obesity has become a global epidemic particularly in developed countries. This led to the creation of the International Obesity Taskforce (IOTF) originally convened in 1995. It has struggled to make any impact in obesity levels as they continue to soar among populations. Exercise coupled with diet is seen as part of a key antidote for the current epidemic. Much time and money has been spent on educating people on how to lead healthy lifestyles. There still appears to be large discrepancies between how much people know and want to exercise and how much they actually exercise. The purpose of this study is to examine people’s beliefs, attitudes and motivations towards exercise participation.

3.2.2 Research Question

According to Domegan, (2007), the essences of an insightful research question should be concise and possess clarity in what it aims to achieve. Furthermore it should be achievable without being too narrowly focused. The question should provide adequate academic resources and available subjects to thoroughly investigate the chosen area. The present research believes that the four questions presented satisfy all the previous requirements.

To explore Hagger and Chatzisarantis (2008) Extended Theory of Planned Behaviour and its effectiveness in predicting intentions to participate in physical activity?

3.2.3 Research objectives

The primary purpose of the current research is to investigate the beliefs, attitudes and motivations of individuals on exercise participation using the extended Theory of Planned Behaviour. The study will be carried out using quantitative research methods such as questionnaires and through interpreting these to discover:

1. To contrast peoples' intended physical activity behaviour against their actual behaviour

There is a wide body of work (Hagger and Chatzisarantis, Ajzen, Biddle) which suggests that individuals do not meet the exercise prescription set by them. One of the key objectives of this study is to probe if there are discrepancies present between people's intentions and behaviour and if so why does this occur.

2. To analyse the significance of attitude in determining intentions to engage in regular leisure-time physical activity

Hagger and Chatzisarantis (2008) attitude is a key determinant in an individual's intentions to engage in physical activity. In analysing an attitude component in the study two key areas will be examined. That of *attitude strength* and anticipated *regret* as indicated as critical importance when studying attitude towards behaviour.

3. A) To analyse the influence of social interaction has on intentions to engage in regular leisure time physical activity
B) To explore the opportunities barriers that are present in exercise participation

According to Connor (2003) "social influences can have a major impact on individual's intentions to participate in a particular behaviour." It is further suggested by Coakley (2007) that these relationships are even more important when related to physical activity. The study will explore the aspects of opportunities and barriers connected to physical activity

4. To compare and contrast how the implication of gender applies to the Extended Theory of Planned Behaviour

There is research undertaken by Blanchard et al (2008) which indicates that female and males partake in different leisure-time physical activity. Though both genders share common interests in exercise, participation rates and different forms of exercises can be identified as predominately male or female activities. Therefore, this objective aims to provide the beliefs, attitudes and motivations of each gender.

3.2.4 Research Design

Formulating the design is essentially a blueprint that all other work associates itself around. Burns (2000) states a research design as a “*set of advance decisions that make up the master plan specifying the methods and procedures for collecting and analysing the needed information*”.

The research involves deciding upon the relevant data collection techniques and research methods that will be required given the topic to investigate. Zikmund (1994) argues this process down to the experience of the researcher. After this process of selection the blueprint is drawn up to be a guide for the research.

3.3 Philosophical Background

Easterby- Smith Luis et al (1999) state that researchers should have a relatively in-depth appreciation of the philosophical issues that are present in any particular study. It is this appreciation that guides the research design and application of the most appropriate research techniques. Epistemology and ontology are the two main areas concerned with philosophy. Epistemology is how individuals study the world we live in and the process of our how we think. Ontology is a part of philosophy that is committed to the study of human existence (Chia 2002)

For the current research, the choice is an overall research philosophy between positivists or a phenomenological philosophy.

3.3.1 Positivism

Denscombe (2003) defines positivism as ‘*an approach to social science research that seeks to apply the natural science model of research to investigations of social phenomena and explanations of the social world*’ (cited in Remenyi et al., 1998, 33)

Auguste Comte is often referred to as the father of positivism. The most championed piece of work being ‘Course of Positive Philosophy’. Remenyi *et al* (1998) describe positivism

fundamentally as the researcher being completely independent and impartial so as not to influence the findings in any way. Specifically it identifies the researcher as an objective analyst and exponent of a tangible social reality (Remenyi *et al.*, 1998). Thus generalisability, or the possible modelling of outcomes, particularly in mathematical terms, is emphasised. Furthermore, quantifiable observations that lend themselves to statistical analysis are sought by this paradigm. However, as discussed by Remenyi *et al* (1998), in recent years positivism has come under some criticism. In particular, it is criticised as an approach that may overlook interesting or philosophical insights into complex problems, predominantly in the field of business and management research.

3.3.2 Phenomenology

The phenomenologist's view point is the study and understanding of human behaviour. In relation to positivism it is difficult for a researcher to be completely independent or unbiased in anyway. Wheatley comments on this point indicating the researcher is an intrinsic part of any study that will invariably have an influence on the results. Phenomenologist's hypothesis an individual's behaviour is determined by their life experiences rather than objective or logically described reality as accounted in positivism (Cohen, Manion et al. 2007)

3.3.3 Philosophical Position Adopted

The research applied the positivistic approach to be the research methodology as the most suitable for the purpose of this study. The study's orientation is to approach this research in an objective and impartial manner as is feasible. In so doing the research strives to constrain the room for error and should reflect a truer overall account of the question being answered. The positivistic approach better suits a relatively large group size for a study of this nature.

3.4 Primary Data and Secondary Data

Primary data comprises of the researcher acquiring the data for the function of examining the data as it has been deemed appropriate. "*Data gathered and assembled specifically for the project at hand*" (Zikmund, 1994). The current study will use a compilation of primary and secondary research methods. This kind of research is eluded to and promoted by Brannick and Roche (1997). A key reasoning behind the research is to evaluate individual's beliefs attitudes and motivations towards leisure-time physical activity.

3.5 Secondary Research

Sekaran (1992) defines secondary data as the “data that has already been gathered by researchers, data published in statistical and other journals and information available from any published or unpublished source available within or outside the organisation”. The study shall use a collaborative effort in resourcing all the pertinent information. This process is in observance of the work of Emory and Cooper (1991) who advised that research be only carried out in areas that are relevant to the current study.

3.6 Quantitative and Qualitative

When trying to devise an appropriate process to address a research question and answer research objectives, the researcher must take into consideration both quantitative and qualitative research methods. The two methods are different in numerous ways. Albert and Healy (2000) claim that quantitative research focuses on data collection from very broad samples and is data rich, whereas qualitative focuses more on depth of a sample. Before a researcher decides on which approach to adopt, he or she must understand how they will explore the topic to best describe it.

According to Malhotra et al, (2000) qualitative research is a primarily exploratory methodology based on small samples, to provide insight and understanding. They describe quantitative research as research that seeks to quantify the data and apply some form of statistical analysis.

According to Hagger and Chatzisarantis (2008) the application of the Theory of Planned behaviour and the exploratory nature of the study would indicate that quantitative research methods are better suited to obtaining the data based on attitude and motivation, the author believes that the research hypothesis and research objectives would be best achieved through numerical data. The fact that the Theory of Planned Behaviour is also recommended for this type of study by a number of key academics (Hagger and Chatzisarantis, Gobin and Ajzen) was a further promising indicator for a quantitative approach. The author has therefore identified that the use of a quantitative, numerical method to produce the most accurate results for this study. Mahotra and Birks (2001) note how there are circumstances where quantitative methods can be of better use in exploratory studies and vice versa.

The author acknowledges that with any selection either quantitative or qualitative there are both advantages and disadvantages associated with both. The advantages and disadvantages of quantitative research are illustrated in table 3.1

Table 3.1 The advantages and Disadvantages of Quantitative Methods

Advantages	Disadvantages
Reliability of the data	Inability to explore complex issues/problems
Numerical Data – hence the ability to perform mathematical analysis	Little flexibility
Cheaper to collect (when compared to qualitative methods)	Can be open to misinterpretation
Easier to collect (when compared to qualitative methods)	Can be more time consuming (when inputting data)

Adapted from; Wright and Crimp (2000)

Malhotra and Birks (2001)

3.7 Questionnaires

Questionnaires have been identified as a convenient and appropriate means in obtaining the relevant data from the subject group. However designing questionnaires is far from simple as discussed by Herbert (1990:56) “*booby traps such as response bias wording difficulties and item selection are waiting to blow up your proud creation*”. Also as the questionnaires will be altered for the intention of the objective questions which will leave plenty of space for comment as directed by Kahn (1991).

The benefits of using questionnaires are that they provide a relatively simple and efficient approach in the study of beliefs, attitudes, and gender differences and allow for moderately straightforward comparisons to be made between subject groups. Ajzen (1985) also recommends the use of questionnaires when researching through the use of the Theory of Planned Behaviour.

The justification for questionnaires in quantitative research can be found in the literature. McNabb (2002) states “some of the benefits to using questionnaires. Firstly they can be tailored to suit the research question. Secondly, questionnaires tend to differ in length and complexity, thus the main advantage questionnaire offers researchers is flexibility in terms of acquiring information” – “*They can be administered face to face, over the telephone, by mail,*

and over computer networks”. McNabb (2002) states researchers pose questions that can acquire respondents to share their thoughts, feelings and knowledge about an topic.

3.8 Sample Selection

A sample is a subset of elements from a population (Aaker, 1998) which have been selected as part of a study. The basic idea of a sample is that if a representative sample can be drawn from a defined population of people or organisations, and measurements taken, then it should be possible to make inferences about the way those measurements apply to a whole population (Wright and Crimp, 2000)

The process to be used in this study is a convenience sample of the population to be taken. A convenience sample is a “*a non – random sampling technique that involves selecting what is immediately available*” (Walliman 2005). This Research aims to explore, beliefs attitudes and motivations of individuals towards physical activity. The justification for this is the two step process of the questionnaires, as there are two questionnaires to be completed. A basis or place where it was convenient to meet a month later had to be established. Kingfisher sports centre was deemed an appropriate location where there was a facility where people would frequent regularly, which would provide the access for a follow up questionnaire. This was also convenient as all general information was available on client’s database at the sports and leisure centre. This convenience sample would allow for an efficient source of the relevant primary data to be collected.

3.9 Limitations of the Research

As is common in all studies there are several limitations with this study. These restrictions are described as “inhibiting a researcher from investigating a topic to its full potential”. This fundamental constraint in the research is time, given the nature of the study a greater amount of time allocated between questionnaires may have shown a greater trend. It would also have allowed the study to survey a greater proportion of people thus giving greater weight to the findings. Further to this greater detail would have been preferable for the research to delve deeper in certain areas. Questionnaires can only provide so much information and leave gaps for misinterpretation and inappropriate wording of questions which may lead subjects. Another limitation was the use of convenience sampling in data collection. With this method there may be some bias or distortion of what is reflected generally in the population.

3.10 Conclusion

This chapter illustrated the research process and how it is to be applied to the current investigation. The research question and the subsequent research objectives were derived from existing relevant literature presented. Using writers from the field of research in various disciplines and approaches from authors in the field of physical activity interventions, the author has developed a methodology for collecting data that is most appropriate for this current research. Questionnaires were selected as a means to complete the data collection for the chosen group. This was due to the relatively easy access to the subject group. The disadvantages of using such a group were discussed and ways of mitigating these factors were derived. The limitations of the methodology as a whole were discussed. The principal limitation was time, which only allowed for a limited study of both sample size and depth in the intervention.

Chapter 4

PRIMARY RESEARCH FINDINGS

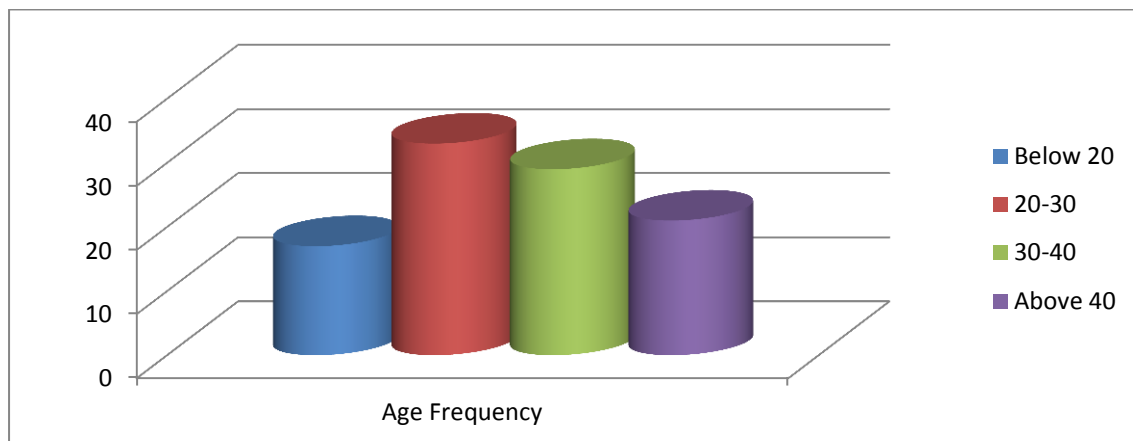
4.1 Introduction

This chapter presents the findings of this research. The findings are based upon having conducted a total of seventy-five questionnaires. The findings are presented in line with the research objectives as stated in the previous chapter.

4.1.1 Age and Gender Profile

The respondents in the study were aged between eighteen and forty-eight. Thirty-five of those surveyed were male while the remaining forty were female. This equated to 46.7% males and 53.3% females of the total percentage of the participants in the study. This facilitated a appropriate comparison in terms of gender. There was also a proportionate balance of gender across ages.

Table 4.1 Age Frequency



4.1.2 Exercise Patterns

Initially to understand what variables may impact on exercise it was necessary to obtain the exercise patterns of the sample group. This was done by asking them on a scale of one to five (one being no exercise, five being a lot of exercise) how much exercise they committed to at that time. The following table documents the frequency and percentage of people associated with each grade of exercise.

Table 4.2 Level of Exercise

Level of Exercise Participation	Frequency	Valid Percent
1 no activity or intentions	1	1.3
2 no activity but some intentions	16	21.3
3 some activity	19	25.3
4 considerable activity, but recently started	18	24.0
5 active frequently has done so for over six months	21	28.0
Total	75	100.0

In table 4.2 it presents the information taken at the initial survey. It provides the information that respondents gave in regard to the level of exercise they undertook at that time. There are a good proportion of people across the five levels of exercise except the first answer. Where just 1.3 surveyed said they done no exercise and no intentions of doing any in the future.

4.3 Intentions as a Predictor of Behaviour

As put forward by Hagger and Chatisarantis (2008) an individual's intentions are a key predictor of behaviour. This has also been demonstrated in other similar studies (Ajzen 1985).

Table 4.3 Summated Intentions

	Intentions
N Valid	75
Missing	0
Mean	5.55
Std. Deviation	1.155

The mean score was calculated from a spectrum of one to seven. One being little or no intention seven demonstrating a high degree of intention. The mean score is represented as 5.55 with all 75 participants being measured. This would at least initially indicate that intentions were high when respondents were asked.

Table 4.4 Exercise Levels

Paired Samples Statistics				
	Mean	N	Std. Deviation	Std. Error Mean
Pair 1 activitylevel	3.56	75	1.154	.133
One Month	3.15	75	1.168	.135
Later				

Those high level of intentions were then firstly observed against the amount of exercise each participant engaged in one month later. As can be easily noticed the amount of exercise participants done one month later has declined considerably. Taking into account the high level of Intentions reported these findings are contradictory to the existing literature.

The current research evaluated intentions as predictor of behaviour by applying a paired sample t-test to determine the implied relationship that exists between intentions and behaviours.

The conclusion of those tests contradicted the previous researchers and showed that intentions are not an appropriate predictor of behaviour.

To effectively decipher the findings statistical analysis was applied. The first element of this process was to categorise together all the questions that were aimed at measuring intentions. Next to summate the scales of each variable so that intentions could be represented as a single value. (For example when intentions 1, intentions 2, intentions 3 and intentions 4 were summated they became intentions i.e. the mean value of i1, i2, i3, and i4). After conducting paired sample T-Test to analyse the effectiveness of intentions as a predictor of behaviour.

“A paired-samples t-test is used when you want to compare the mean scores for the same group of people on two occasions, or when you have matched pairs.” (Pallant 2005)

Table 4.5 Exercise Before and After One month

Paired Samples Test						
		Paired Differences				
				95% Confidence Interval of the Difference		Sig. (2-tailed)
				Mean	Std. Error Mean	
Pair 1	activitylevel One Month Later	.413	.138	.138	.689	.004

In table 4.3 the score (sig 2- tailed) of 0.04 indicates a significant difference between the mean score of the activity levels at the initial survey and those corresponding mean scores collected at the second survey. The mean difference of these two scores was calculated at .413, with a 95 per cent confidence interval stretching from a lower bound of .138 to an upper bound of .689.

The paired samples statistics shed some interesting points on the study. Though there is a significant difference in the activity levels from the initial survey to the second. There is reportedly less physical activity taking place in the second survey. This can be observed through the mean scores activity level (3.56) and the follow up survey (3.15) indicating that the overall sample group is participating in less exercise a month after the initial survey. These results present a somewhat unexpected finding. These findings strongly contradict the use of intentions as a link to behaviour.

4.4 Attitude as a Predictor of Behaviour

According to the Extended Theory of Planned Behaviour attitude can be used as a determinant of behaviour. It suggests that the more positive an attitude is towards a particular behaviour the greater the likelihood is of the individual engaging in a behaviour. The research analysed attitude through the use of an multiple regression using SPSS. This test allowed for analysis of potential relationship between attitude and behaviour. The research showed that a strong relationship exists; suggest that attitude is a key predictor of behaviour.

Table 4.6

Correlations		Attitude	activitylevel	After 1 month
Pearson Correlation	Attitude	1.000	.523	.370
	activitylevel	.523	1.000	.467
	One Month Later	.370	.467	1.000
Collinearity Statistics				
	Tolerance	VIF		
	.782	1.280		
	.782	1.280		

The independent variable “Attitude” has a relationship with the level of exercise an individual completes. However this relationship is stronger at the initial survey stage 0.52 and less so when measured against the exercise patterns one month later 0.37. The coefficients table demonstrates that there is no presence of multicollinearity, as tolerance were above 0.10 while VIF figures were all below 10. (see Table 4.6). Additionally The regression showed no outliers (see appendices Table 1.0)

The above model was then assessed for explanatory power. The “R Square figure was 0.554. This would indicate that the model explains 55.4% of the variance in attitude relative to physical activity. Though Pallant (2005) notes in cases where the sample size is small the Adjusted R Square should be taken into consideration. This figure is 0.539 which indicates that the model explains 53.9% of the variance in attitude relative to physical activity.”

On observing the coefficient Table, it is presented that attitude has a significantly large Beta coefficient value (.448). The strength of this value in comparison to all other variables measured indicates that attitude toward a behaviour present the greatest ability in predicting behaviour in a physical activity context. This is an very interesting finding in this research.

Table 4.7 Attitude as a Predictor of Behaviour

Coefficients ^a					
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	2.839	.493		5.755	.000
Attitude	.547	.137	.448	4.000	.000

a. Dependent Variable: activity

This finding correlates with of the extended theory of planned behaviour. The theory stipulates that attitudes are the crucial predictor of any behaviour. This research has reinforced the theory that attitude may be of greater significance when attempting to predict behaviour than other variables..

4.5 Social Interaction as a Predictor of Behaviour

The level of social interaction and support is theorised to be a determinant in exercise adherence. This idea has been largely endorsed by researchers in the (Ajzen and Fishbein). Theorists articulate that if a person maintains strong social support toward a behaviour they are far more likely to engage in that behaviour. The research analyzed social interaction as a predictor of behaviour through the application of a regression. The tests demonstrated that social support does provide a level of prediction towards behaviour.

After analysis of the correlations between social interaction and activity it was strongly linked to the decline in physical activity levels. The table demonstrates the link between the lack of social support or interaction leading to a decline in the level of exercise. As stated in Pallant (2005) any value over 0.3 indicates a relationship. The value of social interaction in this case is 0.457 implied a strong relationship between social interaction and behaviour. The regression showed no outliers (see appendices Table 1.1)

The above model was then assessed for explanatory power. The R “Square figure was 0.466. This would indicate that the model explains 46.6% of the variance in social interaction relative to physical activity. However Pallant (2005) comments in cases where the sample size is small the Adjusted R Square should be taken into consideration. This figure is 0.453

which indicates that the model explains 45.3% of the variance in attitude relative to physical activity.” thus it would suggest that those who have a strong social interaction and support exercise more than those who don’t.

4.6 Opportunities and Barriers as Predictors of Behaviour

De Roiste and Dinneen (2005) argue that opportunities and barriers can have a significant determinant on a person’s desire to participate in exercise. They put forward that a person who encounters few opportunities and a lot of barriers is unlikely to engage in a behaviour and vice versa. The research explored opportunities and barriers through a regression. The tests agreed with De Roiste and Dinneen (2005) stating that both opportunities and barriers play a significant part in predicting a person’s behaviour. When asked typical opportunities included (money, transport and facilities) typical barriers included (time, work/family commitments and fatigue). Additionally the regression showed no outliers (see appendices Table 1.2)

Table 4.8 Opportunities and Barriers to Exercise

		Correlations		
		followup	opportunity	barriers
Pearson Correlation	followup	1.000	.381	.440
	opportunity	.381	1.000	-.467
	barriers	.440	-.467	1.000
Sig. (1-tailed)	followup	.	.007	.115
	opportunity	.007	.	.000
	barriers	.115	.000	.
N	followup	75	75	75
	opportunity	75	75	75
	barriers	75	75	75

The above model was then assessed for explanatory power. The R “Square figure was 0.679 This would indicate that the model explains 67.9% of the variance in opportunities and barriers interaction relative to exercise behaviour. However again Pallant (2005) comments in cases where the sample size is small the Adjusted R Square should be taken into consideration. This figure is 0.654 which indicates that the model explains 65.4% of the variance in opportunities and barriers relative to physical activity”. (See appendices table 1.3)

4.7 Exploring the Role of Gender

The Extended Theory of Planned Behaviour has failed to adequately apply it to how it may differ across gender. It was the desire of the research to examine how each of the variables applied to gender. The research also explored what potential discrepancies may have been shown by each gender in terms of the rate of decline in exercise after one month. The research has shown that differences do exist in particular areas concerning exercise behaviour.

Upon examining some of the potential variances in gender the initial table looked at a comparison of mean scores of all the summated variables and gender. This was done through an independent-sample t-test.

“Independent-sample t-test is used when you want to compare the mean score, on a continuous variable, for two different groups of participants.”

From a quick observation it is noticeable that the largest variances among mean scores are in opportunities, barriers, and motivation. It is interesting to note that males report far greater opportunities to participate in exercise as well as having a higher degree of motivation to exhibit that behaviour. Females report coming up against far more barriers that would prevent them from engaging in health behaviour. These findings suggest disparities exist in some of the variables as set out by the extended theory of planned behaviour. It is important to note that similarities also exist among intentions, social support, attitude and beliefs. (see table 4.9)

Table 4.9 Gender Comparisons

Group Statistics					
sex		N	Mean	Std. Deviation	Std. Error Mean
Intentions	male	35	5.60	1.313	.222
	females	40	5.51	1.012	.160
opportunity	male	35	5.63	1.285	.217
	females	40	4.35	1.905	.301
social	male	35	4.34	1.730	.292
	females	40	3.56	1.824	.288
attitude	male	35	5.64	1.250	.211
	females	40	5.19	1.517	.240
beliefs	male	35	5.71	.896	.151
	females	40	5.39	1.283	.203
barriers	male	35	3.40	1.183	.200
	females	40	4.95	1.183	.187
motivation	male	35	5.97	.783	.132
	females	40	4.48	1.258	.199

These findings are reinforced through the preceding table (4.9). The independent sample table shows the significance of the variation through the Sig. (2-tailed) scores. Anything below (.05) demonstrating a significant difference (Pallant 05). The scores respectively from the table are opportunity (0.001 – 0.001), barriers (0.035 – 0.031) and motivation (0.047 – 0.042) all indicating that there is a significant difference reported by gender.

Table 5.0 Variances and Similarities in Gender

		Independent Samples Test				
		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	df	Sig. (2-tailed)
Intentions	Equal variances assumed	3.289	.074	.349	73	.728
	Equal variances not assumed			.343	63.547	.733
opportunity	Equal variances assumed	6.900	.010	3.356	73	.001
	Equal variances not assumed			3.442	68.775	.001
social	Equal variances assumed	.256	.614	1.876	73	.065
	Equal variances not assumed			1.883	72.505	.064
attitude	Equal variances assumed	1.391	.242	1.405	73	.164
	Equal variances not assumed			1.423	72.753	.159
beliefs	Equal variances assumed	1.811	.183	1.233	73	.221
	Equal variances not assumed			1.262	69.737	.211
barriers	Equal variances assumed	.036	.850	-.548	73	.035
	Equal variances not assumed			-.548	71.678	.031
motivation	Equal variances assumed	2.822	.097	2.017	73	.047
	Equal variances not assumed			2.078	66.276	.042

4.7.1 Gender and Participation Rates

The research wanted to explore if there were any differences in the rate of exercise participation between genders. As can be clearly seen from comparison the rate of decrease in exercise after one month is far less in males (3.71 – 3.59). The rate of decline in females after one month is far more drastic (3.43 – 2.74). the reasoning for this is somewhat unclear but possibly explained through table 5.4 which indicated females have more barriers to contend with than do their male counterparts.

Table 5.5 Initial Survey

Descriptive Statistics			
Dependent Variable:activitylevel			
sex	Mean	Std. Deviation	N
male	3.71	1.152	35
females	3.43	1.152	40
Total	3.57	1.154	75

Table 5.6 Rate of Decline

Descriptive Statistics			
Dependent Variable:One Month Later			
sex	Mean	Std. Deviation	N
male	3.59	1.166	35
females	2.74	1.096	40
Total	3.16	1.168	75

4.8 Conclusion

This chapter offered the primary research findings of the study. These were attained through the utilisation of quantitative research technique of questionnaires. The findings are presented in accordance with the research objectives and are the critical pieces of information submitted by the sample group. From these findings several topics have emerged which shall be discussed in the next chapter.

The key findings that arose from this chapter are intentions do not appear to be a useful predictor of behaviour. Despite substantial existing literature supporting its use this study has

found that its application as a predictive method is flawed. In its place attitude was emphatically the most appropriate predictor of behaviour in this study.

Social interaction was shown to correlate with the decline in exercise. Its explanatory power for this was also shown to be high.

Opportunities and barriers reported a conflicting argument. Overall the sample had stated that they believed they had many opportunities for exercise as well as facing many barriers. However as there was a rate of decline in exercise the application of opportunities as a predictive mechanism is undermined. However barriers were significantly linked to the decline in exercise and substantiate its use as a predictor of exercise.

When gender was examined it provided greater insight into opportunities and barriers. There was a clear divide between the two. Males had reported greater motivation and opportunities while females stated they faced more barriers to exercise. These results were then reflected in the rate of decline experienced between the genders. Females had a far greater rate of decline due to experiencing more barriers. Males had a far less rate of decline which can be justified to the greater motivation and opportunities that they reported.

Chapter 5

DISCUSSION

5.1 Introduction

“This chapter will consider the findings of the primary research as offered in the findings chapter. The purpose of this chapter is to link, compare and contrast the findings of this research to those of previous studies mentioned in the literature review chapter.”

The “research will also endeavour to discuss the findings of this research as it pertains to the objectives set out in the methodology chapter.”

5.1.1 Structure of the Discussion

The prescribed structure of the discussion will be outlined in accordance to the sequence of objectives. This will facilitate the research to construct a logical sequence in order of the objectives stated in the methodology chapter. Through this process logical comparisons and contrasts can be made between the current research and existing literature in the field. It will also assist in identifying key issues that arose in the findings chapter that are to be discussed in greater detail.

5.2 Intentions

Hagger and Chatzisarantis (2008) suggest a high degree in intentions is a significant predictor of behaviour. Though the Extended Theory of Planned Behaviour has been continuously successful at predicting intentions this has not always acted as plausible predictor of behaviour.

Firstly it should be noted that overall less activity was being completed after one month. Analysis of this data states a mean value of 3.56 while this value was down to 3.15 on the following exercise participation survey one month later. When intentions were measured they were very high. On a scale of one to seven the mean value measured for intentions was 5.55.

From the preceding information, the research can derive that the primary findings contradicts Hagger and Chatzisarantis “Extended Theory of Planned Behaviour. Hagger and Chatzisarantis’ (2008) theory states that intentions are a key predictor of behaviour.” The current research clearly shows that intentions do not predict behaviour. In this case people declared having high intentions to participate in more exercise over the coming month. What

actually transpired is people performed less exercise, Rendering intentions as a flawed predictor of behaviour in this case.

The findings contradict Hagger and Chatzisaramntis (2008) theory but correlate with other similar studies that measured intentions. In a study conducted by Armitage and Connor (2001) they discovered that while the theory was useful at predicting intentions it was comparatively less accomplished at determining subsequent behaviour. Thus it seems that a disparity exists between an individual's formation of an intention and the translation of those plans into behaviour (Connor and Norman 2005). The explanation for the discrepancy in intentions and behaviour can be explained somewhere in the complex psyche of the human mind. The findings would suggest that despite wanting to engage in the behaviour, the behaviour itself is unappealing to the sample group. There is an important gap here for health practitioners to address. If vested interests wish to tackle the problem of obesity and inactivity they have to make exercise initiatives more appealing to the masses. The largely standardised traditional gymnasium has and will continue to serve a purpose. But there is a large population who don't wish to exercise in the orthodox way. New classes and initiatives should be designed with the fundamental principles of movement and energy expenditure but should incorporate a fun and enjoyable element to the initiative.

5.3 Attitude

According to Krosnick and Smith (2004) attitude strength plays a significant role in determining a person's behaviour. Those people who exerted a high level of certainty to a particular behaviour such as exercise were far more "likely to engage in physical activity" (Theodorakis 1994).

Analysis of the data illustrates that attitude is a significant predictor of behaviour. The model predicted between 55% (R Square) and 53% (Adjusted R Square) of the variance to engage in exercise. When evaluated against the other variables attitude is the variable with the closest correlation to determining behaviour. This is demonstrated by its overriding Beta (.448) and Sig value of (.000) both providing validity to attitude as a principal determinant in this research.

From those above findings, "one can deduce that the primary research strongly correlates with the existing literature." This suggests that attitude provides superior accuracy in determining individual's behaviour. This is supported by the findings of Abraham and

Sheerans (2004) study where they concluded that attitude was inherently valuable in predicting behaviour particularly towards exercise behaviour. Research along a similar premise by Theodorakis (1994) highlighted that attitude is an important tool in predicting exercise behaviour. Telama et al (1997) further illustrates the point when individuals stated the importance of having a positive attitude towards physical activity. It is of crucial importance if participation in lifetime physical activity is to occur. As attitude appears to be such a telling force of individuals behaviour it is also important to note that attitudes can change over time or through circumstances. As McKenzie (2003) notes opportunities for physical activity can provide a means to influence individual's attitudes toward physical activity given that it has the ability to reach most people. Thus the research has demonstrated clearly the significance of attitude as a predictive mechanism. Understanding how to shape and modify attitudes so that individual's participate in greater amounts of exercise is difficult. People's attitudes have been shaped over many years and through their own individual experiences. These experiences that have shaped a person's attitude are unique to the individual. The responsibility is on the health practitioner or gym to create an open dialogue between them and the people they want to engage in exercise. Through this process they can help shape an individual's attitude so that it is positive towards physical activity. This should also provide an area where health practitioners may wish to focus campaigns in the future given the influence attitude has on exercise participation.

5.4 Social Interaction

Individuals are more likely to engage in a behaviour if they feel that they have the backing or support of their family or friends (Smith and Terry 2003). Robbins et al (2008) concluded that "support offered to adolescents from their immediate family plays a pivotal role in determining behaviour in the exercise domain."

The findings illustrated that social interaction and support acts as a determinant for behaviour. A correlation exists to support the idea that the lack of social interaction and support was linked and at least partially responsible for the drop off in exercise adherence. The model predicted between 46% (R Square) and 45% (Adjusted R Square) of the variance to engage in exercise. The relationship of this was reported as highly significant .457 (Pearson Correlation).

From the findings one can construe that the primary research correlates with the existing literature. The inclusion of social interaction and support as a variable contributes

significantly to the prediction of behaviour towards exercise. There are a number of plausible reasons for the decline in exercise as a result of poor social interaction or support. As outlined previously social support can be tangible or intangible. It's possible with the current economic conditions that tangible supports are not available as they once were. Thus it can influence the amount or type of exercise individuals are able to participate in. Also a person may have relied on a friend for morale support and circumstances may have changed over the summer months with young children in the household. For people responsible with improving exercise adherence this is an important finding. Finding out ways to decrease the reliance people have on social supports may be a significant step. If health practitioners brought classes to the community too make it more accessible and create an atmosphere of support and encouragement in the community. Walking groups, classes in the community hall or 5 a side soccer tournaments are perhaps just some examples of inexpensive exercise initiatives that could promote social interaction and support for individuals.

5.5 Opportunities and Barriers

De Roiste and Dinneen (2005) state that there is a high correlation between individual's perceived opportunities, barriers and exercise behaviour. Thus those that perceive a lot of opportunities to engage in exercise are more likely than those who perceive a high amount of barriers. It is suggested that different groups of people may face different types of barriers. Connor (2003) suggests that women have had a difficult history in terms of barriers towards exercise and sports participation. However it is unclear to what extent opportunities and barriers act as predictors towards behaviour.

The findings illustrated that barriers are an effective predictor to exercise behaviour. The results also suggest that opportunity does not act as reliable determinant of behaviour. The Pearson correlation values are opportunity (.381) and barriers (.440) which both correlate significantly. However though individuals reported high levels of opportunity they participated in less exercise. The model also states that it explains 67% (R Squared) and 65% (Adjusted R Squared) of the variance in opportunities and barrier relative to exercise behaviour.

From the findings one can deduce that the primary research findings correlate with the existing literature review. The findings collaborated with De Roiste and Dinneen (2005) stating that barriers play a significant part in predicting a person's behaviour. In numerous studies by O'Dea (2003); Allison, Dwyer and Makin (1999); Tappe, Duda and Ehrnwald

(1989) and Daskapan, Tuzun and Eker (2006) report more or less the same barriers to participation in exercise. The barriers that get reiterated are time constraints, feeling tired or unmotivated, work and family commitments. An interesting conclusion of the findings is that the sample group reported somewhat conflicting views. On one hand they stated having ample opportunities for exercise (money, transport, facilities) on the other hand they also reported perceiving many barriers to exercise (tiredness, commitments). It would appear certainly from the current research that barriers play a far greater role in determining behaviour than opportunities.

5.6 Gender

Recent reports suggest that females take part in far less physical activity than males. A study by Spencer (2010) indicated that it is the thought process towards physical activity that differs greatly between males and females. Another similar study determined that males partake in greater amounts of physical activity and at greater intensities (Seabra 2007). Kremer et al (1997) and Hendry et al (1993) would suggest that females participate in a narrower range of physical activity.

The findings illustrated demonstrate that significant difference are present between genders. Initially the first finding presented was a simple T test to examine any potential differences that may be present between gender and the variables examined. From that first test it was apparent that there were significant differences. These were found in opportunity (males, 5.63:4.35 females) barriers (males, 3.40:4.95 females) and motivation (males, 5.97:4.48 females). Essentially what this interprets is that males reported having far more opportunities and motivation towards exercise, while females reported having far more barriers that prevented them from engaging in regular exercise. These findings are validated through independent samples T test which reinforces the findings.

From these findings one can assume that there are differences between genders when considering exercise behaviour. There are also similarities reported. In the areas of intentions, social interaction, attitude and beliefs there was no significant difference between males and females.

Another finding on the examination of genders and exercise behaviour was the rate of decline over the month. As can be clearly seen from comparison the rate of decrease in exercise after one month is far less in males (3.71 – 3.59). The rate of decline in females after one month is

far more drastic (3.43 – 2.74). A valid reasoning for this difference in the rate of decline can be found in the earlier findings. Males had reported significantly better opportunities and motivation to exercise. Females reported having far more barriers to contend with. Thus these findings were reflected in the amount of exercise conducted by either gender. This is an intriguing conclusion to come to. The findings further cement the theory that perceived barriers are a key predictor of exercise behaviour.

5.7 Conclusion

The findings show that intentions are an inept predictor of behaviour. The results of the primary research also demonstrated that in a majority of cases attitude is a superior predictor of behaviour than other variables.

Model, attitude strength, social interaction/support and barriers all served to provide useful predictions of behaviour in an exercise domain.

Also several differences were found between genders under the Extended Theory of Planned Behaviour. These were significant results as the area of gender had not been fully explored by theorists. The findings may encourage further research in the area of gender and Hagger and Chatzisarantis theory.

Chapter 6

CONCLUSIONS and RECOMMENDATIONS

6.1 Introduction

In this chapter the research will seek to summarise the key issues emerging from the study and from this, formulate conclusion. The research will then endeavour to provide rational

recommendations drawn for the conclusions. Following on from these limitations of the study will be formulised.

6.2 Conclusions

The following are a list of conclusions evident from the primary research

6.2.1 Intentions

The research has demonstrated that intentions do not act as a predictor of behaviour. In actuality it was observed from the study that behaviour was inversely related to intentions. This was unforeseen but as other theorists have highlighted intentions don't always lead to behaviour particularly concerning physical activity.

6.2.2 Attitude

The primary research indicates that attitude is an excellent predictor of behaviour. During the course of the study it emerged that attitude was the finest variable in terms of predictive quality towards behaviour. Attitudes excellent ability to predict behaviour has been verified in the exercise domain by other studies (Abraham and Sheerans 2004). The role and importance of attitude to the industry of exercise is perhaps overlooked. Individual attitudes towards exercise will go a long way in determining whether or not they participate. Yet industry suppliers seem to attach nominal importance to enhancing attitude.

6.2.2 Social Interaction

Hagger and Chatzisarantis (2008) "believe that social interaction and support can act as an important indicator of behaviour. Smith and Terry (2003) have also concluded that social interaction is a useful predictor for exercise behaviour. It is evident from the primary research findings that social interaction and support is a useful predictor of exercise behaviour. In conclusion, the primary research has helped to reinforce the claims of the existing literature."

6.2.3 Opportunities and Barriers

De Roiste and Dinneen (2005) state that there is a high correlation between individual's opportunities and barriers and exercise behaviour. This is further suggested through Hagger and Chatzisarantis (2008) who agree both opportunities and barriers are a significant indicator of behaviour. However the primary research would suggest that barriers are a significant indicator while opportunities do not act as a link to behaviour. The results were

confirmed as people reported high levels of barriers and subsequently participated in less activity. The sample group however also reported having lots of opportunities to exercise and subsequently participated in less exercise one month later. In conclusion the primary research has assisted to reinforce the claim of the existing literature towards barriers. It has also cast doubt over the application of opportunities as a predictor of behaviour as suggested by existing literature.

6.2.4 Gender

The research had proposed to analyse gender through the use of the “Extended Theory of Planned Behaviour”. The author believed there is a gap in the literature concerning gender and Hagger and Chatzisarantis theory. The study presented some interesting results. There were both similarities and disparities in how males and females view exercise. The differences lay mainly in opportunities and barriers. Males had reported having more opportunities for exercise as well as increased levels of motivation. Females had experienced more barriers to exercise such as family commitments. These findings were reflected when examined against the rate of decrease over one month. Females had a far more drastic rate of decrease in exercise than males. The reason for this is that females encounter far more barriers than males. This study has addressed a gap in the literature so has no direct studies to address in comparisons. It has found that differences and similarities exist in how males and females view and participate in exercise.

6.3 Recommendations

The following are the author’s recommendation for practitioners based on the findings of the study:

Future exercise interventions should have a greater focus towards shaping and enhancing attitude towards exercise. As attitude provides greater insight into behaviour than other any of the other variables involved.

Exercise interventions should place a value on encouraging social interaction and support among the people they wish to target. There is also an argument to offer more exercise initiatives in a community setting whereby barriers are reduced and social interaction and support are enhanced.

Exercise practitioners aiming to improve physical activity adherence should be aware of the differences that exist between genders. This would influence any potential initiative to target either male or females.

6.4 Limitations

The study may have influenced results in some way through people taking holidays or changing lifestyle choices over those months. Although there was a good balance of ages and gender ideally the sample size would have been larger and perhaps the sample size may not have provided a true reflection of overall society. The questionnaire was also long in size and respondent's answers may have been rushed without fully appreciating the question being asked. Finally the questionnaire was conducted at a leisure centre which could have provided bias in the responses and not reflected the wider beliefs of the population.

6.5 Recommendations for Further Research

Based on the findings of the study the research has outlined some recommendations for further research:

The role of Gender in the "Extended Theory of Planned Behaviour" is still yet not fully understood. Further research is required to gain a better understanding of the disparities and why they occur.

In regard to Opportunities, a huge amount of funding goes into improving facilities around the country every year. Future research is necessary to appreciate how these improvements in opportunities for people are corresponding to improvements in exercise adherence.

In regard to Barriers, research should focus on discovering what exactly the barriers to exercise are and what efforts can be made to remove them.

6.6 Conclusion

This chapter has drawn to dissertation to a close. The major findings derived from the primary research were presented and discussed. From these a number of conclusions and recommendations were summarised. Also the limitations of the study were documented as well as areas of future research areas.

