

Inner Speech, Self Regulation and Physical Inactivity:
Understanding the Gap between Intention and Behavior

by

Gary A. Thompson

A Thesis submitted to the Faculty of Graduate Studies
of

The University of Manitoba

in partial fulfilment of the requirements of the degree of

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ABSTRACT

Inadequate physical activity results in 21,340 premature deaths each year in Canada, which represents 10.3 % of all adult deaths (Health Canada, 2002). This study has explored the experiences of six women and their inner speech as it relates to self regulation and physical inactivity. Specifically, it is the gap between physical activity intention and physical activity behavior that was considered. This qualitative study examined the role, content and power of inner speech in regulating physical activity by using a phenomenological framework. Six females were interviewed on two occasions and they each kept a thoughts journal for two weeks related to any thoughts they had in relation to physical activity. Findings suggest inner speech related to physical activity was frequent and often negative and that inner speech can positively influence the self regulation of physical activity behavior.

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DEDICATION

I dedicate this work to the impoverished people of the world that do not struggle with physical inactivity and obesity. It is my hope that those of privilege that do struggle with physical inactivity and obesity are able to overcome these challenges and subsequently use less health care and food resources that less privileged people so desperately need.

Further I dedicate this work to my parents. Firstly to my mother who has always believed in everything that I have pursued and allowed me to, from a young age, chase my curiosities. Secondly to my father, who passed away during the process of this project, for once again teaching me perseverance.

TABLE OF CONTENTS

ABSTRACT.....	ii
ACKNOWLEDGEMENTS.....	iii
DEDICATION	iv
LIST OF FIGURES	vii
CHAPTER ONE: INTRODUCTION	1
GLOSSARY OF TERMS	1
WHY WE ARE NOT PHYSICALLY ACTIVE	5
CONSTRAINT THEORY.....	6
THEORETICAL FRAMEWORK.....	9
OVERVIEW OF RESEARCH.....	13
RESEARCHER'S POSITION WITHIN THE RESEARCH	15
<i>My Personal Struggles with Self Regulation</i>	16
LIMITATIONS	17
CHAPTER TWO: REVIEW OF LITERATURE	19
SELF REGULATION	19
<i>Why is Self Regulation Important?</i>	20
<i>Models and Concepts of Self Regulation</i>	22
<i>Why Do We Fail at Self Regulation?</i>	30
RESEARCH ON INNER SPEECH.....	35
PHYSICAL ACTIVITY AND INACTIVITY	36
CRITICAL ANALYSIS OF EXISTING LITERATURE	41
CHAPTER THREE: RESEARCH METHODS	42
QUALITATIVE METHODOLOGY	42
<i>Research Design:</i>	43
<i>Research Participants:</i>	44
<i>Screening Protocol:</i>	45
<i>Informed Consent:</i>	46
<i>Interview Setting:</i>	47
<i>Interview Protocol:</i>	47
<i>Thoughts Journal</i>	49
<i>Data Analysis:</i>	51
CHAPTER FOUR: CASE STUDY RESULTS	53
KATHY (DREAMS AND PICKLE JARS)	54
REMAINING FIVE CASE STUDIES	60
<i>Sharon (Good Intentions or Vague Oughts)</i>	60
<i>Carol (Making Friends with Self)</i>	62
<i>Liz (My Intentions vs Other Obligations: I Lose)</i>	63
<i>Donna (Caring for Self First)</i>	64
<i>Bobbi (New Shoes but Similar Struggles)</i>	65
CHAPTER FIVE: THE ENABLING AND CONSTRAINING FEATURES OF INNER SPEECH	68
INNER SPEECH THAT ENABLES PHYSICAL ACTIVITY.....	68
<i>Focused thinking</i>	68
<i>Positive Messaging</i>	69

INNER SPEECH THAT CONSTRAINS PHYSICAL ACTIVITY.....	71
<i>Drop down or pop up lists of excuses</i>	71
<i>Vague “oughts”</i>	73
<i>Constant nattering/white noise</i>	75
<i>Negative self talk</i>	76
CHAPTER SIX: SELF REGULATION OF THOUGHTS	79
EMERGENT THEME ONE: COMPULSIVE SENSITIVITY: LOSS OF SELF AS PRIORITY	79
EMERGENT THEME TWO: HEARING, INTERPRETING AND MANAGING THE INNER VOICE	87
<i>Hearing:</i>	88
<i>Interpreting:</i>	90
<i>Managing:</i>	92
EMERGENT THEME THREE: SPECIFICITY OF INTENTION (OUGHT TO AND SHOULD).....	94
CHAPTER SEVEN: SUMMARY, FINDINGS AND RECOMMENDATIONS	100
SUMMARY	100
FINDINGS.....	104
RECOMMENDATIONS	107
<i>Recommendations for Service in the Provision of Physical Activity Programming:</i>	108
<i>Questions for Future Research</i>	110
REFERENCES	112
APPENDIX A: PARTICIPANT RECRUITMENT NOTICE	122
APPENDIX B: TELEPHONE SCREENING PROTOCOL	123
APPENDIX C.....	124
PART A: INFORMED CONSENT	124
PART B: RESEARCH PARTICIPANT CONSENT FORM.....	126
APPENDIX D.....	128
INTERVIEW QUESTIONS: SESSION ONE	128
INTERVIEW QUESTIONS - SESSION TWO.....	130
APPENDIX E: THOUGHTS JOURNAL.....	132

LIST OF FIGURES

FIGURE 6.1: THEORY OF PLANNED BEHAVIOUR (AJZEN, 1985)	86
FIGURE 6.2: AJZEN (1985) RE-VISITED	87

CHAPTER ONE: INTRODUCTION

The purpose of this research study was to explore what role, if any, inner speech plays in the self regulation of physical activity. Two forms of inner speech were investigated: a) automatic thoughts (passive, superficial thoughts that first arrive in one's mind) and b) metacognition (active, purposeful thinking and reflection pertaining to the automatic thoughts). Using Baumeister's (2000) definition of self regulation, the thesis focused explicitly on the metacognitive process of overriding passive, automatic thoughts. Specifically, the regulation of thoughts pertaining to physical activity behaviour was the primary interest. A qualitative research methodology was used to illuminate our understanding of the lived experiences of research participants and their efforts to be physically active. I employed a phenomenological approach which focused on understanding the meaning and essence of lived human experiences (Sokolowski, 2000). Since the phenomena of self regulation, inner speech and physical activity have not specifically been studied altogether before, it was important to specifically examine the relationship amongst these three aspects. My goal was to more deeply understand how these three components operate for individuals who strive to be physically active.

Glossary of Terms

The following glossary of terms will help define the major concepts of the research:

Physical Activity: Any body movement produced by skeletal muscles and resulting in a substantial increase over the resting energy expenditure.

This level of physical activity can be achieved by fast paced household chores

such as vacuuming, as well as other activities like gardening, walking, and swimming. (Carron, Hausenblas & Estabrooks, 2003).

Inactivity: when an individual is not engaged in any regular pattern of physical activity beyond daily functioning and not to the extent that health benefits are realized, (Carron et al., 2003).

Self Regulation: any effort by a human being to alter his or her own responses. These responses may include actions, thoughts, feelings, desires, and performances, (Baumeister, Heatherton & Tice, 1994).

Inner Speech: the formation of thought and speech directed to oneself, (Bibler, 1983).

Automatic Thought: the actual words or images that go through a person's mind, are situation specific and are the most superficial form of cognition; the first cognitive response to a stimuli; a passive response, (Beck, 1995).

Metacognition: thinking about one's own thinking and what influences one's own thoughts; reflecting on automatic thoughts; an active, purposeful exercise, (Beck, 1995).

Intention: a person's willingness and how much effort they plan to exert to perform the behavior, (Carron et al., 2003).

Generally, it has been recognized that physical activity contributes positively to the health of Canadians. The Canadian Parks and Recreation Association (1997) compiled the Benefits Catalogue based on scientific sources and summarized the benefits of physical activity as follows:

- reduced anxiety and stress
- improved confidence and self-esteem
- improved fitness
- maintenance of a healthy weight
- stronger muscles and bones
- continued independent living in later life

According to the World Health Organization (WHO, 2006) in their study related to sedentary lifestyles, physical inactivity is estimated to cause two million deaths worldwide annually. Globally, it is estimated to cause between 10-16% of breast cancer, colon cancer, and diabetes cases, and about 22% of ischemic heart disease. Estimated attributable percentages are similar in men and women (WHO, 2006). While physical inactivity is an acknowledged component of rising health care costs, it has been suggested that a 10% reduction in physical inactivity could reduce direct health care costs in Canada by \$150 million per year (Health Canada, 2002).

In 1999, the direct health care costs of physical inactivity in Canada totaled \$2.1 billion (Health Canada, 2002). Inadequate physical activity results in 21,340 premature deaths each year in Canada, which represents 10.3 % of all adult deaths (Health Canada, 2002). As with the WHO evidence stated above, it has been shown that physical inactivity contributes to obesity, heart disease, diabetes, osteoporosis, stroke, and depression (Health Canada, 2002). Conversely, people who are regularly physically active are less likely than inactive people to develop health problems (Canadian Fitness & Lifestyle Research Institute, 2002).

Many Canadians are aware of the benefits of being active for their health. As reported by the Canadian Fitness & Lifestyle Research Institute (CFLRI, 2002), most adults strongly agree that being active regularly has health benefits such as preventing heart disease, reducing stress, and staying independent as one gets older. Yet, many seem unable to engage in active lifestyles, with over 50% of Canadians reporting that they are inactive (CFLRI).

It is this gap between what people think (i.e., their cognitions/intentions) and what they do (i.e., their behaviors) as it relates to physical activity that I explored in this research. In self regulation theory, this is typically referred to as the “intention-behavior gap” reflecting the black-box nature of the underlying psychological process that leads from intention to behavior (Sniehotta, Scholz & Schwarzer, 2005).

Intentions are explicit decisions to act in a certain way and then to focus attention on a goal in terms of direction and intensity (Sheeran, 2002).

Informed by the metacognition research (e.g., Beck, 1995), this study is based on the assumption that inner speech (and related dimensions of inner speech such as timing, content, and meaning) may have a significant impact on people’s ability to regulate their own engagement in physical activity. It is assumed that by thinking about the way we think (i.e., meta-cognition), we have the opportunity to regulate our behavior. Consequently, this research is formulated on the premise that a relationship exists between cognitions and behaviors.

Why we are not physically active

According to the Canadian Fitness and Lifestyle Research Institute (2002, p. 4) two of the major “excuses” for physical inactivity often indicated are:

"I don't have the time":

Canadians say that a "lack of time" is the number one reason why they are not physically active. In fact, we have a lot more time than our grandparents did. The difference is how we choose to use our time.

Watching TV is Canada's most popular leisure activity. In 2002, the average weekly television viewing time for Canadians over the age of 12 was almost 22 hours per week. (Statistics Canada, 2003)

"I don't have the energy or the motivation":

The other major reason for inactivity is that Canadians think it is "too hard" to be active and that physical activity requires too much effort and energy. Some people may have the idea that being active means that one needs to go to the gym, join an exercise class or that one has to work so hard that one sweats and gets out of breath.

Another reality is that many people have jobs that require them to sit for much of the day. Furthermore, the layout of our towns and neighborhoods and living in colder regions of the country can also affect how motivated people are to be active. It appears that icy sidewalks, smog alerts, busy streets, or a lack of crosswalks can make it difficult or unsafe for people to walk or bike to work and school, run errands, or just enjoy an evening stroll. Stated otherwise, in many respects, we have engineered physical activity opportunities out of our lives.

In spite of the empirical information outlining the benefits of physical activity and a number of mass media campaigns (e.g., Participaction, Body Break, *in motion*, et cetera) designed to raise the awareness of the general public, the crisis of inactivity continues to grow. We know that a good majority of the general public is aware of the benefits of a physically active lifestyle, therefore, we must then question whether knowledge/information about physical activity benefits is enough to create change. The CFLRI, (2002, p. 2) documented that:

- 63% of adults reported having heard of Canada's physical activity guidelines in the previous 12 months.
- 64% strongly agreed that a healthy lifestyle contributes to long-term health benefits.

Yet again, a recent Canadian Community Health Survey (2000/01) reported that physical inactivity remained relatively high in Canada (e.g., 58% in 1994, 59% in 1998). In Manitoba, as many as 59% of Manitobans are insufficiently active to gain optimal health benefits (Canadian Community Health Survey, 2000/01). Further, knowledge of the health effects of physical activity is not correlated with activity level, even though the Health Belief Model would predict such a relationship (Janz & Becker, 1984). Thus, there appears to be additional constraints to physical activity, which I define as anything that inhibits or prohibits people from becoming active.

Constraint Theory

To explore the concept of constraints, it is important to have an historical perspective. Up until the late 1980's the majority of "constraints" research was quantitative and survey based and it focused almost exclusively on structural

(Crawford & Godbey, 1987) or intervening constraints (Jackson, 1990; Shaw, Bonen & McCabe, 1991) which are understood to inhibit participation once an activity preference has been formed. These studies explored constraints related to time, costs, facilities, knowledge and awareness of leisure resources and services, lack of partners with whom to participate and problems with physical skills and abilities. Studies of this kind typically demonstrated that, on average among the adult population, constraints related to time and money dominate people's perceptions of the problems they experience in successful leisure participation. Furthermore, constraints related to facilities and accessibility are of intermediate importance, and that lack of physical abilities and social skills are ranked lowest (Jackson & Scott, 1999).

Other constraints research was characterized by the development of classification systems, dimensions and constellations of constraints. This development was meant to open up new options for research methodology and data analysis thereby applying a more scientific critique to constraints research as it provided the opportunity for comparatives. Jackson (1993) proposed that a constraint to leisure is anything that inhibits people's ability to participate in leisure activities, to spend more time doing so, to take advantage of leisure services, or to achieve a desired level of satisfaction.

Models of leisure constraints such as the Hierarchical Model introduced by Crawford and Godbey (1987) contended that constraints are encountered sequentially (e.g. Intrapersonal, Interpersonal and then Structural) and that the individual must overcome constraints at all levels to reach the point where they actually participate. The Hierarchical Model is the first exploration of "negotiation" as a distinct

component of the constraints research in that it was recognized that a person has the capability to “overcome” perceived constraints if they have the will to do so. Until this point, there had been a fairly strong assumption that if constraints existed for an individual the result would be non-participation. Shaw et al. (1991) conversely reported no relationship between constraints and participation, a notion that was supported by Kay and Jackson (1991). For the first time it was accepted that people participated in activity “despite” constraints and somehow people found a way to address, alleviate or even overcome constraints to physical activity participation.

Based on these new findings related to “negotiating constraints”, Jackson (1993) put forth a number of propositions related to constraints. The sixth of these propositions can be paraphrased by stating that the initiation and outcome of the negotiations are dependent on the relative strength of, and interactions between, constraints on participating in an activity and motivations for such participation. In other words, the entire process of negotiation, both in the deciding to negotiate (assuming that this process is purposeful and cognitive) and the process of negotiating with self, hinges on conscious or subconscious assessment by the individual where s/he weighs out the benefits of the activity against the perceived constraints.

Pierskalla (1998) speaks of leisure affordances from an ecological perception framework whereby leisure concepts are characteristic of a holistic world. Leisure affordances and benefits are then seen in the context of what is reality for the individual as it relates to other components of their life. This perspective promotes a critical analysis on behalf of the individual in terms of “do the benefits outweigh the constraints”? If so, yes, then I will participate. If not, is it worth the effort to try to

overcome the constraints? It is this critical moment of assessment and “inner speech” that is of interest in this study.

For example, if I want to go backcountry snowshoeing next weekend I need to assess if my equipment is in good shape, if I will have gas money, if I have any other obligations to people that would keep me from going, if I have other obligations like home repair that I should be devoting time to, and whether I can really enjoy myself if I ignore some of these obligations and go anyway, if I my knee will hold up in cold weather and whether I can find someone to come with me in case I get in trouble? That is a list of seven potential constraints that could impact on whether I go back country snowshoeing or not. For me to even consider alleviating, minimizing or overcoming these constraints I must have sufficient motivation to begin this process. A precursor to identifying my level of motivation is my being able to stop and think about this activity and how I feel and think about it. I have to take the time to be reflective enough to consider that I can make a choice about my free time. I have to retrieve information that I have stored in my memory related to this activity. I have to focus. All of these steps are components of the “Inner Speech” process that is the cornerstone of the negotiation process on an intrapersonal level.

Theoretical Framework

More than a century ago, William James (1920) argued that introspection is what we have to rely on first, foremost and always. Also, Bandura (1986) suggested that a theory that denies that thoughts can regulate actions does not lend itself readily to the explanation of complex human behaviors. Bandura (1991) further indicated that self-regulatory systems lie at the very heart of causal processes. Not only do these

systems mediate the effects of most external influences, but they also provide the very basis for purposeful action. Most purposeful human behaviour is assumed to be regulated by forethought (Bandura, 1991). Additionally, Bandura (1986) suggested that Social Cognition is rooted in a view of human agency in which individuals are agents who proactively engage in their own development and can make things happen by their actions. Key to this sense of agency is the fact that, among other personal factors, individuals possess self-beliefs that enable them to exercise a measure of control over their thoughts, feelings, and actions--what people think, believe and feel affects how they behave.

Beck (1995) advocated a Cognitive Model, which hypothesizes that people's emotions and behaviours are influenced by their perceptions of events. It is not a situation in and of itself that determines what people feel, but rather the way we *construe* a situation that does (Beck, 1995). Thus, the way people feel is associated with the way in which they interpret and think about a situation. Their emotional response is mediated by their perception of the situation, which then drives their behaviour.

As a key concept of the theoretical framework that informs this study, inner speech is considered as a form of meta-cognition (i.e., thinking about thinking) and is closely linked to self regulation, which is the second key concept of this research. The concept of inner speech was originally introduced by a Russian neuropsychologist, Luria (1961) in the early 1900's. Much of the work following in this area was based on his work, and the work of his protégé, and a fellow Russian, Vygotsky (1962).

Bibler (1983) defined inner speech as the formation of thought and speech directed to oneself. For the purposes of this research it will be considered as a functional mechanism in formulating both ideas and actions. Bershon (1993) categorized inner speech into four types: (1) task related (2) self related (3) other related and (4) task relevant. These categories are understood to have relevance to this study as they play a critical role in self regulation.

Speaking of the relationship between cognitions and behaviors, Scheier (1974) argued that human behavior is a continual process of moving toward, and away from, various kinds of mental goal representations. This view treats behavior as the consequence of an internal guidance system inherent in the way human beings are organized. The guidance system regulates the quality of an experience important to the individual. For that reason, the guidance process is considered as a system of self regulations.

As emphasized by Baumeister et al. (1994), all living organisms, including humans, are assumed to have the ability to regulate themselves. This basic biological principle is related to homeostasis. They suggested that homeostasis is not a neutral state or passive outcome, but a dynamic state that is the product of frequent adjustments in response to constantly changing circumstances. An organism will regulate body temperature, food and water intake, and social relationships in an attempt to maintain homeostasis. Rosenbaum (1998) reiterated an earlier work which posits that the aim of self control behavior is to overcome a wide range of self-generated impediments in order to achieve a desired target behavior.

Baumeister et al. (1994) defined self regulation as any effort by a human being to alter his or her own responses. These responses may include actions, thoughts, feelings, desires, and performances. In the absence of regulation, the person would respond to the particular situation in a certain way, whether because of learning, habit, inclination, or even innate tendencies. Self regulation is assumed to prevent this normal or natural response from occurring and then to substitute with another response (or lack of response) in its place.

The essential feature of self regulation is a phenomenon called *overriding* (Baumeister et al., 1994). Self regulation theory suggests that the person has multiple processes or levels of action, while one process often interrupts or overrides another process (Baumeister et al., 1994). Within this context, self regulation is considered as the process of overriding immediate responses to stimuli. Inner speech can then serve as a mechanism to self regulate by altering the cognitions associated with stimuli, thereby altering the behaviour. The importance and significance of self regulation is highlighted by Baumeister et al. (1994):

Self regulation failure is the major social pathology of the present time all over the country, people are miserable because they cannot control their money, their weight, their emotions, their drinking, their hostility, their craving for drugs, their spending, their own behavior vis-à-vis their family members, their sexual impulses, and more. (p. 3)

In this regard, the construct of self regulation is viewed as being fundamental to an individual's ability to engage in physical activity, and will be explored in greater depth in Chapter Two.

Overview of Research

Methodologically, I used a qualitative design for the research. Within qualitative methodologies, a phenomenological approach was utilized.

Phenomenology seeks to understand a social phenomenon from the actor's point of view by gaining insights into the experiences of the individual as he or she experiences the phenomenon, with the premise that the important reality is the participant's perception of the phenomenon (Kvale, 1996).

Sokolowski (2000) suggested that phenomenological research allows the researcher to document one's interpretation of a lived experience using the language of the respondent, thus capturing many different realities regarding the phenomenon. For example, a phenomenological interview is used to focus on the meanings of the participant's experiences within the life world, and how the individual perceives and interprets these meanings. It seeks to arrive at an unprejudiced description of the participants' experiences based on their words within their life world. This kind of data can then provide rich and meaningful descriptions of the phenomenon.

It is my contention that the messages (and the dimensions of the messages) that an individual gives oneself in the negotiation of constraints to physical activity through inner speech may have an influence on their engagement in physical activity. However, the detail by which this influence operates is not entirely clear. To bridge this gap between physical activity intention and physical activity behaviour, this study explored the following four research questions:

1. Does inner speech exist, as it relates to physical activity, in the lived experiences of the research participants? If so, what forms does it take?
2. Does inner speech function as a self regulatory mechanism in relation to bridging the gap between intention and behavior as it relates to physical activity? If so, how does this operate?
3. How strongly does inner speech regulate engagement in physical activity?
4. What elements of inner speech most significantly contribute to the success or failure of self regulation as it relates to physical activity?

By examining these research questions, this study attempted to clarify our understanding of the relationships between inner speech and self regulation within the context of physical activity.

With respect to data collection, a combination of individual interviews, self recording mechanisms (i.e., a thoughts journal) and researcher field notes were employed. These multiple data collection techniques provided a means to gain rich and detailed insights into the phenomena under examination, that is, inner speech and self regulation in the context of physical activity. The use of such multiple techniques facilitates trustworthiness and credibility in qualitative research (Patton, 1990). By triangulating three different data collection techniques, this research gained a holistic picture of the study participants' lived experiences.

Furthermore, dialogical validity (Kvale, 1996) was the focus of the interview process whereby participants' responses were frequently fed back to the participants for an "on the spot confirmation or disconfirmation" which resulted in a "self

My Personal Struggles with Self Regulation

I am a 52 year old, white, middle class, privileged, educated, employed, male with Type 2 diabetes. My father was a Type 1 insulin dependent diabetic who recently passed away from heart disease directly related to his diabetes. A portion of my diabetes is uncontrollable by virtue of genetics. However, the majority of my diabetes is relatively controllable through activity and diet. I was diagnosed with diabetes five years ago and have been prescribed medication because I have been unsuccessful at keeping my blood sugars within the safe range. I know that diabetes is called the “Silent Killer” because the consequences of long term high blood sugars are severe and often undetectable if you are not paying attention and monitoring regularly. If I do not get control of my blood sugars on a consistent basis I will go blind, have limbs amputated, be on dialysis for failed kidneys, and most probably suffer from erectile dysfunction. I am cognitively aware of all of this, yet my thoughts and behaviors have contributed to high blood sugars.

The gap between what I intend and what I do to maintain optimal health is, at times, significant. I now have a 4 year old son and a 2 year old son who, as with most children, force their parents to take stock of their lives and to prioritize. There are several personal questions about the relationship between inner speech and self regulation: what messages have I given myself when I have the inner conversations that have led to me grab that chocolate bar in spite of my knowledge about how this will affect my blood sugars? What have I been thinking that has led to this behavior? What leads to my self regulation failure? What allowed me to succeed when I was able to control portions and not snack?

In my lived experiences, I realize that there are many people who have a gap between *what they intend* and *what they do*. Physical activity and physical inactivity are very commonly associated with such a gap. I hope this research will begin to inform scholarly literature, as well as the research participants and myself as to how to successfully close that gap.

Limitations

First, the very nature of self regulation places it in the psychological domain. Within that, self regulation considers the environmental influences of everyday life by positioning itself as the filter for environmental influences. It is not to say that environmental influences do not exist; they most certainly do. The interest, however, in this particular research, is to examine how the individual responds to the stimuli generated by the environments they are immersed in. It's not about simply what happens to us, but about how we respond to it and what we make happen as it relates to physical activity.

Second, it should also be noted that because the nature of this research is multidisciplinary there are some terminology/language issues that need to be addressed. There are extensive bodies of knowledge related to inner speech, self regulation and physical activity that span the disciplines of leisure, psychology, physical activity, social psychology and health. For example, several terms can be used for the concept of something that gets in the way of a person engaging in physical activity, depending on which discipline you are referring to: constraint, barrier, or causal factor. Similarly, something that motivates a person to be engaged in physical activity can be referred to as: benefit, outcome expectancy, affordance,

motivator, correlate, determinant. Although there are some distinctions as to how and where these terms are typically used, I have, for the purposes of brevity, used the terms that I feel best apply in the context they are used for this research with careful consideration for those distinctions and their typical use. Definitions of these terms will be provided at first point of reference.

CHAPTER TWO: REVIEW OF LITERATURE

The three main constructs investigated in this research are inner speech, self regulation and physical activity. In terms of a representation of the pertinent literature, I will first treat each construct separately and then discuss the relationship between them. The core of the research is self regulation so we will begin there.

Self Regulation

The term “self regulation” has been used interchangeably in the literature with other phrases such as, but not limited to, self-control, self-discipline, and will power/temptation. Deily and Reed (1993) defined temptation as the attraction experienced by an individual toward a particular object or action giving the promise of immediate pleasure or gain at the expense of future, and perhaps overall utility. Foltz-Gray (2001) interviewed David W. Self, Ph. D., an associate professor of psychiatry at the University of Texas Southwestern Medical Center, who offers the following explanation for the rumba between will and temptation. Behavior is based in learning, and the brain is organized in ways that reinforce habit. When an animal happens on something it needs (e.g., food, water, a mate) a part of the brain called the dopamine system is activated so the animal will remember how to find that thing. Humans have the same system.

The problem is that modern life, in which humans no longer need to forage for berries, leaves plenty of time to form bad habits. And once you’ve learned a bad habit, such as lying around splat on the sofa every afternoon or munching on potato chips while you watch TV, it can’t easily be unlearned. All you can do is overlay new learning on top of it. When you feel the urge to sink back into the cushions, for

instance, you have to summon what Self refers to as “executive control” - the ability of the conscious brain to control the urges of the subconscious.

For example, a Person X may feel very tired after a long work day. They know that they will feel better after the run they have planned so they fight through the fatigue and go for that run. Person X was able to override the initial response to the fatigue, which was to go home and lay down. The concept of override encompasses starting, stopping, or changing a process, as well as substituting one outcome for another. The most basic form of override, however, is simply to bring a response sequence to a stop (Baumeister et al.,1994). For example, when I go to the grocery store, I am chronically challenged by the chocolate bars near the check out. I have learned that when I start to notice and think about the chocolate bars I should start reading my newspaper so that I draw my attention away from the stimulus that might lead me to fail at self regulation. I stop the stimulus /response cycle as it relates to that chocolate bar.

Why is Self Regulation Important?

According to Baumeister et al.(1994) when man was a hunter and gatherer, it was felt that self-regulation played a key part in survival. While man was hunting, he was also being hunted. By not acting in “automatic”, predictable ways, he was able to avoid being easy prey for those creatures above him in the food chain.

The impact of failure to self regulate is all around us, affecting us as individuals and as entire societies. Alcoholism, drugs, teen pregnancy, finances, shopping, extramarital sex, venereal disease, domestic violence, inactivity, poor school performance, poor or little adherence to medical recommendations are all

examples of when an individual cannot transcend the stimuli of a given moment or situation. They do not successfully “override” or self regulate so as to create a more suitable option and plan of action for themselves (Baumeister & Muraven, 1994).

One of the most important works related to self regulation was the study performed by Mischel, Shoda and Peake (1998) where they showed the positive effects of self regulation lasting over ten years. They tested the ability of four and five year olds to delay gratification and found that those who performed best at resisting immediate temptation were, in adolescence, more successful, better adjusted, superior in school performance, social competence, and coping abilities. It was also found in a follow up study that these same individuals had higher SAT scores when they applied for college (Mischel et al.).

Carver and Scheier (1981) view self regulation as a process of determining goals, and then using those goals as reference values for feedback systems, which act to bring existing states into line with the goals. Carver and Scheier (1988) discuss the relationship between goal engagement and well-being where movement towards goals yields a sense of subjective well-being. There is also evidence that goal engagement per se relates to better subjective well-being. Studies show relationships between pursuit of goals and several constructs: life satisfaction (Brandstadter & Renner, 1990; Harlow & Cantor, 1996); happiness (Smith, Haynes, Lazarus & Pope, 1993), and less negative affect, depression, and neuroticism (Brandstadter & Renner, 1990; Emmons & King, 1988; Ruchman & Wolchik, 1988). Having a strong sense of purpose and a strong investment in those purposes are related to both self-reported health and emotional well-being throughout the lifespan (Holahan, 1998; Reker,

Peacock, & Wong, 1987). Indeed, there is even evidence that people in prisons remain more “sane” and less prone to violence if they’re able to pursue long term educational goals (Worth, 1995).

It is assumed that people desire to reach a state of optimal quality of life as it relates to the domains of physical, social, spiritual, emotional, and mental health and have the capability to do so.

Models and Concepts of Self Regulation

There have been a number of theorists and practitioners that have done work related to self regulation. Carver and Sheier (1981) write about a construct developed by Miller, Galanter, and Pribram (1960) which is referred to by the acronym TOTE (test, operate, test, exit) which is essentially a system of feedback loops. Test refers to the organism comparing its current status to a predetermined standard. If the test finds that the predetermined standard is met, then the system is complete and the exit command is followed. If the test shows a discernable discrepancy between the current status and the predetermined status, then an operation is initiated. In the previous example of Person X that fought through fatigue to go for a run, the test would be the question, “Have I had any physical activity today?” The answer to the test would be “no”. The standard would not be met and the “operation” would be to go home and immediately change into running clothes before the fatigue dominated her thinking. After the run the thought may come up again, the question, “Have I had any physical activity today?” would be asked, the answer would be “yes” and she could exit the system.

Three elements must be in place for TOTE to work effectively (Carver & Scheier, 1981). Firstly, there must be clear, recognizable and measurable standards in place. If the standard is nebulous and unclear the test may not be able to return an accurate determination of compliance and will not lead to meaningful and productive operation. Second, there must be monitoring. Like a thermostat in our homes, there is an ongoing testing of the standard so that the furnace (or operation) can adjust to meet the standard. Third, the individual must have some form of operation available to them to reach the desired standard. The operation can be a cognitive or motor process designed to attain the desired standard.

Similarly, Bowlby (1969) viewed the mind as a hierarchy of evaluating and controlling mechanisms operating on feedback principles with the goal of creating and maintaining desired conditions, and is best known for work on infant attachment where the child viewed mother as a base. The child utilized an ongoing feedback loop related to physical proximity to mother while exploring needs/goals of security, safety and exploration.

Carver and Scheier (1981) also propose that there is a hierarchy amongst multiple human processes that is based in competition. Higher processes involve longer time spans, more extensive networks of meaningful associations and interpretations, and more distal or abstract goals. For self regulation to be successful, higher processes must override lower processes, which tend to be more immediate and hedonic in nature (Giner-Sorolla, 2001). How do you control the immediate and visceral response to cheesecake in exchange for a more long term, cognitive abstract

that is difficult to retrieve in the face of temptation, such as feeling better about yourself?

Rosenbaum (1998) contends that a person cannot entirely control his or her experiences so they must learn to control his or her responses to the experiences. The impulse to sleep when tired will always be there. Further, Rosenbaum writes about the functions of self control as redressive, reformatory and experiential: Redressive functions are aimed at minimizing the interference of intrusive thoughts that would impede reaching desired goals. If, using the previous example, the runner was driving home from the long day in the office and began to think about her nice soft bed, the redressive function would override these intrusive thoughts and would allow her to focus on the sensations of her body in motion as she runs; The reformatory function deals with changing current behavior, even if it causes stress in the short term, in order to avoid future stresses and problems. Again with the example of the runner, the sensation of fighting sleep is unpleasant but, in the mind of the runner, the prospect of being fit and avoiding disease overrides the sleep sensation. The redressive and reformatory functions are said to be “cognitive closing” systems; the experiential function is a “cognitive opening” system where loss of control and spontaneity are also considered to be controlled processes. The reformatory and experiential functions are geared at creating a heterostatic state (change and new behaviors) while the redressive function attempts to maintain homeostasis.

Bandura (1977) considers that people who believe that events are caused by their own actions and that these actions are modifiable, are more likely to pursue their attempts at self control. He refers to outcome expectancies in terms of whether or not

an intrusion will have an effect on the individual and whether this effect will be desirable or not. If the intrusion is thought to have an undesirable effect, then the individual will take some self regulatory action known as efficacy expectancies. This is the perceived ability to carry out a desired task successfully. Those who believe they can, have a better chance of success.

Carver and Scheier (1988) report that some people orient to avoidance more than others. Studies have found that people expressing personal strivings ranged from 0 to 70% in the proportion of avoidance tendencies they reported (Coats, Janoff-Bulman, & Alpert, 1996; Moffitt & Singer, 1994). These differences also relate to differences in well-being. Emmons and King (1988) found that people whose lives are dominated by avoidance strivings report more anxiety and more physical symptoms than those people whose lives are dominated by approach strivings. Coats et al. (1996) found that avoidance strivings relate to pessimism, low self esteem, and depression. Conceptually similar results have been reported by Elliot and Sheldon, (1997) and by Elliot, Sheldon & Church, (1997). Elliot et al. (1997) even found that people with more avoidance goals had poorer well-being prospectively (after controlling for initial well-being) than those with fewer avoidance goals.

Approach is simpler than avoidance (Schwarz, 1990). You only have to find one path to a goal and you're there; to avoid a punishment you have to prevent all ways of being confronted with it. Someone dominated by avoidance goals thus is like someone looking for holes in a dike, not knowing where or how many. He can feel successful at avoiding only if many holes have been found and plugged. If he finds no problems, it's hard to feel good because of the feeling that the problems may be

present but unlocated. The plugging of the holes is itself stressful, because it requires a leak to be found. People dominated by avoidance goals thus have difficult lives (see also Elliot et al., 1997). To go back to our example of Person X, if she/he spent all of her/his resources worrying about gaining weight, looking chunky and not being able to fit into their clothes, she/he would not have moved toward the goal and would have wasted a lot of time and personal resources.

Beckman (1998) concluded through clinical research that trying to suppress motivational tendencies may actually increase the likelihood that they will intrude. In the case of an attempt to lose weight, for example, a self-restraining diet in which one forces oneself to stay away from food actually drags attention toward food, which eventually results in increased ingestion.

Carver and Scheier (1988) created a series of self focus studies. In all cases, self focused attention caused subjects to conform more closely to the standard that was salient for them in that situation. Second, this effect of self focus was an influence on a *process*, not a direct effect on the content of the behavior. That is, being self aware can make you less punitive if the salient standard is non-aggression (Scheier, 1974) but it can also make you more punitive if the standard calls for it (Carver 1974, 1975). The content of behavior when self focus is high depends on the reference value. People often can easily plug in one standard or another, and the effect of self-focus on overt action changes correspondingly. Carver and Scheier (1988) feel the issue isn't what makes attention self directed; the issue is what makes attention move toward the comparison between the existing condition and reference value.

Carver and Scheier (1988) discuss the 'ought self' which is self regulation based on disapproval of self or others, where individuals behave because one ought to; that is, people are externally motivated and their behavior reflects a sense of duty, responsibility or obligation. This behavior pattern is derived from punishment or more probably, avoidance of punishment. This type of self regulation is considered to be related to 'discrepancy enlarging loops', thus moving the individual away from one's goals, anti-goals (i.e., a goal based in the negative, such as "I don't want to be 250 lbs") and the avoidance of undesirable states (e.g., I don't want to be overweight). This refers to the feedback loop and when the individual tests the environment against a goal that they want to avoid, they then behave to enlarge the discrepancy between their current state and the standard (i.e., weighing 250 pounds).

Carver and Scheier (1988) discuss self determination theory and propose that the critical issue in self determination theory appears to concern the extent to which actions are integrated into the structure of self. The most important distinction is between what is called *introjected* regulation and *identified* regulation. In introjected regulation, the goal has been adopted as a goal but not incorporated into the self. The behavior thus is controlled, though the control is intrapsychic (as in a sense of guilt or concern about loss of others' esteem). Close examination of self-report items used to assess this tendency (Ryan & Connell, 1989; Ryan, Rigby, & King, 1993) suggests that introjected values are very similar to *oughts*. They involve moving toward a value in order to avoid disapproval or self-disapproval.

Identified regulation occurs when the behavior is accepted by the individual as personally important and meaningful. If so, perhaps *any* activity that is done with the

ultimate purpose of avoiding an anti-goal fails to involve the true self, by definition. The difference between goals that connect the true self and goals that don't may reduce to whether the fundamental impulse stems from an approach system or from an avoidance system.

Deily and Reed (1993) refer to defensive consumption as the behavior of deviating from one's ideal consumption plan to reduce the probability of succumbing to temptation. For example, many dieters choose to lose weight gradually, maintaining a consumption level higher than the level that would be ideal for attaining their target weight most quickly. Diet experts say that this increases the likelihood that dieters will successfully achieve and maintain their desired weight. This is consistent with the notion of eating enough to keep the temptation to cheat on one's diet at a manageable level.

Baumeister et al. (1994) refer to the concept of strength of self regulatory efforts as it relates to an energy model. The popular notion of will power and the over simplification that an individual is either weak or strong is dispelled. Baumeister et al. contend that the strength to self regulate is a dynamic construct and can be influenced by depletion of limited energy resources and by changing the strength of the temptation. The more a person must self regulate, the more fatigued they become. He also contends, in his work related to executive function (Baumeister, 2000) that the strength to self regulate can become stronger over time with constant practice. He studied the concept of strength along side the skill model and an information processing model. The findings supported the notion that self

regulation performs like a muscle and has more of a bearing on successful self regulation than both skill development and information processing.

Baumeister et al. (1994) also found that Freud's (1930) contention that the super ego is made up of a single psychic agency that maintains control over widely different behaviors still holds up to experimental scrutiny. Baumeister et al. define the executive function as the mechanism by which people make decisions, exert control in controlled processes, override impulses and other responses, initiate behavior in active instead of passive responses, and perform other acts of self control and volition.

Muraven, Baumeister, & Tice (1999) point to evidence that suggests that alcoholic individuals who are trying to quit drinking may be poorer at regulating their moods, thoughts, and attention in comparison with those not currently trying to break such an addiction, because the repeated efforts of self-control required to resist temptations may consume and deplete the person's self regulatory capacity.

However, in the long term, a person who manages to quit drinking alcohol may increase in self-regulatory strength from the exercise and hence be more successful at subsequent undertakings that require self-control, such as quitting smoking (Zimmerman, Warheit, Ulbrich, & Auth, 1990).

Baumeister (2000) also explored the issues of motivation, conservation and self regulation. He wanted to explain why some study participants would stop, for example, the hand grip test or anagram test before they were completely fatigued. When he controlled for motivation by introducing meaningful rewards for continued efforts he found that an element of "resource conservation" was at work.

Participants, after multiple efforts to self regulate, tried to conserve the self's limited resources rather than be unable to exert any volition or self-control after a first self regulatory act. Five minutes worth of resisting temptation of chocolate and cookies does not reduce the self to a quivering helpless shell, but it does create a condition in which the person tries to conserve the remaining resources.

Baumeister (2000) further reported that the self's resources for exerting control and volition are severely limited, and it is therefore necessary not to use them for most behavior. Rather, they are to be conserved for important and influential behaviors, when they can do the most good. In plain terms, if you used up your executive function's volitional resources deciding which socks to wear and which hand to open doors with and which route to take to work, you would not be able to make hard decisions that may arise during that day.

Why Do We Fail at Self Regulation?

There are a variety of ways to fail at self regulation. The most extensive work done in this area is by Baumeister et al. (1994) in their book *Losing Control: How and Why People Fail at Self Regulation*. They discuss ten different ways to fail:

1. **Conflicting Standards:** When people have multiple conflicting standards they become confused, mentally paralysed and spend considerable energy on rumination; not action. An example of conflicting standards would be if an individual valued time with friends (who all happen to be inactive) but also wants to commit to cardiovascular exercise three times per week. Conflicting standards is much more common than absence of standards but this too would, of course, be problematic and promote apathy.

2. Reduction of Monitoring: If an individual does not monitor their status relative to the desired states or standards, they then have no idea if they need to take action or not. One of the reasons that people fail to monitor would be the idea of “deindividuation”. This refers to a loss of self awareness and evaluation apprehension, especially when the person feels submerged in a group of people (Diener, 1979; Dipboye, 1977). In other words, if a person is a follower by nature and is consistently surrounded by people who consume alcohol, chances are that they too will use alcohol. Their standards related to social acceptance are stronger than those related to their health so they stop assessing their alcohol consumption. They choose not to assess because they are afraid of what they will see. Reduction of monitoring can also occur as a result of using inhibitors like alcohol, where it is commonly known that people will do things that they regret because alcohol reduces cognitive processing as it relates to self. Preoccupation can play a role in the reduction of monitoring. If someone is over stimulated to the extent that they do not have the cognitive ability to check in with themselves, they will not be able to self regulate.

3. Inadequate Strength: Emotional, mental and physical fatigue can have an impact on the individual’s ability to self regulate. This is relative to the element of self regulation known as standards. The individual knows what the standard is but is unable to find the energy / strength to take action to meet the standard. We know that constant efforts to self regulate can deplete the resources to be successful. We also know however, that with practice over

long periods of time one can “train” to self regulate much like one can “train” a muscle to perform.

4. Psychological Inertia: Timing of impulse can have a critical effect on success or failure to self regulate. The response sequence is easier to override early during the impulse. With the example of the runner, if she were to go home and lay on her bed and think about running, she has less of a chance of success than if she were to make her mind up before she left the office. The longer one allows a negative thought to linger in their mind the harder it will be to override it. Prevention is easier than interruption.

5. Lapse Activated Causal Patterns: This style of failure has to do with an “all or nothing” kind of thinking. If an individual has a momentary lapse of self control (e.g., a bite of a donut) it may lead to a complete loss of control because of an internal zero tolerance policy. The individual may have their own rules about not allowing any variation from the standards they set for themselves. With the example of the runner, it may not be the end of the world if she missed one run, maybe she’s coming down with the flu and legitimately is exhausted. This does not mean that her overall routine has been destroyed. She just missed one day. A single cookie can be perceived as complete failure to follow a diet yet in actual reality the caloric impact of the cookie is minimal.

6. Renegade Attention: Whatever is noticed by the individual can receive their attention. This is very much related to the inertia principle that states that it’s easier to stop a negative impulse earlier than later. If an individual does

not pay attention enough to notice and act on the negative impulse, the impulse will gain strength. We also know that suppressing thoughts and impulses takes energy and will set up the individual for failure. Self regulation, by its very nature, requires a consistent effort to override impulses that could precipitate negative behavior. In today's world of mass media and over stimulation an individual must be able to override thousands of messages daily in order to meet the standards that they set for themselves.

7. Rolling The Snowball: This is the response to initial self regulatory failure that contributes to ongoing and persistent failure. The individual aspires to no clear standards, stops monitoring and loses the energy to self regulate. The individual who "snowballs" would be suffering from self regulation failure in many domains in life perhaps including money, diet, exercise, substance abuse, et cetera. This person is basically un-regulated.

8. Acquiescence/Letting It Happen: It is thought that some people simply do not understand that they have the capability to control their own lives and/or there are those people who purposefully abandon their opportunities to self regulate. There is considerable debate in this area in terms of holding people responsible for their own actions. Is the alcoholic really acquiescing or is s/he just losing the battle? Should we treat people as helpless victims or criminals? Do we believe that deliberate volitional participation is based on choice or are strong irresistible impulses too much for anyone to manage? In reviewing the literature it is seen time and time again that there was significant evidence of deliberate volitional participation by the individual in the forbidden activity.

Full episodes of self regulation failure involve some level of active acquiescence.

9. Misregulation: Some attempts at self regulation may be unsuccessful because of the technique or method utilized. Most often these are the wrong techniques or methods because the individual does not know themselves well enough to know what will or will not work for them. In the case of the runner, she knew that if she waited to decide to run or not run after she got into her comfortable warm home she would give in to the fatigue.

10. Transcendence failure: This is the inability to see beyond the immediate, hedonic and highly attractive stimuli (e.g., alcohol, cake, sleep) and look at the more long term benefits which self regulation will bring. If an individual cannot access the longer term thinking related to how they are going to feel 6 months from now if they do not eat that cheesecake today, they will most likely eat the cheesecake. They are unable to transcend immediate gratification in exchange for delayed reward.

Clearly, an individual who suffers from chronic self regulation failure may have one or a cluster of these failure patterns. Baumeister and Heatherton (1996) further develop this body of knowledge into two simple categories: misregulation and underregulation. Of note, this work has come under considerable criticism (Bandura 1996). A good majority of the criticism is directed at the fact that many of Baumeister and Heatherton's claims have not been embedded in previous research by similar and related disciplines (e.g., psychodynamic theory). Hopefully, this study contributes to the on-going scrutiny.

Research on Inner Speech

Chapter One provided an introduction to the construct of inner speech. From a developmental perspective, Flavel, Green, Flavel and Grossman (1997) found that the development of inner speech occurs in the early school years as part of the process of learning to perform school related tasks. Specifically, the more a student felt challenged, the more frequent and intense the level of inner speech. Yingling (1994) talked about the development of inner speech and its relation to language development among young people and identified inner speech as a precursor to talking. Frauenglas and Diaz (1985) found in their study of children aged 3.5 – 6 years that “private speech” (i.e., spoken words not meant for others to hear) does not discontinue as had formerly been thought, but simply goes “underground” as the child perceives that it is not acceptable to talk out loud to one’s self. The previous “public speech” then becomes inner speech and serves as a self regulating dialogue.

Rohrkemper (1987) studied Grade 3 – 6 students and problem solving and arrived at the conclusion that adaptive behavior was linked to inner speech. His study focused on strategic instructional self-statements on task and positive affect statements about the self. Again, research points to a strong link between the internal cognition of inner speech and the regulation of one’s behavior. Consistent with this idea, Blachowicz (1999), Siegrist (1995), Vocate (1994), Diaz and Berk (1992), Morin and Everett (1991), Poulton (1978) and Rondal (1975) all suggested that inner speech is characterized as a form of behavior regulation mechanism, which is strongly connected to the consciousness of the individual and often associated with self awareness and self concept, and thus to self regulation. Poulton (1978) also

suggests that inner speech can be masked by continuous intense noise. Poulton found that distraction, funneling of attention or over arousal can have significant negative impacts on inner speech, one's ability to reflect, and consequently the ability to regulate behavior. Given that this was written in 1978, I wonder what Poulton would say today with Walkmans, Cablevision, Internet, Game Boys, cell phones, text messaging, et cetera.? We have moved towards a culture of over stimulated, immediately gratified, multi-tasking, fast paced lives which are typically dominated by mass media (e.g. television and computer technology).

The critical role of inner speech appears to be that it requires the individual to stop and pay attention to their own environment. It requires the individual to focus and ask themselves some basic questions about how to proceed based on their current options. If inner speech can function as a self regulatory mechanism the individual must:

- appreciate that the mechanism exists
- appreciate the utility of the mechanism in assessing life
- assess situations and execute constructive decision making, and
- practice using the mechanism on a regular basis.

In this study I am interested in all of these aspects of inner speech as it relates to physical inactivity and the gap between intention and behavior.

Physical Activity and Inactivity

Of particular importance is the physical activity/health research related to the correlates of an individual's involvement in physical activity. Carron et al. (2003) define correlates as: individual characteristics that affect adherence to physical

activity; that is not of a causal nature. The following is a listing of categories of correlates as provided by Carron et al.:

Demographics and Biological:

- Age, gender, ethnicity, occupation, education, biomedical status, injury

Psychological:

- Barriers, self efficacy, attitudes and intentions, enjoyment, body image, stages of change, knowledge of physical activity, personality traits

Characteristics of Physical Activity:

- Intensity and perceived effort, duration

Behavioral:

- Smoking and diet, physical activity history

Of the correlates listed above, there are basically two kinds: those that are modifiable and those that are not (Carron et al., 2003). The non-modifiable correlates of age, gender and ethnicity can have a strong relationship with engaging in physical activity. For example, we know that people tend to become less active as they grow older. The modifiable correlates of physical activity are self efficacy, perceived barriers and enjoyment (Carron et al.). Of particular interest is that “knowledge of physical activity” is not correlated strongly with activity level. The lack of relationship between knowledge and involvement indicates that other factors are important in the control of physical activity habits and that interventions solely to increase knowledge would not be effective (Sallis & Owen, 1999).

There has been considerable attention given to the development of theoretical models to explain why individuals engage or do not engage in physical activity. The following is a summary of those models as provided by Carron et al. (2003) with particular attention to the elements that relate to this research topic. In the results section of this thesis, I expanded upon particular theories that are most relevant to the emergent findings.

1. *Health Belief Model* (Becker & Maiman, 1975): this theory suggests that health behaviors are related only to psychological variables. The original development of the model was concerned with the widespread failure of individuals to engage in preventative health measures such as the flu vaccine. They suggested that individuals will comply with preventative regimens if they possess minimal levels of relevant health motivation and knowledge, perceive themselves as vulnerable, view the disease as severe, are convinced that the prevention strategy is effective and see few barriers in pursuing the strategy. The basic constructs attached to this model are entrenched in psychological and behavioral theory as follows: 1) the value placed by an individual on a goal and 2) an assessment that a certain behavior will achieve that goal.

2. *Protection Motivation Theory* (Rogers, as cited in Carron et al., 2003): this theory was originally developed to explain inconsistencies in the research on fear appeals (e.g., fear of disease) and attitude change but has since become best known for its application to explain health decisions and action. It is concerned with protecting oneself from harmful events. Decisions to engage

or not engage in healthy behaviors are based on two cognitive criteria: 1)

Threat appraisal: an assessment of the factors that influence the likelihood of engaging in unhealthy behavior (e.g., smoking or sedentary lifestyle) and 2)

Coping appraisal: an assessment of the factors that influence the likelihood of engaging in healthy behavior (e.g., physical activity). Much like with the

Health Belief Model the threat appraisals and coping appraisals are balanced out against each other to form intentions. The most common index of protection motivation is a measure of intentions to perform the recommended preventative behavior.

3. *Theory of Reasoned Action* (Ajzen & Fishbein, 1980): This is a social cognitive theory designed to explain volitional behavior and is based on the assumption that people behave in a sensible manner and use all information available to them with consideration for the consequences of their action. It is composed of the constructs of intention, attitude and subjective norm.

Intention to perform a behavior is the central determinant of whether an individual engages in that behavior. The stronger the intention the more likely they will perform the behavior. A person's intention can weaken over time; the longer the time between intention and behavior the less likely the behavior will be performed.

4. *Theory of Planned Behavior* (Ajzen, 1985): The construct of "perceived behavioral control" was added to the Theory of Reasoned Action out of recognition that someone could have a very strong intention but circumstances

beyond their control might not allow them, for example, to go swimming if lightning occurred.

5. *Transtheoretical Model* (Prochaska & Velicer, 1997): This model involves the concept of stages of change. It recognizes that in the varying stages of changing behaviors, an individual will have varying cognitions and behaviors. The model includes the constructs of stages of change, decisional balance, the process of change, self-efficacy and temptation. Of particular interest to this research are two elements of this model. First, within the stages of change construct, there are two stages that are relevant. The contemplation stage involves an intention to be active in 6 months. The preparation stage involves an intention to be active in 1 month. It is the stories of the people in either of these two stages that I am interested in hearing as it relates to the gap between these intentions and their actual behavior. Second, decisional balance is relevant to the cognitive process involved in inner speech or the “black box psychological process” when a person weighs out the pros and cons of engaging in physical activity.

In summary, there are numerous models describing involvement in physical activity, all of which in some form or another have a construct strongly related to intention/behavior with its basis in a cognitive process. These models then, lent themselves well to this research and provided constructs from which interview questions were developed. They were also used to inform the overall inquiry. These theories were revisited during the data analysis and the most relevant ones were expanded upon in the discussion of results.

Critical Analysis of Existing Literature

The literature presented creates a strong argument for the importance of self regulation on both an individual and societal level. As human beings, we are challenged every day with a multitude of options that can be very challenging. It is clear that self regulation has a key role to play in quality of life issues. A summary of the self regulation cornerstones are:

1. Self regulation can get stronger over time if practiced and exercised.
2. Approaching a goal that is positively oriented breeds better success than avoiding a state that is negative.
3. People who believe that they can self regulate do so more often than those who do not believe.

In terms of weaknesses, gaps or criticisms of the existing literature I noticed that there was little in the literature that connects inner speech directly to self regulation. In fact, it is unclear exactly how the individual communicates with the self in relation to self regulation. The feedback loop theory (e.g., TOTE) talks about the assessment relative to the goal or standard. It does not specifically detail in what form (e.g., thought, inner speech) the information is received. Nor does it talk specifically about inner speech as it relates to the “operation” component of the TOTE process. In other bodies of research more strongly related to cognitions, where inner speech is considered to be a meta-cognition, there is no direct link to self regulation. This presents some exciting possibilities for new research focused on connecting these two concepts within the context of physical activity behaviour.

CHAPTER THREE: RESEARCH METHODS

As discussed in Chapter One, it is my contention that the messages (and the dimensions of the messages) that an individual gives oneself in the negotiation of constraints to physical activity through inner speech may have an influence on their engagement in physical activity, although the details on how this phenomenon or mechanism operates are not entirely clear. To bridge this gap, this study explored the following four research questions:

1. Does inner speech exist, as it relates to physical activity, in the lived experiences of the research participants? If so, what forms does it take?
2. Does inner speech function as a self regulatory mechanism in relation to bridging the gap between intention and behavior as it relates to physical activity ? If so, how does this operate?
3. How strongly does inner speech regulate engagement in physical activity?
4. What elements of inner speech most significantly contribute to the success or failure of self regulation as it relates to physical activity.

Qualitative Methodology

Given the exploratory nature of this research, a qualitative approach was required. Denzin and Lincoln (1998) suggested that qualitative researchers focus on the socially constructed nature of reality, the intimate relationship between the researcher and what is studied, and the situational constraints that shape inquiry. Such research emphasizes the value-laden nature of inquiry. Qualitative researchers seek answers to questions that stress how life experience is created and given meaning.

Patton (1990) submits that qualitative approaches emphasize the importance of getting close to the research participants and their realities being studied in order to personally understand the details and nuances of their lives. The traditional distance between the researcher and the researched is smaller. The researcher gets close to the participants through development of intimacy in the social sense of shared experience, disclosure and confidentiality. Further, Patton suggests that the advantages of qualitative portrayals of holistic settings and impacts are that greater attention can be given to the subtleties and contexts that contribute to the tone and essence of the stories of the research participants.

The essence of this research was to gain a deeper understanding of participants' stories about physical inactivity, from their perspectives, in a context of their daily lives that only they can understand. There were be no causal relationships, experimental design or time-framed comparisons/interventions. It is more important to get close to the lived experience of the study participants through well crafted interviews and subsequent dialogue than it is to apply a statistical formula to their varied responses over time.

Research Design:

This study utilized a phenomenological approach (Sokolowski, 2000) to understand the phenomena of inner speech, self regulation and physical activity. Spradley (1979) describes this approach to learning from the interviewee as wanting to understand the world from the interviewee's point of view. It is to know what they know in the way they know it. It is to understand the meaning of their experience, to

walk in their shoes, to feel things as they feel them, to explain things as they explain them.

Further, as described by Clandinin and Connelly (1998), personal experience methods must acknowledge the centrality of the researcher's own experience: their tellings, livings, relivings and retellings. Therefore, one of the starting points is the researcher's own story, as provided in Chapter One.

The research design incorporated a combination of a telephone screening questionnaire, individual semi-structured interviews, participant thoughts journals and researcher field notes. Given the exploratory nature of this research it was necessary for the design to be adequately structured to stay focused on the three elements of inner speech, self regulation and physical activity. Related research questions were flexible enough to react to and capture the lived experiences of the participants.

Research Participants:

The study participants were drawn from the staff at the University of Manitoba. I recognize that in drawing from this sample, I limited the study to a middle class socioeconomic group that contains some racial diversity but is predominantly Caucasian. Staff members (approximately 6,000 in total) were invited to participate through an article in the University of Manitoba staff newspaper (The Bulletin) and an "All Employee Email" with a notice of the research project (see Appendix "A"). This notice included the purpose of the study, research procedures and information about who to contact if they were interested in becoming involved in the research project. Notices were also placed in a few key locations on campus. I did not accept any staffs who were currently employed within the Faculty of Kinesiology

and Recreation Management because in my position as the Director of Recreation Services within the faculty, I employ over 300 people. Interviewing staff that work for me would have brought power dynamics to the research process that exists in all employer/employee relationships and therefore had to be avoided.

Study participants had to be 35 to 55 years of age. This specific age range was chosen, compared to a more broad range of 18 to 35, so that there would be fewer lifestyle variables. It was thought that 35 to 55 would be more stable in terms of lifestyle than 18 to 35 with some of the typical lifestyle changes (leaving college, starting a career, getting married, and starting a family) that can occur during that time in life.

Screening Protocol:

A screening protocol was used to ensure that the participants could provide meaningful responses to the research questions. The basic criteria for inclusion was as follows:

- 1 University of Manitoba employee who was between 35 and 55 years of age;
- 2 Self described as having a gap between their intention to be active and how active they actually were;
- 3 Self described as being self reflective to the extent that they were able to identify when they were engaged in inner speech.

Twelve females responded to the call for participants in the time frame that I had allotted. One male responded after I had already chosen the six participants and four alternates. After using the Telephone Screening Protocol (see Appendix B), I

decided that two of the 12 female respondents would not be suitable for the project. The two respondents that I felt did not meet the criteria both reported having no intention to become physically active and no awareness of inner speech when asked to give examples of inner speech in their lives. When asked why they were interested in the study they both were interested in a free membership. Once I confirmed that I had ten participants who met the criteria for the study, I informed these two respondents that the study was full and thanked them for their interest. Of the remaining ten participants, I chose the first six to respond to the advertisement as the primary participants in the research study. The remaining four participants were informed that they were alternates in the event that one or more of the primary six participants dropped out of the study.

All participants were Caucasian; there were no visible minorities represented. Although I attempted to have equal representation from both sexes, the six participants were all female. With reference to the one male who responded to the recruitment process after the six participants and four female alternates were already chosen, I consulted with my thesis advisor and committee members, and a decision was made to proceed with females only in the study. We can only speculate as to why more men did not respond to the call for participants.

Informed Consent:

Participant consent forms that had been approved by the Ethics Review Committee of the University of Manitoba (see Appendix “C” Part A and Appendix “C” Part B) were provided to all of the participants just prior to their first interview. The participants were also provided the phone number and email address of the

researcher if they had any questions related to their involvement and the informed consent.

Interview Setting:

Ten of the 12 interviews took place in my office and two of the interviews took place in an office at the Joe Doupe Recreation Centre at Bannatyne campus as it was more convenient for one of the participants. The important elements of the interview space were privacy and no interruptions. The interviews were audio taped so a quiet space was essential. The phone was turned off, a “Do Not Disturb: Interview In Progress” sign was posted on the door and the computer was turned off. I informed all staff in the adjacent areas that the interviews were not to be interrupted.

Interview Protocol:

Questions were designed to answer the four research questions from chapter One. The questions were structured to ensure some consistency in the interview process. The interviews however, were fluid and reflexive and allowed for the questions to prompt other questions and dialogue.

The format for the first interview was designed to gain some general information about the participant in terms of physical activity, inner speech and self regulation (See Appendix “D” Part A). In particular, the questions were also designed to collect information about the gap between their physical activity intentions and behaviors. The interview protocols were organized around the concepts of physical activity, inner speech and self regulation..

The format for the second interview (See Appendix “D” Part B) was designed to build from the information shared in the first interview along with the experiences

of the participants related to the thoughts journal (See Appendix “E”). Participants submitted their thoughts journals to me prior to the second interview so that I had time to read them and create specific follow up questions based on the individual participant’s experiences.

With the phenomenological approach (Sokolowski, 2000) much of the data emerged through the process of interviewing. To facilitate rich and meaningful data, I utilized dialogical validity (Kvale, 1996) which is a process of collection, reflection and feedback to ensure that the information collected was representative of the information shared by participants. Stated otherwise, responses were frequently fed back to the participants for an “on the spot confirmation or disconfirmation” which resulted in a “self correcting” interview. I kept handwritten field notes during the interviews and I kept track of time by having a watch.

As a precursor to the interview process, I established rapport with the research participants through information sharing about key elements of the research project (including the purpose of the research). As Kvale (1996) suggests, a disclosure by the researcher can be helpful in establishing rapport. Thus, I shared my own struggles with self regulation as it relates to diabetes, and the potential benefits of involvement in the study. It was established with the participants that “reflexivity” was a natural and dynamic element of this research. Reflexivity refers to the reality that “the scientific observer is part and parcel of the setting, context, and culture he or she is trying to understand and represent” (Altheide & Johnson, 1997, p.172-183). In other words, I’ve interpreted their life experiences from my current and privileged position

in relation to the research topic. For example, I believe that my own experiences inform the research process through:

- The development of the interview questions
- The development of deeper, more probing questions to get at the richest data and
- The analysis and interpretation of the data

I interviewed the six participants twice for approximately one hour each time and no one dropped out of the study. I interviewed individuals until I reached theoretical saturation (Glazer & Straus, 1967), which is until I no longer received new information from participants. This sample size was in keeping with the intent of getting rich, in-depth data related to the lived experiences of the participants. It is more critical, with qualitative methodology, to probe deeply into the essence of core beliefs and related cognitions of a few study participants, than it is to collect masses of data from multiple perspectives.

Thoughts Journal

Research participants kept a thoughts journal (see Appendix “E”) designed to capture their thoughts related to becoming active or inactive. They were, after the first interview, asked to carry the journal with them everywhere over a period of two weeks and record any thought that they had in relation to being active or inactive. The contents of this journal helped them access their thoughts/feelings over the course of the study and served to inform the second interview. The thoughts journal was not intended to be an intervention of any kind, but merely a strategy to allow participants to access their cognitions after the fact. The questions asked were as follows:

- 1 What situation were you in when you had the thought?
- 2 What stimuli lead to the thought?
- 3 What was the content of the thought?
- 4 What did the thought mean to you?
- 5 When did self talk occur relative to your intention to be physically active?
- 6 Were you physically active as a result of the thought?
- 7 What happened to your mood, behavior or thinking as a result of the thought?
- 8 Were you able to override your typical response to this situation / thought?

I kept an ongoing journal of field notes with my thoughts and observations related to the interviews. This aided in a) recording emerging patterns or theories as the research process progressed and b) connecting that emergence to each interview.

By combining these methodologies (i.e. triangulation) the research was strengthened. Patton (1990) suggests that studies that use only a single method are more vulnerable to errors related to that method (e.g., loaded interview questions, biased or untrue responses) than studies that use multiple methods in which different types of data provide cross-data validity checks. Therefore, by triangulating the data collected through interviews, thought journals and field notes, I hoped to have addressed the research questions in a meaningful and rigorous manner.

Data Analysis:

Analysis of the data was informed by the existing literature on inner speech, self regulation and physical activity. Given the exploratory nature of this research, a flexible approach to analysis was required. The nature of the research lent itself well to a narrative analysis approach, as the participants largely told their stories about self regulation failures and successes. Narrative analysis is described by Kvale (1996) as a method that will stay within the vernacular. It focuses on stories, structure and plots. If there are no stories told spontaneously, a narrative analysis may attempt to create a story that emerges from the participant reports throughout the interviews. Further Kvale suggests that during the analysis the researcher may alternate between being a “narrative finder” – looking for narratives contained in the interviews, and being a “narrative creator”- molding the many different happenings into coherent stories. Each participant communicated in their own unique way and the researcher worked with the content and style of the individual participant’s story to let it stand alone as a story or meld it with others that were similar.

In terms of data interpretation, I strongly adhere to Lather’s (1995) rejection of “one true meaning” in favor of an interrelational construction of meaning. Lather’s goal is to proliferate, juxtapose and create disjunctions amongst different ways of reading, working towards a multi-layered data analysis. I used the participants’ stories and interpretations to construct a representation of the complexities of inner speech, self regulation and physical inactivity.

I interpreted the data within the context provided by the research participant blended with, as stated earlier, my own life context and experiences as well as the

reviewed literature. This final report includes interpretive themes and narrative stories as told by the participants and interpreted by me. Audiotapes of the interviews were listened to on an ongoing basis during my three-hour commutes to work and were transcribed to text format for reading and coding related to emergent themes and relevant theories.

Because the role of inner speech and self regulation in physical activity has not been directly explored previously, it is important that we learn what is at the core of issues at this exploratory stage. Further research will need to be performed to continue to explore these concepts and their relationships to each other.

CHAPTER FOUR: CASE STUDY RESULTS

As mentioned, six women participated in the study. Of the six participants, three were married or living common-law. Of those living alone, one was divorced, one was widowed and one has remained single. Five of these participants had children living in the home; one of whom had children living in the home part time as there was a joint custody situation. One participant lived alone and did not have any children. As white, middle class working professionals at a large Western Canadian university, their work responsibilities were varied. Four were support staff, one was an academic administrator/professor and one was a student advisor. All struggled with the challenge of being as physically active as they intended to be and each one reported experiencing self talk in their lives as it relates to physical activity.

In this chapter, I share one of the research participant's stories as an example of how deeply rooted the challenge to be physically active can be and also to serve as an example of how, from a cognitive/ behavioral approach, one might work to overcome these challenges. All names of participants used throughout this project are pseudonyms. Using narrative, I provide an in-depth description of Kathy's behaviors/intentions, as I believe that her story speaks well to how strongly the challenges of becoming physically active can be rooted in our cognitions about our world. It is not simply the events in our lives that we respond to but how we perceive, think and feel about these events that ultimately drives our behavior. More importantly, perhaps, Kathy's story is testament to the personal energy and focus that it takes to firstly become aware of our cognitions and behaviors and then to take self corrective action as it relates to our identified intentions.

Following Kathy's story I will provide a more concise description of the day to day contextual realities of the remaining five participants, while also providing their demographics.

Kathy (Dreams and Pickle Jars)

Kathy found herself in the ladies washroom all alone. She looked around to confirm that she had this space all to herself (rarely did she have space or time to herself it seemed) and decided to go for it. She could hear the music of the curling windup being played out in the banquet hall and she began to move her body in slow stretching motions. It felt great and she soon lost herself in the moment. This lasted maybe three minutes but it was hard to tell because she really got lost in it. She'd been craving some movement of her body for days now and this was the first opportunity she felt she had to attend to herself and attend to that need. She'd been active before in her life with group fitness classes, yoga, walking, biking but that was in another city at another time. She remembered what that felt like to be active; it felt good and made her feel alive. She missed it. "I guess the memories of those sensations just aren't strong enough" she muses.

Kathy was a mid-forty year old female professional who has a full time job that is very demanding. Additionally she was a single parent of two children (ages eleven and fourteen) that she was very involved with and does pro bono graphic design work for friends that are involved in not-for-profit organizations. She has a circle of friends who she gets together with when they have birthdays. She was busy. She described the week before her first interview as typical in that she spent 40 hours at work, all evenings and the weekend watching or driving her children to their

activities and approximately eight hours on pro bono work for friends. She spent approximately one and a half hours on physical activity (walking and yoga) over the week before her first interview. She intended to do yoga and walk every day. In summary, Kathy felt that there is a significant gap between her physical activity intentions and her actual physical activity.

Kathy experienced times when she had a very strong compulsion for physical activity and was involved intensely with yoga and aerobics. She described this time as having physical activity fully integrated into her life to the extent that she would walk everywhere and look for the long way home and pick beautiful routes to make the walk more enjoyable and physically challenging.

Two things happened that permanently altered her lifestyle. Firstly, the aerobics instructor that she found so motivating moved away and secondly, she had her children. "The kids really put a crimp into things because you kind of really revolve your life around them and their activities and that's one huge and easy excuse not to do anything and you're tired."

Kathy described her current physical activity intentions as being fairly vague. Although she knows that walking and yoga fit her lifestyle best, she does not commit to a detailed plan to execute those intentions. She described her current readiness to be physically active as moderate, but when asked what her intention was for tomorrow she had no specific intention to report. She recognized that perhaps her intentions are not clear enough. She recognized the weather, finances, personal safety and time as barriers to physical activity. Prior to coming to work full time Kathy had stayed at home with the children for six years. She would take the children for walks

during the day when it was light out but once the children were in school it was dark by the time that they came home, had supper and did their homework. The walks stopped. Kathy, like many people, felt vulnerable walking in the dark.

Kathy felt she has become more acutely aware of self talk in her life recently. Yoga and meditation courses “opened her up” to the “observational mode” of her life and promoted the introspective nature of self talk. Kathy felt strongly that self talk plays a role in her life and specifically regarding physical activity. Kathy perceived that approximately seventy percent of her self talk is “negative chatter”, that is either a list of excuses why she shouldn’t follow through on her intentions (e.g., “it’s muddy, I’m tired”) or messages that are berating like “you are gaining weight, what’s wrong with you?” Kathy reported that approximately thirty percent of her self talk is inspiring and motivational. In terms of the power of the messages of her self talk, Kathy stated that it is an eight or nine on a scale of one to ten with ten being the strongest.

In terms of self regulation, Kathy reported successes and failures and reflects back to an earlier time in her life when she was very active and didn’t have to think about physical activity; it was automatic. There was no dialogue with self. It was “just an accepted fact that I was going to be active.” She reported the “high” that she got from activity and “just how good I felt was a real draw for me.”

After completing the thoughts journal for two weeks Kathy found a number of interesting patterns related to her thoughts and intentions to be physically active. She found that there was a “constant negative nattering and nagging about all of the things I ought to be doing.” One of her ah-ha moments was when she realized that she could

just ignore or turn off the nattering. “I felt a release and a freedom from it. Another time I actually overrode it. I realized there was really no reason not to be active and I was just trying to find reasons for me not to. I was getting in my own way.” The situation, as described by Kathy, was that she had the intention to do yoga first thing in the morning as soon as she woke up. She found herself arguing with herself as she lay in her “cocoon” of a bed. She attempted twice to get out of bed and was not successful. She fell back asleep and had a dream about her mother chasing her around the house trying to catch her and put her in the car to go somewhere. When Kathy awoke from the dream she had the realization that her arguing with herself was her own personal rebellion against the multiple demands in her current busy life. “No one can make me get out of bed.” Once she interpreted this rebellion for what it was and that it was self defeating she was then able to get out of bed and follow through on her intention to do yoga.

Baumeister et al. (1994) speak about conflicting standards as a common reason for self regulation failure. Kathy had multiple demands in her life and most people would argue that time is the barrier or reason they cannot be active. It appears that Kathy had a gap between her intentions and her behaviors not so much because she has not enough time but more so because she has too many intentions. There are only 24 hours in the day. Therefore she was in conflict with herself and it played out by not meeting all the demands she has of herself. She is the one that is last taken care of.

She described on one occasion, after having completed the thoughts journal, making a conscious decision to “ignore the negative self talk, I just put it aside and

didn't really listen or engage in it anymore and I just focused my energy to actually getting up."

On another occasion when Kathy intended to walk she started to hear a whole menu of excuses why she shouldn't go.

"I was sort of listening to myself, you know, natter on about, "oh maybe you should do this instead, well no let's not go for a walk" and doing that kind of trying to talk myself out of doing my power walk, I didn't engage in arguing with myself, I just basically sort of metaphorically took myself by the hand and walked out the door. I just said 'hush' to those voices."

Kathy also described some of her recent success with overriding her typical response to negative self talk by making a transition from a negotiation process to a taking control process.

"If I negotiate it could go either way but nine times out of ten it goes bad. I just feel that if I get caught up in it, I use, it uses up a lot of energy to negotiate, and it's kind of a tricky thing and it will up the ante every time, and I would say probably times that I am most successful overriding that is, not to, you know, like slam the door shut, refuse to engage it anymore, just kind of let it take itself out, but I will not engage in it, I won't take the bait and get hooked in."

When questioned about how she makes the transition from negative talk to physical activity in the above two examples, Kathy's initial response was "that isn't immediately obvious to me." When asked to think more about that, she felt it was almost an act of desperation based on the fact that she has recognized a pattern of

negative and self defeating inner speech that she sees as ridiculous and that she needs to overcome. She then reported that she feels she goes through a similar process when she has to open a pickle jar. “A sort of determination just kind of takes over. It’s like a very focused thinking and attention to the task at hand.” She felt that the common thread between the yoga, walking and jar examples is that she distanced herself from the chatter; she didn’t engage in the chatter, she observed it. She further described the process of disengagement as being a sort of big sister to herself, taking herself by the hand and going for the walk. She describes this also as “a patient, benevolent caretaker of self.”

Kathy felt that her ability to override her response to negative chatter was enhanced as a result of doing the journal. Because she was able to recognize the pattern of inner speech for what it was, she was able to manage the inner speech more successfully, leading to increased opportunities to be physically active and increased physical activity. “Stepping back from it and seeing it repeat itself over and over again, I kind of started to see it for what it was and a bit of a quicksand trap.” This meta-cognition or “thinking about thinking” approach seemed to allow Kathy to find perspective on her self talk that empowers her to compartmentalize the negative self talk and minimize its negative impact on her physical activity intentions.

Although the specificity of Kathy’s intentions had not changed after the first interview she felt that the strength of the intention was stronger. Because she realized the pattern of negative inner speech was having a significant effect on her physical activity she became frustrated to the extent that it encouraged her to change her behavior patterns as follows:

“I’m frustrated because I’m trapped in some kind of sea, there’s just, I just, feel like ahhhh, you know kind of chained up a little bit and frustrated by that, so would kind of strengthen my resolve to kind of, ok well, I’m going to do something darn it, ‘cause I don’t like this anymore.”

The awareness of the pattern mustered up the personal will to beat the pattern.

When Kathy spoke about developing intentions she seems to now have an enhanced appreciation for a more articulated planning process. She felt that “it would increase the odds of actually following through somewhat, instead of moment by moment I would perhaps, there would be an added dimension to my commitment.” She also recognized that she may be more successful at being physically active if she were more proactive in planning and therefore giving her intentions a chance. In the past she would try to fit physical activity in whenever she didn’t have other obligations. This kept her in the position of “I ought” to do this and chronically failing because her other priorities (children, work, pro bono work) seemed to be more demanding and important. She was not her own first priority.

Remaining Five Case Studies

The case studies of the remaining five women are described below only to the extent that the reader will have a basic understanding of the context of their lives as it relates to this research project and a description of the gap between their physical activity intentions and physical activity behavior.

Sharon (Good Intentions or Vague Oughts)

“I have good intentions. I find now that although physical activity is important and I know all the benefits, it just doesn’t unfold as a priority on a daily basis. I run out of time for it. I have good intentions.”

Sharon was a 53 year old professional with a sedentary office job who works long hours, sometimes ten hours daily. Sharon was not married; she lived alone with her two cats and has a boyfriend that she mostly just sees on weekends.

Sharon’s favorite physical activities were walking, running, biking, working out (going to the gym, group fitness classes, resistance training) and cross country skiing. She had also tried Pilates. Sharon considered herself to be physically active when she compares herself to her siblings. When thinking more deeply about it she rated herself as moderately active because she realized that she was basing her rating on her intentions and not on her actual physical activity. As she explained, “My intention, in the winter anyways, is come to the gym two or three times a week so that in the summer I will be better able to walk to work or run or cycle.”

Sharon reported having no specific intentions on the day of or the day after the first interview. Her response to the question on Tuesday of when she next intends to be physically active was “probably Friday”. Throughout the course of the interviews and the thoughts journal exercise Sharon found that she sometimes blurred the lines, in her own mind, between intentions and “ought to” statements. It seemed there was a little voice constantly chattering at her about the things she “should do” but more often than she likes, she didn’t formulate an actual intention, plan, and commitment. She wondered if her “gap” between intention and behavior would be more accurately described as a gap between some sort of vague morality related to physical activity

and an actual intention. Ajzen and Fishbein's (1980) Theory of Reasoned Action speaks to the success of intended behaviors as directly linked to the strength of the intention. Given that Sharon's intentions were not strong and were vague the current chances of her success appeared to be limited.

Carol (Making Friends with Self)

Carol is 55 years old and was widowed over a decade ago. She raised two children essentially on her own. Carol had an office job that, at times, required a lot of walking across campus and found that when the physical demands of her job were extensive she easily gets as much physical activity as she would like. Using a pedometer given to her by her children, her intention was to walk 10,000 steps a day, either during the course of her duties, at lunch with a colleague when they happen to connect, or after work.

When asked how Carol rated herself in terms of her current level of physical activity she responded by saying, "I would say I'm somewhere in between active and inactive. But I think, I think I'm not as active as I would like myself to be. I think I can certainly push myself a little harder."

Carol reported her typical patterns of physical activity as quite solitary. She stated that she hasn't done "anything organized for a long time. Years ago I belonged to a gym and I used to run with friends. But it's basically walking and a variety of maintenance things around the house or here I get to walk a lot with work."

It appeared that Carol had some very high standards for herself in that her work ethic is very strong and she works extreme hours while, at the same time, she found it difficult to find time for her own health. Baumeister et al. (1994) refer to

conflicting standards as a common cause for self regulation failure. As with Kathy, Carol appeared to have many competing demands on her time and energy and feels disappointed and frustrated with herself for falling short, on occasion, of satisfying all of these demands. What was often referred to as “not enough time” perhaps is a mislabeling of the issue. I wondered if the issue may be more accurately described as trying to do too much with the time we have and cannot really control. There are only 24 hours in the day but we can choose what priority is within that day.

As with others, Carol struggled with the social pressures described by Azjen (1985) in his Theory of Planned Behavior, specifically subjective norms. For Carol the questions: “How do I meet the obligations I perceive that I have to others and take care of myself at the same time?” appears to be prevalent.

Liz (My Intentions vs Other Obligations: I Lose)

“Life. I think what gets in the way is that I haven’t yet persuaded myself that looking after myself is sufficiently important; that it’s worth the other things that go by the wayside. And so trying to work around just the day-to-day routine of getting kids up and off and making sure they get fed and out the door with everything that they need, and then I’m ready to go out the door. I do not get enough sleep. So it becomes a physically vicious circle. So, even if I may form the intention I maybe even have a plan the night before, the next morning is just hard. Sometimes I wonder if it’s just a chronic sleep deficit from 14 years of whatever.”

Liz lived in the centre of the city. She had a partner and three children who were fourteen, twelve and nine. Her inner speech revolved, in part, around her

children and their level of physical activity. "Part of my self talk is about them all, or the example I've got for my kids and I worry a lot about their level of physical activity. So I think a lot about these things." In terms of her own challenges to be physically active Liz, who was 44 years old, reported that she had had chronic osteoarthritis in her knees since she was in her twenties. "So that's always impacted on my ability to exercise. My primary concentration in the past few years has been on bicycling. Which I do during the summer, that's my mode of commuting."

Liz described her activity levels by season. "I would say I'm inactive in winter, and I'm more active than many in the summer."

In terms of how Liz typically spent her time she described her situation as being focused on her family: "Every hour is my time with family." Liz described her intention to meet the minimum recommended 30 minutes a day, 5 days a week. Over the last week Liz reported that she got between an hour and 2 hours of physical activity and this included walking the dog and walking to and from her car. Her inability to meet her intention was not yet clear.

Donna (Caring for Self First)

"It's just like I ate the steak I may as well eat the whole thing. You know, all or nothing. It's because, I just start feeling like kind of a failure and then I just don't go."

Donna was 41 years old and worked four days a week with Mondays off. She had two children, both boys six and ten years old, was married and had recently acquired a new puppy. She joined the research study because she wanted to help her kids. Donna saw herself as inactive compared to most other people. Donna worked

more than she is supposed to. Donna estimated that she spent approximately 20 to 24 hours a week with her family. When asked about her current intentions she described the following: “Every day of my whole life, I have woken up and said that I am going to eat right, I am going to exercise and I’m not kidding. I should do something. I should go to the gym”.

When asked how much physical activity she has had in the last week she replied “none.” When asked about her current readiness to be physically active Donna responded with “completely ready.”

Donna had a significant gap between her intentions and her behaviors especially in light of the fact that she ruminates on this topic frequently throughout every day. This rumination, in and of itself, was exhausting for her and was discouraging to her. She recognized that she had to put herself first above all other obligations if she was to be successful.

Bobbi (New Shoes but Similar Struggles)

“It’s interesting, because I am so aware of self talk. But really stupid excuses like you need to get new running shoes, because the ones that you have are dead, or you have to charge your ipod up before you get out there because you can’t run without music. And then since I have been in a house, living in a house with people who, I guess I would consider myself a person who takes care of the house. So, since I have been in that scenario it has added a whole new layer to my self talk. And, which involves talking myself out of getting physically active because I have to be at home to clean the kitchen, or make a

better meal for supper. Just feeling committed to the home life more than I ever have before.”

Bobbi was 39 years old and had one step-son who lived with her and her partner part time. Bobbi had a full time office job, did lots of freelance work out of the home office. She had three home-based businesses.

Bobbi saw herself as physically inactive compared to most other people. In the week before the first interview Bobbi spent about 37 hours at work and then another five to 15 hours working at her home-based businesses. Family time varied a bit, but Bobbi spent generally about 10 to 15 hours a week with her partner and son.

“I do have some intentions to get back in to running. I have got back into running over the years. And cycling is one of my big loves so those two things getting back into. My favorite things.”

To describe Bobbi’s physical activity over the week before the first interview she shared, “I have probably spent, I mean if I can count walking from building to building on campus and to the bus stop probably about 20 minutes this week.”

A typical weekend for Bobbi was “mostly running errands, driving around, picking up stuff, shopping and so forth.” That is, she was not physically active compared to her intentions.

These case descriptions have introduced the basic context, lived experiences and challenges faced by the research participants as they relate to engaging in physical activity. All participants had a significant gap between their intentions and

behaviors and all appear to have sufficient awareness of this gap to bring frustration, disappointment and self doubt to the forefront for them.

CHAPTER FIVE: THE ENABLING AND CONSTRAINING FEATURES OF INNER SPEECH

In this chapter, I respond to the research questions related to inner speech. In particular, I was interested in the forms of inner speech that were described by the research participants. It became clear through the interview process and by reviewing the thoughts journals, that not only did inner speech exist for each of the participants but, further, it played a significant role in their ability or inability to engage in physical activity.

Inner Speech that Enables Physical Activity

In my conversations with the women, two main forms of inner speech appeared to enable them to achieve their physical activity intention. These include focused thinking and positive, inspiring messages, which I develop in the following sections.

Focused thinking

Of the six female participants, two spoke of an ability to utilize a very focused thinking that allowed them to be successful on occasion. Kathy talked about how she was able to use some sort of “laser beam” thinking that she borrowed from yoga and meditation that helped her concentrate her energy into a singular and focused action related to her physical activity intention. She recognized that there was a bunch of other “constant nattering” in her head but also recognized that if she was going to be successful she had to quiet her mind and pay attention to her intention. She had to keep her purpose, at that one moment, singular and focused. This led to her engaging in the physical activity that she intended to engage in.

Donna also spoke about the ability that she had, at times, to simply just focus on the task at hand and speak to herself in short phrases that she felt were very simple and strong e.g. “Just do it”. She found this patterned, repetitive phrase almost “mantra like” that seemed to give her the ability to rise above the agitated feeling she was experiencing related to physical activity failure.

For Donna and to some extent also for Kathy, these focused moments seemed to arrive not by design, but out of a feeling of desperation where “enough is enough already” and when they came to a strong but temporary realization that this battle that they were in with themselves was, in their own words, “ridiculous”. It was almost as though their frustration level with themselves, due to their physical activity struggles, became intolerable at some point in time, became palpable to them, and became an agitated sensation that must be resolved.

Positive Messaging

Four of the participants reported experiencing positive self talk. The amounts and content varied amongst the four women but each reported that it helped bring a balance to the dialogue, which was predominantly negative, that they had with themselves.

Liz provided the example where she was out for a walk on a very cold winter night and kept thinking about how good she was doing for being out and being active on such a miserable evening and that she had already completed “a third, a half, three quarters” of her walk. These positive and self supporting messages were balancing out the intermittent thoughts of using her cell phone to have someone pick her up

because she felt the front of her legs freezing. The inspiring thoughts, she felt, significantly helped Liz complete her walk and meet her intention on that night.

Kathy reported that approximately 30 percent of her self talk was inspiring and motivational. Most commonly for Kathy, the self talk was related to the positive attributes and benefits of the physical activity. She talked to herself about the beauty of the route that she had selected for that day and the sensations that she realized in her body the last time she walked, got her heart rate up and felt the sun and wind on her face. "This will feel amazing." This dialogue typically occurred hours before she engaged in the physical activity and served to re-energize her towards her intention and strengthen her commitment to the intention.

Bobbi spoke about when she was 14 years old and she and a friend decided to run a half marathon race. The motivation came from the anticipated sense of accomplishment and pride that they would feel and the reinforcement from by friends and parents. More recently Bobbi provided examples where she was able to talk her way through a series of competing demands to the extent that she did not completely abort her intention to be physically active but simply delayed it till later that day when she could have "guilt free" physical activity. She gave herself permission to attend to those demands that were urgent and reminded herself through positive self talk that she could accomplish enough in that day to meet her obligations for domestic duties (laundry/dishes) and her intention to be physically active. She also gave herself positive messages regarding her ability to organize her life to accomplish results in a very busy schedule such as "you can manage all of this, just start with the first thing."

Sharon used positive self talk to motivate her to stay involved in physical activity when she felt like quitting. She tried to think about what she had accomplished while running instead of thinking about what she had yet to accomplish. She also tried to trick herself into thinking that she had just one more lap to go around the track and when close to completing that lap would then repeat “just one more lap to go” and then do another lap. She broke the physical activity into small achievable pieces and rewarded herself through positive self talk for accomplishing each piece.

Inner Speech that Constrains Physical Activity

The following are the most commonly reported forms of inner speech utilized by the participants that contributed to enhancing or maintaining the gap between their physical activity intention and their physical activity behavior.

Drop down or pop up lists of excuses

Bobbi reported that inner speech was a very strong and frequent influence in her life. It typically takes the form of a drop down list of excuses not to be physically active. “My runners are old, my Ipod needs charging, I need to cook supper for the family, I’ve got a project deadline” were frequent items on the drop down list. Bobbi found that the drop down list was highly accessible whenever she found herself in the situation where she had an opportunity to choose to be physically active or not. These excuses were always the first to come to the forefront of her mind and consistently preceded any other thoughts about her physical activity intention.

Inner speech typically took the form of a list of excuses, reasons or rationalizations that dissuaded Donna from becoming physically active. These “pop up” messages or thoughts, similar to Bobbi’s experience, were very quick to occur and sometimes difficult to recognize for what they were. Donna struggled with sorting out which of these messages were simply excuses and which were just realities. Donna’s list included the children, the dog, injuries, no time, being tired, et cetera.

Kathy also reported a series of ‘pop up messages’ that constrained her capacity to be physically active. As described below, her excuses sometimes co-exist with self deprecation.

“Oh I’m so tired, it’s muddy out, and maybe I will just do this instead.

Excuses. And I also kind of berate myself a little bit, you know, gaining weight, it’s kind of like just a negative space. I don’t have time, money, or energy to do it right now.”

Kathy experienced these messages as the first and typical response to thinking about a physical activity intention. She came to understand these excuses within the context of “the devil and the angel that sit on my shoulders.” To Kathy, the devil represented laziness and the part of her that caves in to the suggestion of inactivity because of fatigue while the angel whispered in her ear the reminders of how physical activity will make her feel amazing and that the devil is not really her friend. Kathy still found it challenging to not give in to the devil. Giving in to devil was a lot easier, in the moment, than overriding them with the angel, in the long term.

Vague “oughts”

Sharon’s inner speech was chronic, daily and quite conscious to her. It took the form of vague messages to herself as “shoulds and oughts” that required constant revisiting and re-assessment regarding the other obligations that were planned or came up in her life. Sharon typically formulated her “ought statements” in the morning but did not make a specific plan for execution regarding physical activity behavior. Sharon found that she enjoys the spontaneity that not having a plan afforded her but was sometimes frustrated when her physical activity intentions were not realized.

Liz, as mentioned earlier, came to the realization through debriefing the thoughts journal process with me, that she seldom had plans to be physically active so she really didn’t often have the opportunity to self talk about that intention or have the opportunity to override the impulse to vary from her intention. Liz further realized that perhaps she wasn’t as committed to the physical activity lifestyle as she thought, given the lack of specificity of her intention. Fail to plan, plan to fail.

Donna formulated the majority of her physical activity intentions in the form of “I should” statements. She found that she struggled with the execution of these intentions because she had no concrete, specific plan. Her intentions appeared to have been based on how she would like to live her life not on how she had committed to living her life. After the second interview and the thoughts journal process, Donna found that thinking about her intentions was informative. It seemed to clarify for her that she was doomed to fail unless she got more specific with an actual plan. She expressed, however, as did several others in the study, that a plan that was too

specific would not work for her as her life needed to be flexible and meet the needs of many people. As I reflected on the participants' many examples of prioritizing other people first, I wondered if the "I should" approach is primarily driven by an acquiescence to other people's needs (See "Compulsive Sensitivity" below) or more so a reflection of a lack of readiness to actually commit to a healthier lifestyle? I take up this issue in more depth in Chapter Six.

Carver and Scheier (1988) discuss the ought self which is self regulation based on disapproval of self or others, where individuals behave because one ought to; that is, people are externally motivated and their behavior reflects a sense of duty, responsibility or obligation. This behavior pattern is derived from punishment or more probably, avoidance of punishment. This type of self regulation is considered to be related to "discrepancy enlarging loops", thus moving the individual away from one's goals, anti-goals and the avoidance of undesirable states (e.g., "I don't want to be 250 lbs"). This refers to the feedback loop and when the individual tests the environment against a goal that they want to avoid, they then behave to enlarge the discrepancy between their current state and the standard (i.e., weighing 250 pounds).

Carver and Scheier (1988) discuss self determination theory and propose that the critical issue in self determination theory appears to concern the extent to which actions are integrated into the structure of self. The most important distinction is between what is called *introjected* regulation and *identified* regulation. As discussed in Chapter Two, in introjected regulation, the goal has been adopted as a goal but not incorporated into the self. The behavior thus is controlled, though the control is intrapsychic (as in a sense of guilt or concern about loss of others' esteem). Close

examination of self-report items used to assess this tendency (Ryan & Connell, 1989; Ryan et al., 1993) suggests that introjected values are very similar to *oughts*. They involve moving toward a value in order to avoid disapproval or self-disapproval.

Identified regulation occurs when the behavior is accepted by the individual as personally important and meaningful. If so, perhaps *any* activity that's done with the ultimate purpose of avoiding an anti-goal fails to involve the true self, by definition. The difference between goals that connect the true self and goals that don't may hinge on whether or not the fundamental impulse stems from an approach system or from an avoidance system.

Constant nattering/white noise

Kathy, Carol, Bobbi, Donna and Sharon all reported self talk to be like constant nattering, chattering, and a "white noise" kind of experience. They all described it as primarily negative, often exhausting and hard to escape from. Those that had more vague and less specific intentions seemed to be most prone to constant nattering as a primary feature of their inner speech. These participants were also the ones that were most but not exclusively prone, it appeared, to the highly accessible drop down list of excuses. For example, a message that most of the participants experienced as part of their inner speech was "I'm too tired." For many of them this was a message that they focused on throughout their day. Although each of the participants (as do most people in general) had some very legitimate reasons for being tired (actual fatigue, not being functionally fit to make it through the demands of the day), this message in itself can be exhausting if it is repeated and becomes the personal mantra. The individual becomes so convinced that this thought is their

reality that they do not have the personal resource to evaluate the thought (meta-cognition) for its accuracy and or meaning. If the thought of “I’m too tired” is not assessed for its reasonability and challenged against other thoughts such as “I’m tired but I will feel amazing if I go for a walk” the constant chattering, white noise and drop down list of excuses will dominate.

The chatter, in addition to a drop down list of excuses, typically but not exclusively, included self deprecating messages related to self regulation failure e.g. “why can’t you do this, what’s wrong with me that I can’t just do this, I’m getting so fat.” For the participants, these messages seemed to erode the personal resolve to make the effort and really served to further reduce their capacity to be physically active. The messages also took the form of a self “defeatist” discourse in that when the participants heard the message of “you are too tired, there is no way you can go for a walk tonight” it set the stage for failure by pre-empting success. It did not even leave room for debate with self; the decision was made. No hope.

Negative self talk

As discussed above under the heading of Constant Nattering/ White Noise, a significant portion of the inner speech was negative. On average amongst the six participants, negative self talk comprised approximately 65% of their inner speech regarding physical activity. The two examples that follow are of self talk that the researcher asked the participants to elaborate on to illustrate the depth and intensity of these messages:

Carol: “I don’t know what’s wrong with me that I can’t actually get it together and just do good things for myself for a whole week or whatever, you

know? I need to join AA or something where I can do it one day at a time and try and just do positive things for my health or whatever. I have this whole self deceiving part of my personality, that I'm not quite sure what that's about, whether that's about old stuff about feeling and deserving, or I'm sure there's a whole bunch of baggage from probably my family of origin, right? From being a kid or whatever. But I am aware that I am my own worst enemy, and sometimes I think I sabotage myself on purpose, and I'm really not quite sure why I do that. But then I go into a big thing about feeling bad about myself, which I hate, that feeling. So I do find it interesting, when I'm rational, that I do it and then feel bad, which I hate to do, but it doesn't stop me from doing it again".

Carol expressed sentiments common to the six participants in terms of a cyclical pattern of thinking, feeling and behaving. Beck (1995) talked about how a situation itself does not determine our response. Rather, it is how we think about that situation that drives our feelings. Those feelings subsequently drive our behavior which impacts on the situation. Carol thought that she had too many demands on her; she felt out of control and then did not find a way to control her time to meet her own needs. This made her feel more out of control. A further example of cyclical thinking that impacts on behavior was shared by Donna:

"I'm so fat, I'm getting older than I used to be when I started. Well I kind of hurt myself. I've got a fallen arch, so that was kind of hurting. And then, I think, and it's kind of all or nothing and then I felt like a failure because now my foot is hurting. Now I've got this inner ear thing right now, where I

was getting dizzy and I'm on the antibiotics and stuff. But, it's not just that, it's not just that my foot hurt, or whatever. It's because, I just start feeling like kind of a failure and then I just don't go.

What appeared at first glance to perhaps be multiple good reasons for not being physically active may, with deeper analysis, have been an ongoing pattern of symptoms of not being physically active. As real and as challenging as the injuries were for Donna, and at the risk of sounding insensitive, the list may have gotten longer for Donna the longer she was physically inactive. It appeared that Donna had not yet asked herself the question, during the times when she had these physical limitations, "what *can* I do?" The negative focus on limitations, specifically injuries, seemed for Donna, to not allow her to look at opportunities.

In summary of this chapter, inner speech existed and played a powerful role in the lives of these participants regarding physical activity. The majority of the speech was negative and for most participants was frequent. The inner speech broke down into two basic types; inner speech that enables and inner speech that constrains.

CHAPTER SIX: SELF REGULATION OF THOUGHTS

The following three themes emerged from the data and are a representation of the life experiences that are common to the research participants regarding the gap between their physical activity intentions and their physical activity behavior. These themes represent opportunities for the participants to become aware of their automatic thought patterns and engage in a more purposeful meta-cognitive approach and therefore subsequently realize greater success regarding their physical activity intentions. These emergent themes help us understand the process used to self regulate regarding perceived barriers or constraints to physical activity engagement. Further, these emergent themes explain the contextual nature of this struggle in the lives of the participants. These themes, 1) Compulsive Sensitivity; 2) Hearing, Interpreting and Managing the Inner Voice; and 3) Specificity of Intention are listed in no particular order as they have varying strengths across the six research participants.

Emergent Theme One: Compulsive Sensitivity: Loss of Self As Priority

Forssen, Carlstedt and Mortberg (2005) describe compulsive sensitivity as the compulsion to see and respond to other people's needs, whatever one's own situation. Compulsive sensitivity denotes the feeling of being "caught in caring," of being compelled to notice other people's needs and respond to them wherever possible, even at the expense of one's own needs. It entails mentally as well as physically strenuous work, exacerbated by difficulty in relaxing and resting. Forssen et al. suggest that it may be connected to ill health such as fatigue, worry, and burnout, as well as coronary disease, muscular pain, and injuries. Similarly, other researchers

indicate that “women are more likely than men to neglect health-promoting activities” (Lee & Porteous, 2002; Navaie-Waliser, Spriggs & Feldman, 2002; Sisk, 2000).

As with the feminist based literature cited above, a significant amount of theory exists that suggests there is strong gender bias related to the caring role in society and the impact on the health of the ‘carer’. The research participants’ roles as care givers were very strong and affected their ability to follow through on their physical activity intentions. The following quotes from all six participants illustrate the strength of this caring role in the home, workplace and with friends and its impact on the women’s ability to place their physical activity intention at the forefront:

Liz: “When you feel like your time with family is already constrained by your other demands in your life I keep feeling like I can’t take that away from them.”

Bobbi: “And then since I have been in a house, living in a house with people who, I guess I would consider myself a person who takes care of the house. So, since I have been in that scenario it has added a whole new layer to my self talk. And, which involves talking myself out of getting physically active because I have to be at home to clean the kitchen, or make a better meal for supper. And invest the time in maybe cooking a more nutritional meal rather than burning that process up and forfeiting the nutrition for time away for being physically active. Committed to the home life more than I ever have before.”

Donna: “I think the biggest thing is putting myself first, I personally think what it’s about is once you start having kids and stuff, you’re not first

anymore, you're not the only one. So, I think I have to put myself first, because if I'm not healthy, and I'm not active, and I'm not my best, then how am I supposed to be giving my best to my kids and my husband and my dog?"

Carol: "I've been working every day including the weekends, and starting a new program. So I worked the weekend at home actually, getting a presentation ready to go to give, which I did, on Tuesday. I work a lot, even when I'm not at work I'm often thinking about work, and or writing myself little notes about do this do that call this person first thing in the morning or whatever. But I'm quite happy to be doing this in this stage of my life. So, yeah, I don't see it sort of as a problem."

Kathy: "I do some freelance work at home, so I'm working on a project right now. I have friends who are involved in projects so I'm helping them with charitable donations of graphic design and that sort of thing, well kids activities, and they get a lot of physical activity. And I run, or I drive, and sit and watch, and then drive. And I find that a little frustrating sometimes. And basically the kids kind of put a real crimp into the thing because really, you know, you're kind of revolving around them and their activities and that's one huge and easy excuse not to do anything, and you're pretty tired, too, so that's another huge and easy excuse not to do anything."

Sharon: "In the morning when I'm getting ready for work and I think about my day and I can visualize myself coming over to the gym and I can visualize myself running, or being on the elliptical trainer and then when I get to work

and work just seems like there's so much stuff on my desk, to do and there's so many little fires to put out, and there's so many things that go on, and, 'cause I'm sort of the supervisor and people come and ask me for answers and things, then I feel like, oh well I'm, it's more important that I do this than take time for myself. I mean sometimes it affects students and that's tough."

Each of the six research participants, in various ways, spoke about competing priorities and obligations that contributed to the gap between their intention to be physically active and their actual physical activity behavior. The typical list of obligations that participants felt compulsively sensitive to were children, significant others, pets, friends and other work related relationships (colleagues, students). While this list, in and of itself, is perhaps the norm, the extent to which these obligations influenced the physical activity behavior of the research participants seemed substantial. While discussing with the research participants what things got in the way of them following through on their physical activity intentions they all provided a list of these types of obligations. This ultimately led to a synthesis statement by the individual research participants that "time" is the issue. After further dialogue and more probing inquiry in terms of how the stated priorities played out on a day by day and week by week basis, it became clear that the most common practice is that participants scheduled their time for their obligations to everyone but themselves. The basic approach that was common was that if they had time at the end of the day, week, month et cetera, they would then try to devote that time to their physical activity intentions.

Time, contrary to most research and in my opinion, is not the issue. Rather, it appears that the conceptualization of time as the issue, is the issue. The issue is that the research participants felt a pressure to care for others to the extent that they ignored or minimized the care that they provided to themselves. Each of the participants clearly had a strong connection to both the people they were caring for and the identity that they had of themselves in this caring role. It appeared that for the participants to set boundaries on their caring relationships to attend to their own needs would have been a significant shift in their thinking and may have created significant discomfort. The participants, at times, used words such as “selfish” to describe this thinking because it felt to them that they were caring more for themselves than others. This seemed uncomfortable for them and not in keeping with how they perceived the “order” of their worlds.

It is interesting that when talking to the research participants about how they planned their time and their physical activity intentions, only two of them seemed to be able to cognitively shift their perspective on how they planned their physical activity. In other words, only two of the participants were able to see (or at least verbalize that they saw) that they would seldom be able to follow through on their physical activity intention until they treated themselves and their physical activity intention as an obligation. The epiphany for them was that they had to commit time in the week to physical activity because if they did not, that time would be swallowed up by all the other obligations. For example, Liz reported, “If I had 26 hour days I’d do more of the same, so it’s not the hours in the day; it’s that I have not yet convinced myself that I need to organize it differently.” When I asked Liz what one thing would

help her be more successful at following through on her physical activity intentions she responded “what would be most helpful would be to have the permission and facilitation of my partner, and it worries me that that’s my initial response because you can’t control what someone else does, you can only control what you do.” Liz went on to describe her partner as supportive and thought further that if she asked him about playing a more active caring role in the morning with the children so that she could exercise, he probably would. Liz found it interesting that after all of her struggles with physical activity that she hadn’t thought before to ask her husband this question.

It is the above epiphanies and realizations that can occur as a result of inner speech and thinking about our thinking. By being aware of the patterns of thought and dialogue with self, I feel that individuals have an immense opportunity to harness the power of self regulation to override their typical and frustrating responses to situations. These participants who self report as chronically failing at their physical activity intentions, have an opportunity to evaluate their thinking and challenge the validity and utility of their thoughts as they relate to these intentions.

As stated in Chapter One, Beck (1995) advocated a Cognitive Model, which hypothesizes that people’s emotions and behaviours are influenced by their perceptions of events. It is not a situation in and of itself that determines what people feel, but rather the way we *construe* a situation that does (Beck, 1995). Thus, the way people feel is associated with the way in which they interpret and think about a situation. Their emotional response is mediated by their perception of the situation, which then drives their behaviour. The interviews with these six women very much

reinforce this notion with respect to how they perceive their role in the world, in particular as care givers. If they have a core belief that they must care for others at the expense of their own needs, including the need for physical activity and personal health, they will continue to struggle with these competing demands.

Of all the theories referred to in Chapter Two, Ajzen's (1985) Theory of Planned Behavior and specifically the element of "subjective norms" seemed to play a significant role in the research participants' ability to follow through on their physical activity intentions. Subjective norms refer to the perceived social pressure that individuals feel to perform or not perform behaviour. Again, the pressure felt by the research participants to be caregivers appeared to be the strongest influence in their challenge to be physically active. It is my feeling that, with these six women and perhaps more broadly applied, based on feminist based research such as Forssen et al. (2005), Lee & Porteous, (2002), Navaie-Waliser et al., (2002) and Sisk, (2000), many women are significantly influenced by subjective norms beyond the influence that Ajzen's (1985) model suggests. Ajzen reports that "intention is the central determinant of whether an individual engages in that behaviour (p 151)." I would suggest that for these six women and perhaps many others in similar circumstances, subjective norms have a stronger influence than whether or not they have formulated some specific intention. Figure 6.1 below displays the original Ajzen Model.

Based on the findings of the study, I have added to Ajzen's theory (see Figure 6.2). It suggests that although subjective norms are a consideration in the development of intention, they should be revisited subsequent to the development of

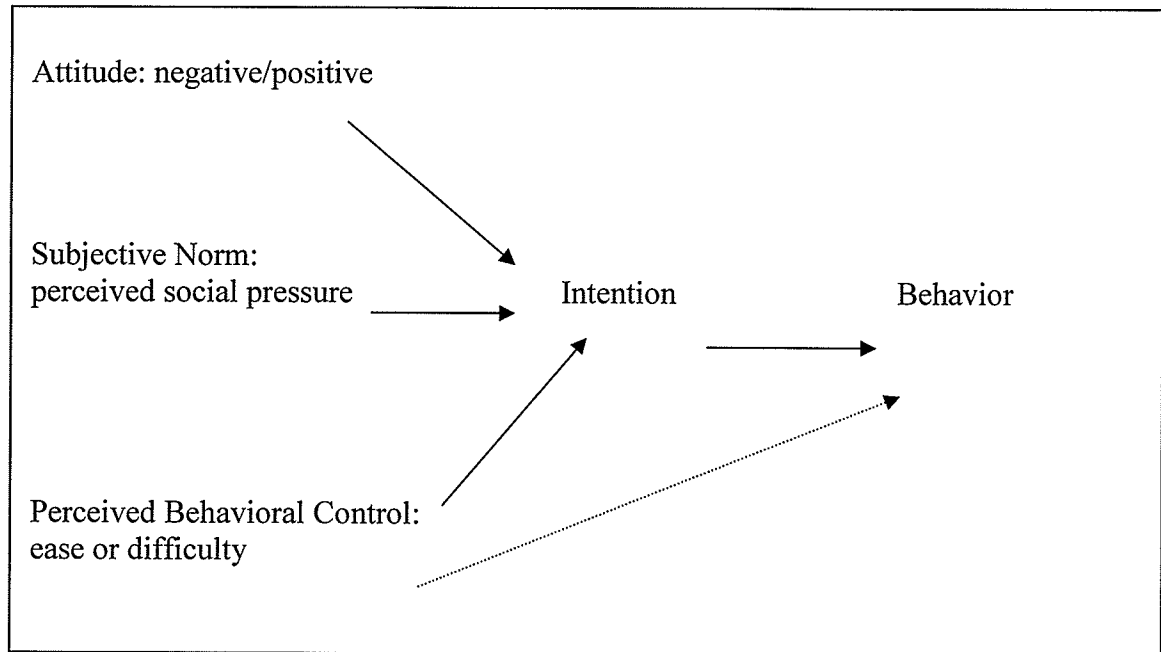


Figure 6.1. Theory of Planned Behavior (Ajzen, 1985)

the intention to ensure that the intention is feasible within the social context of the individual. It is my belief in talking with the research participants that the gap between their physical activity intention and their physical activity behaviour is because they have not reconciled their intention with the demands they perceive are placed on them. Their intentions are contextualized in a life they wish for. Sixty four percent of Canadians know the benefits of physical activity and many of them may have intentions to be physically active based on the social/cultural expectation of self care. That would be the positive, motivating side of the equation.

On the constraining side of the equation are the daily realities that these women have and perceive they have, such as significant caring roles with

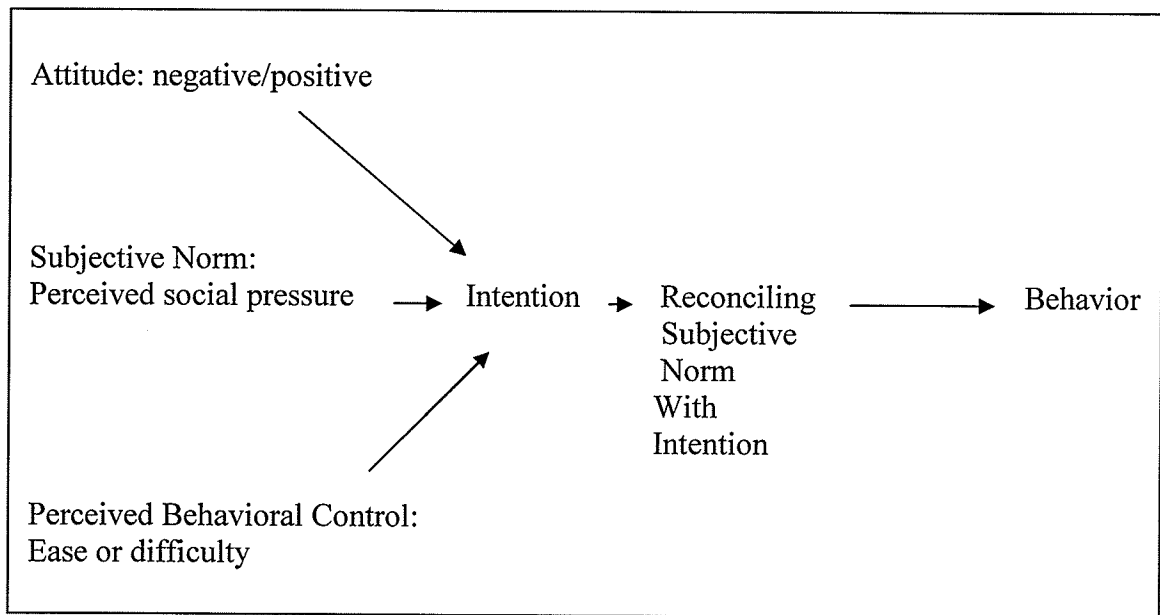


Figure 6.2. Ajzen (1985) Re-visited

family, colleagues, friends and pets. I feel that there needs to be a secondary consideration of the subjective norms from a trouble shooting/planning perspective to attempt to better reconcile the initial intention with the constraining features of the subjective norms. This may lead to less ambitious intentions but greater success. How can these women execute their intentions within the context of their obligations to others and within the context of a 24-hour day? If they contextualize their intentions within their reality they will then have the opportunity to make real decisions based on what they, or any human being, can possibly accomplish in a 24-hour day.

Emergent Theme Two: Hearing, Interpreting and Managing the Inner Voice

Each of the participants recognized that self talk was a feature of their lives and that they experienced self talk related to their intentions to be physically active.

As mentioned earlier, on average the participants rated the strength of the influence of self talk on self regulation of physical activity behavior as eight and a half out of ten. There was considerable variation, however, across the six participants in terms of how they responded to and/or managed the dialogue that they experienced related to their capacity to self regulate. In the next sections I deconstruct this process within the categories of hearing, interpreting and managing the inner voice.

Hearing:

The first basic element was simply hearing the inner speech. All participants, through their engagement with the thoughts journal, became more aware of or enhanced their awareness of their inner speech. Although the thoughts journal was not designed as an intervention but simply a tool to help participants recall their thoughts over the two week period, all participants reported that it had an effect on the awareness they had of their inner speech.

As described earlier, Carol explained that the inner speech was like a “white noise” that she had come to ignore over time but couldn’t ignore any longer due to her experience with the thoughts journal. She became aware that the thoughts and messaging that she was becoming reacquainted with had slipped into her subconscious and was like a chronic low hum of noise that she didn’t pay particular attention to. She also expressed that she was surprised at how negative the content of the chatter was and became quite annoyed by it. This awareness led Carol to become quite frustrated with the monotony of these messages which prompted her to take some positive action related to her physical activity intentions.

For Donna the most significant feature would be whether or not inner speech exists. Donna, as with some others in the research project, felt that if they are at the point where they are engaged in the self talk, they may have already lost the battle. Donna felt that if she heard the self talk related to physical activity, she may as well concede to the fact that she will not be successful with her physical activity intention. She was already in “excuses” mode and, in her experience, seldom could she break out of that pattern of thinking and transition into an “override” response. She believed that her opportunity to self regulate had passed. It appears that Donna felt very helpless in relation to her inner speech unless she was able to pre-empt the excuses with directive, positive statements like “just do it.”

Liz felt that at times there was no dialogue and attributed this to having no clear plan. With there being no plan, there was nothing to talk about. There was no desired state to aspire to. There was no “debate” required. There was nothing to talk about with self because the battle has already been lost. If Liz heard no dialogue she had no opportunity to alter her response towards positive self regulation. Self regulation typically occurred when an individual identifies a moment when they had an opportunity to change their typical response to a stimulus.

Kathy felt that the first stage was to disengage and get beyond the self talk, like “climb out of that pit”. She explained it in the following way; “Just don’t engage, just let it talk itself out, once no one’s listening it just seems to kind of, or you’re not really listening, you can hear it but you’re not listening. I just turn my head somewhere else basically.” Kathy had made an important distinction as it related to self regulation. She was able to hear the messages pop up when she had an internal

dialogue occurring but she heard those messages, on occasion, only as a faint voice. She had taught herself not to listen to the content to the extent that it stimulated a cognitive or behavioral response related to the content. For example, if the dialogue was “just stay in bed for ten more minutes,” Kathy had taught herself to only recognize that this message will typically pop up when she was trying to get out of bed, so she really didn’t pay attention to it; she didn’t really hear it. This allowed her to successfully self regulate, override that soft distant voice and engage in her morning yoga.

For some of the participants, hearing (in varying degrees) the self talk allowed them to subsequently work with the self talk and proceed toward managing it and self regulating. For other participants hearing the self talk appeared to be an indication that the hope of self regulation success was slim.

Interpreting:

For many, it appears that recognizing self talk for what it is when it’s a list of excuses is the key to success in relation to self regulation. When Bobbi had intentions to go for a run and all the excuses of needing to clean the dishes and do laundry kept popping up, she simply stopped and asked herself what these messages were about. Her interpretation was that this was a list of all of the obligations and expectations that she and others had of her. This realization allowed her to negotiate with herself from a sequential perspective, in that she was able to plan how to attend to all of the obligations and follow through on her physical activity intention: Get the chores done and then have a guilt free run.

Kathy was, on occasion, able to see the negative self talk for what it was, and simply override it with the more positive message to proceed with physical activity. She described this as focused thinking and talking to herself much like when someone really has to concentrate on opening a jar. That is, Kathy interpreted the inner speech and the direction it was going and decided to change that direction to be more consistent with her physical activity intentions.

Sharon's interpretation of her self talk, which most often was the list of excuses or vague intentions that had no action attached to them, was that she really wasn't as committed to physical activity as she thought. This lead her to question her physical activity intentions and helped her realize that the intentions were vague "ought" statements that required no commitment. "Anyone can wish to be active" she thought. Once Sharon came to this realization based on her interpretation of her own inner speech she was able to begin to formulate specific intentions with an execution plan.

Liz found that she spent considerable time talking to herself about the competing demands she had in her life. Her interpretation of this was that she still had not organized her life in line with the priorities that she had for herself. There was a gap between how she thought about the priorities in her life, including physical activity, and how she functionally organized her life. Her daily mechanism for planning and devoting time was disconnected from her priorities, therefore, her outcomes were consistently different than what she intended. Liz realized that she needs to make a shift in this area in order to be successful with physical activity.

In all, the participants became more aware of how their interpretations of their inner speech allowed them to have greater opportunities to self regulate and therefore enhanced their opportunities to meet their physical activity intentions.

Managing:

A number of the participants felt that they had some success in managing their inner speech to the extent that they could minimize, ignore or alter the self talk. This seemed to be a capacity that developed with time as they became more aware of the self talk and as the self talk became more annoying to them. The thoughts journal helped them, it seemed to me and as reported by the participants, to see the patterns in the self talk. The patterns magnified for them how powerful and redundant the messages were. The participants often made statements like “enough already, this is ridiculous” in response to the patterns they saw and these seemed to precipitate some change in capacity to override the initial negative self talk.

Donna felt that when she did not actively engage in the dialogue, she was then free to deny it the power to influence her. It appeared that a basic awareness of the thoughts and messages that one experienced was a good first step in changing the typical response. For Donna, if she can find the “automatic pilot” in any given situation, she felt like she had a better chance of success. By stepping back from the thought and thinking about the thought (meta-cognition) she then had the opportunity to challenge her own thinking as it related to her physical activity intention.

Kathy was able to shut down the negative self talk and “take herself by the hand” to follow through on her intention. “I distanced myself from my chatter. I didn’t engage in it, I sort of observed it. It was like I was my own big sister; a

benevolent caretaker of self.” Kathy thought of it in a similar fashion that she does a telemarketer. She just kept repeating: I’m not interested thanks, I’m not interested thanks, I’m hanging up now.” She managed it; it didn’t manage her.

Liz felt that self talk was probably instructive at some level. Liz had a number of experiences where she was able to override an initial negative thought with a more positive thought that lead ultimately to physical activity. Although she was not exactly certain how this operates for her on a psychological level she suspects that it has to do with accessing previous thoughts related to the benefits of physical activity and making those thoughts more prominent than the negative thoughts that present to her in the form of excuses not to be physically active.

Bobbi provided examples where she was able to talk her way through a series of competing demands to the extent that she did not completely abort her intention to be physically active but simply delayed it till later that day when she could have “guilt free” physical activity. She was able to re-structure the thoughts using a more sequential approach to dealing with the demands and ultimately was able to attend to all of the demands.

Carol had, on occasion, been able to “override” some normal responses to stimuli that would typically have lead her to not be physically active. Typically however, Carol reported that her intentions were susceptible to the negative chatter that appears chronic and lead to disappointment in herself. She found that her successful self regulation occurred when she became frustrated with the pattern of failure and negativity, sensed some desperation to succeed and then found the strength to fight through the negative messages.

Sharon had been both successful and not successful at utilizing inner speech as a self regulatory mechanism. She understood that she could “override” some of the negative chatter in her self talk and push through that dialogue with herself to walk a few blocks or perform some physical household chores. More often than she’d like though, other events or opportunities sprang up that had concrete schedules and narrow windows of opportunity that became more of a priority than the vague “ought to” statements that had no articulated plan. When her intentions were vague to the extent that there was no plan, she, as also with Liz, found that she had nothing to manage or override. If you do not know what temperature you want your house at, you don’t know whether or not to turn up the thermostat when you look at it. There must be an outcome that the person aspires to for self regulation to occur.

Although there is some variety to the ways that the participants managed their inner speech, it is clear that there can be a significant relationship between inner speech and self regulation success or failure.

Emergent Theme Three: Specificity of Intention (Ought to and Should)

Bandura (1991) recognized that if there is no discrepancy between the current personal standard of behavior and a future standard of behavior, there will be no motivation or corrective behavior. Carver and Sheier (1981) suggest that in their TOTE theory (Test, Operate, Test, Exit) an individual must have a well defined desired state so that they know what end result they are approaching and what/how much activity/effort it will take to achieve that end result. If I do not have an intention that is articulated to the extent that I can measure whether or not I have executed the desired behavior, I will never know if I succeed. Statements made by a number of the

research participants were sufficiently vague such that they seldom lead to any physical activity behavior. “I should, I ought to, I’d like to, I’ll try” statements really seemed to handcuff the participants largely because they require no actual physical activity behavior to satisfy the intention. I could physically do nothing and still satisfy my intention to wish I was physically active. “I should” intentions are more a statement of a wish to be physically active as opposed to a measurable goal.

I noticed, with the participants that formulated intentions as vague “ought” statements, that they were the same participants that seemed to have the strongest features of compulsive sensitivity. In other words and strongly related to Theme One: Compulsive Sensitivity, the participants who cared heavily about other peoples’ needs at the expense of their own needs were the participants that most frequently had vague intentions to be physically active. When queried about this by occasionally pointing out how their vague intentions lead to inadequate planning, the participants spoke of a sense of betrayal to those they care for. By making specific intentions they would feel more committed to the intentions and themselves and less committed to the people they feel responsible to. The vagueness in their intention then, perhaps, is a mechanism to allow them to emotionally straddle what they want for themselves and what they feel obligated to provide to those they care for.

Due to the fact that Liz seldom had a well articulated plan with a real sense of commitment to it, the element of self talk that seemed to have the strongest impact on her ability to follow through on her intention was timing. Physical activity opportunities for Liz were primarily serendipitous. Therefore Liz was faced with

seizing the moments when they arrived and talking herself through the list of excuses with the hope that the recall of physical activity benefits would dominate any excuses.

Sharon's self regulation failures were most often related to Baumeister et al.'s (1994) "acquiescence/letting it happen and conflicting standards." Due to the vague nature of her intentions it's easy for other priorities to elbow their way into her life. Even though Sharon thought about physical activity everyday and frequently throughout the day, Sharon positioned herself as not being committed to physical activity by virtue of the vague messages. The content of her self talk was virtuous, but not always helpful to her. This had led Sharon to feeling like she had lost control and somewhat discouraged because she sensed that she seldom is successful. Her "intentions", at times, were expressed as outcomes or perceived benefits (e.g., greater lung capacity) so were lacking a behavioral strategy, on occasion, to realize any measurable goal.

When Sharon has succeeded in self regulating it appears to be due to concrete stimuli like looking at a stack of dirty dishes or laundry to fold because then she knew exactly what she needed to do, the effort was measurable and the outcome was understood and tangible. Very little of Sharon's self talk acted as a self regulatory mechanism in the sense of overriding a normal response (Baumeister et al.1994) to a stimuli when that normal response would disengage Sharon from physical activity. Most of the self talk was giving herself permission to waiver from her vague intention to be physically active.

These three emergent themes of compulsive sensitivity; hearing, interpreting and managing the inner voice; and specificity of intentions were significant features

of the participants' experiences with inner speech and self regulation as related to physical activity. I believe they each speak to why, at a psycho-social level, so many people fail at executing their physical activity intentions. Although, if applied widely and generally for the moment, this paints a gloomy prognosis for the health of Canadians, there may be some relatively simple solutions that will be discussed in the next Chapter.

Some additional interpretations derived from the participants' stories that were less prominent but worthy of mention follow. As stated earlier, "conflicting standards" contributed significantly to the gap between intention and behavior regarding physical activity for Kathy. The multiple demands lead to considerable rumination over the stressors that these demands caused, which can lead to emotional fatigue, which can lead to self regulation failure. Further, inadequate strength is another cause for failure suggested by Baumeister et al.(1994). With being a single parent, having more than a full time job and doing pro bono work Kathy was understandably fatigued. It was challenging to stay disciplined and find the energy to "execute" successfully when energy is lacking.

In terms of successes, the Health Belief Model (Becker& Maiman, 1975) seemed relevant to the extent that once Kathy re-evaluated the barriers as being not a real threat to her physical activity intention, she was then successful. This distinction between a real barrier and a perceived barrier was what allowed her to successfully engage in the decisional balance dialogue as related in Transtheoretical Theory (Prochaska & Velicer, 1997) and perform the cost benefit analysis of engagement or non-engagement in physical activity.

To summarize, three main themes emerged which I feel are related to the research questions. The theme of “compulsive sensitivity” was one that was experienced by all participants in varying degrees. Compulsive sensitivity basically refers to a situation when a person attends to other people’s needs at the risk of not attending to their own. In the context of this research, the gap between physical activity intentions and actual physical activity behaviors was enhanced by this attention to others. This was operationalized on a daily basis with the participants as they seldom had time for themselves after caring for others.

The second theme related to the participants’ relationship with their inner voice. The experiences ranged from simply just hearing the voice and new/renewed awareness of the existence of inner speech to interpreting and then managing the inner voice. All of these elements of the inner voice lent themselves to varying opportunities and challenges related to self regulation and specifically to physical activity.

The third theme related to specificity of intention and ‘ought’ statements. It appeared that the majority of the participants, and three in particular, were chronically challenged to be successful at self regulating their physical activity intentions because their intentions were quite vague. I should, I wish, I ought. This made self regulation very difficult as there was no real behavioral standard for the participants to check their behavior against, therefore no operational mechanism for change was engaged. There appeared to be some relationship between the degree to which participants were engaged in compulsive sensitivity thinking/behavior and vague intentions.

Overall, it became clear to me that the relationship between inner speech and self regulation is strong, often based in negative messaging. It also became clear to me that there are some cognitive skills such as focused thinking, that could have a significant positive impact on people's capacity to self regulate for physical activity.

CHAPTER SEVEN: SUMMARY, FINDINGS AND RECOMMENDATIONS

Summary

This study has explored the experiences of six women and inner speech as they relate to self regulation and physical activity. The scholarly literature (Canadian Fitness and Lifestyle Research Institute, 2002) suggests that “no time and no energy” are the two most often cited reasons why people are not successful at meeting their physical activity intentions. This current study shines a different light on the topic and suggests, through the analysis of the participants’ experiences, that there are more personally entrenched and gender entrenched reasons for the challenges that some women may face in this regard.

Chapter One introduced some of the compelling reasons why this research is important. In 1999, the direct health care costs of physical inactivity in Canada totaled \$2.1 billion (Health Canada, 2002). Inadequate physical activity results in 21,340 premature deaths each year in Canada, which represents 10.3 % of all adult deaths (Health Canada, 2002). Interestingly, 64% of Canadians report knowing the benefits of physical activity while 59% of Canadians are not active enough to realize health benefit (Canadian Community Health Survey, 2000/01). Further, Chapter One described the theoretical construct of constraints. Models of leisure constraints such as the Hierarchical Model introduced by Crawford and Godbey (1987) contended that constraints are encountered sequentially (e.g. Intrapersonal, Interpersonal and then Structural) and that the individual must overcome constraints at all levels to reach the point where they actually participate. The Hierarchical Model is the first exploration of “negotiation” as a distinct component of the constraints research in that it was

recognized that a person has the capability to “overcome” perceived constraints if they have the will to do so.

Chapter Two goes into more depth on the theoretical constructs. This ability to “overcome” or negotiate through constraints, above, leads to exploration of the construct of self regulation which is described by Baumeister et al. (1994) as the capacity to alter or override our typical responses. Bandura (1986) suggested that a theory that denies that thoughts can regulate actions does not lend itself readily to the explanation of complex human behaviors. Bandura (1991) further indicated that self-regulatory systems lie at the very heart of causal processes. Not only do these systems mediate the effects of most external influences, but they also provide the very basis for purposeful action. Beck (1995) advocated a Cognitive Model, which hypothesizes that people’s emotions and behaviours are influenced by their perceptions of events. It is not a situation in and of itself that determines what people feel, but rather the way we *construe* a situation that does (Beck, 1995). Thus, the way people feel is associated with the way in which they interpret and think about a situation. Their emotional response is mediated by their perception of the situation, which then drives their behaviour.

It is this interpretation of these events and the messages that individuals give themselves as they interpret and respond to these events that was of interest in this study. Bibler (1983) defined inner speech as the formation of thought and speech directed to oneself. For the purposes of this research inner speech was considered a functional mechanism in formulating both ideas and actions. It is the inner speech that occurs in those moments of formulating a response to a situation that I feel has

significance relating to self regulation and physical activity. Specifically, it is the gap between physical activity intention and physical activity behavior that was explored as it relates to inner speech and self regulation.

The following research questions served as the major focus for inquiry:

1. Does inner speech exist, as it relates to physical activity, in the lived experiences of the research participants? If so, what forms does it take?
2. Does inner speech function as a self regulatory mechanism in relation to bridging the gap between intention and behavior as it relates to physical activity? If so, how does this operate?
3. How strongly does inner speech regulate engagement in physical activity?
4. What elements of inner speech most significantly contribute to the success or failure of self regulation as it relates to physical activity.

Chapter Three discussed that this qualitative study examined the research questions by using a phenomenological framework. With respect to data collection, a combination of individual interviews, thoughts journals and researcher field notes were employed. These multiple data collection techniques provided a means to gain rich and detailed insights into the phenomena under examination, that is, inner speech and self regulation in the context of physical activity. The use of such multiple techniques facilitates trustworthiness and credibility in qualitative research (Patton, 1990). By triangulating three different data collection techniques (interviews, thoughts journal, researcher field notes) this research gained a holistic picture of the study participants' lived experiences.

Six females were interviewed on two occasions and they each kept a thoughts journal for two weeks recording any thoughts they had in relation to physical activity. Although the thoughts journal was intended only to be a tool to help them recall their thoughts for the two week period, it definitely had an impact on their inner speech and self regulation. It would be interesting to study how effective a tool similar to the thoughts journal used in this study could be in a more controlled experimental design in helping people close the gap between their physical activity intention and behavior.

Chapter Four presented the six case studies, one in significant detail, of the participants to display the context of their stories. Overwhelmingly, it became clear that inner speech is a prominent feature of these women's lives related to physical activity. They and I were very surprised how negative the inner speech was and it ranged from negative grounded excuses to self deprecation. On average the participants rated the strength of inner speech in influencing their ability to self regulate as an eight and a half out of ten with ten being the strongest influence.

Chapter Five discussed the enabling and constraining features of inner speech as it related to self regulation and physical activity. Focused thinking and positive messaging enabled the participants to overcome some of the constraints to engagement in physical activity while drop lists of excuses, vague "ought" intentions, constant nattering "white noise" and negative self talk all served to constrain physical activity engagement.

Chapter Six explored the self regulation of thoughts and provided emergent themes that were constructed from the experiences of the participants. Compulsive sensitivity was experienced to some degree by all six participants and this refers to

the compulsion to see and respond to other people's needs, whatever one's own situation Forssen et al. (2005). The participants consistently reported that a significant reason that they could not follow through on their intentions to be physically active was because they were attending to other people's needs before their own. This, for some of the participants, only became clear to them when asked about how they plan their days, weeks and months and the realization came to them that they made concrete plans with and for others but their physical activity intentions were left dangling without a hope or a prayer because they simply ran out of hours in the day. The second emergent theme was related to hearing, interpreting and managing the inner voice. The participants each had varying experiences related to this process. The range of experiences was from becoming aware of and hearing the voices, to being able to ignore the voices, to speaking to the voices and telling them that they should stop talking because the participant understood their negative agenda and they were not allowing the voices to influence them. The third and final emergent theme was that of specificity of intention. At some level and at some time all of the participants formulated intentions that were vague "I should, I'd like to, I ought to" statements. These statements limited the participants' capacity to execute physical activity behavior because no specific behavior was targeted in their intention. One can wish daily but without a concrete plan that articulates specific behaviors, the chance of success is minimal.

Findings

For each of the specific questions, the findings of the research are summarized below:

Research Question 1: Does inner speech exist, as it relates to physical activity, in the lived experiences of the research participants? If so, what forms does it take?

All of the women experienced inner speech in their lives as it related to physical activity. They each spoke of inner speech as a common daily occurrence. Sometimes it was more of a feature in their lives than they would prefer, specifically regarding frequency and negativity. The inner speech most frequently took the form of drop down lists of excuses to not engage in physical activity. This form of inner speech was highly accessible to the participants and was typically their first response to a situation that provoked a physical activity thought. The inner speech also took the form of “constant negative chatter” or “white noise” where the women experienced this stream of consciousness that “nattered” at them about all of the reasons that they could not engage in physical activity. This white noise became annoying to some of the women to the point that they felt compelled to learn to manage it in a variety of ways.

Research Question 2: Does inner speech function as a self regulatory mechanism in relation to bridging the gap between intention and behavior as it relates to physical activity? If so, how does this operate?

It appears, based on the experiences of these six women, that inner speech can serve as a self regulatory mechanism as it relates to physical activity. There were a number of occasions where a participant was able to think about their thinking and talk themselves through a situation to a positive end result. This meta-cognition came, on occasion, as a result of becoming so frustrated with their chronic failure that they, almost as an act of desperation, found the personal resource to “just do it already”.

Additionally, they sometimes just quietly became aware of their pattern of thinking and inner speech and just learned to successfully manage the inner speech. They came to terms with the fact that the inner speech was nothing more than a list of excuses that they were far too familiar with and were able to formulate a new response to, put the negativity in context and move forward with positive, engaging messages. They also found power and comfort in being able to say “shush” to the inner speech that was constraining in nature and this success seemed to breed more success.

Research Question 3: How strongly does inner speech regulate engagement in physical activity?

They rated the strength of inner speech on the ability to self regulate as, on average, an 8.5 out of ten, with ten being strongest. There were features of inner speech that were enabling and positive but more often the inner speech was constraining and presented challenges as it related to engaging in physical activity. Given that the strength of the inner speech to influence self regulation was rated as highly as it was by the participants, it is reasonable to understand why there is a significant gap between their physical activity intentions and behaviors.

Research Question 4: What elements of inner speech most significantly contribute to the success or failure of self regulation as it relates to physical activity?

The elements of inner speech that most significantly contributed to success or failure of self regulation were content and meaning. The content, as discussed earlier, was very often the list of drop down excuses. Occasionally the content was enabling, motivating inner speech that allowed them to override their initial negative response and successfully self regulate. This shows potential to harness the power of inner

speech to have a more frequent and sustainable positive influence on self regulation and to meet their physical activity intentions. This potential may come through simply becoming more aware of inner speech, cognitive training or more in depth cognitive behavioural therapy. In terms of the meaning of inner speech and its contribution to success or failure of self regulation, it appears that all the participants benefited from the thoughts journal and having someone (in this case me) probe their thinking about the meanings and interpretations of their inner speech. It was not until a number of the participants were engaged in some probing questions about their core beliefs related to their physical activity intentions that they had “aha” moments related to how their thinking about events and situations was driving their behaviour. To make a cognitive shift about our own lives sometimes takes the ears, eyes and thoughts of others to help us see things that we are too close to. The thoughts journal appears to have allowed the participants to become more aware of their inner speech and all of its meaning. To allow for optimal opportunities for cognitive shifting related to physical activity intentions, individual and or group work within the context of support groups or cognitive behaviour therapy may be helpful.

Recommendations

In this last section of this project, I have articulated some recommendations for applying the findings to real life. It is important to me that the research be grounded in some capacity to enrich the human experience and therefore I adopted a multi-sectored approach to the recommendations. There are recommendations for service in the provision of physical activity programs and for future research.

Recommendations for Service in the Provision of Physical Activity

Programming:

Based on the findings of this research the following recommendations for service have been developed. I will re-state the finding that is linked to the service recommendation so that it is clear where the recommendation originates:

1. *Finding:* That inner speech has the capacity to positively influence self regulation as it relates to physical activity.

Recommendation: That avenues to optimize this potential be explored as part of the parental role and educators' role, specifically to teach young people that an "automatic thought" can be reconsidered through the process of meta-cognition (thinking about our thinking). This also needs to include basic information that would normalize inner speech, introduce positive self talk and instruct about specificity of intentions and goal setting.

2. *Finding:* For individuals who have a gap between their physical activity intentions and behaviors, the potential for successful self regulation would be enhanced if they could engage with others who could help them look at their own thoughts differently.

Recommendation: Create trained/educated professionals who have a strong background in physical activity and wellness as well as training in cognitive behavior therapy to provide service to individuals and groups. The focus would be on exploring core beliefs about self care and caring for others, and how they influence capacity to execute and sustain physical activity

intentions. This would include some cognitive –restructuring, goal setting and monitoring/ rewarding techniques.

3. *Finding:* All participants appeared to struggle with the duality of caring for others and caring for self.

Recommendation: Parents should be educated regarding the importance of teaching self care in the early years so that a child has a sense of ownership and belief that he or she can control his or her world. The parent should demonstrate how this applies to health behaviors. Obviously parents need to model this same behavior for their children and “walk the walk”, particularly for females.

4. *Finding:* All participants appeared to struggle with the duality of caring for others and caring for self.

Recommendation: Pre and Post Natal Classes and Community Health Nurse follow-up needs to include information and resources to support new mothers to execute self care at the beginning and throughout the parenting process. There may be a role for an “Active Living Specialist” to be a team member in the Regional Health Authorities to deliver these messages and to do periodic and systematic follow-ups to ensure mothers are caring for themselves with regards to active living. The best time to initiate change is when there is pre-existing change so there is great potential here to influence moms who typically may have been inactive.

5. *Finding:* Compulsive sensitivity is a prominent feature of the lives of the six

participants as it relates to their capacity to execute self care.

Recommendation: Fitness/ Wellness service providers need to develop and provide “Getting Started” programs targeted at helping people/women restructure their thinking around caring for self in the context of caring for others.

Questions for Future Research

The following questions are based on both the findings of the research and also areas beyond the scope of this research that I feel are worthy of investigation.

1. Do these findings apply to a larger female population? Do these findings apply to female populations of a different age group?
2. Do these findings apply to a male population?
3. Do variables of race/ethnicity, SES, etc. influence these findings in any way?
4. Is the thoughts journal really an effective intervention in helping people reshape their thinking? How would its effectiveness hold up to an experimental design?
5. Given that 64% of Canadians are not physically active enough to realize health benefits, how do we help those people who may be challenged by similar circumstances? What interventions are available that can be delivered to large segments of the population?
6. Further research is required to focus more specifically on the relationship between one’s own identity as a care giver and one’s ability to execute

physical activity intentions. Is there a strong relationship between maternal responsibility and lack of self care related to physical activity?

7. Would the utilization of a cognitive behavioural clinical intervention with people who chronically struggle with physical inactivity show success over time?
8. Would research with a longitudinal experimental design achieve positive results? For example, it would be interesting to use a version of the thoughts journal as an intervention, and the physical activity behaviour of study participants assigned to an intervention versus control group could be tracked over time.

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APPENDIX A

Participant Recruitment Notice

HAVE YOU TRIED TO BE MORE PHYSICALLY ACTIVE AND BEEN UNSUCCESSFUL?

Would you like to share your thoughts about this?

Are you a University of Manitoba employee between 35 and 55 years old?

If so, you are invited to participate in a research project designed to explore the role of self talk in regulating people's involvement in physical activity.

Participants will be asked to take part in a 10-minute telephone-screening interview and if selected for the project will take part in two, one-hour audio taped interviews, and keep a "Thoughts Journal" for two weeks. At the conclusion of the study, participants will receive a free one-month membership with Recreation Services.

If you are interested in participating, please phone 474 8628 for more information.

This research is supported by the Faculty of Physical Education and Recreation Studies at the University of Manitoba. Please note that the faculty, staff and students of the Faculty of Physical Education and Recreation Studies are ineligible to participate. This project is part of the requirements for a Masters Degree.



APPENDIX B

Telephone Screening Protocol

Note: The researcher will take hand written notes of dialogue during the Telephone Screening Protocol. These notes will be considered for inclusion in the data set and may be used to inform the interview process.

1. Thank you for your interest in the study. The purpose of the study is to explore the role of self talk in regulating people's involvement in physical activity. Do you have 10 minutes to answer a few questions to determine your compatibility with the research topic?
2. Please tell me why you are interested in the study?
3. Please tell me about your efforts to be physically active and the challenges you've faced in that regard?
4. How long have you experienced these challenges?
5. Would you describe your intention to be physically active as weak, moderate or strong?
6. With consideration of all your priorities right now, where would you place becoming physically active: top priority, near the top priority, middle, below middle or bottom priority?
7. Are you familiar with the concept of self talk, namely, the idea that we all inwardly talk to ourselves to direct our actions?
8. Are you aware of using self talk generally in your own life to guide your actions (no, a little, somewhat, a lot)?
9. Do you use self talk in your own life as it relates to physical activity?
10. Participants in this study will need to be interviewed twice, at mutual convenience, for approximately one hour each. You will also be asked to fill out a Thoughts Journal for two weeks. The Thoughts Journal is simply a journal designed to capture your thoughts as they relate to physical activity. Are you willing to participate in the interviews and complete the Thoughts Journal?
11. All participants will be offered a free one month membership to Recreation Services.

Thank you for showing an interest in this study. I will contact you by (date??) if you have been selected as a participant.

APPENDIX C

Part A: Informed Consent

Project Title: Inner Speech, Self Regulation and Physical Inactivity:
Understanding the Gap Between Intention and Behavior

Investigator: Gary Thompson
Faculty of Physical Education and Recreation Studies
Faculty of Graduate Studies
University of Manitoba

Phone:

Dear Research Participant:

You are invited to participate in a University of Manitoba research project entitled "Inner Speech, Self Regulation and Physical Inactivity: Understanding the Gap Between Intention and Behavior." The purpose of this project is to explore the messages that individuals give themselves in relation to activity / inactivity and how these messages ultimately affect their physical activity behavior.

If you agree to participate in this research project you will be asked to attend 2 one hour individual interviews with the researcher. All of these sessions will be audio-taped. All participants will have the right to pass on any questions that they do not wish to answer. All interviews will be transcribed and coded for confidentiality purposes and all identifying characteristics (e.g. names) will be removed from the data. Completed audio-tapes and transcripts will be securely stored in a locked filing cabinet to which only the researcher has a key. You will also be asked to complete a Thoughts Journal related to physical activity. This journal should be filled out daily and may take as long as five minutes per entry, minimum of one entry per day.

Data compiled during this study will be kept in the strictest confidence at all times. Upon completion of the study, all audio tapes, transcripts and Thought Journals will be destroyed within one month of the final defense of this research project. Audio tapes will be erased while transcripts and Thought Journals will be shredded. All research findings will be reported in such a way that participants cannot be identified. Direct quotes from participants will only be used if they do not contain information that would identify them. The final report might be presented outside the thesis (e.g., conference presentations, journal articles) but full consideration for confidentiality of participants will be given. Participants will not be identifiable in the final report.

Possible risk factors are minimal. If you agree to be a part of the study, you are free to withdraw from the study at any time for any reason. All participants in the study will receive a free one month membership to the University of Manitoba fitness facilities. If a participant already has a membership they will receive a one month extension. If you have any questions or would like more information please call Gary

Thompson at 474 8628 or Gary's advisor Dr. Joannie Halas at 474 6061. Please note that this study has been approved by the University of Manitoba Ethics Review Board. If you have any complaints about how this study is being conducted, please feel free to contact the Human Ethics Secretariat at 474-7122.

Please indicate on the attached consent form whether or not you provide your consent to be involved in this research project. Thank you for your consideration.

Sincerely,

Gary Thompson

APPENDIX C
Part B: Research Participant Consent Form

Project Title: Inner Speech, Self Regulation and Physical Inactivity:
Understanding the Gap Between Intention and Behavior

Investigator: Gary Thompson
Faculty of Physical Education and Recreation Studies
Faculty of Graduate Studies
University of Manitoba

Phone:

***If you understand all that has been described about the study, and
you agree to participate, read the following and sign your name:***

I have received an explanation about the nature of the study; it's purposes and procedure.

I understand that my participation in this study is voluntary.

I understand that all information gathered will remain confidential from sources other than the researcher

I understand that all research findings will be reported such that study participants cannot be identified

I understand that the information from this study will be used to support those people who struggle with self -regulation issues related to physical activity

I understand that I may choose to receive a summary of the project, upon request, following the completion of the project.

Please circle yes (below) if you want a copy of the final report and indicate below the mailing address you would like it sent to:

Your signature on this form indicates that you have understood to your satisfaction the information regarding participation in the research project and agree to participate as a subject. In no way does this waive your legal rights nor release the researchers, sponsors, or involved institutions from their legal and professional responsibilities. You are free to withdraw from the study at any time, and /or refrain from answering any questions you prefer to omit, without prejudice or consequence. Your continued participation should be as informed as your initial consent, so you should feel free to ask for clarification or new information throughout your participation. Should you wish to withdraw from the study at any time you only need to advise the researcher as soon as you have made this decision. You will be provided with a copy of this consent form for your records.

I understand all of the above and I agree to participate in the study.

(name of participant)

(name of researcher)

(Signature of participant)

(Date)

I would like a copy of the final research report (please circle):

Yes No

Please send the final research report to:

Name:

Address:

APPENDIX D

Interview Questions: Session One

A. Interview Questions

Background Information

1. Please tell me about your employment, family, age, where you live etc?
2. Do you see yourself as someone who is physically active, inactive or somewhere in between compared to most other people?
3. For the past week, please describe how much time you spent at work, with family, and any other obligations you had? How much time did you spend involved in physical activity?
4. Please describe a typical weekend over the last month in terms of how you spend your time?
5. What do you enjoy most in your life?

Physical Activity Information

1. Please tell me about your efforts to be physically active and the challenges you've faced in that regard?
2. You've acknowledged in our telephone conversation that you are not as active as you intend to be. Can you please describe these intentions in as much detail as possible?
3. How would you describe your current readiness to become physically active: not at all, somewhat, moderately or completely?
4. Do you intend to be physically active today or tomorrow? If so, please describe those intentions?
5. What keeps you from achieving your intentions to be physically active?
6. What strategies have you used to be more successful at following through on those intentions?
7. Please tell me about a time when you wanted to be more physically active and were successful?
8. Please tell me about a time when you wanted to be more physically active and weren't able to?
9. What physical activities, if any, would you add to your life? Why?

Self Talk Information

1. Self talk is any dialogue one has with one self to direct one's actions. Please tell me about self talk in your life?
2. Think of a recent time when you wanted to be physically active. What inner thoughts or messages do you remember?
3. Given what you have told me about inner thoughts or messages, do you feel that self talk plays a role in your physical activity? Please explain.
4. What role has self talk played in keeping you physically active/inactive? Please explain?

5. How powerful, on a scale of 1 to 10, is self talk in your life in terms of regulating your involvement in physical activity with 10 being the strongest.

Self Regulation Information

1. Self regulation is about changing our typical response to something.
2. Do you use self regulation in your life?
3. Please tell me about any times in your life that you have used self regulation as it relates to physical activity?
4. Please tell me about a time when you have been successful at self regulation as it relates to physical activity? Unsuccessful?
5. Is there anything else that you want to tell me in relation to self talk, self regulation and physical activity in your life?

B. Introduce Thoughts Journal (see appendix “E”)

APPENDIX D

Interview Questions - Session Two

General Info/ Linking to Interview One

1. Did you have any further thoughts or questions after the first interview?
2. Based on the first interview, what insights did you personally take away?
3. Please tell me about your experience with the Thoughts Journal over the last two weeks?

Physical Activity Information

1. Let's talk about a particular situation you experienced last week and documented in your Thoughts Journal. Tell me about your attempts to be physically active. What happened?
2. Please describe any changes you experienced relating to your ability to be more physically active?
3. What do you feel contributed to these changes? Please give me an example?
4. Did your intentions to be physically active become more or less specific over the last two weeks? If so, what were those changes?
5. Did your intentions to be physically active become more or less strong over the last two weeks? If so, what were those changes?

Self Talk Information

1. Did you use self talk since your first interview? If so, please tell me about that?
2. Tell me about one example of self talk that you found helpful in becoming more physically active?
3. Tell me about one example of self talk that you found not helpful in becoming more physically active?
4. When do you find that you typically use self talk related to physical activity?
5. Typically what is the nature of the self talk related to physical activity?
6. Typically what do these self talk messages mean to you and how does it effect your intention to be physically active?

Self Regulation Information

1. Did you use self regulation related to physical activity since the last interview? If so, please describe that experience?
2. Did you use goal setting strategies related to physical activity? Please describe?
3. Did you monitor your progress towards these goals that you set related to physical activity? Please describe how you did that?
4. What strategies do you use to change your response to situations that typically would lead to you not being physically active?
5. Did you use any prompts or reminders to help you be more physically active? Please describe?

6. Did you plan/schedule your physical activity sessions? Please describe.
6. Did you share your intentions to be physically active with other people and if so what impact did this have on your involvement?
7. What do you think would be most helpful in getting you physically active?
8. Is there anything else that you want to tell me about your efforts to be physically active?