

**SEEKING SELF-WORTH: PHYSICAL ACTIVITY BEHAVIOR ENGAGEMENT IN
RURAL NOVA SCOTIA WOMEN POST MYOCARDIAL INFARCTION: A
CONSTRUCTIVIST GROUNDED THEORY STUDY**

by

Heather Eileen Helpard

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ABSTRACT

Evidence indicates that regular physical activity (e.g., aerobic physical activity for 30 minutes most days of the week) reduces recurrent cardiac events and death rates in women with coronary heart disease (CHD). However, study findings consistently report higher rates of physical inactivity among rural versus urban women. In addition, rural women experience significant geographic disparities, health inequities, and limited access to health care services and providers, creating further self-care challenges such as engaging in recommended physical activity behaviors post-MI. To understand how rural Nova Scotia (NS) women engage in physical activity behaviors post MI, and factors that affect their physical activity in the post-MI period, constructivist grounded theory (CGT) and photovoice methodologies and methods were used in this research. Eighteen NS women from rural settings participated in two interviews and in the taking of personal photographs using provided disposable cameras.

Findings from the narrative and visual data culminated in a substantive theory, “*Seeking-Self Worth: A Theory of How Rural Women Engage in Physical Activity Behavior Post-MI.*” What was most problematic for study participants was *questioning self-worth as a rural woman post-MI*. To manage this problem, study participants engaged in the *process of seeking self-worth as a rural woman post-MI*. The theory of *seeking self-worth* also involved the processes of *assessing MI damage and physical activity, testing physical activity limits, and choosing physical activity priorities*. All of these processes played out within a rural context where gender and contextual factors encouraged or hindered study participants’ seeking of self-worth post-MI and, subsequently, their engagement in physical activity behavior post-MI. This substantive theory has implications for nursing, particularly rural public health nurses and nurse practitioners, in the areas of practice, education, research, and policy development.

LIST OF ABBREVIATIONS USED

CACR	Canadian Association of Cardiac Rehabilitation
CFLRI	Canadian Fitness and Lifestyle Research Institute
CGT	Constructivist Grounded Theory
CHD	Coronary Heart Disease
CHNSD	Cardiovascular Health Nova Scotia Database
ICU	Intensive Care Unit
IMCU	Intermediate Medical Cardiac Unit
MI	Myocardial Infarction
MU	Medical Unit
NS	Nova Scotia
PA	Physical Activity
RCIPP	Rural Community Impacting Pilot Project
RST	Rural and Small Town

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In undertaking this doctoral work my preconceptions of cardiovascular nursing care for rural Nova Scotia women following a myocardial infarction (MI) were challenged. Old notions and ideas about what constituted physical activity and cardiac rehabilitation post-MI were stripped away through the words, logbook entries, and titled photographs of 18 rural NS women post-MI. Their personal experiences and insight enriched my understanding of how gender and rural context, as well as the pursuit of self-worth, shaped their engagement in physical activity behavior in the early MI recovery period. I feel honored, privileged, and humbled to have had the opportunity to listen, learn, and co-create knowledge with each of these participants. To all of these rural women, my most sincere thanks and I will integrate your voices into my future clinical, education, and research endeavors.

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think more theoretically, to consider the audience I was addressing in my writing, and to expand my thinking outside of traditional, individualistic, and standardized cardiac rehabilitation approaches when reflecting about and analyzing the data related to physical activity behavior engagement in my study participants.

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CHAPTER 1 INTRODUCTION

1.1 PROBLEM DEFINITION

Coronary heart disease (CHD) and myocardial infarction (MI) are major causes of death, disability (e.g., functional limitations), and poor health outcomes (e.g., social isolation) in Canadian (Heart and Stroke Foundation, 2010) and Nova Scotia women (Cardiovascular Health Nova Scotia Database [CHSND], 2011). Since 2008, a seismic shift has occurred within Canada, with more women than men now dying from or being burdened with CHD (Heart and Stroke Foundation, 2010; Tu, Nardi, Fang, Liu, Khalid, & Johnson, 2009). While such statistics represent helpful summary measures within a population, DesMeules and Pong (2006) emphasize the need to understand how some groups, such as rural Canadian women, will “fare better or worse than the average when specific measures of health and well-being are examined” (p. 1).

Researchers have found that significantly large differences in mortality (Pong, DesMeules, & Legace, 2009) and illness burden continue to exist between Canadian rural and urban women (Bierman, Jaakimainen, Abramson, Kapral, Azad, Hall et al., 2009; DesMeules & Pong, 2006). For example, rural women are more likely to report cardiac risk factors, such as physical inactivity, diabetes, and hypertension, than urban women (Bierman et al., 2009; Community Foundation of Nova Scotia, 2011). When a population, such as rural women, has a high incidence of cardiac risk factors (Bierman et al., 2009), it places them at increased risk for repeat hospitalizations, recurrent cardiac events, functional disability, depression, and social isolation (Chow, Donovan, Manual, Johansen, & Tu, 2005; Clark, Hartling, Vandermeer et al., 2005; Heart and Stroke Foundation, 2010). In addition, geographic disparities, health inequities, traditional gender role expectations, and limited accessibility to and quality options for health

care providers and services may create further self-care challenges for rural women post-MI (Caldwell, Arthur, & Rideout, 2005; Leipert, Landry, & Leach, 2012; Leipert, Leach, & Thurston, 2012).

Nova Scotia (NS) is a province with significant social, economic, and health inequities (Community Foundation of Nova Scotia, 2011; Hayward, & Colman, 2003; McNiven, Sable, & Associates, 2006). Estimates have suggested that the aging NS population is approximately 60–85% rural, with higher levels of reported unemployment, poverty, and illiteracy than the national average (Akbari, 2012; Rural Communities Impacting Policy Project [RCIPP], 2003). Recent evidence indicates that Canadians living in less affluent neighbourhoods, such as rural communities, are 37% more likely to have MIs than those living in affluent areas in 2007-2008 (Canadian Institute for Health Information [CIHI], 2010). Also, it is projected that over two-thirds of NS women post-MI return home to recover in rural settings (Cardiovascular Health Nova Scotia Database [CHNSD], 2011) with considerably fewer health care providers, cardiac care resources, and rehabilitative programs compared to their urban counterparts (Cardiac Health Foundation of Canada, 2012; RCIPP, 2003; Veugelers, Yip, & Elliott, 2003).

1.2 RESEARCH PROBLEM

Evidence has consistently revealed that increased exercise capacity and regular physical activity (e.g., aerobic activity for 30 minutes most days of the week) can reduce recurrent cardiac events and mortality in women with CHD (Canadian Fitness and Lifestyle Research Institute [CFLRI], 2005; Clark et al., 2005; Gulati, Pandry, Arnsdorf, Lauderdale, Thisted, Wickland et al., 2003; Heart and Stroke Foundation, 2010; Lavie, Thomas, Squires, Allison, & Milani, 2009; Shiroma & Lee, 2010), regardless of ethnicity or age. Also, such physical activity improves women's cardiac function, exercise capacity (Fletcher, Balady, Blair, Blumenthal, Casperson,

Chaitman et al., 1996), cardiac electrical stability (Billman, 2002), blood pressure (Shiroma & Lee, 2010; Thompson, Buchner, Pina, Balady, Williams, Marcus et al., 2003), insulin sensitivity (Cuff, Meneilly, Martin, Ignaszewski, Tildesley, & Frohlich, 2003; DiPietro, Dziura, Yeckel, & Neuffer, 2006), and psychological well-being (Fletcher et al., 1996; Mead, Morley, Campbell, Greig, McMurdo, & Lawlor, 2008; Rumsfeld & Ho, 2005; Smith, Benjamin, Bonow, Braun, Creager, Franklin et al., 2011).

In spite of these findings, significant gaps exist between the clinical evidence and the realities of physical activity behavior in rural women before and after a cardiac event. First, rural Canadian women report that physical activity includes all structured (e.g., exercise classes) and unstructured activities (e.g., household chores, caregiving responsibilities, walks) (Kubik & Moore, 2005; Thurston & Meadows, 2003). Yet, limited quantitative studies of physical activity behavior in rural women do not capture the frequency, duration, and intensity of their unstructured household, outside employment, and caregiving activities (Dubbert, 2002), particularly before or after a cardiac event. Also, such studies have rarely addressed women's varying definitions of physical activity (Im, 2001; Sriskantharajah & Kai, 2007; Tortolero, Masse, Fulton, Torres, & Kohl, 1999) or why certain leisure activities, such as gardening, are meaningful for them (Dye & Wilcox, 2006).

Second, personal (e.g., economic insecurity), social (e.g., traditional gender role expectations, social relationships and support), and environmental factors (e.g., lack of street lights and sidewalks) that have a negative impact on physical activity behavior engagement have been reported to be more common in rural settings (Parks, Housemann, & Brownson, 2003; Patterson, Moore, Probst, & Shinogle, 2004; Shores, West, Theriault, & Davison, 2009). Such findings support that rural residency is a potentially important influence on women's health and

physical activity behavior (Bengoechea, Spence, & McGannon, 2005; Caldwell & Arthur, 2009; Chrisman, 2013). Still, the impact of the rural context on women's recovery and physical activity behavior post-MI is poorly understood.

Third, limited study findings on rural Canadian women's health practices (King, Thomlinson, Sanguins, & LeBlanc, 2006; Leipert & Reutter, 2005) and recovery post-MI (Caldwell, & Arthur, 2009; Caldwell et al., 2005) have revealed that rural women are often more self-reliant than dependent on others to manage their health-related activities, including physical activity. However, little is known about how they prioritize and carry out such activities within rural contexts. What is also not fully understood is how rural NS women engage with and meet the challenges of the problems they face regarding physical activity behavior post-MI.

1.3 PURPOSE STATEMENT

The purpose of this study was to understand the process of how rural NS women engaged in physical activity behaviors post-MI, and factors that affected their physical activity behaviors in the post-MI period. This type of inquiry was needed to incorporate the voices and needs of rural women post-MI, as they have rarely been included or considered in health care decisions or services that affect them directly (Leipert, Leach, & Thurston, 2012).

1.4 RESEARCH QUESTIONS

The following questions guided the study: 1) How do rural NS women perceive physical activity in the post-MI period? 2) What physical activity do rural NS women choose to engage in or not engage in during the post-MI period? 3) What problems do rural NS women perceive they face regarding physical activity in the post-MI period? 4) What factors do rural NS women perceive to positively and negatively influence their physical activity in the post-MI period? and

5) How do rural NS women deal with factors that negatively affect their physical activity in the post-MI period?

1.5 RESEARCH CONTEXT

For this research study, rural was defined according to the Rural and Small Town (RST) definition (du Plessis, Beshiri, Bollman, & Clemenson, 2001) and Troughton's (1999) definition. The RST definition identifies all towns and municipalities as rural if they are located outside the commuting zones of urban centers with a population of 10,000 or more (du Plessis et al., 2001). Troughton (1999) recognizes the ways that rural residents construct their perceptions of being rural by suggesting that rural is "what people recognize as rural" (p. 21). Both definitions applied to the study participants in that they resided in towns and municipalities under 10,000 people (Nycum & Associates, 2002; Pyra Management Consulting Services, 2012) and many residents perceived these towns and municipalities as rural.

1.6 THEORETICAL PERSPECTIVE

The theoretical perspective that guided this study adopts aspects of the standpoint and postmodern feminist approaches (Doering, 1992; Harding, 1991, 1993), as well as the feminist stance that women are oppressed, and that gender role expectations, patriarchal values, and social structures maintain this oppression (McCormick & Bunting, 2002; Tong, 2008). Standpoint feminist theorists assume that women's views, understandings, and experiences maintain a central role throughout all knowledge creation and research processes (Harding, 1991, 1993). Feminist postmodern theorists accept that women have multiple realities that are shaped by the circumstances of their everyday lives, such as gender role expectations, social structures (i.e., work, home, family), geographic environments, and economic realities (Doering, 1992). As well, feminists, in general, concur that gender refers to the array of social practices, roles,

personality traits, attitudes, behaviors, values, and relative power ascribed to women and men (McCormick & Bunting, 2002; Tong, 2008). Feminists also contend that patriarchal ideology supports the prioritization of men over women within social structures in the household, labor market, government, and community (Sultana, 2010; Websdale, 1998).

Canadian researchers have highlighted the prevalence of patriarchal ideologies, as well as traditional gender role expectations, in rural areas (Carbert, 2005; Desmaris, 2005; Heather, Skillen, Cross, & Vladicka, 2012). Collectively, study findings in Canadian rural research have indicated that rural women are more likely than urban women to have limited voice, visibility, and power in the private and public spheres of their lives (Carbert, 2005, Desmaris, 2005; Leipert, Leach, & Thurston, 2012). A feminist theoretical perspective was consistent with the purpose of incorporating the voices and needs of rural women post-MI in the research process. Also, it was helpful to use a feminist lens to consider how gender, patriarchal values, and social structures within rural settings (Leipert, Leach, & Thurston, 2012), as well as other factors, may or may not impact rural NS women's engagement in physical activity post-MI.

1.7 METHODOLOGY AND METHODS

1.7.1 Constructivist Grounded Theory

Constructivist grounded theory (CGT), like classical, is an inductive methodology of qualitative inquiry (Charmaz, 2006). Constructivist grounded theorists emphasize action and process and assume a relativist ontological position which is influenced by the theoretical underpinnings of pragmatism, symbolic interactionism, and constructivism (Charmaz, 2006). Researchers adopting a relativist ontological position make the assumption that truth is a value-laden, ever changing social reality (Luper, 2004). Symbolic interactionists, such as Blumer (1969), emphasize that individuals construct and re-construct selves, society, and multiple

realities through active and interactive processes with others, situations, and circumstances within their everyday context (Blumer, 1969, Charmaz, 2006). Pragmatists, such as James (2008), acknowledge that the truth or meaning of an individual's interpretation lies in its practical outcomes or consequences for whatever works at the time and for current circumstances. Constructivists emphasize the interrelationship between the researcher and study participant, as well as the way they [researcher and study participant] both work together to construct knowledge (Charmaz, 2006; Mills, Bonner, & Francis, 2006), accentuating action and process to understand study participants' health behaviors.

The assumptions, techniques, and tools of CGT methodology and methods were relevant for this study because they were consistent with the stance that the researcher is engaged with study participants in the co-construction of knowledge. Also, memo writing about how personal values, perceptions, and experiences influenced interactions with study participants and analytical decisions and interpretations demonstrated reflexivity (Charmaz, 2006). CGT methodology and methods, such as interviews, logbooks, and memos, captured study participants' voice and rich verbal and written descriptions, understandings, and interpretations. This knowledge was essential for understanding study participants' perceptions of physical activity, as well as how they believed the rural context impacted their recovery and physical activity behaviors post-MI. Also, from study participants' perspectives, descriptions, understandings, interpretations, and the use of photovoice methodology, a substantive theoretical interpretation was co-constructed of how rural NS women engage in physical activity behavior post-MI.

1.7.2 Photovoice

The photovoice approach is a qualitative participatory methodology (Wang & Burris, 1994, 1997) and method “where participants are provided a camera and invited to take photographs, then asked to discuss their photos, experiences, and perspectives in interviews and logbooks” (Panazzola & Leipert, 2013, p. 3). The use of photovoice methods enabled rural NS women post-MI to record, discuss, and reflect on the realities of their lives and their engagement in physical activity behavior through their own photographs, logbook narratives about their photographs, and in individual interviews. By taking pictures of their interpretations of physical activity, as well as the opportunities and challenges within their world to engage in physical activity behaviors, study participants were given a unique opportunity to title their pictures and to dialogue about the photographs. Also, these women were able to inform this researcher, and potential future policymakers, recreational community leaders, health care providers, and other rural women and men, about their life circumstances, situations, and relationships through their distinctive lens (Wang & Burris, 1994, 1997). The photographs served as a medium to enhance understanding of what the study participants felt was worth remembering, what needed to change, and what needed to remain the same to support their engagement in physical activity behavior post-MI.

Photovoice methodology is influenced by Friere’s (1970) teachings on education for critical consciousness, Wallerstein and Bernstein’s (1988) theory of education empowerment, and feminist theory (Wang & Burris, 1994, 1997). Friere’s (1970) empowerment education theory is based on philosophical ideas regarding oppression and struggle in marginalized populations (e.g., rural NS women post-MI). Friere (1970) asserts that by enabling people (e.g., rural NS women post-MI) to critically think about their own situations, power may be

redistributed into their hands (e.g., controlling the camera). Friere's (1970) assumptions provided a valuable lens to observe, to critique, and to address the issue of health disparities (e.g., decreased accessibility to health care services, geographical and social isolation, and economic hardships) for rural NS women post-MI as compared to urban women, as well as to empower rural NS women's voices and involvement in the co-construction of knowledge post-MI. Wallerstein and Bernstein (1988) suggested that social action processes (e.g., taking photographs and dialoguing about them) serve to encourage individuals to have a voice and to gain more control over their everyday lives, as well as social and physical environments. Feminists' views that women were active participants in the interpretation and construction of their multiple realities also informed the photovoice methodology (Wang & Burris, 1994, 1997; Weiler, 1994).

1.7.3 Summary

CGT and photovoice methodologies and methods provided this researcher with the guidance, tools, and techniques to enable study participants to voice and to provide rich narrative (e.g., logbooks, interview responses) and visual (e.g., self-taken and titled photographs) data about how the rural context positively and negatively impacted their physical activity behavior engagement post-MI. New understandings from the study may help health care providers, rural health care practitioners (e.g., public health nurses, nurse practitioners), rural recreational community leaders, rural NS women post-MI and policymakers: a) develop and evaluate alternative approaches and contextually relevant programs, educational materials, and policies to support physical activity behavior post-MI for rural women in NS and other rural locations, b) lobby for funding and a concentrated focus on future rural women's health research in the area of cardiovascular disease and chronic illness management, and c) prioritize gender and rural context

knowledge and preceptorship opportunities in provincial and national conferences, workshops, and health profession school curricula.

1.8 SIGNIFICANCE OF THE STUDY

The study findings have contributed new knowledge about NS women's physical activity behaviors in rural contexts, a topic that was previously unexamined. The study approach was consistent with the priorities of the Acute Coronary Syndrome Working Group in Nova Scotia (CHNSD, 2008) and the directives of the Canadian Rural Health Research Society and the Office of Rural Health (Health Canada, 2001), which collectively encourage rural Canadians' input into the development of health promotion programs and health delivery strategies. Also, key rural health documents (DesMeules & Pong, 2006; Kirby & LeBreton, 2002; Romanow, 2002) and a recent article on the impact of the social determinants of health on cardiovascular health outcomes (Kreatsoulas & Anand, 2010) advocate that future research is needed to advance rural women's health, as well as to identify priorities and formulate recommendations to meet the unique cardiovascular needs of this population.

Thus, a qualitative study was relevant to establish foundational information based on the lived experiences of rural NS women post-MI. Furthermore, qualitative methods were particularly useful to develop a complex theoretical interpretation and understanding of how rural NS women engaged in physical activity behavior post-MI, as well as factors that helped or hindered this process. This study focused on the entire process, beginning by an interpretation of what was most problematic for study participants (e.g., questioning of self-worth as a rural woman post-MI), as well as the ways rural NS women sought self-worth as a rural woman post-MI, assessed MI damage and physical activity, tested physical activity limits, and chose physical activity priorities. Additionally, this study explored how these processes were situated within the

rural context and how gender and contextual factors impacted rural NS women's engagement in physical activity post-MI. This theory can be used to inform health care providers, recreational community leaders, policymakers, and rural men and women post-MI. It can be used to identify priorities and future program recommendations and alternative approaches that support rural NS women's and other rural women's unique needs and their adoption and maintenance of physical activity behavior post-MI, a lifestyle change shown to improve their overall health outcomes and quality of life (Heart and Stroke Foundation, 2010). Also, it can be used to inform future research studies in rural women's health, health behaviour change post-MI, and chronic disease management, as well as the development of professional workshops and conferences, health professional course curriculum changes, and preceptorship experiences for health profession students to enhance knowledge and understanding about the impact of gender and context on rural men and women's everyday lives and behaviors.

1.9 MY ASSUMPTIONS

At the beginning of this study, my assumptions were as follows: a) traditional gender role expectations often undervalue and ignore rural women's health needs; b) rural women need the opportunity as well as the encouragement to voice their needs and requirements for future recreational programs and facilities through participation in research studies; and c) rural women need the opportunity to dialogue about and analyze the impact of their home, their work, and community settings on their engagement in healthy lifestyle behaviours.

In my past role as a clinical nurse specialist, I worked tirelessly in rural communities to develop educational materials and programs to inform and support rural women in making healthy lifestyle changes post-MI. However, despite my best efforts, rural women continued to struggle with maintaining these lifestyle changes. Initially, I was puzzled as to why they did not

just adopt and maintain regular physical activity such as walking daily for 30 minutes. However, as I have acquired more work and family responsibilities in my own life, I have also gained a greater appreciation for how my own self-care needs are often easily displaced by domestic, caregiving, and work activities.

I also observed in my work throughout the years that hospital committees and community boards did not seek input from rural women about urban-based educational materials or provincial programs, such as the Heart to Heart Program (Heart and Stroke Foundation, 2010), in the post-MI period. This was concerning as the rural women I cared for were often unsure how to fit urban-based standardized information and programs into their everyday lives post-MI. When it became difficult to do so, many of these rural women would give up.

What became apparent to me was that I, and other health care professionals, had little understanding of how personal, social, and environmental influences within the rural context impacted rural NS women's engagement in physical activity behavior post-MI. Clearly, the development of relevant physical activity supports and programs for rural women post-MI was needed. However, I felt it was initially necessary to conduct doctoral research that placed rural NS women post-MI at the center of the knowledge creation process so that they had an opportunity to voice how the rural context impacts their engagement in physical activity behavior post-MI, an opportunity they have not been given before. This understanding is necessary to help urban and rural health care providers, rural recreational community leaders, and policymakers develop relevant health care programs and services that are respectful of rural NS women's needs and circumstances.

1.10 OVERVIEW OF THE DISSERTATION

Chapter 2 contains a presentation and synthesis of the most current literature on physical activity and women with CHD, rural definitions and the nature of rurality, the context of rural women's lives, and physical activity behavior in rural women with CHD. This chapter highlights significant gaps in the literature and supports the need for this study.

Chapter 3 details the theoretical perspective guiding this study, the CGT and photovoice methodologies involved in the study, the study design, the study population description, the study population recruitment and sampling strategies, data collection and data analysis techniques, trustworthiness criteria for the study, and ethical human subject concerns.

Chapter 4 contains an overview and a diagram of the theoretical interpretation of the data; the theory is "*Seeking Self-Worth: A Theory of How Rural Women Engage in Physical Activity Behavior Post-MI*". The basic social process, "Questioning Self-Worth as a Rural Woman Post-MI," which was most problematic for study participants, will be discussed. The results for the process of "Seeking Self-Worth as a Rural Woman post-MI," which was how study participants managed "Questioning Self-Worth as a Rural Woman Post-MI," will be presented.

Chapter 5 presents the results for the processes "Assessing MI Damage and Physical Activity" and "Testing Physical Activity Limits."

Chapter 6 presents the results for the process "Choosing Physical Activity Priorities" and summarizes how gender and contextual factors within the rural environment encouraged or discouraged physical activity engagement in study participants, emphasizing unique connection opportunities and disconnection challenges within the rural context.

Chapter 7 provides discussion of the major study findings and their relevance to the substantive theoretical interpretation of the data, as well as study limitations.

Chapter 8 summarizes key practice, education, research, and policy implications and recommendations from the discussion of study findings in Chapter 7. Also, future nursing roles and responsibilities in all of these areas are highlighted.

CHAPTER 2 LITERATURE REVIEW

In this chapter, literature was reviewed from the disciplines of nursing, philosophy, sociology, education, women's studies, and medicine to: a) ascertain the current state of knowledge about how rural NS women engage in physical activity behavior post-MI; b) provide rationale for the study; and c) highlight how little is understood about how rural NS women engage in physical activity behavior in the post-MI period.

The following search terms were used in the review of the literature: cardiovascular disease, coronary artery disease, myocardial infarction, female, woman, physical activity, exercise, exercise adherence, exercise compliance, rural, rurality, gender, social roles, and culture. Relevant literature included all studies and documents that: (a) addressed the health and physical activity behaviors of rural women, especially those living with CHD and/or post-MI; (b) were pertinent to the Canadian context; and (c) were published after 1976 when researchers began to study CHD risk and exercise behavior in women. The literature review is organized under five major headings: Physical Activity and Women with CHD, Defining Rural and the Nature of Rurality, The Context of Rural Canadian Women's Lives, CHD in Rural Canadian Women, and Physical Activity Behavior in Rural Women with CHD.

2.1 PHYSICAL ACTIVITY AND WOMEN WITH CHD

2.1.1 Physical Activity Benefits

Since the mid-1990s, evidence, primarily from experimental and epidemiological data obtained in non-Canadian settings, has consistently shown that engagement in regular aerobic physical activity (e.g., walking for 30 minutes five or six times a week) reduces CHD-related mortality and morbidity (e.g., functional incapacity, recurrent MIs) and promotes quality of life in men and women (CFLRI, 2005; Clark et al., 2005; Fletcher et al., 1996; Gulati, et al., 2003;

Heart and Stroke Foundation, 2010; Lavie et al., 2009; Shiroma & Lee, 2010), regardless of ethnicity or age (Clark et al., 2005; Heart and Stroke Foundation, 2010; Lavie et al., 2009; Shiroma & Lee, 2010). In the United States and Europe, research studies have indicated that women with CHD who engage in regular aerobic physical activity (e.g., 30 minutes a day of walking) most days of the week, have increased exercise and heart-related functional capacity (Fletcher et al., 2013), greater cardiac electrical stability (Billman, 2002), lower myocardial oxygen demands, reduced cholesterol levels (Thompson et al., 2003), improved blood pressure readings (Shiroma & Lee, 2010), enhanced insulin sensitivity (Cuff et al., 2003; DiPietro et al., 2006), decreased anxiety and depression (Fletcher et al., 1996; Rumsfeld & Ho, 2005), and a positive self-reported quality of life (Mead et al., 2008; Smith et al., 2011).

In response to this evidence, the Canadian Association of Cardiac Rehabilitation [CACR] (2009) recommends that physicians and other health care providers promote: a) regular exercise, b) secondary prevention strategies (e.g., cardiac rehabilitation programs, walking facilities), and c) the adoption and maintenance of physical activity behavior in all populations, including urban and rural women with CHD. In addition, the Heart and Stroke Foundation (2010b) advocates for the referral of all women with CHD to cardiac rehabilitation programs, as well as the implementation of ongoing follow-up care by health care providers, regardless of age or context.

However, in reality, evidence has consistently shown that Canadian women are less likely to be referred to or to participate in cardiac rehabilitation programs, particularly marginalized populations such as rural women (Clark, Redfern, & Briffa, 2013; Heart and Stroke Foundation, 2010). For Canadian women with CHD, including rural women, who were referred to cardiac rehabilitation in 2008, close to 50% dropped out or discontinued daily aerobic exercise (e.g., walking) within 6 months of completing the program (CACR, 2009). Clark, Redfern, and Briffa

(2013) have suggested that such suboptimal trends may be occurring in rural women post-MI because traditional, standardized exercise-based cardiac rehabilitation programs and guidelines have failed to incorporate the voices and individualized needs of this marginalized population. Thus, traditional exercise-based and urban-located cardiac rehabilitation programs, which are often inaccessible (Cardiac Health Foundation of Canada, 2012) to those in rural settings, may be ineffective and irrelevant for rural women post-MI (Clark, Redfern, & Briffa, 2013), as well as of questionable benefit to encourage women's physical activity behavior in rural settings post-MI (Caldwell et al., 2005).

2.1.2 Defining Physical Activity

2.1.2.1 Traditional definitions.

Since the mid-1980s, physical activity has been traditionally and universally defined as “any bodily movement produced by skeletal muscles that results in energy expenditure” (Casperson, Powell, & Christenson, 1985, p. 126), guiding Canadian organizations and researchers in their measurement and understanding of the concept (Canadian Association of Cardiac Rehabilitation [CACR], 2009; Canadian Fitness and Lifestyle Research Institute [CFLRI], 2010). This traditional definition of physical activity includes all forms of unstructured (i.e., household, occupational, leisure) and structured movements (i.e., exercise regimens) (Casperson et al., 1985). Exercise, a subset of physical activity, refers to planned, structured, and repetitive activities aimed at improving individuals' physical fitness levels or health status outcomes (e.g., walking programs) (Casperson et al., 1985; CFLRI, 2010).

The CFLRI (2010) uses Casperson et al.'s (1985) interpretive framework to partition physical activity and exercise behaviors into categories of light, moderate, or heavy intensity levels of activity. The CFLRI (2010) has given examples of light, moderate, and heavy intensity

aerobic exercise (i.e., walking, swimming, running, biking) to classify individuals as inactive, moderately active, or active. Using walking, the most common form of aerobic physical activity or exercise (CFLRI, 2010), an inactive person is classified as one who walks at a light pace less than 30 minutes a day, a moderately active person is classified as one who walks briskly for 30 minutes every day, and an active person is classified as one who walks vigorously at least 60 minutes each day (CFLRI, 2010). Moderate intensity physical activities are those that increase one's heart rate 50% -70% higher than his or her resting heart rate (e.g., walking for 30 minutes each day) (CFLRI, 2010; Plonczynski, Wilbur, Larson, & Thiede, 2008). To achieve health benefits (i.e., improved functional status, cardio protective effects), it is currently recommended that Canadians perform aerobic, moderate intensity physical activity, such as brisk walking, for 30 minutes most days of the week (CFLRI, 2010).

2.1.2.2 Women's perceptions.

In a feminist critique of 47 empirical studies on physical activity in various populations within the nursing literature, Im (2001) revealed that most researchers adopted Casperson et al.'s (1985) traditional definitions of physical activity and exercise. Im (2001) suggested that such definitions have implicit assumptions that "women's perceptions and experiences related to physical activity are the same as men's, and that women's experiences are universally the same regardless of their race, ethnicity and social class" (p. 189). In addition, Im (2001) discovered that women's own experiences related to physical activity were not incorporated into the majority of nursing studies and rarely was the impact of gender or context addressed. Furthermore, this author suggested that cultural values associated with women's physical activities were diverse and that this diversity needed to be considered in future physical activity research. Little has changed in present day cardiac rehabilitation research. For example, Clark,

Redfern, and Briffa's (2013) review of trials and meta-analyses findings questions the benefits of traditional center-based cardiac rehabilitation programs and guidelines, approaches which continue to fail to initially address and acknowledge marginalized populations' perceptions, needs, and access.

Within the Canadian cardiac and physical activity literature, no studies were found that solely focused on rural Canadian women's perceptions of physical activity. However, in a 3-year study centered on increasing physical activity opportunities for Albertan women aged 55-70 years (Canadian Association for the Advancement of Women, Sport and Physical Activity, 2007), 38 focus groups of urban and rural women revealed diverse perceptions of physical activity, ranging from structured leisure activities (e.g., such as walking and golf) to activities of daily living such as housework. Rural women most often identified housework and caregiving responsibilities as physical activity.

In non-Canadian settings, researchers have examined women's perceptions of physical activity and exercise, particularly those from ethnic minorities or living in rural settings. In a qualitative study of 28 rural American, low-income Caucasian women, Dye and Wilcox (2006) found that participants defined physical activity and exercise as structured, planned activity (e.g., walking), and that most women would participate in this type of activity if they perceived this lifestyle change would improve their overall health status. In another qualitative study of 84 rural and urban African American and Hispanic women, aged 35-75 years, participants frequently identified household chores and caregiving responsibilities as physical activity or exercise (Tortolero et al., 1999). For these women, exercise intensity was often equated with stress and discomfort, and sport was determined to be an activity for men. Also, these women did not feel that health care providers valued or appreciated their multiple caregiving and

unstructured household activities as sources of physical activity or exercise. Henderson and Ainsworth's (2003) analysis of qualitative data involving 30 African American and 26 American Indian women also revealed that ethnic women's perceptions of physical activity were primarily influenced by traditional gender role expectations, sociocultural beliefs, and social interactions with family and community members. Such influences and interactions promoted, recognized, and rewarded women's housework and caregiving activities over leisure walking as physical activity, suggesting the need to consider the impact of gender and context on marginalized women's physical activity perceptions, choices, and actions.

In a qualitative exploratory study of 15 South Asian women with CHD and diabetes, aged 26-70 years, Sriskantharajah and Kai (2007) discovered that study participants' perceptions of physical activity were based on their interpretations of bodily symptoms and physical limitations, as well as broad and infrequent messages from health care providers and television. For the younger women in the study, the importance of physical activity was associated with weight loss and physical appearance, not heart health. For the older women, physical activities that promoted mobility and feelings of pride and independence were valued. Household and caregiving activities were prioritized, recognized, and rewarded by family members. Physical activities such as walking or leisure activities were perceived as selfish or uncomfortable activities, as they took time away from their families and made them feel like their bodies were on display. These women also had difficulty with language barriers and understanding the prescriptive physical activity definitions (e.g., regular, moderate intensity aerobic activity) used by health care providers.

2.1.3 Summary.

Since the mid-1980s, traditional definitions of physical activity, classifications of physical activity, and exercise intensity (Caspersen et al., 1985) and center-based approaches to cardiac rehabilitation have continued to dominate research and practice guidelines (CACR, 2009; Clark, Redfern & Briffa, 2013; Im, 2001), with suboptimal outcomes in the referral, participation, and long-term adoption and maintenance of healthy lifestyle behaviors of marginalized populations (e.g., rural women) with CHD (Clark, Redfern, & Briffa, 2013). Im (2001) has suggested that universal androcentric and ethnocentric definitions of physical activity fail to acknowledge or address the diversity of women's perceptions of physical activity and the impact of gender, context, and cultural influences on these interpretations.

Non-Canadian literature study findings have indicated that rural (Dye & Wilcox, 2006) and ethnic minority women's (Henderson & Ainsworth, 2003; Sriskantharajah & Kai 2007; Tortolero et al., 1999) perceptions of physical activity are diverse and influenced by gender, sociocultural beliefs, social relationships and interactions, and contextual factors. Such findings suggest there needs to be more understanding of how gender and contextual factors shape rural NS women's perceptions of physical activity. Also, health care providers and researchers may need to consider future alternative approaches to cardiac rehabilitation research and practice that embrace diversity, individualized needs, and the participation of marginalized populations in the development of future contextually relevant programs and services.

2.2 DEFINING RURAL AND THE NATURE OF RURALITY

There is no universal definition of "rural" within the literature pertaining to Canada (du Plessis et al., 2001; Leipert, 2005). Researchers have ascribed both similar and contradictory meanings to this term, making population comparisons and the use of aggregate data difficult (du

Plessis et al., 2001). Halfacree (1993) outlined three broad approaches to defining rural: descriptive definitions, socio-cultural definitions, and the social representation of locality.

2.2.1 Descriptive Definitions.

In the literature, rural locations have sometimes been defined in terms of economic or service descriptions, as rural areas have often been structured around primary industry occupations such as farming, fishing, forestry, manufacturing, or public service opportunities such as sales and service, trades, and transportation (Pong, 2002; Troughton, 1999). Also, rural settings have been described using ecological elements such as geographical size, population census, and commuting distance from an urban center (du Plessis et al., 2001). The Rural and Small Town (RST) definition states that a place may be rural if “the population lives in towns and municipalities outside the commuting zones of larger urban centers (i.e., outside the commuting zone of centers with a population of 10,000 or more)” (du Plessis et al., 2001, p. 1).

The RST definition is deemed to provide “a starting point or benchmark for understanding Canada’s rural population” (du Plessis et al., 2001, p. 1). Also, it describes most of the towns and municipalities within rural settings where study participants were recruited. These towns and municipalities have populations of fewer than 10,000 people, with residents facing a 40-minute to 2-hour one-way commute to the city to acquire tertiary, specialist, and rehabilitative services post-MI (CHNSD, 2006, 2007). Still, for the purposes of this study, there was merit in examining other definitions of rural that complemented the RST definition and further explained the context of rural.

2.2.2 Socio-cultural Definitions.

Hartley (2004) suggested that common socio-cultural characteristics and cultural values further serve to identify, define, and shape rural identity and lifestyle. Socio-cultural definitions

have also been used by researchers to describe rural societies (Halfacree, 1993). Socio-cultural definitions of rural describe how rural residents' religious values, cultural norms, and social characteristics, such as work practices and gender role traditions, influence their behaviors and attitudes (Halfacree, 1993). For example, Hartley (2004) indicated that rural residents were more apt than urban residents to: a) have conservative religious and political views; b) assume conventional gender roles within the nuclear family; c) rely on informal social support networks within their community; and d) demonstrate the characteristics of hardiness, self-determination, and self-reliance in the occupational and leisure activities of their everyday lives. In a similar vein, Leipert (2005) asserted that characteristics of self-reliance and resilience, as well as participation in traditional gendered domestic and caregiving responsibilities, were evident in northern Canadian communities.

In rural settings where study participants were recruited, only one town was marginally larger than 10,000 people. However, socio-cultural definitions of rural support the inclusion of this rural town, as it has been documented that this area has socio-cultural values, characteristics, and norms (e.g., gender role expectations, economic trends, and political views) typical of other rural settings in Atlantic Canada (Nycum & Associates, 2002; RCIPP, 2003).

2.2.3 Social Representation of Locality.

A social representational approach recognizes ways that rural residents construct multiple discourses of negotiated meanings regarding rural within their everyday lives (Halfacree, 1993). For instance, rural residents have often been found to construct their understanding of being rural based on their perceptions of traditional gender role values or the accessibility of health care services (Troughton, 1999). Troughton suggested that "rural is what people recognize as rural" (p. 21). This definition respected the diversity and perspectives of study participants, and had the

potential to encourage them to share their perspectives, views, and meaning of “being rural.”

Therefore, if women perceived themselves to be living in a rural setting, they were eligible for inclusion in the study.

2.2.4 Summary.

In this section of the literature, descriptive, socio-cultural, and social representations of rurality were described as ways to ascertain which definitions would fit the purpose and focus of this study. For the purposes of this study, the RST definition (du Plessis et al., 2001) and Troughton’s (1999) definition guided the recruitment of participants and the interpretation of the data.

2.3 THE CONTEXT OF RURAL CANADIAN WOMEN’S LIVES

2.3.1 Who Are Rural Women?

In Canada, about 22-38% of the population and about 20% of women live in rural and remote areas (DesMeules & Pong, 2006; Sutherns, McPhedran, & Haworth-Brockman, 2004), which include coastal, farming, fishing, remote, and isolated northern communities (Leipert, 2005; Leipert, Leach, & Thurston, 2012). In NS, estimates suggest that 60-75% of the population and about 40-50% of women live in rural areas (RCIPP, 2003; Statistics Canada, 2001). Current downturns in rural economies, youth out-migration, and rural depopulation have created a gerification of rural communities and a predominately female aging rural population (DesMeules & Pong, 2006; Lilley & Campbell, 1999; RCIPP, 2003). Rural NS communities between 1,000 and 10,000 inhabitants have the highest levels of population aging, with women outnumbering men (DesMeules & Pong, 2006; Lilley & Campbell, 1999; RCIPP, 2003).

Evidence predicts that aging rural NS women will need increased health services, financial aid,

and social support programs such as cardiac rehabilitation post-MI (Heart and Stroke Foundation, 2010; McNiven et al., 2006).

2.3.2 Images of Rural Living.

Images and characteristics of rural life have been described in the literature as fresh air, healthy foods, safety, robust people, self-reliance, hardiness, and strong supportive social connections and relationships (Morris & Little, 2005). In a qualitative study of 24 middle-aged rural Albertan women, aged 40–65 years, most portrayed rural living as quiet, relaxing, and hassle free (Thurston & Meadows, 2003). Open spaces were associated with fresh air, freedom, beauty, farming, and privacy, and rurality was perceived as an asset to overall health, not a threat (Thurston & Meadows, 2003). Conversely, literature reviews and other studies involving rural Canadian women have associated rurality with gender inequity in the labor force (Carbert, 2005), social isolation (Desmaris, 2005), and violent relationships (Dyck, Stickle, & Hardy, 2012; Hornosty & Doherty, 2003). Thus, these findings suggest that the rural social and physical environment, rural social structures, and rural cultural beliefs may impact rural Canadian women's understandings and constructions of their everyday realities (Halfacree, 1993), as well as their health outcomes and lifestyle behaviors (Kreatsoulas & Anand, 2010).

2.3.3 The Uncertainties of Rural Life.

2.3.3.1 Rural economy, income, and employment.

With urban industrialization, decreasing resources (e.g., fishing, lumber), globalized competitive markets (Leipert, Leach, & Thurston, 2012; Nova Scotia Department of Health, 2007), and the new agricultural model of centralized mass production (Nova Scotia Department of Health, 2002; RCIPP, 2003) rural populations in Atlantic Canada, who rely on farming, fishing, and forestry industries for subsistence, face unemployment, financial challenges, and

economic insecurity (DesMeules & Pong, 2006; Nova Scotia Department of Health, 2007; Nova Scotia Provincial Health Council, 2000; RCIPP, 2003). In NS, recent decades have been characterized by limited availability of services, youth out-migration, and a relatively high incidence of senior women living alone in poverty, particularly in rural areas (Nova Scotia Department of Health, 2007; RCIPP, 2003; Veugelers & Hornibrook, 2002).

Rural economies continue to be significantly influenced by the income and gendered work patterns of rural women (Alasia, 2010; Heather, Skillen, Cross, & Vladicka, 2012; Kubik & Fletcher, 2012; Leipert & George, 2008; McIntyre & Rondeau, 2012). To support the family income, rural women continue to engage in part-time, contractual work or self-employment opportunities which offer low pay, few health or pension benefits, and limited economic security (Alasia, 2010; Collin & Jenson, 2009; du Plessis, 2004; Leipert, 2005). In addition to their outside work responsibilities, rural women assume primary responsibility for housework and caregiving which are roles and activities associated with deep-rooted and entrenched gendered identities (Leipert, 2005; Leipert & George, 2008). In Kubik and Moore's (2005) exploratory study of the changing roles of 717 farm women in Saskatchewan, over 51% of the women worked off the farm. However, these women continued to be responsible for over 80% of the household activities in addition to their labor on the farm, resulting in 13-hour work days (Kubik & Moore, 2005). Likewise, in NS, statistical evidence and literature findings (Colman, 2000; RCIPP, 2003) have estimated that over one-third of rural NS women report severe stress levels as a result of trying to juggle paid and unpaid work and caregiving responsibilities.

For many rural women, particularly single mothers, elderly women, women with disabilities, and Aboriginal women, poverty has continued to be a significant challenge to their engagement in health-related behaviors (Collin & Jenson, 2009; DesMeules & Pong, 2006;

Etowa, Bernard, Clow, & Wiens, 2012) and has increased their vulnerability to chronic illness (e.g., cardiovascular disease) (Kreatsoulas & Anand, 2010). A qualitative study on rural, middle-aged Canadian women post-MI in Ontario (Caldwell et al., 2005) revealed that rural women frequently cannot afford the time, lost wages, or transportation costs to access tertiary care services and specialists in an urban center, to participate in cardiac rehabilitation programs, and to purchase exercise equipment (Caldwell et al., 2005). Also, Kubik and Moore's (2005) study findings suggested that rural Saskatchewan farm women may not have the time or energy to participate in health-related activities such as walking, after completing their work, household, and caregiving responsibilities. Collectively, these study findings suggest that to increase the likelihood of rural NS women adopting physical activity recommendations post-MI, future physical activity and recreational programs may have to be more locally located and flexible to accommodate their work schedules, caregiving responsibilities, and financial limitations.

2.3.3.2 Social roles.

Literature findings have revealed that rural culture is often based on “reciprocal relationships and conservative gender roles” (Heather et al., 2012, p. 254). Women's roles (e.g., homemaker, caregiver) that give women a sense of place, identity, and connection within the rural community (Heather et al., 2012) have often continued to revolve around men's work priorities and their expected domestic, caregiving, and community responsibilities (Leipert & George, 2008; Leipert, Leach, & Thurston, 2012). For rural and northern Canadian women, gendered role expectations have often left them with little time to pursue employment opportunities in urban areas, to meet their own self-care and physical health needs, or to travel for distant health care services (Leipert & Reutter, 2005; Perry, Rosenfeld, & Kendall, 2008). Also, in interviews with four Canadian women from the National Farmers Union about farm

activism, farmers' resistance, leadership, and women's ways of working, study participants' revealed that gender role expectations, partner resistance, and family needs often negatively impacted their ability to devote energy and time to outside interests and leisure activities such as walking (Desmarais, 2005).

Conversely, study findings also suggested that the establishment of positive social relationships and connections within rural communities had the potential to help rural women buffer daily economic, geographical, and accessibility hardships (Gerrard & Woodland, 2012). Positive social relationships can provide rural women with encouragement, as well as promote the sharing of work, costs (i.e., gas for travel) and resources (e.g., food, transportation) and encourage collaborative decision-making in the home, community, and workplace (e.g., division of housework responsibilities) (Gerrard, & Woodland, 2012). As well, such relationships can facilitate rural women's adoption and maintenance of healthy lifestyle behaviors (Leipert & Reutter, 2005; Perry et al., 2008). Leipert and Reutter (2005), in their study of 25 northern Canadian women, aged 20–60 years, revealed that study participants often sought support from family members, friends, and community members (e.g., food, transportation, caregiving) to cope with financial limitations and inaccessibility to health care services and providers, common in their rural communities. Also, an American study of 20 rural women aged 22 to 65 years (Perry et al., 2008) found that group support and camaraderie from other women motivated study participants to participate in a walking program. Nevertheless, many of these women continued to grapple with trying to satisfy “the perceived competing responsibilities of taking care of the family and the self” (Perry et al., 2008, p. 311).

2.3.3.3 Educational level.

With fewer post-secondary educational opportunities, limited transportation, scarce resources, and multiple caregiving responsibilities, rural women have often reported lower educational levels than urban women (Statistics Canada, 2006). For example, in a rural area of Nova Scotia, the 2001 census revealed that 40% of residents had Grade 12 education or less, whereas in Nova Scotia overall, only 36% of the population falls into this category (Nycum & Associates). In Nova Scotia, the 2003 census also indicated that approximately 25% of urban NS women completed post-secondary studies, particularly in university, diploma, or degree programs, compared with 19% of rural NS women (Statistics Canada, 2005).

In a case study examining the relationship between formal education and out-migration in 511 individuals from 1963 to 1998 in 10 coastal villages in southwestern NS (Corbett, 2005), women were faced with the choice of leaving their community for higher education, to stay single, or to marry men from nearby communities, as there were few opportunities for high paying work outside of the home. Also, post-secondary education opportunities for these women were beyond the financial means of many families in these villages. In addition, rural NS families in the study, whose traditions were rooted in labor and economic survival, often did not value the benefit of post-secondary education for rural young men and women as most did not have post-secondary education themselves (Corbett, 2005).

By every measure, those with low educational levels often make poorer lifestyle choices (e.g., smoking, physical inactivity) and find it more difficult to seek out information sources and health care resources, increasing their likelihood of chronic illness (e.g., CHD, diabetes) (Colman & Hilchie-Pye, 2003; Kraitsoulas & Anand, 2010; Wanless, 2001). Also, Carbert (2005) contends that reduced educational opportunities regularly limit rural Canadian women's

prospects for stable employment as well as political leadership and power, rendering them invisible and unheard. In Atlantic Canada, for example, 27% of the urban ridings were won by women in 2003 general elections, compared to only 11% of the more rural ridings (Carbert, 2005). Thus, having few rural women in positions of political leadership or stable employment could result in less attention to the health care needs of rural women (Gerrard & Woodland, 2012).

2.3.3.4 Health issues.

“The health status of rural Canadians tends to lag behind that of urban residents, partly because health resources and services are not widely available in rural areas” (RCIPP, 2003, p. 68). In NS, estimates suggest that 40–50% of women live in rural areas (RCIPP, 2003; Statistics Canada, 2011) and that the population in rural NS tends to be older than in urban NS (Nova Scotia Department of Health, 2002, 2007). Obesity, diabetes, smoking, physical inactivity, and hypertension, key risk factors for the development of CHD and many other chronic illnesses, have been estimated to be prevalent in 52-60% of rural versus 32-52% of urban NS women (Colman, 2000; DesMeules & Pong, 2006; Nova Scotia Department of Health, 2007; RCIPP, 2003). Substantial evidence has indicated that women living with chronic illness, such as CHD, have higher morbidity and mortality rates, and a poorer quality of life than those without such conditions (Colman & Hilchie-Pye, 2003; Heart and Stroke Foundation, 2010). It has also been suggested that rural women have limited employment options, language barriers (Langille, Rainham, & Kisely, 2012), lower salaries, and limited access to quality urban-centered health care resources (e.g., cardiac catheterization and cardiac surgery) and cardiac specialists (Hassan, Pearce, Mathers, Veugelers, Hirsch, & Cox, 2009) than urban women. For example, with a lack of accessibility to quality health care providers and services (e.g., cardiac catheterization, stent

insertion post-MI) rural NS women are more prone to recurrent cardiac events and long term hospital readmissions (Hassan et al., 2009), as well as the adoption of unhealthy lifestyle practices such as physical inactivity (e.g., lack of physical facilities and cardiac rehabilitation programs), poor dietary intake (e.g., limited food choices and costs of available food), and smoking than their urban counterparts (Colman, 2000; DesMeules & Pong, 2006; Lyons, 2009; RCIPP, 2003).

Mental health issues for rural women may arise from social isolation, declining social support networks, exclusion from labor issues and political actions, multiple work responsibilities, violent relationships, and inaccessibility to health care services, resources, and providers (Carbert, 2005; Dyck et al., 2012; Hornosty & Doherty, 2003). Epidemiological trends in Atlantic Canada have revealed that women's reported stress levels have continued to exceed men's stress levels by more than 7% since the mid-1990s (Colman, 2000). As well, survey findings of 501 rural women across Canada, revealed that depression and stress were important contributors to cardiovascular disorders, health-related disabilities, self-reported poor quality of life, and unhealthy lifestyle practices such as physical inactivity and poor dietary intake (Patten, Stuart, Russell, Maxwell, & Arboleda-Florez, 2003; Rumsfeld & Ho, 2005). Thus, rural women may be in particularly precarious situations that negatively affect their physical and mental health and health care access.

2.3.3.5 Access to health care services.

“Rural communities in Nova Scotia are experiencing acute shortages of health care professionals, an ageing workforce, hospital closures, amalgamations, and government spending cuts” (Lombard, 2005, p. 5). Shookner and Caven (2005), as part of a Rural Impacting Policy Project in Nova Scotia (RCIPP, 2003), discovered that between 11% and 16% of the NS

population reported having unmet health care needs, with the majority being from rural communities. Furthermore, it has been projected that rural NS men and women living with chronic illnesses, such as CHD, will experience more recurrent cardiac events (e.g., MIs), more frequent readmissions to local community hospitals, and longer hospital stays than their urban counterparts. This may be partly due to their lack of accessibility to cardiac specialists, cardiac surgery, and invasive cardiac catheterization and stenting procedures (Hassan et al., 2009).

Estimates indicate that close to 90% of physicians serve Canadian populations living in urban centers (Kirby & LeBreton, 2002; Leipert, Matsui, Wagner, & Reider, 2008), as compared to 10% of physicians serving Canadian rural populations (Canadian Institute for Health Information [CIHI], 2006). Also, of the physicians serving rural areas in Canada, close to 87% are family physicians, as compared to nurse practitioners or medical specialists (CIHI, 2006; Kirby & LeBreton, 2002). In a qualitative study, using a purposive sample of 15 residents representing economic, physical, administrative, educational, and social spheres of the rural community of Yarmouth, NS, study participants felt that other health care professionals, such as nurse practitioners, could alleviate the workload of family physicians if legislation and the physicians themselves would stop putting up roadblocks and barriers to nurse practitioner practices (Lombard, 2005). Conversely, in a qualitative study of nine focus groups of 50 rural, town, and city family physicians caring for patients with CHD, NS physicians collectively agreed that reducing CHD risks in rural residents depended on the active involvement of many health care professionals and community leaders and resources (e.g., recreational programs and facilities) (Putnam, Twohig, Burge, Jackson, & Cox, 2004).

However, among Canadian registered nurses, statistics indicate that 72% are practicing in urban centers as compared to 18% working in rural areas (Hanvey, 2005; MacLeod, Kulig,

Steward, Pitblado, Banks, D'Arcy et al., 2004), leaving rural residents potentially underserved (e.g., lack of health promotion, prevention, rehabilitation, and education services). Also, there may possibly be fewer opportunities for rural health care providers, such as physicians and nurses, to take part in professional education conferences and workshops, leading to difficulties with burnout, increased workloads, and retention (Hanvey, 2005; Lombard, 2005; MacLeod et al., 1998).

Recent study findings have shown that only 53.3% of rural NS residents lived within 5 km of a pharmacy, as compared to 99.2% of urban NS residents (Law, Heard, Fisher, Douillard, Muzika et al., 2013). In addition, rural residents in NS have approximately a 40-minute to 2-hour one-way commute to the city to acquire tertiary, specialist, and rehabilitative services post-MI (Nycum & Associates, 2002). Thus, to obtain services and care, rural NS women often have to leave their community, job, and social support networks, creating further emotional distress, financial strain, and safety concerns (e.g., driving in inclement weather conditions) (Lyons, 2009).

As well, Canadian researchers have found that northern women (Leipert & Reutter, 2005) and rural middle-aged Albertan women (Thurston & Meadows, 2003) may be hesitant to attend local health care programs and services due to a perceived lack of anonymity and compromised confidentiality within their small communities. To address these issues, rural women may become more self-reliant in managing their health (e.g., purchasing goods in bulk, establishing new friendships, accessing local community centers) (Leipert, 2005). However, Leipert and Reutter (2005) also caution that self-reliant behaviors may prevent rural women from seeking required health care resources and providers for the diagnosis and treatment of illness manifestations. For example, rural women not seeking health care provider services and

treatment in the event of an MI may result in permanent cardiac muscle damage, increased morbidity, activity functional limitations, and possibly death (Heart and Stroke Foundation, 2010). Thus, rural women's self-reliant behaviors in the absence of accessible and quality health care providers and services should not absolve governments from their responsibility to provide adequate care to rural communities (Gerrard & Woodland, 2012; Leipert, 2005).

2.3.4 Summary

Rural economy, income and employment, social roles, educational level, health issues, and access to health care services may create significant challenges for rural NS women as they attempt to engage in physical activity behavior post-MI. However, rural women may have utilized their personal strengths, relationships, and community resources in an attempt to meet their health needs, which may contribute to positive or negative health outcomes. What is not fully understood is how rural NS women engage with and meet the challenges of the problems they face regarding physical activity behavior post-MI.

2.4 CHD IN RURAL CANADIAN WOMEN

Researchers have suggested that rural Canadian women, particularly in Eastern and Atlantic Canada, frequently have higher CHD-related mortality and morbidity rates; poorer accessibility to health care providers, treatments, and services; and a higher incidence of self-reported cardiac risk factors such as physical inactivity, diabetes, hypertension, and smoking than do their urban counterparts (Chow et al., 2005; Loslier, Vanasse, Niyonsenga, Courteau, Orzanco, & Hemiari, 2007). In addition, national statistical data findings have revealed that Canadian residents in low income neighborhoods, most often found in rural versus urban areas (RCIPP, 2003), were 37% more likely to have an MI than those in more affluent neighborhoods in 2007-2008 (Statistics Canada, 2010).

2.4.1 Rural Women in the Cardiac Literature.

Although knowledge about CHD in rural women is increasing, rural women still lack visibility in cardiac-related research, which is not surprising given the “worldwide tendency to view heart disease as a predominantly male problem” (Caldwell et al., 2005, p. 56). Women included in cardiac-related research have often been recruited from urban centers or cardiac rehabilitation programs (Blanchard, Reid, Morrin, Beaton, & Pipe, 2007), thus underestimating or ignoring the impact of the rural context on women’s recovery post-MI. Only Caldwell et al.’s (2005) critical ethnography study of 12 rural Ontario women has examined the influences of rurality on Canadian women post-MI. Study findings revealed that rural women were hesitant to ask for help because they did not want to be the focus of attention, they felt fortunate to have survived a cardiac event, and they did not feel that health professionals in urban centers understood the context of their lives (Caldwell et al., 2005). Also, since rehabilitative and restorative health care resources and personnel were not available to them, these rural women relied on their own experiential and practical problem-solving skills (e.g., paying attention to bodily symptoms), family and friends, and media sources to gain information, access travel to appointments in the urban center, and engage in recommended lifestyle behavior changes such as physical activity (e.g., walking with a friend).

In a qualitative study exploring the illness narratives of 51 French Canadian study participants in the first 3 months following an MI, Groleau, Whitney, Lesperance, and Kirmayer (2010) found that men and women’s MI experiences were associated with transformations of values, identity, and notions from those previously embedded within their lived social context and culture. For example, most study participants perceived the heart as a symbol of emotion prior to the MI event. However, after the MI event, the heart and MI were perceived as a

biological entity and event and part of their self-hood. As a biological event, the MI evoked new concern and attentiveness from family and friends, giving study participants the power to negotiate changes in their gendered roles within the household, to focus on healthy lifestyle behaviors (e.g., physical activity, dietary changes), and to focus on their inner self instead of others' needs in the household and workplace. Even though this study did not specifically focus on rural women post-MI, the fact that place and culture interacted to shape the trajectory of MI recovery in the study participants may suggest that further study on the impact of rural context on NS women's engagement in physical activity behavior post-MI is warranted.

2.4.2 CHD and Rural Nova Scotia Women.

Over two-thirds of the 822 NS women experiencing an MI in 2011 returned home to rural settings to recover (CHNSD, 2011). Due to health care service centralization in urban settings, rural NS women often incur financial costs and safety risks, such as those related to weather for travel, if they attempt to access this care (RCIPP, 2003). Also, they may suffer lost work and family time to obtain interventional and rehabilitative cardiac services in urban settings, hardships that many may be unwilling or unable to endure (Colman, 2000; Heart and Stroke Foundation, 2010; RCIPP, 2003).

In a qualitative study of 46 rural dwelling NS women caregivers between the ages of 31 to 65 years, Campbell, Bruhm, and Lilley (1998) found that close to 50% of these women gave up their employment, volunteer work, and personal self-care needs and interests for the needs of others. Study participants claimed that they had been told by others and learned growing up that their purpose in life was to put the needs of others ahead of their own. Although the rural NS women caregivers in this study (Campbell et al., 1998) were not post-MI, the fact that these women forfeited their own self-care needs for others may reflect attitudes and beliefs about

women's role expectations in rural NS communities. Collectively, these limited findings suggest that rural NS women may possibly have little time, ability, or inclination for self-care pursuits post-MI.

2.4.3 Summary.

CHD and MI are key health issues for rural NS women. The complexities of rural life, rural gender expectations, and limited local accessibility to health care providers and services in the MI recovery period may result in a higher risk of hospitalization, recurrent cardiac events, and poor health outcomes for rural women. Yet, no research studies have explored what rural NS women need to engage in and maintain healthy lifestyle behaviors in the post-MI period. Also, the dearth of research concerning the impact of rurality on women's recovery post-MI suggests that the nuances of rural life are not well understood and require further elaboration.

2.5 PHYSICAL ACTIVITY BEHAVIOR IN RURAL WOMEN WITH CHD

Statistical evidence has shown that over 30% of all Canadian women were physically inactive and over 50% of them did not recognize the importance of physical activity in lessening the risk of CHD or preventing recurrent cardiac events in 2007-2008 (Heart and Stroke Foundation, 2010). Furthermore, statistical evidence over the last 25 years (Craig, Cameron, Russell, & Beaulieu, 2001; DesMeules & Pong, 2006; Gauvin, 2003) has revealed that social disparities exist in the distribution of physical inactivity in the Canadian population, with women, older persons, selected ethnic groups, Aboriginal peoples, those living in rural areas, and socio-economically disadvantaged persons reporting more sedentary lifestyles.

2.5.1 Facilitators and Barriers to Physical Activity.

2.5.1.1 Intrapersonal characteristics.

Intrapersonal factors influencing physical activity exist or occur within an individual's mind or body (Bengoechea et al., 2005). Qualitative study findings on middle-aged rural and northern Canadian women indicated they may often experience feelings of stress, anxiety, despair, and depression (Gerrard & Woodland, 2012; Leipert & Reutter, 2005; Sutherns, 2005). For rural women, the experience of MI may further exacerbate previous feelings of psychological distress, placing them at an increased risk for recurrent MI events, hospitalizations, functional decline, and a suboptimal quality of life (Heart and Stroke Foundation, 2010; Mead et al., 2008).

Since women present with CHD an average of 9 years later than men, they frequently report poorer physical and psychological functioning following a cardiac event, as many are often older with more potential co-morbidities, including depression and anxiety, and functional limitations (Heart and Stroke Foundation, 2006, 2009). By every measure, women report more chest pain, fatigue, recurrent cardiac events, hospitalizations, anxiety, financial difficulties, age-related functional limitations and co-morbidities, and depression than men following an MI (Heart and Stroke Foundation, 2010). Also, research findings on rural American middle-aged and elderly women post-MI have suggested that physical functional limitations and symptoms (e.g., shortness of breath, chest pain) and psychological limitations (e.g., fear of being on display to known others) may prevent these women from engaging in leisure and structured exercise programs (Burnette, Mui, & Zodikoff, 2004; Emery, Frid, Engebretson, Alonzo, Fish, Ferketich et al., 2004).

Conversely, Caldwell et al.'s (2005) ethnographic research study regarding 12 rural Ontario women post-MI, aged 41–80 years, has suggested that stress, anxiety, and depression were not inevitable in this population in the early recovery period. These women accepted their lives post-MI as an inevitable reality and demonstrated resilience and resourcefulness in managing their recovery. For example, they started to make plans to incorporate recommended exercise into their lives (e.g., buying a home treadmill, making plans to walk with a neighbor). Thus, in this study, a further examination of intrapersonal factors and values that positively or negatively influence physical activity behavior in rural NS women post-MI is needed, as this understanding may help health care providers identify what intrapersonal factors enable or disable physical activity engagement in this population post-MI.

2.5.1.2 Interpersonal influences.

Interpersonal factors influencing physical activity refer to relationships or interactions between individuals (Bengoechea et al., 2005). Many American study findings of young, middle-aged, and older adults (Banks-Wallace, 2000; Eyster, Brownson, Donatelle, King, Brown, & Sallis, 1999; Henderson & Ainsworth, 2000; King et al., 1992) confirmed that social support from significant others and informal, community social networks were strong predictors of physical activity and exercise levels in men and women, regardless of their ethnicity or the place where they live. A Canadian national survey of 20,606 people of all age groups (Plotnikoff, Mayhew, Birkett, Loucaides, & Fodor, 2004) reported that women and men were more physically active when they saw others exercise, when they exercised with a friend, or when they received encouragement from a health care provider, spouse, family member, or friend.

Similarly, a qualitative study describing the perceptions of 65 American rural women related to physical activity, using focus groups from four different sites (Henderson &

Ainsworth, 2003), revealed that they relied heavily on health care professionals versus family members and friends for their guidance and assistance in adopting physical activity behavior. However, study participants shared they often felt let down when health care professionals avoided giving physical activity information and guidance during appointments.

Rural Canadian communities may be more likely than urban communities to be influenced by traditional patriarchal values and social norms that value the domestic and caregiving roles of women (Desmaris, 2005; Reed, 2005). For example, qualitative research findings of eight focus groups of young, middle-aged, and older women in urban, rural, and northern sites in Ontario, Canada (Angus, Rukholm, St. Onge, Michel, Nolan, Lapum et al., 2007) have shown that northern and rural women's lives maybe more often organized around the sustenance of the family unit and the community rather their own personal welfare. Also, Caldwell et al.'s (2005) study of 12 middle-aged and older rural Canadian women post-MI revealed that study participants were often hesitant to ask others for support during their recovery because they did not want to be the focus of attention or to have the spotlight on themselves, as they needed to portray a rural image of being strong, resilient women.

In the cardiac literature, no studies were found that focused specifically on rural women's physical activity behavior post-MI. However, one study from the midwestern United States did examine physical activity behavior in an urban sample of 54 men and 26 women over a 5-month period post-MI (Jenson, Suls, & Lemos, 2003). Jenson et al. (2003) reported that the women post-MI in their study engaged in continual domestic responsibilities such as vacuuming and housework at levels exceeding moderate intensity exercise recommendations post-MI. In contrast, the post-MI men engaged in more sporadic activity such as yard work or home maintenance repair, more carefully observing physical activity guidelines post-MI. Such

findings suggest that women and men, who strongly identify with traditional gender roles, such as those in rural settings, may potentially differ in their domestic physical activities with consequent varying of risk for recurrent cardiac events, with women experiencing increased risk.

Researchers from the United Kingdom explored the beliefs and motivations regarding physical activity post-MI or post coronary artery bypass surgery in a sample of 50 middle-aged and older men and women hospitalized in a tertiary care hospital (Clayton & Rushton, 2003). Clayton and Rushton (2003) discovered that women's motivations for physical activity were not related to the prevention of recurrent cardiac events. Rather, women indicated that they preferred to engage in enjoyable, moderate intensity activities that would help them look good, feel good, keep up, and stay mobile. Many women felt that organized, structured exercise regimens in gymnasiums were extravagant, unnecessary, and harmful. Moreover, they felt that the activities of their daily lives, including housework, were already cardio protective. Such beliefs contrast with findings in the physical activity literature that show that household tasks often do little to improve cardiovascular conditioning or exercise capacity levels associated with improved CHD outcomes (Dubbert, 2002), and might, in fact, be harmful because they exceed recommended physical activity intensity levels in the initial post-MI period (Jenson et al., 2003).

2.5.1.3 Extrapersonal influences.

Extrapersonal factors influencing physical activity refer to those within an individual's external environment (Bengoechea et al., 2005). While natural physical and built environmental influences as well as accessibility to health care services may influence the physical activity behavior of many populations, only a few Canadian, American, and Australian studies have explored their impact on urban or rural populations (Ball, Bauman, Leslie, & Owen, 2001;

Bengoechea et al., 2005; Clark & Nothwehr, 1999; Murimi & Harpel, 2010; Sallis, King, Sirard, & Albright, 2007).

A telephone-administered survey of 1,209 adults from urban and rural communities in Alberta, Canada (Bengoechea et al., 2005) examined the impact of the neighborhood environment on men and women's leisure time physical activity participation. Findings suggested that women were more likely than men to perceive their neighborhoods as unsafe for walking. A prospective study of 387 American women and 474 men in various regions within the southern United States found that safe neighborhoods and fewer unattended dogs running freely were associated with women's increased levels of moderate and intense physical activity (e.g., walking) over a 6-month period. However, even though one-third of the study participants were members of minority populations from rural towns, the impact of context was not addressed.

An American correlational study of 1,088 low income, urban adults (Clark & Nothwehr, 1999) revealed that unattractive natural physical surroundings were associated with decreased physical activity levels (e.g., no or poor sidewalks, poor weather, poor landscaping, and no place to sit down). Additionally, an Australian survey of 3,392 urban and rural adults of various age groups (Ball et al., 2001) found that unpredictable weather changes, road conditions, the lack of street lighting and sidewalks, and inaccessibility to exercise equipment, which was more frequent in rural settings, decreased men's, and particularly women's reported physical activity levels. While all of these studies' findings are helpful, their relevance to rural NS women's engagement in physical activity behavior post-MI requires further exploration.

In a follow up from Caldwell et al.'s (2005) study, Caldwell and Arthur (2009) examined 12 rural Canadian women's experiences with referral processes to tertiary urban centers and

specialists post-MI in Ontario, Canada. Participants revealed that they experienced stress waiting for the referral, getting to and from the tertiary urban center, and incorporating the specialist's recommendations into the realities of their everyday lives (Caldwell & Arthur, 2009). Also, these women perceived that urban health care providers did not appreciate the time and effort needed to get to the appointment as they offered suggestions, information, and recommendations that had little or no relevance to the realities of their rural way of life and location. For example, the study participants stated that health care providers assumed they had walking programs in their rural communities and were unaware of the resources available and unavailable to them. As a result, these women had to try to figure out how to go for walks and do housework on their own during their MI recovery or forego such initiatives, which potentially lead to a more sedentary lifestyle.

Murimi and Harpel (2010) conducted focus groups with 38 Americans, ages 24-86 years, from rural regions in Louisiana to investigate what personal, cultural, and external barriers interfered with their involvement in a community screening program to monitor their diabetes and high blood pressure, after controlling for cost and transportation. The majority of the participants were African American women who were married, lived below the poverty line, had a high school education or less, and were employed full time. Most indicated that family and work responsibilities and priorities, poor scheduling of the program in the early morning or late in the evening, health issues (e.g., arthritis), a lack of knowledge about the program, fear of the unknown, and the lack of someone to go with were barriers to attending community outreach programs. What these participants recommended to increase their participation in community programs was more flexible scheduling to work around their family and work responsibilities, more advertising, no cost, and creating an environment of enjoyment and socialization. While

this study did not specifically look at rural Canadian women post-MI, the study participants' experiences and suggestions may possibly overlap with those of rural NS women post-MI, despite some potential differences in rural location, ethnic cultural beliefs, and types of employment.

2.5.2 Summary.

Intrapersonal, interpersonal, and extrapersonal factors may be positively and negatively associated with physical activity in women living in urban and rural settings. Factors that have a negative impact on physical activity (e.g., lack of exercise facilities and resources, traditional gender roles and values, weather conditions, lack of street lights and sidewalks) are reported to be more common in rural settings, suggesting that rural residency may be an important influence on women's health and physical activity behavior. However, with limited research studies regarding physical activity in rural Canadian women, it is unclear how interaction between personal, social, and environmental influences impacts physical activity behavior in rural NS women post-MI.

2.6 LITERATURE REVIEW SUMMARY

This literature review has revealed that the incidence and distribution of MI in Canadian women is linked to social, economic, cultural, and geographical patterns of advantage and disadvantage. Such patterns of disadvantage were found to be more prevalent in rural areas. Thus, economic, financial, educational, social structures, and environmental constraints may impact rural women's capacities, opportunities, and inclinations to engage in physical activity behaviors post-MI. These constraints may be impacted by geographical isolation, weather changes, transportation issues, poor access to health care providers and services, lack of social support, rural cultural and gender expectations, and a lack of appropriate and accessible

programs and facilities to support rural women's engagement in physical activity behaviors post-MI.

No studies were found that examined the processes of how rural NS women engage in and meet the challenges of the problems they face regarding physical activity behavior post-MI. Thus, further research is needed to give NS women a voice and an opportunity to help health care providers, rural community recreational leaders, policy makers, and indeed rural women themselves, understand how the interaction between personal, social, and environmental influences within rural contexts impacts their engagement in physical activity behavior post-MI, a lifestyle change shown to improve their health outcomes and quality of life. This understanding is necessary so that future health care services and programs will be respectful and supportive of rural NS women's needs, as well as the realities of their geographical, economic, and socio-cultural environments.

CHAPTER 3 METHODOLOGY AND METHODS

This chapter begins with a brief overview of the philosophical and theoretical assumptions of this study, followed by a discussion of the procedures and methods utilized in this study: sampling, data collection and analysis processes, trustworthiness criteria, and ethical considerations.

3.1 THEORETICAL PERSPECTIVE

A feminist theoretical perspective, adopting aspects of standpoint (Harding, 1991, 1993) and postmodern (Doering, 1992) feminist approaches, informed this research study. Standpoint feminist theorists contend that research should originate from where knowledge is relationally constructed by women (Harding, 1991, 1993). Feminist postmodernists assume women have multiple realities that are influenced by existing language, gender role expectations, social structures, political agendas, and economic realities (Doering, 1992). However, all variations of feminist thought take the stance that women are oppressed and that patriarchal values, gender role expectations, and social structures maintain this oppression (McCormick & Bunting, 2002; Tong, 2008).

In general, research informed by feminist theory contends that: a) women's lived experiences are legitimate sources of knowledge; b) women construct multiple realities within the context of their everyday lives; c) researchers co-create data with women to capture their voices, interpretations, and experiences during the research process; and d) language is the foundation of interpretation (Campbell & Bunting, 1991; Campbell & Wasco, 2000; Harding, 1991, 1993; Wuest, 1995). In this study, a feminist theoretical perspective was used to: a) place importance on rural women's involvement in the knowledge creation process; and b) provide a

lens to observe and to consider how factors and structures within the rural context influenced rural NS women's engagement in physical activity behavior post-MI.

3.2 GROUNDED THEORY METHODOLOGY

3.2.1 Origins of Grounded Theory.

In 1967, the original form of grounded theory (GT) developed by Barney Glaser and Anselm Strauss had positivistic and pragmatic underpinnings which maintained that: a) process was fundamental to human existence, b) language influenced human's subjective meanings and social actions, and c) researcher objectivity was required to discover reality and to develop testable and verifiable theory (Bryant & Charmaz, 2007; Glaser & Strauss, 1967). Nevertheless, GT, like other research methods, has continued to evolve and change after its original inception.

3.2.2 Constructivist Grounded Theory.

Constructivist grounded theory (CGT), like classical, is an inductive methodology of qualitative inquiry. Constructivist approaches are: a) relativist and b) informed by the theoretical underpinnings of pragmatism, symbolic interactionism, and constructivism (Charmaz, 2006). Relativist ontology takes the position that different observers may have different viewpoints about what counts as truth. Such diverse perspectives are often influenced by time, place, and the nature of social relationships (Luper, 2004). Pragmatism is based on the assumption that human knowledge and values are situated in events and serve to address practical issues in the everyday world (Charmaz, 2006). Symbolic interactionists portend that individuals develop their subjective meanings of and realities through constant social interactions, language, and communications (Blumer, 1969). Constructivists believe that truth and knowledge are constructed by humans as they engage with the world they are interpreting (Doucet, Letourneau,

& Stoppard, 2010), challenging the belief that objective truth can be measured or captured through research inquiry (Crotty, 1998).

CGT methodology accentuates action and process and assumes that knowledge and truth are co-created by the researcher and the study participants, not discovered (Charmaz, 2006). Using CGT, this researcher engaged with study participants to elicit thick descriptions of perceptions, understandings, actions, and interactions about the study phenomenon and to learn “how, when, and to what extent the studied experience was embedded in larger, and often, hidden positions, networks, situations, and relationships” (Charmaz, 2006, p. 130). An audit trail of field notes and memos was generated to detail how data, analysis, and methodological decisions and strategies were constructed (Bryant & Charmaz, 2007).

In this study, CGT methodology and methods addressed the research questions by: a) engaging rural NS women in a dialogue to elicit perceptions of physical activity, b) capturing, through individual interviews and logbooks, rural NS women’s detailed descriptions of their physical activity behavior during the post-MI period, c) eliciting the factors that rural NS women perceived to be positively or negatively influencing their engagement in physical activity behaviors post-MI, d) assisting women to illustrate the problems they faced in engaging in physical activity behavior using photovoice methodology and methods, and e) generating a substantive theory to understand the process of how these women engaged in physical activity behaviors post-MI.

3.3 PHOTOVOICE METHODOLOGY

Photovoice is both a qualitative methodology and method originating from community-based participatory research and participatory action research (Wang, 1999). Two theoretical underpinnings of photovoice methodology are feminist theory and empowerment education

theory (Wang & Burris, 1994, 1997). Feminist theory views humans, women in particular, as knowledgeable actors in the construction and interpretation of their everyday multiple realities (Weiler, 1994). Empowerment education theory suggests that people focus on issues that they see as central to their lives, enabling full description of these issues through dialogue and subsequent identification of themes (Wallerstein & Bernstein, 1988). Underlying empowerment education theory are Friere's (1970) beliefs that oppressed populations need to be provided with tools which may help them rethink their way of life (Wang & Burris, 1997). Friere (1970) noted that visual images have the potential to enable people to think critically about their community and the social and political forces that impact their lives. Photovoice methodology supports giving a voice to those who otherwise would not have the opportunity to express their unique view or experience (Wang, 1999).

As a method, photovoice is an innovative and inclusive approach whereby participants, regardless of language and literacy challenges, can use provided cameras to document contextual data about their worlds, everyday experiences, and perceived health realities (Wang & Burris, 1994, 1997). In this study, participants' titled photographs, as well as their logbook narratives about the photographs, created the basis of discussion in individual interviews of what they viewed as relational to physical activity in their surroundings. These photos added a dimension to the study not captured through interviews, logbooks, or observation alone. This allowed for rural NS women's expertise and knowledge to be shared in a way that valued their unique experiences and perspectives and brought attention to their unique circumstances. Such knowledge, when shared with rural women, health care providers, recreational rural community leaders, and policy makers, can be used to alter or address oppressive and exploitative societal

and contextual conditions (e.g., lack of health care options and services, distance issues) that negatively impact rural women's health behavior.

3.4 SUMMARY

A feminist theoretical perspective was congruent with the intention to privilege rural NS women's voices in the research process. CGT and photovoice methodologies share philosophical assumptions that are congruent with a feminist theoretical perspective. The utilization of both methodologies was intentional to support rural NS women being at the center of the knowledge creation process, acknowledge women's multiple realities, and recognize the need for rural NS women to be involved in the co-creation of knowledge. Also, CGT and photovoice methodologies helped this researcher include and emphasize rural NS women's voices throughout the research process. The theory generated through the use of these methodologies and methods gives health care providers and stakeholders a more accurate, relevant, and comprehensive understanding of study participant physical activity behavior post-MI.

3.5 METHODS

3.5.1 Setting.

This research was conducted in rural areas within Nova Scotia. With lower than anticipated numbers of rural NS women post-MI in 2011, ethical approval was sought and obtained to expand the geographical catchment area for the study in May 2012. One of the rural areas was in northern NS, which covered 5,400 square kilometers, and had a population of approximately 71,000 residents, including 300 aboriginal and about 400 African Canadian residents (Census of Population, 2011). The other rural area spanned 1,240 square kilometers and had a population of approximately 14,000 residents (Census of Population, 2011). Most rural towns and municipalities had populations of fewer than 10,000 residents. Like many rural

communities (duPlessis et al., 2001; Troughton, 1999) in Canada, only limited full-time or part-time work was available within these rural settings. Work opportunities were mainly in the areas of sales and service, trades and transportation, or the garment manufacturing, carpet manufacturing, plastics, agriculture, and forestry industries. Low income levels were evident with over 55% of workers earning less than \$20,000 per year and women earning 55-65% of the income of men (Census of Population, 2011; Pyra Management Consulting Services, 2012; RCCIP, 2003).

The towns and municipalities within these rural areas had other rural characteristics noted in the literature: a) an aging, predominately female, baby boomer population, b) increased youth out-migration, c) higher disease and disability rates than found in urban centers, and d) decreased accessibility to cardiac specialists and rehabilitative service options which are located in an urban location (Pyra Management Consulting Services, 2012). For these residents, commuting distances to the city were estimated to be a 40-minute to 2-hour highway drive one way in good weather (Lyons, 2009; Nycum & Associates Limited, 2002; Pyra Management Consulting Services, 2012; Veugeulers et al., 2003).

3.5.2 Inclusion Criteria.

This study included women who: a) perceived they lived within a rural community; b) were diagnosed with an MI by a physician, c) returned home within 7–10 days from hospital post-MI; d) had the ability to speak English; and e) were willing and able to use a camera, following demonstration. Age was excluded as a criterion as MIs have not been found to always correlate with age (Heart and Stroke Foundation, 2006) and regular aerobic activity has been found to be cardio protective for all women with CHD regardless of age (Janssen & Joliffe,

2006). Including women of all ages also ensured greater diversity within the sample, capturing the richness and range of MI experiences for rural NS women.

3.5.3 Exclusion Criteria.

Women were excluded from the study if they: a) were unable to give consent; b) did not have a fixed address; c) planned to leave the study area within 6 months of their MI; and d) had undermining or concomitant life threatening illness (e.g., chronic renal disease), psychiatric conditions (e.g., depression, bipolar states), or neurological states with significant cognitive deficits (e.g., stroke, dementia).

3.5.4 Sampling.

In the summer of 2011, the study began with purposeful sampling (Morse, 2000). Purposeful sampling meant selecting people according to the aims of the research and inclusion criteria (Coyne, 1997). Thus, rural NS women were selected who were recovering from an MI in community hospitals located within a northern rural area of the province or in a tertiary hospital located within a central area of the province. Recruitment challenges in 2011 and in the winter of 2012 led to snowball sampling (e.g., asking present study participants for their assistance in referring interested others who were recovering from an MI in their community) (Sadler, Lee, Lim, & Fullerton, 2010).

As categories were developed in the data analysis, theoretical sampling was used to further define, refine, and explicate these categories (Charmaz, 2006). Theoretical sampling “means obtaining further selective data to refine and to fill out major categories” (Charmaz, 2006, p. 12). Thus, theoretical sampling meant choosing rural NS women post-MI who could help elaborate evolving concepts, categories, and theory development. For example, to further refine and develop the category “making sense of the damage,” this researcher sought rural NS

women who had multiple MIs as compared to those who had only one MI to help further understand how rural women with diverse experiences determined MI impact and physical activity boundaries (e.g., housework, walking, and gardening).

Theoretical saturation (e.g., when data no longer provide any new category properties or theoretical insights) depends on the following factors: a) the quality of the data; b) the scope and nature of the topic; c) the amount of useful information obtained from each participant; d) the number of interviews per participant; and e) the qualitative methods and study design used (Morse, 2000). Morse (2000) has suggested that grounded theory studies like this one, with two unstructured interviews per person, might require 20 to 30 interviews based on the factors impacting theoretical saturation.

3.5.5 Sample Description.

As indicated in Table 1, a purposeful sample of 18 rural Caucasian women between the ages of 48 and 81 years, who were recovering from a diagnosed MI in the ICU and on Medical Units at a community hospital, or in intermediate cardiac care or general cardiology units at a tertiary care facility, participated in this research study. Some of the study participants were retired, with many holding full-time or part-time employment and a few being involved in community organizations (e.g., youth, church, or music organizations). Most of these women were married, had less than a high school education, and had a family income of less than \$30,000 per year. Driving distance one way to the nearest community hospital ranged from less than 30 minutes to 1½ hours. However, driving distance to access tertiary services in the city, such as specialist consultation and cardiac catheterization, ranged from 1 to over 2 hours one way in good weather. The majority of study participants identified housework, caregiving, yard

work, and walking as physical activity. However, very few study participants engaged in walking behavior prior to their MI event.

Table 1: Demographics and Background of Study Participants

Code & Age (Yrs)	# of MIs	Marital Status & Occupation	Income (Annual) & Education Level	Driving Distance One Way: Local Hospital (LH) and to Urban Area (UA)	Definition of Physical Activity (PA)	PA Before MI	Physical Landscape
OD, 48	2	Married, Full Time Hospital Service Worker	<\$25,000 <Grade 9	<30 min (LH) 40-60 min(UA)	Housework, Walking, Caring for Family and Horses	Housework, Caring for Family and Horses, Job Alone	No Sidewalks or Lighting, Lots of Speeding Traffic, Wild Animals
BF, 67	1	Married, Retired Part Time Service Worker	<\$30,000 High School	<30 min (LH) 1-2 hours (UA)	Housework, Yard Work, Gardening, Walking	Housework, Mowing Lawn, Gardening, Cooking, Walking with Spouse/Alone	Nearby Areas with Sidewalks No Lighting Speeding Traffic Little Crime
MT, 71	3	Married, Retired Service Worker, Homemaker	<\$30,000 High School	<30 min (LH) 1-2 hours (UA)	Light Housework, Walking	Cooking, Dusting, Daily Walking with Spouse	Sidewalks, Lighting, Little Crime
EW, 68	1	Married, Retired Service Worker, Caregiver for Husband	<\$30,000 High School	<30 min (LH) 1-2 hours (UA)	Caregiving, Housework, Church Treasurer, ICW group	Caregiver for Husband, Housework, Cooking and Knitting, Walking for Mail	Sidewalks Lighting, Little Crime
LC, 54	1	Married, Full Time Professional	<\$50,000 LPN College	30-40 min (LH) 1-2 hours (UA)	Housework Caring for Adult Daughter, Job Walking	Housework Caring for Adult Daughter, Job	No Sidewalks or Lighting, Lots of Speeding Traffic, Wild Animals
BD, 58	1	Married, Housewife,	<\$40,000 High School	<30 min (LH) 1-2 hours (UA)	Housework, Gardening, Playing Music, Walking	Housework, Gardening, Music	No Sidewalks, Lighting, Speeding Traffic
CA, 81	1	Widow, Retired Accountant	Over \$60,000 Grade 9	1-2 hours (LH) Over 2 hrs (UA)	Housework, Baking Cakes, Going to the Mailbox	Housework, Baking Cakes, Going to the Mailbox	No Sidewalks or Lighting, Speeding Traffic, Wild Animals
MM, 72	1	Widow, Retired Professional	Business School <\$30,000	30-40 min (LH) 1-2 hours (UA)	Housework, Caregiving, Walking Yard Work	Housework, Yard work, Strolling with new Partner	No Sidewalks or Lighting, Lots of Speeding Traffic, Wild Animals

Code & Age (Yrs)	# of MIs	Marital Status & Occupation	Income (Annual) & Education Level	Driving Distance One Way: Local Hospital (LH) and to Urban Area (UA)	Definition of Physical Activity (PA)	PA Before MI	Physical Landscape
SG, 59	3	Married, Caregiver	<\$25,000/ <Grade 9	1-2 hours (LH) Over 2 hrs (UA)	Housework, Caregiving for Spouse, Walking	Housework, Caregiving for Spouse	No Sidewalks, No Lighting, Lots of Hills, Wild Animals
SW, 52	1	Married, Part Time Service Worker	Over \$60,000 College Business Course	30-40 min (LH) 1-2 hours (UA)	Housework, Caregiving, Job, Walking, All that makes you sweat	Housework, Caregiving, Job, Walking	No Sidewalks, Lighting, Wild Animals
MC, 59	1	Married, Housewife	<\$30,000 <Grade 9	30-40 min (LH) 1-2 hours (UA)	Housework, Exercise Tapes Walking	A Bit of Housework Sedentary	No Sidewalks, No Lighting, Lots of Hills, Wild Animals
WB, 50	1	Married, Seasonal Worker	<\$30,000 <Grade 9	30-40 min (LH) 1-2 hours (UA)	Cutting Trees Yard Work Lifting Rocks Walking Snow shoeing	Cutting Trees Yard Work Lifting Rocks Alone	No Sidewalks, No Lighting, Lots of Hills, Wild Animals
FP, 68	1	Married, Part Time Professional	<\$40,000 Bachelor of Arts Degree	<30 min (LH) Over 2 hours (UA)	Housework, Walking, Yard Work	Housework, Job with Kids	Sidewalks, Lighting, Hills
PS, 56	1	Divorced, Self-Employed Service Worker	<\$30,000 Hair Dressing School	30-40 min (LH) 1-2 hours (UA)	Housework, Yard Work, Walking, Sports, Pilates	Housework and Hairdressing	Sidewalks, Lighting, Hills
FM, 67	1	Married, Retired Service Worker	<\$50,000 High School	<30 min (LH) 1-2 hours (UA)	Housework, Walking, Aquafit, Yard Work	Housework, Aquafit, Swimming and Yard Work	Sidewalks, Lighting, Hills
JS, 71	2	Married, Housewife, Volunteer	<40,000 High School	1-2 hours (LH) Over 2 hr (UA)	Housework, Yard Work, Walking, Skiing	Housework, Church Activities like Cooking and Baking, Occasional Walk Alone or with Spouse	No Sidewalks, No Lighting, Lots of Hills, Wild Animals
MA, 73	1	Married, Housewife, Volunteer	<\$50,000 High School	30-40 min (LH) 1-2 hours (UA)	Housework, Yard Work, Cooking, Cleaning, Occasional Walk	Housework, Yard Work, Cooking, Cleaning	No Sidewalks, No Lighting, Lots of Hills, Wild Animals
NR, 62	2	Married, Housewife, Caregiver	<\$30,000 <Grade 9	1-2 hours (LH) Over 2 hr (UA)	Housework, Caregiving, Yard Work, Walking to Get Somewhere	Housework, Caregiving, Yard Work	No Sidewalks, No Lighting, Lots of Hills, Wild Animals

3.5.6 Recruitment.

Rural NS women post MI were recruited from: a) an 8-bed intensive care unit (ICU) and 29-bed medical unit (MU) at a community hospital; or b) a 12-bed coronary care unit, an 18-bed intermediate care unit, or the 37-bed general cardiology unit at a tertiary care facility. A Letter of Intent (Appendix I) was submitted to the unit nurse managers at all recruitment facilities.

The recruiters for this study were nursing team leaders and nursing staff members at both recruitment facilities. Following ethics approval at both sites, this researcher met with the recruiters and physicians to explain the purpose of the study and the sample inclusion criteria. The nursing team leaders on all the recruitment units, or appointed nursing staff members, approached eligible women with a Permission to Contact form (Appendix A). If a woman wanted to hear about the study, she read and signed two Permission to Contact forms (i.e., a copy for her and for me), permitting this researcher to contact her within 7 to 10 days after discharge. The signed Permission to Contact forms were picked up weekly from the nursing team leaders or appointed nursing staff members at all nursing unit sites.

With recruitment challenges in 2011 and early 2012, such as declining admissions and the transfer of rural women post-MI to a tertiary care hospital for cardiac catheterization and specialist follow up, rural women in the study were asked if they would like to assist with the recruitment of others for this study. Two study participants approached eligible women within their social networks to ask if they would like to be contacted about the study (Appendix A). For those women who expressed interest, contact information was obtained (Appendix A) from the study participant who referred these women. After this, each woman was called to tell her about the study and, if she was interested, a date, time, and location was arranged for the first interview and camera orientation session.

3.5.7 Data Collection Process.

Each woman was asked to participate in two face-to-face audio-recorded interviews lasting 60–90 minutes (2–3 hours total interview time). The interviews took place in the participant's home or a location of her choice (e.g., hospital boardroom after work). If snowball sampling was used, each woman was contacted within 1 week to confirm participation and to schedule the first interview.

3.5.7.1 Interview 1 and camera orientation session.

The first interview provided this researcher with an opportunity to learn more about each woman, her world, her experiences, the physical activity recommendations made by her physician, and her views and experiences of physical activity, as well as to determine each woman's eligibility and suitability for the study. Most of the women identified physical activity as housework, caregiving, and walking. Before their MI, most claimed they were taking part in household, work, and caregiving activities for over 150 minutes per week and in leisure walking or sports activities for less than 30-60 minutes per week. Some of the women preferred doing physical activities in a group for motivation and socialization and others favored doing physical activities on their own so they could choose their own pace and route. Many of the women did not attend physical activity programs or facilities (mostly due to the lack of availability in their rural communities) or own home exercise equipment prior to their MI. While very few of the women reported having sidewalks and street lighting, many felt safe doing outside activities in their neighborhood (e.g., walking, yard work) during the day.

Also, during this session, this researcher: a) described the purpose of the research study; b) obtained the participant's written consent for study participation, audio recording of interviews, and the use of quotes (Appendix B); c) developed rapport with the participant; d)

encouraged each study participant to fill out sociodemographic information about themselves and, if applicable, their partner using a background information form (Appendix D); e) reviewed and discussed ethical and power issues (e.g., safety concerns, the taking of photographs, the use of disposable cameras and logbooks, how the cameras and logbooks will be collected and the photographs processed and how photographs and other data will be used) (Appendix E); and f) how to obtain consent from individuals she wished to photograph using the Acknowledgement and Release Form (Appendix F). Logbooks (i.e., hard covered journals) and disposable cameras were provided to and used by each woman to record any thoughts about the pictures she took, the pictures she would have liked to have taken and why she could not take them, and any other information relevant to physical activity post-MI. At the end of the session, a date, time, and location were established for the second interview in 3 weeks.

Following the initial interview and camera orientation session, each woman was asked to do the following over a 2-week period:

- a) Take pictures, using a disposable camera provided for this purpose, which captured her feelings about rural living and the problems and opportunities she faced when taking part in physical activity (estimated 1–2 hours);
- b) Write any thoughts about her pictures or picture taking in the logbook provided (estimated 2 hours); and
- c) Obtain written consent from all individuals she wished to photograph using acknowledgement and release forms provided for this purpose (Appendix F)- (estimated 1–2 hours).

The participant was called 1 week after she began taking pictures and writing in her logbook to assess and encourage progress; answer any questions; and confirm a date, time, and

place for the pickup of cameras, logbooks, and acknowledgement and release consent forms (Appendix F) and second interview. After the study materials were collected, the participants' photographs were processed within a week of collection at a photo lab located within the city. The photographs were previewed and memos were written. The logbooks were also previewed and coded in preparation for the second interview. The acknowledgement and release forms were filed and stored in a locked file cabinet in a secure office on the Dalhousie University campus. Two hard copy sets of the photographs (i.e., one for me and one for the study participant) and a digital copy of the photographs were obtained and placed on a study-dedicated laptop for analysis and data storage. The hard copy set of the participant's processed photographs were put in an album and brought to the second interview.

3.5.7.2 Interview 2.

The second one-on-one 60-90 minute audio recorded interview which occurred 3 weeks after the initial interview and camera orientation session, took place in the participant's home or a location of her choice (e.g., hospital boardroom at place of work). The purpose of this interview was to have each woman title and discuss each of her photographs regarding physical activity in a rural environment post-MI. The participant was encouraged to title some pictures in her logbook entries but it was important to clarify each woman's photograph titles to promote understanding and to guide the interview. A semi-structured interview guide (Appendix G) was used to facilitate discussion about the pictures. The logbook entries also generated interview questions.

At the end of the second interview, each woman completed and signed a Consent Form for the Release of Creative Materials (Appendix C). This form gave each woman the opportunity to indicate how she would like her photographs to be used (e.g., in published papers, public

presentations), in what situations she would not like her photographs used, and how she would like to be identified as the creator of the photographs. Also, this form confirmed that every study participant would have her privacy and confidentiality maintained, and that any potential illicit activity, company advertisements, company logos, and individuals who had not given their permission to be photographed would be blurred or cropped from her photographs. In essence, study activities took approximately 6–8 hours of each woman’s time over a 1-month period.

3.5.8 Data Analysis.

Narrative text and visual image data were generated during data collection. Narrative text was in the form of interview transcripts, participant logbook entries, and researcher field notes and memos. Field notes of data captured and described observed contexts and social interactions (Montgomery & Bailey, 2007) during interviews and in the participants’ photographs. The following example is of a field note written after visiting participant LC (54 years):

There must have been about 20 cats lying around outside on the porch and multiple cats (about 15) inside the home wandering around the counters. It was so unclean and the smell was rancid . . . I noticed her husband just sitting and staring at the TV, oblivious to the disrepair of the home, the cats, and her struggle to get the meals, do some housework, and get strong enough to get back to work to make money after her heart attack. He doesn’t offer to help with anything she asks and he just sits, barely acknowledging her questions or comments. (H. Helpard, May 23, 2012)

Written memos conceptualized thought processes and decisions related to data collection and data analysis of narrative text and photographs. Memos were also used to record and reflect upon my perceptions related to my influence on participant interactions, as well as regarding the

construction of categories, concepts, and theory (Charmaz, 2006). The following example is of a memo entitled “Living by the Rules”:

For many of the women, living by the rules means following what you are told to do and what is expected of you. Often most of these women have been told to run the house, to care for others (e.g., family, co-workers) and, sometimes, to follow instructions from the doctor (which they do not always receive). For some, living by the rules means protection (not getting hurt or ridiculed), survival (not getting another heart attack), and for others it means getting recognized by others; being validated as a person. Needing protection may mean not engaging in walking behavior or very little behavior, survival may mean having to walk to live and follow the doctor’s instructions, and being recognized in rural settings may mean getting back to the housework and the church. (H. Helpard, November 14, 2012)

Visual image data, in the form of photographs taken by the participants, helped to privilege and situate women’s voices, understand rural women’s perceptions and experiences, enhance category and concept development, and help illuminate similarities and inconsistencies between data sources (Olliffe et al., 2008).

3.5.8.1 Narrative text.

Charmaz’s (2006) methods for coding (i.e., initial, focused, and theoretical coding) and constant comparative analysis were used in the analysis of narrative text (logbook entries, transcribed interview transcripts, field notes, memos). Constant comparison techniques have been described as inductive processes of “comparing data with data, data with category, category with category, and category with concept” (Charmaz, 2006, p. 187). Using these techniques,

categories were developed and refined to achieve increasing levels of abstraction and the resultant generation of theory (Charmaz, 2006).

Initial coding procedures helped open up the data, to ask what was happening in each bit of data, and to see and retain women's points of view (Charmaz, 2006). In order to answer research questions, actions and interactions in each line of narrative data were coded to capture the women's perceptions of physical activity, descriptions of physical activity behaviors, interpretations of the negative and positive influences on their physical activity behavior, and actions they take to deal with problems they face in engaging in physical activity, attempting to capture the women's significant and recurring meanings and experiences. For example, a statement of "I will feel it when I'm ready to do more around the house" was given the initial code "resuming activity means gauging symptoms."

Focused coding meant initial codes were reviewed and decisions were made about which initial codes made the most analytic sense to categorize the data (Charmaz, 2006). In other words, focused codes aided in synthesizing and explaining larger segments of data (Charmaz, 2006). For example, an initial code "resuming activity means gauging symptoms" became a focused code called "listening to the body."

After selecting focused codes during the analysis process, sophisticated theoretical coding was used. Theoretical coding meant developing codes that specified possible relationships between the codes and categories established during focused coding (Charmaz, 2006). For example, the initial codes "resuming activity means gauging activity" and "pacing yourself means resting when symptoms come and going when symptoms are gone" became a focused code of "listening to the body." This focused code, along with the focused code of "determining MI impact," were theoretically coded under the category or process "Assessing MI

Damage and Physical Activity.” These categories or processes helped to further clarify and to conceptualize the general context and specific conditions that influenced women’s meaning and development of physical activity post-MI, as well as their perceptions, priorities, and strategies relative to physical activity behavior post-MI. In other words, theoretical coding involved generating a substantive theory of the processes that these women employed related to physical activity behavior post-MI.

3.5.8.2 Photographs.

Oliffe et al.’s (2008) layered analysis approach, which involves preview, review, cross photo comparison, and theorizing, was used for photograph analysis. The preview process involved viewing and linking each woman’s photograph with her narratives from the logbook and interview transcripts about that image (Oliffe et al., 2008). This process helped this researcher to: a) privilege rural women’s voices; b) understand rural women’s meanings; and c) appreciate how they situate themselves in relation to the content and making of these photographs (Oliffe et al., 2008). To be consistent with CGT analysis, the review process involved the recording of similarities and inconsistencies between data sources, writing memos outlining directions for theoretical sampling, and writing memos about thoughts and decisions related to category and concept development.

In the cross-photo comparison phase of analysis, the entire photographic collection (i.e., 178 photographs) was placed on a large table for the purposes of sorting all the photographs by categories based on participants’ picture titles, interview narratives, and logbook entries (Leipert & Smith, 2009; Oliffe et al., 2008). Photographs were compared and sorted into tentative categories based on the participants’ interpretations and my interpretations of the photographs. The specificities of each category were discussed and refined with the assistance of my co-

supervisors, and notes were kept to explain analytic decisions for allocating photographs to certain categories. Finally, during the theorizing stage, relationships among categories were linked to raise the level of abstraction of the substantive theory using theoretically sensitive questions such as, “What is consistently depicted in regards to physical activity behavior in rural NS women post-MI?” and “What do these photographs tell us about the rural context in which these behaviors occur?” (Oliffe et al., 2008). Memo sorting (i.e., attaching my memos to various photographs) and the use of visual diagramming (i.e., moving the pictures around to capture relationships and drawing connections between codes and categories) were helpful in capturing thought processes and decisions related to identifying relationships between categories and refining these relationships.

NVIVO 9 software (QRS International, 2009) was used as a data management and storage system to link related narrative text and logbook entries, as well field notes and memos, to the women’s titled photographs to facilitate data analysis and storage.

3.6 TRUSTWORTHINESS OF THE STUDY

In this study, I combined CGT and photovoice methodologies and methods, which originate in different paradigms. I followed criteria that would assist me in “navigating the lines of methodological congruency and rigor” (Plunkett, Leipert, & Ray, 2012). I adhered to Charmaz’s (2006) criteria of credibility, originality, resonance, and usefulness in addressing the trustworthiness of this CGT photovoice study. These criteria (Charmaz, 2006) served me in recognizing the subjectivity, legitimacy, and value of participants’ perceptions, experiences, participation and titled photographs. Also, in an attempt to enhance the trustworthiness, transparency, and accountability of this research, memos about conceptualizations, thought processes, and decisions were written during data collection and analysis. Being reflexive (e.g.,

self-critical of my own beliefs and assumptions) (Mruck & Mey, 2007) helped me to rethink, ground, and justify decisions and interpretations to correctly represent women's multiple realities and perspectives narratively and visually, and to communicate the process of theory development to others.

3.6.1 Credibility.

. Charmaz (2006) defines credibility as evidence of strong, logical links between the gathered data and the participant's voiced perspectives, photos, and lived experiences. In this study, credibility was demonstrated by: a) gathering data from multiple sources (e.g., logbooks, interviews, and photographs); b) double-checking the audio recordings and the researcher's and participants' interpretations against the primary transcripts and photographs to "uphold faithfulness to the participants' constructs" (Plunkett, Leipert, & Ray, 2012, p. 7) ; c) using codes reflective of the participants' language, feelings, interpretations, and actions in the narrative data; d) having the participants title their own photographs to capture and to clarify their perspectives and interpretations; e) providing participants with the opportunity to dialogue about their photographs and my interpretations of categories and photographs during individual interviews; f) keeping raw data, linked photograph and narrative data, and memos to provide an audit trail of data collection and analysis decisions (Charmaz, 2006); g) contextualizing, through memos, how I used narrative text and photographs in the data analysis and interpretation; and h) consulting frequently with my doctoral co-supervisors, who are experts in grounded theory, photovoice methodology, and rural women's health research.

3.6.2 Originality.

Charmaz (2006) defines originality as new conceptual renderings of the data which offer new insights that challenge, extend, or refine current ideas, concepts, and practices related to the study topic. In chapter 2, literature review findings showed that rural NS women post-MI were rarely visible in cardiovascular research or included in health care decisions. This study provided rural NS women with a novel opportunity to share their perspectives and understandings about their everyday lives through the original and unique medium of photographs, which helped them transcend language and literacy challenges. CGT, with its emphasis on the interactions and co-creation of knowledge between the participant and the researcher (Charmaz, 2006), and photovoice, which focuses more on contextual and social issues (Wang 1994, 1997), deepened and extended understanding about the factors that helped or hindered rural NS women's engagement in physical activity post-MI. In addition, the substantive theoretical interpretation of the rich narrative and visual data in this study offered a new insight (i.e., that the interacting influences of the pursuit of self-worth and the rural context significantly shape rural NS women's physical activity perceptions, priorities and approaches post-MI) for consideration in the development of services and programs for this population.

3.6.3 Resonance.

Resonance means a researcher has been successful in providing an accurate portrayal of participants' experiences (Charmaz, 2006). The perspectives of rural NS women were accurately represented in this theory because the categories were co-constructed from the narrative (e.g., "testing my limits" was a phrase used by participants to voice their experience of "flying by the seat of their pants" as they struggled with what to do after coming home from the hospital) and visual data (e.g., photo of taking a step into the unknown titled "Sticking My Toe In").

Study resonance also means that the findings resounded with the participants in that they believe their experiences are accurately portrayed (Charmaz, 2006). This was achieved by: a) ensuring theoretical saturation of constructed categories (i.e., theoretical sampling, follow-up interviews); b) giving study participants control over taking their own photographs and writing about these photographs in provided logbooks, c) grounding rural NS women's words and titled images in the constant comparative analysis of narrative texts and the cross-comparison of photographs so as to ensure accuracy; and d) ensuring that participants had the opportunity to express their "refinements, intellectual or emotional, of the researcher's analysis and interpretations" (Plunkett, Leipert, & Ray, 2012, p. 8) of narrative data and photographs during the individual interviews. Six of the participants were shown a copy of the diagram of the substantive theory and findings. These women gave positive verbal feedback that the findings captured their feelings and resonated with their perceived experiences. A summary of the findings and a copy of the published study will be sent to all study participants if desired.

3.6.4 Usefulness.

Usefulness means that the substantive theory and visual images offer interpretations that: a) rural women can use in their everyday worlds, b) researchers can explore or consider in other substantive areas (Charmaz, 2006), and c) health care providers can use to discuss new acceptable program approaches for rural NS women to support recommended physical activity behavior post-MI. However, the applicability of this research or the transferability of findings can only be assessed by other potential knowledge users (Plunkett, Leipert & Ray, 2012). Such assessments can only be based on the clear descriptions of the rural contexts where this research took place, the characteristics of the study participants, the credibility of the data collection and analysis methods, and the dissemination of the study findings. After the completion of the

dissertation, participants, other rural women, rural community boards, rural and urban health care professionals, recreational community leaders, and policymakers will be provided with a summary document of the research findings and recommendations. In the future, study findings will be presented at rural conferences, rural community groups and organizations, in rural community newsletters, and in publications.

3.7 ETHICAL CONSIDERATIONS

Ethical standards and policies, outlined by the Tri Council Policy Statement (2010), were upheld for conducting research with human subjects. Ethical approval was obtained and renewed from the Social Sciences and Humanities Research Ethics Board at Dalhousie University in June 2010 and two other ethics committee boards.

3.7.1 Confidentiality.

All collected data (i.e., digitally recorded interviews, photographs, transcription texts, memos, and logbooks) and disposable cameras were labelled with descriptor codes. A master list of the descriptor codes and corresponding participants' names and phone numbers was kept in a separate locked file cabinet in a secure office at Dalhousie University. All data and consent forms were stored in a locked file cabinet in a secure office at the School of Nursing on the Dalhousie University campus and will remain there for 7 years, as per university policy. Specifically, the following items were kept in the locked file cabinet: a) one hard copy of each electronic interview transcript and logbook transcript; b) one digital CD copy and one hard copy of each woman's labeled and titled photographs; c) written memos; d) participant logbooks; and e) a password protected and encrypted 4GB memory stick, with backup copies of the data. All narrative text and digital copies of photographs were imported into the NVIVO 9 software program on a password-protected, dedicated laptop computer.

CHAPTER 4 SUBSTANTIVE THEORY OVERVIEW AND THE PROCESS OF SEEKING SELF-WORTH

In this chapter, a general overview and a diagram of the substantive theory “*Seeking Self-Worth: A Theory of How Rural Women Engage in Physical Activity Behavior Post-MI*” will be introduced. Also, study findings related to the problem of questioning self-worth as a rural woman post-MI and the process of seeking self-worth as a rural woman post-MI will be presented. In subsequent chapters, study findings related to the processes of assessing MI damage and physical activity, testing physical activity limits, and choosing physical activity priorities, as well as how gender and rural contextual factors positively and negatively impact all processes within the theory, will be revealed.

4.1 OVERVIEW OF THE THEORY

The substantive theory, “*Seeking Self-Worth: A Theory of How Rural Women Engage in Physical Activity Behavior Post-MI*,” is a theoretical interpretation of how seeking self-worth within a rural context influences study participants’ engagement in physical activity behavior in the post-MI period. This interpretation of the narrative (i.e., logbooks, interviews, memos) and visual (i.e., participant photographs) study data was co-constructed through interactions between this researcher and the study participants.

For all study participants, self-worth as a rural woman meant having a clear purpose and value in life, which was often equated with meeting others’ needs and expectations (e.g., family, workplace, church, volunteer organizations). Study participants’ self-worth was often assigned by family members, friends, and community members who accepted and perpetuated patriarchal ideals (e.g., valuing the roles of men over women), rural cultural beliefs (e.g., traditional gender role expectations, self-reliance, valuing the ability to work), and rural hierarchical social

structures (e.g., religion, workplace, political organizations). These traditional gendered relationships and social structures, as well as rural contextual conditions, allowed study participants to flourish in some areas (e.g., caregiving, housework, community volunteer work) and to be stifled and oppressed in others (e.g., limited access to educational, employment and political opportunities, restricted access to and quality options for health care services and providers).

For all study participants, an MI was either an unanticipated (e.g., first time MI) or a recurring event (e.g., multiple MIs) that made them question their self-worth as rural women. For all of these women, the MI event created a multitude of emotions (e.g., uncertainty, anger, uselessness, fear, sadness, anxiety) and responses (e.g., apathy, a threat to identity, or an opportunity for change). To manage the ongoing problem of questioning self-worth as rural women post-MI, as well as varying emotions and responses to the MI event, study participants made choices about how to seek self-worth as rural women post-MI. These choices included sub-processes of protecting self-worth, recovering self-worth, or enhancing personal self-worth. The sub-processes study participants chose to seek self-worth post-MI influenced their perceptions, decisions, and actions as they engaged in the following interrelated processes: a) assessing MI damage and physical activity, b) testing physical activity limits, and c) choosing physical activity priorities.

The subprocesses that constituted the process of assessing MI damage and physical activity were: a) interpreting mixed messages, b) listening to the body, and c) determining MI impact. How study participants chose to pursue self-worth post-MI (e.g., protecting self-worth, recovering self-worth or enhancing self-worth) impacted these properties and, consequently, their assessment of MI damage and physical activity. For example, if a study participant chose

to recover the self-worth she had before the MI event, she may be inclined to listen to messages that minimize the seriousness of the MI event and promote and encourage the resumption of household and caregiving activities. She may minimize or ignore bodily symptoms, such as fatigue, in a desire to resume recognized and valued homemaker and caregiver roles. She may also use rural cultural measures, such as her ability to do household and caregiving work, to gauge her progress post-MI and to determine MI impact (e.g., a temporary setback). In contrast, if a study participant chose the strategy of enhancing personal self-worth post-MI, she may acknowledge the seriousness of the MI event and the importance of making time for daily walking and re-negotiating household and workplace responsibilities. She may pay great attention to bodily symptoms, such as chest pain, and use new information, services, and guidelines (e.g., monitoring pulse, walking group) to gauge her functional ability and to determine MI impact (e.g., permanent change).

Based on their ongoing assessment of MI damage and physical activity, study participants started to engage in the process of testing physical activity limits. During this process, study participants tentatively searched for directions (e.g., from health care providers, family, media) about how to engage in physical activities consistent with their chosen strategy for self-worth pursuit post-MI (e.g., housework, caregiving, individual walking routine). They also worked to establish boundaries for engaging in physical activities (e.g., exertion, effort, time, location) and improvised by creating new solutions (e.g., making substitutions) with a context of limited physical, social, geographical, health care, and physical activity resources. As a result of this ongoing process of experimentation, study participants eventually chose physical activity priorities consistent with their process of seeking self-worth, as well as their abilities and

values, for the latter stages of post-MI recovery. Priorities tended to center on the goals of daily survival, meeting others' expectations, or putting self-first.

What was noteworthy was that the processes of questioning self-worth as a rural woman post-MI, seeking self-worth as a rural woman post-MI, assessing MI damage and physical activity, testing physical activity limits, and choosing physical activity priorities were complex, dynamic, interconnected, and embedded within an ever-changing rural context. Study participants' perceptions (e.g., physical activity), situations (e.g., the changing dynamics of their social relationships and connections), and circumstances (e.g., having another MI) fluctuated post-MI, sometimes causing a re-questioning of self-worth as a rural woman post-MI, the selection of an alternative strategy to seek self-worth as a rural woman post-MI, and new assessments of MI damage and physical activity, physical activity limits, and physical activity priorities.

In addition, study participants perceived that rural contextual factors (e.g., rural economy and changing employment opportunities, supportive relationships and connections, physical environment, limited options and access to health care providers and physical activity resources) gender factors (e.g., ways of knowing as a rural woman, traditional gender role expectations, self-confidence as a rural woman, creativity as a rural woman) helped or hindered all of the interconnected processes within the substantive theory. All of these rural contextual and gender factors were comprised of positive and negative characteristics that shaped participants' pursuit of self-worth as rural women post-MI, and subsequently their engagement in physical activity behavior post-MI.

4.2 OVERVIEW OF THE DIAGRAM

A visual diagram of the substantive theory “*Seeking Self-Worth: A Theory of How Rural Women Engage in Physical Activity Behavior Post-MI*” is provided (Figure 1). What this diagram shows is that study participants, who are at the center of their own realities and experiences, live lives that are interdependent and interconnected with complex and diverse social relationships, social structures, and rural environmental influences, represented by dotted lines and multi-directional arrows. The processes, represented in different colors, cannot be understood in isolation from each other or from the rural context in which they are embedded as they all intersect with and influence each other. Any changes in any of the processes or conditions, situations and circumstances within study participants’ rural settings (e.g., changing economy, social relationships and connections, limited accessibility to health care providers and physical activity resources) can cause ripple effects, such as a re-questioning of self-worth as a rural woman post-MI. What this circular diagram also portrays is that there is no delineated end to the ongoing process of seeking self-worth as a rural woman post-MI and, consequently, how it continually impacts and guides other subprocesses associated with physical activity behavior engagement post-MI within the theory.

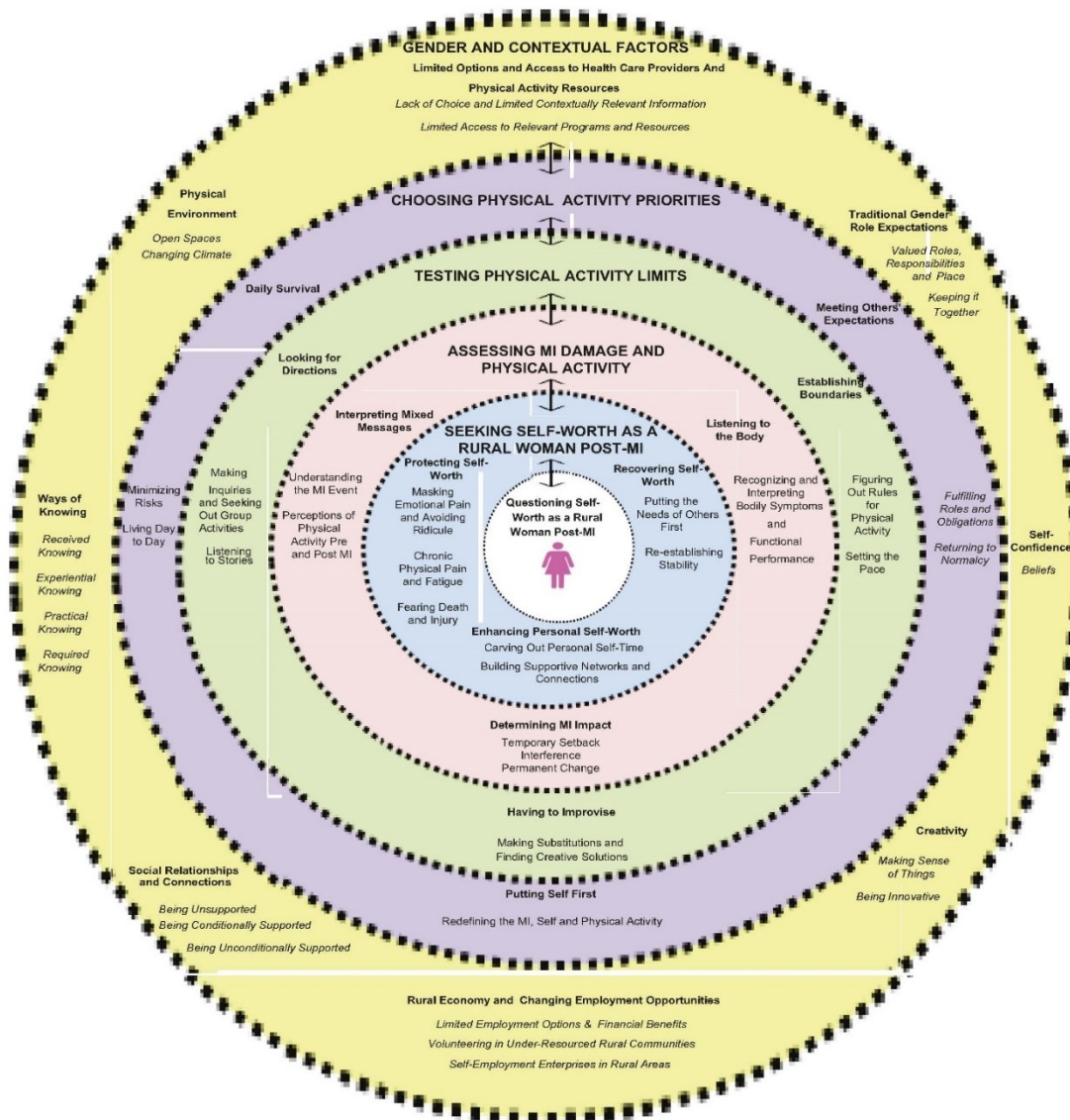


Figure 1: Seeking Self-Worth: A Theory of How Rural Women Engage in Physical Activity Behavior Post-MI.

4.3 QUESTIONING SELF-WORTH AS A RURAL WOMAN POST-MI

LC, a 54-year-old service worker, experienced a first time MI. Before the MI, she revealed she worked full time, did over 80% of the housework and yard work, and was the primary breadwinner of the family. Her husband had been unemployed from the local lumber mill for 7 years and her adult daughter was attending college in the city. LC shared: “What did I

think about the MI? Not the pain or the heart or anything like that . . . The first thing that popped in my mind was how was my family going to survive?” (LC, 54 years).

From the winter of 2004 to the fall of 2011, MT, a 74-year-old retired service worker and homemaker, experienced three MIs and a total of four cardiac stent insertions to treat blockages in her coronary vessels. With every MI experience MT felt that she “lost pieces” of who she used to be (e.g., an exceptional homemaker and cook). The MI events transformed her priorities and values. MT explained, “I went through many ups and downs . . . sometimes surprised and angry and crying and scared. I went from being a good housewife and mother to someone different . . . I now look after my heart, that is my life now . . . never will be the same” (MT, 74 years).

Study participants like LC and MT described self-worth as their purpose and value in life. Prior to the MI event(s), the majority of study participants measured their self-worth by their strength and ability to carry out learned and recognized gender role expectations (e.g., homemaker, cook, breadwinner in tough times), activities they believed met with the rural cultural benchmarks or markers of mastery and validity from family, friends, and community members. Patriarchal ideals that prioritize men’s roles over women’s influenced study participants’ division of labor within social structures such as the household, family, and workplace (i.e., women doing the housework and men doing the yardwork); the organization of hierarchical institutions structures (e.g., political organizations run by men); and rural cultural beliefs passed on through generations (e.g., rural women need to be stoic, self-reliant and strong) a finding consistent with the rural literature (Leipert, Leach, & Thurston, 2012; Thurston & Meadows, 2003).

Study participants also revealed that rural cultural beliefs and benchmarks acted as barriers to pursuing secondary education (e.g., the majority of participants had less than high school education), political involvement, and engagement in personal leisure activities such as walking. For example, CA, an 81-year-old widow with a first time MI, commented: “It was me who was told by my mother that my job was to care for my 14 brothers and sisters from the age of 5 or 6 . . . I was not allowed to do foolhardy things like go for walks or play . . . I was a slave to everyone else” (CA, 81 years).

Thus what was most problematic for the study participants following an MI event was the questioning of self-worth (i.e., their purpose and value in life). In other words, the MI event created complex emotions (e.g., fear, denial, anger, and confusion), perceived or actual functional losses (e.g., inability to carry out work and home responsibilities, a loss of physical strength, physical symptoms such as shortness of breath and chest pain), perceived or actual identity losses (e.g., potential loss of outside employment, becoming a cardiac cripple), and uncertainties about their purpose and value as rural women (e.g., questioning “who am I?”). Their previous mindsets about self-worth were threatened, challenged, and, in some cases, changed, as well as the benchmarks and measures they lived by to feel appreciated and accepted by others within the rural context (e.g., being the breadwinner and the main caregiver versus being the monitor of the heart).

4.3.1 Summary.

What was most problematic for study participants following the MI event was questioning their self-worth as rural women. Within rural contexts, study participants described self-worth as their purpose and value in life. Prior to the MI event, study participants revealed that self-worth development was influenced by a rural culture and environment that perpetuated

patriarchal and traditional gender role expectation markers or benchmarks within family, household, community and workplace social structures, as well as hierarchical institutional organizations (e.g., political).

An MI event, which caused study participants to experience a multitude of emotions, functional and physical changes, and uncertainties, threatened and challenged their previous mindset and evaluation of self-worth. While these responses may be also seen in urban women, these experiences were intensified for rural participants facing a lack of local quality educational, employment, and health care options and services, as well as geographical isolation and threatened confidentiality (e.g., being the subject of local gossip) within their rural settings, findings consistent with the rural literature (Caldwell et al., 2005; Leipert, Leach, & Thurston, 2012; Thurston & Meadows, 2003).

4.4 SEEKING SELF-WORTH AS A RURAL WOMAN POST-MI

Study participants managed the problem of questioning self-worth as a rural woman post-MI by engaging in a process labeled as “Seeking Self-Worth as a Rural Woman Post-MI.” Study participants engaged in this process for the ultimate purpose of pursuing self-worth in the aftermath of the MI event. To pursue self-worth meant selecting strategies consistent with their values, priorities, and needs. These strategies also influenced their assessments of MI damage and physical activity, as well as their decisions about what activities they would invest their efforts in during the post-MI period (e.g., housework, caregiving, sedentary activities, daily walking). The subprocesses that comprised this process were: a) protecting self-worth, b) recovering self-worth, and c) enhancing personal self-worth.

4.4.1 Protecting Self-Worth.

Protecting self-worth was a process engaged in by some study participants to preserve what remained of their self-worth post-MI. Masking emotional pain and avoiding ridicule, chronic physical pain and fatigue, and fearing death and injury were described by these rural women as reasons for engaging in the process of protecting self-worth post-MI.

4.4.1.1 Masking emotional pain and avoiding ridicule.

For MC, a 59-year-old woman who lived with an alcoholic and abusive husband, protecting self-worth meant seeking and engaging in efforts which were conducive to her own personal survival (e.g., withdrawal, not speaking up, suffering in silence), self-preservation (e.g., avoiding physical and mental abuse), and personal safety (e.g., minimizing the risk of injury), rather than meeting recommended evidence-based physical activity behaviors post-MI (i.e., aerobic activity for 30 minutes most days of the week) (Heart and Stroke Foundation, 2010).

In Photograph 1 titled “My Hideaway,” MC visually captured what protecting self-worth signified for her. In the picture her bed is pushed against a corner and framed by two walls. Many of her personal items are piled on top of the bed and her bed is surrounded by a circle of shelves and dressers containing her clothes and other belongings. These shelves and dressers provide another protective barrier around the bed. Thus for MC, protecting self-worth involved finding a safe space or refuge, keeping belongings close, shielding herself, and avoiding conflict and contact with her abusive spouse by not engaging in daily walking to improve her health outcomes.

MC described her rural setting as “a very lonely place out in the middle of nowhere where I am an outsider with no one to talk to and nowhere to go” (MC, 59 years). Thus what the bed also symbolizes is geographical isolation, limited control and voice, and inaccessibility to

others, including health care providers, within her rural setting. These factors have been found in the literature to perpetuate and intensify the incidence and severity of domestic violence (Dyck et al., 2012; Hornosty & Doherty, 2003), social isolation and disconnection, depression and loneliness, declining access and participation in centralized urban based cardiac rehabilitation programs, and limited ability to afford or access various local physical activity facilities or walking areas (Caldwell et al., 2005; Clark, Redfern, & Briffa, 2013).



Photograph 1: My Hideaway.

This is where I stayed day after day after the heart attack and only doing what I am told to do. You know, when you live with an alcoholic you need to survive and keep things smooth. You try to handle it and to hang on because you are protecting yourself . . . you are alone out in the middle of nowhere [rural] and there is no choice. (MC, 59 years)

WB, a 50-year-old seasonal worker, also described living with alcoholic parents and a verbally abusive and alcoholic spouse. Like MC, she had and was currently experiencing geographical isolation, limited social contact with community members, and limited accessibility to health care providers and appropriate health care resources. Her life prior to the MI event had

created deep seated feelings of worthlessness which WB expressed as “I don’t count . . . everyone else does . . . I just survive and keep going on myself” (WB, 50 years).

In Photograph 2 titled “The Rock Pile,” WB provided a visual rendering of her emotional pain. In the photograph there is a pile of heavy rocks. For WB, each of these rocks represented a painful or traumatic life event (e.g., previous drug abuse, the accidental death of her child), dysfunctional and abusive relationships (e.g., having alcoholic family members and a spouse), chronic physical and emotional pain (e.g., fibromyalgia, episodes of depression), or financial struggles (e.g., unemployed spouse). For WB, all of these rocks have contributed to feelings of anger, depression, and worthlessness. She described her MI event on her 50th birthday as being “just one more rock on the pile” (WB, 50 years).



Photograph 2: The Rock Pile.

These are the heavy rocks that stop me from completing my garden but they are also like everything . . . the stresses in my life that I have come through. The big rocks are more like the big things like losing my daughter and the heart attack is just another small rock. I want to get them all out of there . . . I don’t know how to get going. (WB, 50 years)

WB did express that she wished she could find or be shown a way to break through these rocks to get going again. However, she voiced that she did not have the tools (e.g., support,

encouragement, appropriate health care services) to help her recognize her personal self-worth and to support her engagement in physical activity behaviors like daily walking so she could be strong enough to go back to work. Thus to protect any semblance of self-worth and value post-MI, WB felt she needed to invest efforts in isolating herself from others. WB shared that isolating involved withdrawing from social contact with family, friends, and health care providers; doing what she was told by her spouse; engaging in risky behavior to cope (e.g., drinking alcohol, smoking, lifting heavy things and not asking for help); becoming sedentary; and remaining silent (e.g., not voicing their concerns or questions to health care providers; not sharing their feelings with their partner or others). For WB, the motivation and desire to engage in recommended physical activity behaviors such as daily walking post-MI for her personal health, was absent because her relationships and rural context did not value her as a person.

A few of these study participants shared they experienced recurring episodes of emotional pain post-MI. Emotional pain was described as intense sadness, frustration, and anger, “making me feel very worthless . . . and useless to others around me” (BD, 58 years). BD, a re-married woman who was diagnosed, treated, and cured of Hodgkin’s lymphoma 4 years prior to her MI, shared that she experienced daily feelings of “being depressed because I should not be an invalid my husband has to help and care for I am only in my 50s and his 80-year-old mother is healthier than me” (BD, 58 years).

Many study participants, such as BD, had internalized prescribed traditional gender role expectations and values typical in rural settings (e.g., being worthy and valued means being strong and able to keep unity in the home, clean house, and care for others) (Kubik, & Moore, 2005; Thurston & Meadows, 2003). BD perceived her purpose and value as being related to her ability to carry out housekeeping, caregiving, and gardening. When she did not feel she could do

these activities, she became more depressed and withdrew from her friends in the community music group and her family doctor. BD explained, “I don’t want them to see me like this . . . my family doctor just brushes me off and . . . I don’t want to ruin their [friends and group members] day at the music jams” (BD, 58 years).

Thus for study participants like BD, the desire to protect self-worth by internalizing emotional pain and avoiding feelings of embarrassment and ridicule, meant isolating themselves from people (e.g., community group members, health care providers) and situations (e.g., attending community events, walking events). BD perceived that it was in her best interest to avoid circumstances that had the potential to lower her self-confidence (e.g., getting involved with a walking group or cardiac rehabilitation program), expose her weaknesses (e.g., declining strength), highlight her inadequacies (e.g., changes in physical appearance), emphasize her inabilities (e.g., failure to carry their load), and promote feelings of vulnerability, stupidity, and uselessness. CA, an 81-year-old widow who was raised with physical violence, also commented about how she preferred to keep her emotional pain hidden, “I just close the door, curl up and let it all out where no one can see . . . then I am fine but well, my tears would fill a bucket” (CA, 81 years).

4.4.1.2 Chronic physical pain and fatigue.

For some study participants, the presence of physical symptoms post-MI (e.g., fatigue, shortness of breath, chest pain) as well as other chronic illnesses (e.g., arthritis, chronic chest wall pain, fibromyalgia, diabetes) created a desire to engage in strategies to protect self-worth, as these women did not want to appear weak, useless, or dependent on others (e.g., family, friends, community members and coworkers). Functional limitations from other chronic illnesses were often perceived to be quite severe (e.g., limited mobility, inflamed joints), discouraging some

study participants from engaging in walking behaviors (i.e., alone or with a group), or participating in housework, caregiving and work-related activities. BD, a woman with chronic fibromyalgia, explained, “I get so tired from just going to the mall and getting some groceries . . . I am leaning against the cart because my joints hurt . . . how would I be able to do more walking or go in a group like that? I could not keep up and it would hurt” (BD, 58 years). MM, a woman with severe arthritis and bad knees, also concurred saying, “Sometimes the arthritis pain burns and I cannot walk . . . pain is the worst thing in the world for anyone to endure and especially when you live far away [rural] from everything [health care providers and services]” (MM, 72 years).

In addition to experiences of daily chronic pain, many study participants reported feeling very fatigued after an MI. OD, a 48-year-old woman who had her second MI, shared that she “tires more quickly and has to lay down a lot to nap” (OD, 48 years). FP, a 68-year-old retired professional, also revealed that she did not remember “being so tired in all my life” (FP, 68 years). For study participants like OD and FP, fatigue, in combination with chronic pain, depleted their energy. In such cases, to protect self-worth meant avoiding physical activities, such as walking and heavy housework activities (e.g., laundry, vacuuming), and investing efforts in sedentary activities, such as “watching television, doing crossword puzzles, sleeping, and doing light dishes once a day” (MC, 59 years).

While experiences of fatigue, physical symptoms, and functional limitations related to CHD and chronic illnesses were reported in the literature to occur in urban women (CACR, 2009; Heart and Stroke Foundation, 2010), study participants stated that they experienced unique rural issues such as suffering alone with daily chronic pain and fatigue, as they had limited quality options for local health care services and access to “doctors and nurses who could check

in on me as much as I liked” (MM, 72 years). Thus to protect self-worth and value, some study participants invested their efforts in disconnecting themselves from social activities (e.g., walking groups, church), family and friends, and whatever health care providers and services that were available, intensifying their social and geographical isolation within often remote rural settings.

4.4.1.3 Fearing death and injury.

For study participants experiencing multiple MIs, such as MT and NR, the desire to protect self-worth was driven more by fear of death and injury rather than emotional pain, physical symptoms and chronic pain, or the loss of a valued image. MT, who had experienced three MIs in her lifetime, described being weakened and “knocked down” by these multiple near death experiences. MT described how living in a rural setting intensified her fears about accessing quality health care providers and services in a timely fashion and receiving suitable ambulance service. MT voiced, “I could not get through to 911 with my second attack. If I hadn’t driven in they said I would have died” (MT, 74 years). As well, these experiences potentiated MT’s feelings of geographic and social isolation, vulnerability, and susceptibility to injury (e.g., snow and ice while walking). As MT explained “it is like living with a time bomb . . . I have to be careful and protect it [heart], cause once it goes off, I’m gone” (MT, 74 years).

Some study participants, such as MT and NR, felt that protecting self-worth meant avoiding death and injury by engaging in regular daily walking regimes, regardless of the presence or absence of professional guidance (e.g., “walking based on how your body feels” MT, 74 years). Also, these study participants shared that they withdrew from crowds (e.g., crowds increase stress), social activities (e.g., “not walking outside on ice to go to church” (NR, 62 years), or any physical efforts (e.g., heavy lifting) which could trigger a recurrent and potentially

fatal MI, creating a lifestyle which MT described as “walking on eggshells” (MT, 74 years). Again, this induced self-isolation was further magnified by factors within the rural context (e.g., geographical isolation, inaccessibility to services).

4.4.1.4 Summary.

For some study participants, the desire to protect self-worth stemmed from desires to mask emotional pain (e.g., domestic violence, depression, worthlessness) and avoid ridicule, cope with chronic physical pain and fatigue, or manage fears of death and injury. Protecting self-worth involved isolating (e.g., withdrawal, avoiding social contact, avoiding health care providers and local programs) and risky behaviors (e.g., smoking, drinking, heavy lifting, and sedentary lifestyles post-MI), not engagement in recommended physical activity behaviors (e.g., daily walking for 30 minutes each day) (Heart and Stroke Foundation, 2010).

All of these behaviors to protect self-worth encouraged various degrees of social disconnection, which study participants revealed created further feelings of worthlessness, loneliness, and depression, as well as increased risks for personal safety (Dyck et al., 2012; Hornosty & Doherty, 2003) and poor health outcomes post-MI (e.g., recurrent MIs, increased functional limitations) (Heart and Stroke Foundation, 2010). Living in rural settings already challenged with social and geographical isolation and limited accessibility to and quality options for health care services, physical activity resources, and health care providers further intensified these feelings and risks, reducing the possibility of successful engagement in physical activity post-MI.

4.4.2 Recovering Self-Worth.

Recovering self-worth was the process engaged in by most study participants post-MI to regain their previous purpose and value in life. Recovering self-worth involved resuming

familiar gender roles and responsibilities in their home (e.g., housework, caregiving), community (e.g., baking, church volunteer work), and the work environment (e.g., pushing a food cart, moving stretchers). Study participants perceived that such activities were valued and recognized by family members, friends, community members, and co-workers within their rural settings.

These perceptions were often formed because such conditions of self-worth were learned and reinforced by others (i.e., parents and family members), social structures (e.g., home, work), patriarchal ideals, rural cultural beliefs (e.g., women should put the needs of others first), and hierarchal institutions (e.g., church) within their rural settings. Most study participants chose this strategy to seek self-worth post-MI because they believed it was their purpose to put the needs of others first and to re-establish stability in the household, community, and workplace. Thus, valued physical activities were those associated with housework, caregiving, yard work, animal care, and employment post-MI, not leisure aerobic activities such as walking.

4.4.2.1 Putting the needs of others first.

Many study participants described how traditional gender role expectations (e.g., completing household tasks, caring for others) were valued, respected, and perpetuated for and by women, men, and children in rural settings. These women recalled being told and shown by their mothers, friends, and community members how to be nurturing. Study participants learned that being a nurturer required placing the needs of family members, friends, community organizations (e.g., church), and co-workers ahead of their own. These activities often involved driving spouses to medical appointments, preparing and cooking meals for the family and sick friends, doing the laundry for adult children who lived away, quilting for church fund raisers, or baking for community events before and after the MI event.

CA, an 81-year-old widow and housewife, was the oldest of 14 children. During her childhood, she had been consistently depended upon to assist her mother with the care of the younger children and the housework responsibilities. She described her childhood as a time of “only work and never any play” (CA, 81 years), learning there was only value in doing things for others, not for herself. For CA, the only thing that had ever given her a sense of purpose and value within her rural setting was the affirmation and recognition she received from her late husband, her children, and community members for her cooking, housework, and gardening. Following her MI, CA expressed, “I had no intention of stopping cooking and doing the thing that give me pride . . . it is who I am . . . I will not let this home fall down that my husband and I built . . . if I have another heart attack doing it, so be it” (CA, 81 years). Thus, health care providers’ traditional approaches to promote individual health and well-being as a means of encouraging physical activity behavior engagement post-MI (CACR, 2009; Heart and Stroke Foundation, 2010a) (i.e., daily walking) may be ineffective for rural women, such as CA who do not feel they count as individuals or who do not have the resources, such as finances or home care, to support them.

In Photograph 3 titled “Keeping Things Going,” CA is standing at her stove attending to a homemade soup that she is cooking. At the same time, she has a broom in her hand to fit in a little bit of sweeping after she puts the lid back on the soup. She has arthritis in her knees which requires her to ambulate with a walker. The walker is seen in front of the stove and all the kitchen appliances are on her counter for easy access during baking and cooking. The kitchen is where CA feels most useful and most valued. For her, valued physical activities are housework, cooking, and gardening as they provide her with feelings of enjoyment, value, and purpose and

with a means of caring for others and honouring relationships and connections (e.g., the home is a symbol of the love she and her husband shared).



Photograph 3: Keeping Things Going.

I love cooking and cleaning. I like keeping things up. I like to know I've accomplished something and made others happy . . . like even if I bake a cake or cook something . . . I've accomplished making that cake and it makes me feel well, that I have done something special. (CA, 81 years).

Like CA, many other study participants invested efforts in carrying out household, caregiving, and work-related activities for which they had achieved past successes, recognition, and affirmation. Thus, time and energy post-MI were invested in familiar activities that put others needs first (e.g., cooking, cleaning, volunteering at the church), leaving little time for attention to personal health care needs and new and unfamiliar leisure activities (e.g., daily walking) which had not been traditionally valued in their rural communities. SG, a housewife and retired service worker who experienced multiple MIs, explained “that activity [walking] has never been really given much thought or time by people in my community” (SG, 57 years). MA, a housewife and community volunteer, also concurred that “Walking has been just a way to get from A to B and not something seen as fun” (MA, 73 years).

For some study participants like EW, a primary caregiver who took her husband for dialysis three times a week, being a nurturer was described as “my main calling and my main reason for being here” (EW, 68 years). BD, a married housewife who worked part time caring for an 89-year-old woman in the neighborhood, said, “Even after the heart attack and having all my problems and worries about being a burden on my husband . . . those feelings go away when I go over to her [89-year-old woman] home to help give her a wash, put a blanket over her, and bring her a favourite snack . . . I am me again” (BD, 58 years). For EW and BD there was comfort in resuming their place as a nurturer because it affirmed their identity and self-worth in the eyes of others (e.g., family, friends, and community members) and thus in themselves, especially if they were rewarded with praise, smiles, compliments, or even a hug.

For other study participants like OD and LC, both mothers who continued to work full time and do laundry for their adult children living away, being a nurturer was a duty and a societal expectation. OD, a married service worker said, “My mother and older sisters showed me and told me that women were the ones who cared for others and ran the household, because we have always done it and do the best at it” (OD, 48 years). These rural cultural beliefs were embedded in study participants’ ways of being. Engaging in household and caregiving activities pre- and post-MI was their way to fulfill these expectations, resume feelings of purpose and value, and to not burden their family members and children with their own personal needs and health issues. However, at times some study participants felt frustrated with a perceived lack of recognition from family and community members, making them work all the harder to be needed, to be noticed, and to belong. As FP, a professional, voiced, “I had to do the housework and other things very well because I’m told the way I do these things is judged and it is hard to overcome your upbringing” (FP, 68 years).

The desire to be recognized for putting the needs of others first also extended to the rural work environment, one with few well-paying employment options or opportunities. Some study participants, such as OD, a service worker, offered to do additional shifts and overtime post-MI, risking their own personal health. OD explained, “I had always learned it was important for me to help out other people and I needed to show I could keep up . . . Somedays I can feel my heart pounding and it scares me. . . But, well, I keep going because they will say ‘If you can’t do your job, you shouldn’t be here’ . . . and I need the money” (OD, 48 years).

4.4.2.2 Re-establishing stability.

For many study participants it was important to re-establish stability and unity within the family, household, and community following their MI. FM, a retired service worker, said that it was important to “keep up the ties with other people so they are there when you need them” (FM, 67 years), especially when the rural environment was so open and vast and there were limited options to access and receive quality health care services and providers. Thus study participants described their value and purpose as being able to be autonomous, responsible, and strong enough to carry out work, as well as the one who “picks up the slack when help is needed with animals, his [husband] work and they are short at work” (OD, 48 years).

Many study participants commented that they avoided activities that promoted feelings of dependency and being a burden (e.g., asking adult children to come and help with housework) and engaged in additional activities (e.g., care of horses, yard work, caregiving) when their spouse became ill or unemployed (e.g., increased costs of living, supporting children), striving to be the recognized superwoman. However, investing efforts in such activities left these study participants with little time and energy to focus on activities that would promote their own health and well-being (e.g., walking) post-MI, a finding supported in the rural literature (Kubik &

Moore, 2005). The desire to be all things to all people (e.g., the breadwinner, caregiver, homemaker) also encouraged many study participants to engage in risky physical behaviors at home and in the workplace (e.g., pushing heavy equipment, caring for horses) that exacerbated fatigue, shortness of breath, and chest pain. OD, a service worker, said, “I start my morning before other people get up and I am done very late . . . when I get home from work all I want to do for an hour is sleep before the housework and next round of duties begins . . . I worry sometimes about my heart but I don’t have a choice with kids and an ill husband” (OD, 48 years).

4.4.2.3 Summary.

In many ways, desires of re-establishing stability within social structures of the family, the workplace, and community groups within rural settings encouraged study participants to engage in household, work, community, and caregiving activities post-MI, sometimes at levels that placed them at risk for recurrent MIs (e.g., pushing a heavy 1,700 pound food cart at work). These same influences, which encouraged conformity to a specific mind-set, discouraged study participants’ recognition of their personal self-worth and the importance of their own health and well-being, factors which have been found to be essential motivators for engagement in healthy lifestyle behaviors, such as physical activity (CACR, 2009; Huberty, Ransdell, Sidman, Flohr, Shultz, Grosshans et al., 2008).

At the same time, such findings also suggest that health care providers need to have further understanding of how gender and rural contextual factors influence self-worth development, self-worth pursuit post-MI, physical activity perceptions, and engagement in physical activity behavior post-MI. This understanding may be necessary to collaboratively develop physical activity programs, services, and resources that meet the unique needs and

desires of these study participants. For some study participants the resumption of caregiving, housework, and work-related activities was driven by passion, enjoyment, regaining identity, and putting the needs of others first. For others, engagement in such activities was propelled by perceptions of duty to family and community members, maintaining employment and income, or the need to re-establish stability in the home and workplace, particularly when the spouse became ill, lost his job, or there were financial hardships. The questions that arise from such findings is how do health care providers work together with these study participants to recognize rural and gendered perceptions and values about physical activity, to accommodate the enjoyable activities, challenges, and unique needs (e.g., financial instability, lack of local physical activity resources, lack of access to health care providers) they face in the rural context, and to support them in recognizing their own innate worth as individuals?

4.4.3 Enhancing Personal Self-Worth.

Enhancing personal self-worth was a process engaged in by a few study participants such as SW, FM, and PS to help them recognize their own innate worth as a person. Enhancing personal self-worth was used to promote, affirm, and recognize study participants' full potential as women which included making time for the adoption and maintenance of leisure physical activities such as walking and swimming. For a few of these women, this re-awakening and re-evaluation of innate value and purpose was precipitated by their MI event. The MI event inspired them to put their needs first; to learn to engage and adopt new physical activity behaviors, such as daily walking; and to integrate these changes into their lives. Enhancing personal self-worth involved behaviors which involved carving out personal self-time and building supportive networks and connections.

4.4.3.1 Carving out personal self-time.

PS, a 56-year-old divorced, self-employed woman, experienced a re-awakening following her first time MI event. PS stated “I am starting to think about the bigger picture now and I want something bigger and better for me . . . it means that things have to change in my life . . . more exercise, better eating, and no smoking” (PS, 56 years). What PS realized was that previous engagement in caregiving, household, and work-related activities which she had perceived were essential for a happier life, had allowed her little time to attend to her personal health needs and well-being. Now PS felt she had to find some time for herself and a way to let go of rigid, prescriptive gender role expectations perpetuated by others within her rural setting. This task was not easy for a divorced, self-employed woman living alone in a rural community. Residents and organizations (e.g., church, local employers, government agencies) within her rural community perpetuated conformity to traditional gender roles, did not offer financial compensation during MI recovery, or provide educational pamphlets in local support groups that met the needs of rural women versus aging men post-MI.

SW, a 52-year-old part-time service worker, grew up in a close-knit rural community with generations of family members and many supportive friends. She had received some post-high school education and has lived comfortably, as her husband has been steadily employed as a laborer. She had never had any health issues before her MI. She described her MI event as a “wakeup call . . . making me realize that I had to make a lot of changes in what I was doing as I am now in my 50s and still have a lot of living to do . . . I have a second chance and want to do things right and not mess this up” (SW, 52 years).

What was interesting is that prior to the MI event, SW said she was a robot who strived to carry out the household, caregiving, and work-related tasks expected within rural communities.

In retrospect, after the MI event she realized that she had lost touch with her innate self as she allowed cultural and gendered beliefs (e.g., putting the needs of others first makes you a better woman) and role expectations to control her behavior and her mindset about her purpose and value in life (e.g., being worthy means being a great homemaker and mother). Also, SW mentioned she was fortunate to be able to attend a cardiac rehabilitation program in the city where health care providers impressed upon her the importance of carving out personal self-time for physical activity. However, she lamented that the health care providers at the cardiac rehabilitation class in the city offered no advice about how to do this within a rural context.

In Photograph 4 titled “My Walking Buddy,” SW is standing beside a woman who has been her best friend for 40 years. She considers her to be a part of her extended family and mentioned that this friend has been there for her through all the good times and bad times in her life. She said that her best friend does not judge her and has always been supportive of the changes she has made in her life, often joining her in making new changes. In the picture, SW and her best friend are standing side-by-side attired in walking sneakers and comfortable clothing. They are committed and are making the effort to carve out personal self-time to integrate daily walking into their lives which often involves walking in the outdoors versus a gym (e.g., there is a lack of available local physical activity facilities).

In a logbook entry, SW expressed “the will to live, the ongoing support of my friends, family, and co-workers over my heart attack recovery inspires me to value myself . . . Without it [support], putting me first is impossible” (SW, 52 years). For SW, making the transition to carve out personal self-time was only achievable in a rural setting when there were supportive family members, friends, or co-workers who were willing to rethink their own values and priorities about physical activity, and re-negotiate previous role responsibilities and time schedules. For

example, SW shared that her husband and children agreed to assume some of the meal preparation, babysitting of the grandchildren on weekend afternoons, laundry and cleaning, and to “post it as a new schedule on the refrigerator which would include my times I was going to walk or swim” (SW, 52 years).



Photograph 4: My Walking Buddy.

I used to think I was a robot, that I was like Wonder Woman . . . to be what others thought I should . . . but after the heart attack I thought what was all that? I have been given a second chance to put me first and I am not going to screw it up. I have my best friend to help me. (SW, 52 years)

Also, factors that made it easier to carve out self-time were family financial stability and opportunities for flexible time scheduling in work hours. For FM, a retired service worker with financial stability, re-negotiations with her husband resulted in hiring “a cleaning woman to come in three times a week so I could attend Aquafit class” (FM, 67 years). PS, who was self-employed entrepreneur, was also able to find ways to rearrange her work schedule by “changing my hours so I could have time for a morning walk before I had to go to work” (PS, 56 years).

For these study participants, another helpful way that family, friends, and community workers supported them in carrying out scheduled walking and swimming activities was to

engage in these activities with them. SW shared that her grand-daughter would “keep me on track because she would remind me that it was our time to walk or go to the pool” (SW, 52 years). FM, also shared that her husband “was the most supportive man . . . he has no difficulty getting his sneakers on with me and going for a walk . . . it makes it more enjoyable and we get to spend time with each other as we are making healthy changes” (FM, 67 years).

4.4.3.2 Building supportive networks and connections.

For a few study participants, enhancing personal self-worth also meant taking time to seek out information about what physical activity resources were available in rural settings and how to find ways to network together with other rural women post-MI. For study participants, who were fortunate to have the supportive relationships, networks, finances, and work flexibility to attend cardiac rehabilitation classes in the city, it was important to “share this information [information from cardiac rehabilitation classes] with others who cannot go to town to help them know the importance of physical activity post-heart attack and to figure out together how to do it in rural places with what we’ve got [local physical activity resources]” (FM, 67 years).

However, as SW acknowledged, “it is difficult to find women to call and help because of the confidentiality thing . . . maybe family doctors or nurses could help out with this more” (SW, 52 years).

In Photograph 5 titled “Getting the Scoop,” SW shows her rural community newsletter. SW believed this was a good way to advertise group programs in rural areas and to share information as more “rural women would rather catch up on the goings on in their community through the newsletter than deal with the internet or complicated pamphlets” (SW, 52 years). Also, SW had wanted to capture the lack of information, facilities, and programs available in her rural setting to promote physical activity, like walking, for rural women post-MI. In this

newsletter there were very few physical activity resources or programs listed, particularly ones that targeted physical activity behavior engagement in rural women post-MI. In some ways, the lack of local physical activity resources made SW feel it was even more imperative for her to be able to network and reach out to other rural women post-MI, many of whom “did not have the money, support, or time to go into town to cardiac rehabilitation programs” (SW, 52 years).



Photograph 5: Getting the Scoop.

If I don't ask what is going on in the community or find out on my own, I can't know and I need to know so I can make some changes. For women less fortunate than me . . . well I can share things and help them . . . like for the woman [who had a heart attack] I talked with in Sobeys for hours . . . it felt good. (SW, 52 years)

For some study participants, being able to reach out and network with other rural women post-MI meant being able to share stories, having context relevant information about local rural physical activity resources, and “discussing tips and creative ways to stay active in rural areas” (FM, 67 years). In this way, a few of the study participants felt that other rural women post-MI would then feel like they shared something in common, that they had information more relevant to their experiences and everyday lives, and that they “had an opportunity to be able to speak up about what things they needed to help them in a safe group who understood” (PS, 56 years). PS, a self-employed entrepreneur with a first time MI, further commented, “it would be nice to bring

women together who are the same to share ideas and to keep each other in the loop because we would all feel good about it” (PS, 56 years). FM, a retired service worker, illustrated the importance of sharing and belonging for rural women:

Rural women have to be supported to understand they are important as people and it comes from everyone being on the same page . . . like holding hands . . .

helping and showing each other what to do . . . once women have this they will have enough self-respect to put things or themselves first. (FM, 67 years)

4.4.3.3 Summary.

For some study participants, the desire to enhance personal self-worth encouraged them to invest in efforts to carve out personal self-time for physical activities such as daily walking and Aquafit classes, to improve their personal health, and to build networks and connections with other rural women post-MI. The ability to carve out personal self-time was dependent on having supportive relationships and connections with spouses, other family members, friends, and community members who were willing to re-negotiate traditional gender roles and responsibilities, and on having the financial resources and flexibility to adjust working hours, opportunities which have been found to be scarce for the majority of rural Canadian women (Leipert, Leach, & Thurston, 2012).

For these few study participants, who were fortunate to attend cardiac rehabilitation classes in the city, there was an expressed need to find ways to share contextually appropriate information, stories, and creative solutions to enhance personal self-worth in rural women post-MI, and to help support them in engaging in physical activities like walking to improve their health and quality of life. What these few study participants suggested was that health care providers (such as family physicians and nurses) and others (such as the media, rural women,

their significant others, and community members) needed to work with them to facilitate social networking amongst rural women post-MI.

4.5 CONCLUSION OF THE CHAPTER

“Seeking Self-Worth: A Theory of How Rural Women Engage in Physical Activity Behavior Post-MI” is a substantive theoretical interpretation of the narrative and visual data co-created by interactions between this researcher and the study participants. What was most problematic for study participants was their questioning of self-worth as a rural woman post-MI, which meant their sense of purpose and value after the MI event. In response to this problem, study participants initially engaged in a social process to pursue self-worth, expressed as “Seeking Self-Worth as a Rural Woman Post-MI.” The process of seeking self-worth as a rural woman post-MI was constituted by the subprocesses of protecting self-worth, recovering self-worth, and enhancing personal self-worth. The process of seeking self-worth, in combination with conditions within the rural context, shaped study participants’ engagement in the interconnected processes of: a) assessing the MI damage and physical activity, b) testing physical activity limits, and c) choosing physical activity priorities.

Specifically, these processes revealed how participants pursued self-worth post-MI (e.g., sedentary activities, risky activities, housework, caregiving, work-related activities, daily walking, and Aquafit classes). As well, these processes increased or decreased the possibilities of study participants being further disconnected or increasingly connected with their innate self as well as with health care providers, other rural women, family members, friends, and rural community leaders. What was clearly evident was that study participants’ ability to put themselves first, in a rural context that rewards and recognizes women putting the needs of others first, was dependent on the presence of supportive connections (e.g., family members,

friends, community leaders, employers, and health care providers). Study participants shared that these supportive connections and relationships must involve others who were willing to rethink their own values and priorities about physical activity, understand the impact of the rural context on rural women's self-worth development and pursuit of self-worth in the post-MI period, and re-negotiate previous gender role expectations and responsibilities, as well as alternative approaches, with study participants.

In Chapter 5, the processes of assessing the MI damage and physical activity, as well as testing physical activity limits will be presented. In Chapter 6, the process of choosing physical activity priorities and how intervening gender and contextual factors within the rural setting influence processes within the substantive theory will be presented.

CHAPTER 5 THE PROCESSES OF ASSESSING MI DAMAGE AND PHYSICAL ACTIVITY AND TESTING PHYSICAL ACTIVITY LIMITS

In this chapter, the processes of assessing MI damage and physical activity and testing physical activity limits will be discussed and presented within their respective sub-processes. These processes are represented within the substantive theoretical interpretation of the narrative and visual study data (Figure 1).

5.1 ASSESSING MI DAMAGE AND PHYSICAL ACTIVITY

WB, a 50-year-old woman living with an alcoholic spouse, described her property as a mess with varying degrees of damage (e.g., weedy flower beds, broken stones). She made connections between the mess she was looking at in front of her and the mess of emotions she had been dealing with since the MI event (i.e., feeling screwed up). Photograph 6 titled “Looking at the Mess” is a visual image which captured WB’s MI experience. She represented herself as a shadow (i.e., a facade of herself) surveying the damage in front of her, trying, as she explained, to sort out and make sense of what had permanently changed in her world and what had the potential to be restored.



Photograph 6: Looking at the Mess.

I have a large property that is landscaped and in need of a lot of up keep. After the heart attack everything is all screwed up . . . just like the yard outside . . . the weedy flower beds, broken stones . . . I am standing there and looking at it, that's my shadow, looking at it all to see how bad it is and to think about what I can and can't do to fix it up. (WB, 50 years)

The feelings and emotions WB was experiencing in the aftermath of the MI (e.g., uncertainty, being screwed up) were related to her questioning of self-worth as a rural woman post-MI. The sub-processes she and other study participants selected to pursue self-worth (e.g., protecting self-worth, recovering self-worth, enhancing personal self-worth) influenced assessments of MI damage and physical activity. Within the data, the process of assessing MI damage and physical activity included the sub-processes of: a) interpreting mixed messages, b) listening to the body, and c) determining MI impact.

5.1.1 Interpreting Mixed Messages.

Interpreting mixed messages refers to study participants' perceptions and integration of verbal and written information, as well as visual images about MIs, MI recovery, and recommended healthy lifestyle behavior changes post-MI, such as physical activity. These understandings spanned a continuum from childhood to pre-MI to post-MI event, and arose from past experiences (e.g., previous MI events), others (e.g., family, friends, health care providers), and media sources (e.g., television, radio ads, newsletters). The properties of interpreting mixed messages include: a) understanding the MI event and b) perceptions of physical activity pre- and post-MI.

5.1.1.1 Understanding the MI event.

This property of understanding the MI event refers to study participants' capacities and opportunities to conceptualize what had happened in their bodies, as well as future implications for health. Variations amongst these study participants ranged from no capacity to understand the MI event to having a basic knowledge of blocked arteries. BF, a 67-year-old service worker with a first-time MI, had very little understanding of her MI event and what it meant for her future health, as she had no previous personal experience. She said: "I was the only one in my family who ever had something like this [heart attack]. I can't say I know too much about it now because I still haven't seen a doctor since getting home . . . they don't grow on trees here [rural]" (BF, 67 years).

A few participants said their understanding of their MI event was influenced by their own previous MI experiences or those of family members and friends, particularly in the absence of information and instructions during hospitalization, as well as inconsistent follow-up from physicians and other health care providers post-discharge. OD, a 48-year-old married service worker, commented, "My mother and grandmother both had bad hearts but all they ever told me was a heart attack is about your heart over-working . . . rest and then keep ploughing through. That's how it's done and that is how I understood it with my other one [heart attack]" (OD, 48 years). For OD, understanding of her two MI events were primarily confined to observed behaviors of and messages from family members, not health care providers. Such findings raise questions about study participants' knowledge about MIs, risk factors for recurrent MIs, and the benefits of physical activity for their heart health.

Some study participants acknowledged that they preferred to receive information about their MI event from health care providers, particularly from family physicians. Within rural

settings, these women had always been told that physicians possess expert knowledge about MIs and health. MA, who grew up on a working farm, said, “My family doctor is great at telling me about the blockages and how my heart is doing and he said to call him anytime . . . he [the doctor] is an expert because he’s there to evaluate me” (MA, 73 years). Also, for FP, an educated professional with a first-time MI, the doctor was identified as her primary source of informational support as she had little time to forge friendships and connections in a rural community that she became part of through marriage. However, most study participants admitted that family physicians, particularly those who were men, had little understanding of rural women’s work (e.g., caregiving, housework) and were unable to give useful advice about how to engage in these activities post-MI.

For FP, interactions with her family physician were also described as disappointing as she was often made to feel insignificant and unworthy during telephone calls or visits. She explained, “When I mention things to her [physician] or ask her about my heart attack, she brushes me off. It’s like I’m nothing and not worth the bother and I am left to stumble along on my own” (FP, 68 years). BD, a married woman with a first-time MI, also said she was “brushed off” by her family doctor (e.g., told to stop being so anxious) when she was having chest pain. Such situations made study participants feel insignificant and misunderstood by health care providers. As well, these negative interactions made participants, like FP and BD, question the quality of the health care and information provided by local physicians because “not being listened to makes me not want to go back and to figure things out on my own” (BD, 58 years). BD also shared that fears of ridicule or not being heard actually encouraged her to withdraw from social interactions with health care providers to protect any semblance of her own self-

worth. Instead, BD chose to rely on the “piece meal” information she acquired through experience, family, friends, and the media.

Even educated study participants like SW, a 52-year-old woman with a first-time MI, found that her family physician was not very accessible or informative about healthy lifestyle changes such as physical activity. She said, “by the time I get in to see him [family doctor], I feel like I’m rushed out . . . and I’m like holy God I didn’t get anywhere and still have no answers” (SW, 52 years). For SW, there was also doubt that health care providers such as her family physician had the updated information to provide her the guidance and information she required or engaged in healthy lifestyle practices themselves (e.g., health care providers being overweight).

Most of the study participants had identified that they preferred acquiring simple verbal information or instructions from family members, friends, or health care providers, particularly physicians. However, these women shared that most of the information they did receive, if at all, was in the form of written pamphlets. Very few of the study participants felt they understood their MI event from urban-based written pamphlets because they took too long to read, they were difficult to read, and they caused “too much stress because it was like information overload” (BD, 58 years). PS, a divorced, self-employed woman, commented, “Some of the hospital pamphlets I saw were not helpful for me at all. I mean, they even had pictures of old men on the front . . . how does that apply to me?” (PS, 56 years). Furthermore, NR, a married homemaker who cared for her ill spouse, said that “television shows and videos do talk a lot more about men . . . They do say women have different kinds of heart attacks but not much more and especially not about living where I do [rural]” (NR, 62 years). Such findings indicated that study

participants perceived much of the available information about MIs and physical activity post-MI to be gender biased and contextually irrelevant.

5.1.1.2 Perceptions of physical activity pre and post-MI.

Relatedly, another property of interpreting mixed messages referred to perceptions of physical activity pre- and post-MI. Pre-MI, many participants shared that aerobic activities such as walking were rarely valued, recognized, or prioritized for women within rural settings. For many study participants, women's value in rural contexts was assigned to such activities as caregiving, housework, gardening, and community service (e.g., church activities, quilting, cooking), not walking or sporting activities (e.g., swimming, baseball). As a result, many study participants valued and prioritized physical activities related to housework (e.g., laundry, vacuuming), caregiving (e.g., assisting an ill spouse with care), outside employment (e.g., pushing a food cart), and volunteer work (e.g., quilting and knitting) because they were associated with their identity, self-worth, recognition, affirmation, enjoyment, or traditional gender role expectations (e.g., being a nurturer, homemaker, caregiver).

Thus, many study participants gained self-worth and value by working hard at housework and caregiving activities, as values of self-reliance and perseverance were associated with health in rural settings, findings supported by rural literature (Thurston & Meadows, 2003). Also, many study participants felt that housework, gardening, caregiving, and work-related activities (e.g., moving a food cart, stacking dishes, being on their feet all day) were comparable, if not more strenuous, than walking activities. For MM, a widow who experienced a first-time MI, housework was described as a “feeling of physical effort, busyness, moving and sweat” (MM, 72 years). MA, a married woman with a first-time MI, reported similar perceptions:

I go, go, and go around the home from morning until night . . .doing some cleaning, cooking, laundry and gardening and by the time I am done with all that I'm sweating and my heart is pounding . . . tell me how that is not as good as a walk? (MA, 73 years)

Conversely, there were a few study participants who did include walking as part of their daily routine pre-MI. For some study participants, like CA, a widow with a first-time MI and arthritis, walking served a purpose "to get somewhere . . . to take care of home and work stuff and doing errands . . . never for the hell of it" (CA, 81 years). However, for SW, a married woman with a first-time MI, going for walks meant having a chance "to be nosy, to catch up on the gossip and to check out the neighborhood" (SW, 52 years). BF, a married woman with a first-time MI, acknowledged that she and sometimes her husband engaged in daily walking for exercise, enjoyment, and stress relief. BF elaborated, "I always looked forward to getting my work in the house done in the morning so I could go outside and walk and see people and nature . . . even snow didn't stop me" (BF, 67 years).

Post-MI, most study participants re-evaluated their perceptions of various physical activities. For example, SW learned, through her participation in the cardiac rehabilitation program in the city, to value walking post-MI for "heart health, not just social reasons" (SW, 52 years). Also, MT, a woman who experienced three MIs, learned to value walking for its health benefits as well as its potential to improve her quality of life and survival. MI said: "Because the doctor said I was living on borrowed time and needed to watch things and to keep my blood flowing . . . he told me to just keep walking how I saw fit" (MT, 74 years).

However, most study participants revealed they received little to no information from physicians and other health care providers about what physical activity to do post-MI, as well as how to engage in physical activity post-MI. FP, a professional with a first-time MI, commented

“it was like that information [physical activity] was at the bottom of the heap for them [health care providers] . . . buried under the test results and medications” (FP, 68 years). MC, a socially and geographically isolated woman living with an alcoholic spouse, also said “if they [health care providers] don’t say anything about physical activity and what to do and how . . . why should I be worried about it?” (MC, 59 years). OD, a 48-year-old service worker with two MIs, commented how a health care provider devalued her as well as the importance of physical activity post-MI:

So when I got there she [physiotherapist] said “Hop on the treadmill and just walk for 15 minutes.” And she went back to her office not saying why this was good and how to do it. So I’m walking and walking and looking around, and I’m not feeling good and then I got pissed and got off and left. If she doesn’t care about it, why should I? (OD, 48 years)

A few study participants acknowledged they received some general guidelines from nurses to walk for so many minutes per week, as well as a written list about what activities were harder than others. LC, a professional, felt these written lists “were distorted because laundry was not always heavy to do . . . it could be easy if you have tiny loads and a good dryer” (LC, 54 years). MA, a married woman with a first-time MI, also said health care providers had no regard for the fact she was going home to a rural setting with few physical activity resources. MA commented that she was just yelled at by a nurse “to just go the cardiac rehabilitation classes when I got home as I was wheeled out of the hospital. . . I don’t have them where I live” (MA, 73 years).

Conversely, a few study participants revealed that consistent information as well as positive support and guidance encouraged them to assign value to, as well as want to participate in, physical activity behaviors such as walking post-MI. SW, a married woman who attended

cardiac rehabilitation classes in the city, shared, “When you go to these classes, the importance of physical activity is pounded into your head every week until you realize it is good for your heart muscle and to make a better life. However, they don’t tell you how to go about this in a rural community” (SW, 52 years). Thus, the main issue for many study participants was that urban-based educational pamphlets in hospitals and cardiac rehabilitation programs were contextually irrelevant for many rural women post-MI.

5.1.1.3 Summary.

Interpreting mixed messages, a sub-process of assessing MI damage and physical activity, included the properties of: a) understanding the MI event and b) perceptions of physical activity pre and post-MI. Most study participants based assessments of MI damage and physical activity on messages received from family, friends, and the media. With little to no information or guidance furnished by health care providers about physical activity post-MI, most study participants continued to value and favor engagement in familiar physical activities such as housework and caregiving as a means to regain self-worth post-MI. Such activities are often recognized, valued, and supported within rural contexts (Leipert, Leach, & Thurston, 2012).

When some study participants had opportunities to interact with health care providers, particularly local physicians, they felt unheard and devalued. As a result, such interactions significantly decreased the possibilities of these women engaging in new and unfamiliar physical activity such as daily walking post-MI. Experiences of being devalued and unheard by others in rural settings (e.g., community members, health care providers) were also uncovered in Panazzola and Leipert’s (2013) findings from a secondary analysis of a primary photovoice study that examined the mental health issues of 31 senior rural women residing in southwestern Ontario. Such findings suggest that local family physicians may not be the best option for

information, guidance, and support for study participants as they engage in physical activity behavior post-MI. Health care providers may need more education and understanding about the impact of gender and the rural context on self-worth development, self-worth pursuit, and physical activity behavior engagement in rural women post-MI.

Only a few study participants engaged in walking behaviors pre and post MI. However, engagement in daily walking was provisional. This meant that leisure physical activity only occurred after the completion of housework and caregiving activities and if there was time and support from family members, friends, and community members. These women explained that leisure activities such as walking were carried out for transportation, social connection, and enjoyment purposes rather than for exercise, personal health, or stress reduction. Also, study participants who received urban-based pamphlet guidelines in hospital or who participated in cardiac rehabilitation classes in the city expressed difficulty in relating this information to themselves as rural women living in a rural setting post-MI (e.g., learning to plan walking programs on a treadmill does not prepare them to know how to plan walking routes in the rural environment). What these findings have suggested is that study participants have a desire for contextually relevant information and local physical activity resources and programs that promote enjoyment and social connection. Thus family, friends, and community leaders, often perceived as the ones that encourage or discourage physical activity behavior, may need to have more involvement in the development of local programs, services, and resources to meet the unique needs of study participants post-MI.

5.1.2 Listening to the Body.

Listening to the body, another sub-process of assessing MI damage and physical activity, refers to experiential knowledge arising from bodily awareness, physiological symptoms (e.g.,

chest pain, shortness of breath), and psychological responses (e.g., anxiety, uncertainty). With a lack of access to health care services and health care providers, FP, a professional, expressed that she was “left to just go with how the body feels to make sense of what is happening and what to do” (FP, 68 years). SG, a married woman who cared for her chronically ill husband, confirmed that health care providers reinforced her reliance on experiential knowledge (e.g., body cues) by telling her to “go with how I feel to know what to do” (SG, 57 years). A property of listening to the body included recognizing and interpreting bodily symptoms and functional performance.

5.1.2.1 Recognizing and interpreting bodily symptoms & functional performance.

This property of recognizing and interpreting bodily symptoms and functional performance refers to abilities to understand and differentiate physical and psychological symptoms related to CHD or a recurring MI (e.g., sweating, chest pains, jaw pain, indigestion) from other chronic illness conditions (e.g., arthritis, chest wall pain, fibromyalgia) as well as the capacity to carry out activities of daily living. This ability has been found in the literature to be common in many individuals with chronic illness (Schulman et al., 2012) regardless of the context where they live. However, study participants felt they needed to become more proficient at interpreting bodily cues and symptoms as well as functional performance than their urban counterparts because they had limited local access to and quality options for health care providers and services to assist them with such assessments or a recurrent MI event.

The ability to recognize and interpret bodily symptoms and functional performance proved to be more difficult for study participants who had never had a previous MI and who had received little to no information about their MI. Many study participants were left on their own to figure out body signals, associating “unfamiliar pains with the new heart condition and the old ones with arthritis pain I have had for years” (CA, 81 years). For BD, a married woman with a

first-time MI, “There is no one to really ask . . . so I have to go with what my body is telling me and figure things out” (BD, 58 years). What apparently makes it difficult for study participants with a first-time MI to recognize and interpret bodily symptoms related to MI and CHD as well as functional performance was a lack of experience and little guidance and information from local and respected health care providers, particularly family physicians.

Conversely, study participants with multiple MI experiences had more experiential knowledge and familiarity with bodily signs and symptoms of MI and CHD, making it somewhat easier to distinguish these bodily cues and signals from those of other chronic illnesses. For example, JS, a housewife who had two MIs, explained how she distinguished heart-related symptoms from her chronic chest wall pain:

I have had chronic chest wall pain and have for years and not sure why . . . Anyway I am able to tell the difference between this and a heart attack . . .the chest wall pain is soreness and the MI is pressure and jaw pain. Being able to do this is a great relief . . . I know when I need help and when I don't. (JS, 71 years)

Yet even with experiential knowledge, MT, a woman with three MIs over the past 10 years, acknowledged “every one of my heart attacks did not show up the same way which still makes it difficult sometimes” (MT, 74 years). SG, a woman who experienced two MIs, also concurred that it was “still tricky to sort out all the things going on in your body because all my heart attacks were different every time and I still miss things” (SG, 57 years). Despite these problems, there was a general consensus that having more MIs and more frequent and intense symptoms equalled more MI damage and more risks for injury and death.

For MT, having so many MIs made her feel like “damaged goods because you realize you can never be the same and can't do things as good as before so you let go and do walking or

whatever they say for the heart . . . you are lost” (MT, 74 years). For MT, her sense of innate worth was lost and replaced by concern for her heart and her survival. For JS, a married woman living in a remote rural setting in the mountains with her husband, frequent heart-related bodily symptoms (e.g., shortness of breath, chest pain) triggered feelings of fear, anxiety, and uncertainty because “you are far away from help . . . you wonder if the ambulance will come and find you . . . making you re-think where you live and having to move closer to town . . . something very hard to do” (JS, 71 years).

Recognizing bodily symptoms and interpreting functional performance referred to self-evaluations of abilities (i.e., physical and mental) post-MI, including engagement in physical activity. In rural settings, rituals and cultural beliefs passed down through the generations had taught many study participants to measure their health status by their physical strength and abilities to carry out expected work (e.g., housework, caregiving) and experts’ instructions (e.g., what was told to them by family physicians). Below, SG, a married woman with two MIs and an ill spouse, made a link between health and functional ability:

For me, being healthy is when you are able to do the stuff you have always done. If I am healthy and strong, it means I can do a lot of things like walking . . . plus keeping the home together, household things. (SG, 57 years)

For many study participants, self-worth pre-MI stemmed from the ability to carry out expected gender role activities and expectations that were prevalent within their rural settings. Post-MI, these women relied on rural cultural measures of strength (e.g., lifting bins of potatoes, caring for horses, and completing work-related tasks) and ability to understand bodily cues as evidence of minimal MI damage. For BF, a married woman with a first-time MI, damage was assessed as minimal when “I’m feeling good and I am looking just like myself” (BF, 67 years).

Also, for CA, a widow and homemaker, the desire to be recognized for her cooking outweighed the experience of bodily symptoms (e.g., fatigue, chest pain) and personal risk. CA explained:

I don't care if I am having a bit of tiredness or some chest pains . . . I am not going to lay around and not do what has to be done. If another heart attack happens, it happens, and I don't care. That is my attitude . . . I will work out what I am feeling by working. (CA, 81 years)

However, the presence of intense and frequent symptoms (e.g., fatigue, chest pain, shortness of breath) did force some study participants to acknowledge that more MI damage had occurred than originally anticipated and that lifestyle modifications such as walking were necessary. JS, a previously active woman living by a lake with her husband, shared how physical symptoms acted as barometers to gauge her functional ability and degree of MI damage:

Sometimes I am a bit tired but not so much so that it bothers me to finish my walk . . . so then I think things are not too bad . . . but, let's say, if I had a lot of pain and could not breathe when I did something then my heart took a beating and I'd have to give up doing things. (JS, 71 years)

5.1.2.2 Summary.

Listening to the body, a sub-process of assessing the damage and physical activity includes the property of recognizing and interpreting bodily symptoms and functional performance. Overall, study participants who had experienced a first-time MI had more difficulty interpreting bodily symptoms (e.g., fatigue, shortness of breath) related to CHD than those who had experienced multiple cardiac events. There was a reported lack of information and guidance from health care providers, particularly family physicians, regarding symptom recognition and interpretation. Thus most study participants relied on previous experiences with

chronic illness management in an attempt to interpret bodily symptoms and functional performance during various activities. Study participants who had experienced multiple MIs acknowledged, however, that symptom recognition and interpretation was difficult at times. These study participants reported experiencing different symptoms with each MI event which also has implications for how well study participants were able to monitor physical activity intensity in the post-MI period.

With a lack of information and guidance from health care providers and limited access to health care services and resources, most study participants relied on gender and rural cultural values and beliefs about health. These values and beliefs were often supportive of their abilities to carry out household, caregiving, and work-related tasks. If study participants experienced no or few bodily symptoms while engaging in activities post-MI, they perceived that this meant that they had minimal MI damage, which may not be the case medically (Heart and Stroke Foundation, 2010). Thus, minimal damage was interpreted as an indication that they could quickly assume more household, caregiving, and yard work activities as well as work-related responsibilities. However, in the literature, researchers have indicated that such activities may or may not exceed evidence-based physical activity and exercise recommendations for heart health post-MI (CACR, 2009; Heart and Stroke Foundation, 2010a).

If study participants experienced more frequent and intense bodily symptoms, they perceived that this meant they had more MI damage and were at risk for future events and death, which is problematic in socially and geographically isolated rural settings with limited access to health care providers and services. Thus, in these cases, study participants would engage in activities more slowly and cautiously post-MI. In some cases, perceived severity, intensity, and frequency of heart-related symptoms caused study participants to forego previously held gender

and rural cultural measures of health, move closer to community hospitals, and accept that more significant MI damage occurred.

5.1.3 Determining MI Impact.

The third sub-process of assessing MI damage and physical activity was determining MI impact. Determining MI impact was influenced by the way that mixed messages and bodily signals were perceived and interpreted by study participants; the presence, nature, and usefulness of the path they had chosen for seeking self-worth; conditions within the rural context (e.g., health care providers and local services, geographic isolation, and the presence or absence of supportive relationships and connections); and their own personal experiences with CHD and MIs. The properties of determining MI impact included: temporary setback, interference, and permanent change.

5.1.3.1 Temporary setback.

For some study participants, a temporary setback meant the MI was a treatable, relatively non-acute event. Thus, these women initially dissociated themselves from the illness (e.g., did not identify themselves as an MI patient), denied feeling any different, and described the MI impact as minor. JS, a married woman active in her church, explained why she put the MI to the back of her mind, “I didn’t have time for a stupid heart attack . . . I didn’t really feel too differently after the stent . . . and I had to get back to what I was doing . . . because I was too depended on by everyone else” (JS, 71 years). For JS, her gendered role responsibilities within the church, community, and family did not allow time for the pursuit of leisure activities and personal health care needs.

LC, a professional, perceived that daily walking was a temporary means to re-gain strength so she could go back to work. LC said, “My heart attack doesn’t even feel like it

happened now . . . I am just putting in my time to recover and I will be back to normal, knock on wood . . . I will walk each day if it helps me get back to work faster” (LC, 54 years). WB, a woman with an alcoholic husband, also commented, “I am going to keep on going and doing things because hard work is good for the heart I think and I have to get back to work in the woods. It’s my life” (WB, 50 years). Therefore, for study participants like LC and WB, it was helpful to perceive the MI event as a relatively non-acute event and daily walking behaviors a temporary fix because they needed to get back to work to financially provide for their families, a perception which may or may not place them at increased risk for adverse health care outcomes (e.g., a recurrent MI) (Heart and Stroke Foundation, 2010). Consequently, the long term adoption and maintenance of daily walking in LC and WB’s lives also remained questionable once they returned to work, particularly with the lack of accessible, supportive, and quality options for health care services and physical activity resources in their rural settings.

Study participants’ perceptions of their MI as a temporary setback were also often reinforced by the positive response of health care providers (e.g., “they [health care providers] said you’ll be back to normal in no time” MM, 72 years), a perceived lack of physical and mental symptoms (e.g., fatigue, chest pain), and the lack of follow up or information given by health care providers (e.g., no teaching about physical activity, no cardiologist or cardiac rehabilitation referral). NR, a married woman caring for her husband with diabetes, explained, “If none of the health care people were concerned and I was feeling good . . . well then I think I beat this heart attack thing and will be back to normal soon to care for my husband” (NR, 62 years).

Conversely, other study participants, such as SW, who had post high school education and supportive networks, experienced an “awakening” with a first-time MI event by recognizing her innate self-worth. SW perceived the MI event as a warning sign that she had to learn to put

her needs first instead of last. Accordingly, SW was then motivated to attend cardiac rehabilitation classes, to re-negotiate previous gendered roles and responsibilities with supportive family members and friends, to carve out personal self-time, and to value and engage in new physical activity behaviors such as walking and swimming, to enhance her personal health and well-being. She said, “I have been given a second chance and even though I don’t have pain right now . . . well I am going to do things right like they [health care providers] say because I don’t want to screw this up” (SW, 52 years).

5.1.3.2 Interference.

This property of interference refers to being inconvenienced by physical symptoms and functional limitations (e.g., being unable to drive, being unable to lift arms above the head, being unable to do heavy lifting) post MI. Even though most study participants initially dissociated themselves from the MI event, the experience of physical and psychological symptoms (e.g., fatigue, chest pain, anxiety, depression) and functional limitations (e.g., being unable to lift arms above the head, being unable to walk uphill without shortness of breath) forced some of them to acknowledge the presence of the MI. The ongoing experience of the physical and mental symptoms and ongoing functional limitations caused some study participants to experience feelings of uncertainty as well as to re-evaluate MI impact on their lives. FP, a married supply teacher, commented, “I feel so tired and I have to take it slow . . . but where this stupid heart attack has hurt most is me not being able to do my job [supply teaching] and how long can I go without money?” (FP, 68 years).

For FP, the inconvenience of symptoms and functional decline (e.g., inability to walk up and down hills without shortness of breath) coerced her to give up her work in a nearby town, a move which caused financial hardship, social isolation from coworkers, and a re-evaluation of

her self-worth (e.g., being useless and dependent or re-focusing on her innate self-worth). Also, living in a rural context created even further self-care challenges for FP such as fewer alternative employment opportunities, a lack of accessible health care providers and resources, and increased social and geographical isolation. Some other study participants, like BD, experienced similar isolation and disconnection post-MI. BD found herself withdrawing from friends and music groups she once enjoyed. She explained, “I don’t want people looking at me differently and talking about me I don’t want to take a spell and ruin their day” (BD, 58 years).

However, for OD, a married service worker, the need to work, despite experiencing symptoms (e.g., chest pain, shortness of breath), was so vital for the financial security of her family that she risked her personal health to “plough through” work responsibilities. She explained, “Workers will whisper behind your back, ‘If you can’t do the work, get out and retire’ . . . Well I can’t afford to do that so I carry on no matter what” (OD, 48 years). What OD’s words suggested was that the rural context did not provide employment options that offered sick time or benefits to care for oneself following an MI. The necessity of earning a living to support the family without financial assistance or time provision in the workplace forces rural women, such as OD, to take chances that expose them to the risks of recurrent MIs, increased functional limitations, and a poorer quality of life. Thus, there may be a future need for health care providers, community leaders, and rural women to lobby policymakers and government for financial resources and job security support in the post-MI period.

5.1.3.3 Permanent change.

This property of permanent change refers to an acknowledgement that the MI event created significant change in one’s body and life. CHD progression was expected and the experience of physical and mental symptoms, functional difficulties (i.e., lifting and shortness of

breath), and perhaps long term health complications and death were more predictable. For example, MT, a woman who had multiple, serious MIs, said, “With every heart attack, I just get weakened more and more . . . my life is now about keeping the heart well. . . Nothing else is important” (MT, 74 years). For MT, the CHD became integrated into her sense of self which meant she had to pursue efforts and physical activities (e.g., medical procedures, walking, rest periods) centered around the heart, not household and caregiving activities. For MT, the fear of having another MI and potential death also meant approaching physical activities (e.g., household activities, walking) cautiously, being watchful of bodily symptoms (e.g., chest pain), and following and interpreting limited instructions from health care providers such as “not walking outside in bad weather and not lifting anything heavier than 5 pounds” (MT, 74 years). MT acknowledged she was more apt to “watch how my body feels because sometimes my doctor’s instructions are broad . . . I have to fill in the blanks and it is up to me” (74 years).

SG, another woman who had multiple MIs, also realized, “My heart disease is here to stay . . . I know because this zapping device [implanted defibrillator] marks me . . . there is no getting around it . . . I keep going like my mother and grandmother did . . . just ploughing through to care for my husband and my house” (SG, 57 years). SG revealed she was more aware of the permanent change her MIs had made in her life because “I have this thing inside me [internal defibrillator] now . . . it watches over my heart” (SG, 57 years).

5.1.3.4 Summary.

Determining MI impact, a sub-process of assessing the damage and physical activity includes the properties of: a) temporary setback, b) interference, and c) permanent change. Study participants’ determination of MI impact was related to seeking self-worth (e.g., protecting self-worth, recovering self-worth or enhancing personal self-worth) and the valuing of physical

activities post-MI. Most study participants initially perceived the MI impact to be a minimal or a temporary setback (e.g., a treatable, relatively non-acute event with the predictable outcome of resuming normalcy) if they experienced no physical symptoms, if they did not look different, if they felt they had no time to be ill (e.g., family, home and work responsibilities), if they perceived a lack of concern from health care providers, or if health care providers provided reassurance of their recovery.

Depending on the strategies study participants chose to seek self-worth as a rural woman post-MI, perceiving the MI as a temporary setback meant resuming sedentary activities (e.g., reading, knitting, crafts) or household, caregiving, and workplace responsibilities. It also meant temporarily engaging in walking to gain strength or to resume household, caregiving, and workplace activities (e.g., housework, lifting, doing laundry), or learning to incorporate new lifestyle activities such as walking and swimming to make a better life after being “given a second chance” (SW, 52 years).

For some study participants, increasing physical symptoms and declines in functional capacity signified that the MI event had more permanently interfered in their lives. A few study participants perceived the MI damage to be more extensive and they responded by reducing or giving up previous household (e.g., laundry), caregiving (e.g., caring for grandchildren), or work activities (e.g., going back to school supply teaching). This was a time for some to deal with new financial instability and social isolation and to re-evaluate self-worth as a rural woman post-MI and the value of physical activities. For some study participants this meant walking to gain strength and for others it meant withdrawing from activity or pushing through activities such as household and work responsibilities.

For study participants who had a significant MI or multiple MI events, there were increasing physical symptoms and further declines in functional abilities. As a result, there was recognition that CHD was a long-term and serious part of their being and life, requiring a re-evaluation of self-worth as a rural woman and physical activity priorities for the future. This recognition was reinforced by physicians who said they “were living on borrowed time” (MT, 74 years). These study participants determined that the MI event created severe damage and that engagement in physical activities such as walking was a necessity to prevent another MI or death. Therefore, these participants chose to engage in daily walking, to withdraw from social groups and situations, or to move closer to community hospitals.

5.2 TESTING PHYSICAL ACTIVITY LIMITS

PS, a divorced self-employed woman, described her first MI experience as “a wakeup call” (PS, 56 years). She believed that the MI event was the result of all her years of smoking, inactivity, poor food choices, and stress from running her self-employed business. She said, “I had just let myself go . . . my daughters have moved on and I had no one . . . I had figured what is the point of working on myself . . . now I realize I have to be well for me and for my daughters and to make a better life” (PS, 56 years). PS now recognized her innate self-worth and desire to invest in physical activities such as daily walking to improve the quality of her life.

However PS, like other study participants, had acknowledged the lack of verbal instruction about physical activity from health care providers as well as the unavailability of appropriate and contextually relevant written information and social support from other rural women post-MI in her home setting. PS perceived that health care providers did not prioritize physical activity post-MI. Also, the only heart health information sessions in her community were targeted towards the needs of older men post-MI, not divorced, middle-aged women as

evidenced by the pictures of old men on the heart attack information pamphlets in the local doctors' offices.

In Photograph 7 titled “Sticking My Toe In,” PS captured a visual image of her foot taking a step forward on an uneven road full of cracks and without a specific destination. PS shared that she wanted to provide a symbol that represented the initial and tentative process of taking the first steps towards a healthier lifestyle. As a rural woman, she felt she was embarking on an unknown journey, with few physical activity resources (“little information or guidelines from health care providers” ([PS, 56 years]) and with the “absence of a special person or soul mate in my life to take this journey” (PS, 56 years). She said she was on her own to make the choices and to determine the path along the “broken road where I put my foot” (PS, 56 years). She explained it was a time to experiment, to hope for the best, and to test things out, “like a trial run before you find the solid ground” (PS, 56 years).



Photograph 7: Sticking my toe in.

I find myself thinking about walking and the idea of it excites and terrifies me. I feel like I am starting off on an unknown and I feel on my own . . . praying for the best. I have a new life . . . I hope to make the right choices . . . This is a picture of my foot . . . Guess why? I am taking some first steps. (PS, 56 years)

Study participants, like PS, initially engaged in physical activity behaviors by tentatively taking some first steps (e.g., light housework like doing dishes, caregiving, gardening, or walking) as a way to experiment and test their physical activity limits. Some study participants described this process as “testing out the waters” (LC, 54 years), “making it up as I go” (FP, 68 years), and “flying by the seat of my pants” (SG, 57 years). Like PS, many study participants felt unsupported as there was a perceived “lack of any programs or services to help” (SG, 57 years), “a lack of any useful information about what to do” (MC, 59 years), and “no contact with other women who were in the same boat” (MC, 59 years). The sub-processes of testing physical activity limits include: a) looking for directions, b) establishing boundaries, and c) having to improvise.

5.2.1 Looking for Directions.

Looking for directions refers to searching for guidance, information, and support from others (e.g., from expert health care providers, supportive and relevant programs, community members) about when, where, why, and how to engage in valued physical activity behaviors post-MI in a rural setting. Study participants’ attempts to assess MI damage and physical activity were somewhat impeded by nonexistent, confusing, or contextually irrelevant educational materials and programs. Therefore, looking for directions to test physical activity limits was like “heading off in the woods without a compass” (FP, 68 years). The properties of looking for directions include: a) making inquiries and seeking group activities and b) listening to stories.

5.2.1.1 Making inquiries and seeking group activities.

This property of making inquiries and seeking group activities refers to asking questions of and seeking answers from others (e.g., health care providers, friends, and family) or group

information sessions in local communities or the city. Most study participants said they wanted verbal, individualized, and contextual information relevant to their rural way of life. For example, they were looking for information about the best walking routes in their community, what physical activity and transportation resources were locally available, how they could contact other rural women post-MI in their community, and how they would go about engaging in household, caregiving, yardwork, and gardening activities during the initial weeks of recovery. They also wanted ongoing guidance, tips, and emotional support from rural women in their community as well as a walking buddy, coach, or group of rural women to encourage and help them engage in physical activity behaviors (e.g., walking, housework, caregiving).

Family physicians were perceived by many study participants to be experts on heart attacks and physical activity information. SG, a married woman with limited education, said that she had always been told that the family doctor was the most knowledgeable professional in the areas of health and health advice and that she was to “respect the word of the doctor as the truth” (SG, 57 years). This finding may not be surprising as literature findings on rural Canadian women have found that many social structures in rural communities, including health care, are organized around patriarchal ideals and cultural beliefs that place men in positions of authority over women (Leipert, Leach, & Thurston, 2012).

Thus many of these women commented that they wanted local community health information question and answer sessions with family doctors or other health care providers that encouraged dialogue as opposed to reading or sorting through pamphlet information.

However, some of the study participants claimed they could not access their family doctors or other health care providers, waiting “3 days for a physiotherapist to get back to me to say she did not know” (FP, 68 years), “arriving at the appointment to be told the doctor was off

sick and I would have to wait” (PS, 56 years), and “being given no follow-up appointments to see a specialist being a month home from hospital” (MC, 59 years). However others, like WB, a woman with a grade school education, preferred not to see local health care providers because “I don’t want people talking about me and knowing my business and what if my boss saw me there . . . well, he’d think I wouldn’t be able to work in the woods again” (WB, 50 years). For these study participants barriers to receiving information from and having dialogue with health care providers were a lack of access to local health care services and resources, geographical isolation from tertiary health care services (e.g., specialists), a lack of anonymity, and the risk of losing employment.

In addition, most study participants described feeling rushed, particularly when they were struggling to find the words to ask questions about things they did not understand (e.g., what happened to their heart). JS, also a married woman with limited education, explained, “Sometimes it is just too much stress to try and ask questions or write them down . . . What do I write? I feel so stupid . . . so I just nod my head and say nothing” (JS, 71 years). Such data may reflect literature findings that estimate that approximately 10% of physicians serve Canadian rural populations which comprise 20% of the total population (Kirby & LeBreton, 2002; Leipert et al., 2008), as compared to 90% of physicians who serve Canadian urban populations. Such evidence has indicated that family physicians may have little time to attend to the questions and needs of study participants and that other health care providers, such as rural nurse practitioners and primary health care nurses, and community leaders may have to play a greater role in this area. Also, these trends are particularly concerning as there are many rural Canadian women like JS who have received fewer secondary educational opportunities and have low literacy levels (Statistics Canada, 2006), making it hard for them to articulate health-related questions and to

understand answers by family physicians under the stress of time constraints (Gerrard & Woodland, 2012).

What was particularly concerning to some study participants such as SG and BD was that their family physicians disrespected them during office visits by “calling me female, 40, and fat after my heart attack” (SG, 57 years) or “brushing me off and saying I was just having anxiety and not chest pain” (BD, 58 years). This made SG and BD feel devalued and worthless and more hesitant and unsure about how to engage in housework or walking activities as well as accessing appropriate and relevant physical activity resources. In addition, PS, a self-employed woman with some college courses, described hospital pamphlet information received from the tertiary care hospital in the city and from a local heart attack survivor group as devaluing and irrelevant (e.g., no mention of gardening, pictures of men on the front) to rural women post-MI. PS commented that health care providers “did not respect, think about, or fit information with my rural ways [being a woman in a rural community]” (PS, 56 years).

On the other hand, MM, a widow with some college courses, was not intimidated to ask her doctor questions because “doctors have always been the experts and it is their job to give answers” (MM, 72 years). However, MM was disappointed to find out that her doctor did not know about her heart attack or how to offer clear advice about physical activity post-MI. MM commented, “He just smiled at me and said he has known me for years and that whatever I wanted to do was fine” (MM, 72 years). Also, SW, a married woman with a high school diploma, noted that some doctors were not models of healthy lifestyle behaviors themselves (e.g., being overweight, unkempt appearance), making her question whether “family doctors even care about physical activity at all” (SW, 52 years). Clearly more education and experience increased some participants’ confidence in approaching health care providers. However, there

was expressed disappointment in the lack of mentorship and knowledge local health care providers provided related to the adoption and maintenance of healthy lifestyle behaviors such as physical activity.

Through word of mouth, newsletters and flyers study participants were also able to search for and make decisions about whether they would attend or not attend group information sessions or programs locally or in the city post-MI. However, many study participants shared that there were few local and relevant physical activity resources, information sessions, or programs. FP, an educated, married professional, commented, “I search my local papers for something that says groups for heart attack survivors that I could try, that would fit my schedule and that would not be a bunch of old men” (FP, 68 years). SW agreed, saying, “There were few walking groups or heart related information sessions offered in rural communities, particularly for women with heart attacks” (SW, 52 years).

SW found that there were a few local physical activity resources in her area, such as a nearby community swimming pool, a walking dome (e.g., built indoor walking track), a couple of gym facilities, and some local intermittent women’s walking groups that were run by individuals with varying qualifications and training within local community halls or church gymnasiums. While these facilities did have times open for the public, they “were not offered at the most convenient times like the middle of the day and at dinner time . . . I mean I have to work afternoons and many women are busy with dinner at the supper hour” (SW, 52 years). Also, FP, a married professional, revealed that at certain times of the year sports facilities with walking domes would “take away time for the public to use the facilities because of youth hockey or soccer sporting events” (FP, 68 years). In addition, FM, a married retired service worker, said that “most programs like Aquafit and such cost money . . . something a lot of rural

women do not have much of” (FM, 67 years). Collectively, these study participants identified that access to local physical activity resources was compromised by inflexible hours, seasonal activities and events, and cost.

Also, many of the study participants noted that they had family and employment commitments that did not allow them the time or justify the costs of missed salary, gas, and babysitting to participate in group information activities or cardiac rehabilitation programs in the city, which was on average a 40-minute to 2-hour drive one way in good weather. LC, a professional who travelled for work outside her rural community, concurred that she did not have the time to attend programs or facilities in her local areas or urban areas because “they [programs] did not fit around everything else I need to do at home and for work” (LC, 54 years). MM, a widow with a first time MI, also commented that it did not make sense “to fork out some money and to take time away from family and jobs . . . all to get information that does not talk about this kind of life [rural]”(MM, 72 years).

Other study participants who had no experience attending women’s groups or utilizing facilities like walking domes expressed fears about being ridiculed or being unable to keep up with other group members. BD explained, “I think they [walking groups and facilities] are a great idea but I don’t think I am ready for all that effort yet . . . I don’t think I could keep up and would hold everyone back . . . I would rather go my own pace at home by myself” (BD, 58 years). Again, a lack of anonymity and the perception of ridicule if they could not keep up with others were also barriers for some study participants attending local physical activity resources, programs, and facilities.

Conversely, a few study participants were fortunate to have local community programs they enjoyed attending and that fit into their everyday lives. These programs were of low cost,

promoted social interaction, and were run by qualified individuals who understood MIs and how to coach and support rural women to engage in physical activity such as walking and swimming in the post-MI period. FM, a married woman with arthritis who experienced a first time MI, attended an Aquafit class in her local community and commented she enjoyed this program because “the instructor understands about heart attacks and the physical activities I need to do. She guides me and is a great coach that keeps me on track and that is what I want and keeps me coming back” (FM, 67 years). Thus factors that facilitated attendance at local physical activity facilities and programs were the presence of qualified and supportive coaches and leaders who would meet study participants’ physical activity behavior needs and interests, social interaction amongst rural women, and limited cost.

Also, there were a few study participants who were fortunate to have time, support, and money to attend a 12-week cardiac rehabilitation program in the city following their MI. FM, a married and retired health services worker, commented, “This program gave me more support and information about my heart attack and physical activity than all the doctors and nurses in the hospital” (FM, 67 years). SW revealed, “Cardiac rehabilitation made me understand why walking is so important for my heart muscle and gave me the confidence to know what to do” (SW, 52 years). However, for SW, the urban-based information obtained in the cardiac rehabilitation class proved to be “difficult to adapt to my home [rural] environment where there are more limited facilities, qualified instructors, gyms with state of the art equipment . . . there was no information on how to deal with weather changes, traffic, or wild animals to start” (SW, 52 years). In other words, these participants felt that urban-based cardiac rehabilitation programs did not consider the impact of the rural context on their engagement in physical activity behavior.

5.2.1.2 Listening to stories.

This property of listening to stories refers to gathering contextually relevant information and building supportive connections through listening to others' accounts of their MI experiences and recovery. Most study participants shared that being connected with others and passing on knowledge through conversation and storytelling was part of rural life as supported in the literature (Leipert, Leach, & Thurston, 2012). Sharing stories allowed many study participants to acquire directions and advice about dealing with the challenges of the physical environment (e.g., weather changes, hills, and hunting season when planning walking), to build social networks and connections (e.g., joining church and local community groups), and to learn about new creative ways to use local resources (e.g., nearby community indoor walking tracks), to carry out household chores (e.g., doing laundry in smaller loads), to plan walking routes (e.g., ways to avoid hills), and to teach and mentor others (e.g., calling and networking).

Obtaining relevant, contextually-based knowledge facilitated study participants' abilities to problem solve, thrive, and cope with the challenges inherent within rural settings (e.g., limited quality of and access to health care providers and services, geographic isolation). Most importantly, many study participants shared that interacting with others with similar experiences or having that opportunity would make them feel more understood, supported, and valued. SW said "I stopped and talked with another woman who had a heart attack in Sobeys for over 2 hours . . . I think I helped her learn some things and not feel alone" (SW, 52 years). MM, a widow with a first-time MI, explained that her social group, who met weekly at Tim Horton's [coffee shop] to talk and share stories, helped "take my mind off the heart attack and to learn how to get on with getting back to life" (MM, 72 years).

However, a few study participants said they “did not know anyone like that [rural women post-MI] and never did anything like walking in a group” (WB, 50 years). WB, a woman who grew up with alcoholic parents and lived with an alcoholic spouse, isolated herself from making connections with other women in her community, fearing she would be judged and ridiculed. BD, a woman who used to be involved in community music groups, also chose to avoid social interaction with others post-MI because she said she “did not want to be looked at and talked about and seen as weak” (BD, 58 years).

The fear of being judged and not living up to perceived rural cultural values such as being strong, capable, and independent made these study participants isolate themselves from social interaction and connections with others. This social isolation left them with fewer tools (e.g., resources, knowledge, support) to cope and thrive in a rural setting, characterized by limited access to health care services and quality health care providers and geographic isolation. MC, a woman isolated from others in her community and living with an alcoholic husband, confirmed she did “not even know how to start to connect with other women around here [her rural environment]” (MC, 59 years). Such findings suggest there may be a need for rural public health nurses and nurse practitioners to work with recreational community leaders, policymakers, and rural women to find ways to facilitate the building of social networks and connections with those who do not have the knowledge, confidence, or opportunities to form such networks themselves.

5.2.1.3 Summary.

Looking for directions, a sub-process of testing physical activity limits included the properties of: a) making inquiries and seeking group activities, and b) listening to stories. Overall, most study participants preferred to make inquiries about their heart attack and physical activity to family physicians who were viewed as “experts” on such matters in rural settings.

However, most study participants voiced that they had a difficult time accessing family physicians and health care providers.

When study participants did finally meet with family physicians in their office, some shared they were devalued by being rushed, intimidated, and disrespected. Feelings of being devalued, disrespected, or unsupported made study participants feel like they were more on their own to figure out what to do. Such findings suggest that rural women need more one-on-one time with qualified, informed, and respectful health care providers, lay community leaders and rural women post-MI, and rural women support groups dedicated to enhancing their self-worth and guiding and supporting their engagement in physical activity behavior post-MI in rural settings.

Study participants also shared that a valued way that they received contextually relevant information, creative solutions, and support was through listening to stories of others (family, friends, rural women) who have had MIs and who are in the stages of recovery themselves. The presence of quality social relationships and the formation of positive social connections served to reinforce or enhance study participants' feelings of self-worth, their capabilities to cope and thrive with the challenges inherent within rural settings (e.g., economic decline, poverty, limited access to and quality of health care providers and services), as well as their abilities to problem solve and develop new creative strategies for engaging in physical activities in the post-MI period. For study participants without the knowledge, experience, or opportunities to form social connections with other rural women post-MI there may be a need for rural public health nurses and nurse practitioners to find ways to facilitate this process in partnership with recreational community women, other rural women post-MI, and policymakers.

5.2.2 Establishing Boundaries.

The second sub-process of testing physical activity limits is establishing boundaries which refers to study participants' determination of safety levels for valued physical activities based on their personal appraisals of strength, functional performance, and symptom control. Since most study participants indicated they had not been given clear and relevant boundaries (e.g., a list of activities by intensity, guidelines about how many minutes to walk each day) to guide their engagement in valued physical activity behaviors in rural settings, they established their own measures (e.g., the ability to walk up and down the stairs). These measures helped them to ascertain their progress, as well as to develop and modify approaches to physical activity engagement. The properties of establishing boundaries include: a) figuring out the rules for physical activity and b) setting the pace.

5.2.2.1 Figuring out the rules for physical activity.

This property of figuring out the rules for physical activity refers to how study participants compiled, interpreted, and evaluated all physical activity information and guidelines from multiple sources (e.g., family members, health care providers, personal experiences and the media) and established rules for engaging in physical activities post-MI. In some situations, figuring out the rules for physical activity behavior post-MI was influenced by study participants' pursuit of self-worth and chosen strategies (e.g., protecting self-worth, recovering self-worth and enhancing personal self-worth). For example, MC, a married woman in an abusive relationship with her spouse, learned to do as she was told to avoid conflict as well as potential physical and mental harm. MC said, "I knew how much I could do around the house because he told me what I should do . . . I do as I am told to keep him calm" (MC, 59 years). For women like MC, figuring out the rules for physical activity post-MI had more to do with self-

preservation (e.g., keeping peace in the home) and personal safety than establishing a walking routine.

For study participants, figuring out the rules for physical activity was influenced by assessments of MI damage, the presence or absence of frequent and debilitating physical (e.g., chest pain) and mental symptoms (e.g., anxiety), the presence or absence of declines in functional capacity, and the perceived risk of death. For women like MT with multiple MIs, debilitating physical symptoms, feelings of fear and uncertainty, and significant declines in functional capacity, there was the establishment of very strict and cautious rules such as “walking with my spouse, never leaving home without nitroglycerin spray, and never trying to lift much at all” (MT, 74 years).

For other study participants who experienced few physical and mental symptoms or declines in functional capacity post-MI, figuring out rules for physical activity was accomplished using contextually relevant and personal measures of time (e.g., walking for a number of minutes on the clock), distance (e.g., walking past a number of telephone poles or houses, number of stairs to go up and down), bodily symptoms (e.g., the presence or absence of bodily symptoms like fatigue or chest pain), and weight (e.g., not lifting anything heavier than a sack of potatoes or a box of kitty litter). For all study participants, figuring out and setting rules to live by was often done with the goals of getting strong enough to “be able to get back to doing what I’ve always done and work faster” (LC, 54 years) or “making the heart and body stronger to avoid any problems in the future” (PS, 56 years).

In some situations, figuring out the rules for physical activity was influenced more by the perceived need to maintain household and work place activities, particularly if the study participant had to care for an ill spouse or was the main breadwinner in the family. The need to

financially provide for the family or to re-establish purpose and value by resuming housework, caregiving, and work-related responsibilities meant establishing less rigid rules about physical activity engagement post-MI, which often pushed the boundaries of personal safety and increased study participants' risks of health complications (e.g., shortness of breath, chest pain) and recurrent MIs.

In Photograph 8 titled “Pushing the Beast” OD, a service worker and the breadwinner in her family, shared a visual representation of the 1,700 pound meal cart that she pushed in her workplace to deliver meals to others.. She perceived and believed, based on coworkers' comments, that she had to push the heavy cart and fulfill her job obligations or risk losing her employment and financial security, which was not a feasible option for her as there were few other employment options in her community and she had less than a high school education. Thus, OD figured out that the rules for physical activity were based on the needs of the workplace and coworkers instead of her own personal health, placing her at risk for a recurrent MI.



Photograph 8: Pushing the Beast.

This is my work, pushing a 1,700 pound cart all day to deliver meals to patients in the hospital. Sometimes I get a racing heart, shortness of breath, and I do worry it will give

me another heart attack . . . but I have to pull my load to keep my job and pay the bills.
(OD, 48 years)

WB, a married women living with an alcoholic spouse, also described the financial pressures she faced if she did not go back to work cutting trees, as there were few other employment options in her rural community. Thus, she also figured out and set rules for physical activity engagement that focused on her need to pass the stress test “at all costs” (WB, 50 years) to get back to work rather than for her personal heart health and welfare. WB explained, “I want to prove to others, especially at work, that I am fit to go back to work . . . I will work my ass off on my father’s treadmill and do housework and whatever I can do so I can pass the stress test . . . then I get the green light and go back to work” (WB, 50 years).

For other study participants who defined their purpose and value through their roles as homemakers and caregivers, figuring out rules for physical activity was more influenced by their desire to prove their housework, cooking, caregiving skills, and other capabilities to their spouses, family members, and others, rather than by their own concern for their heart health and well-being. To do this, study participants like FP, a married professional, described making herself walk uphill outside with shortness of breath, walk in cold or rainy weather, and faster and farther than others at the walking dome, to “prove I could keep up with the others and just get the walking done . . . even to the point of exhausting myself” (FP, 69 years). SG, a 57-year-old married woman caring for an ill husband, also acknowledged that she lifted heavy loads of laundry, carried boxes of cat litter, and washed windows on a ladder to “put less stress on my husband and kids and to be more useful again” (SG, 57 years). Such findings suggested that family, friends, co-workers, and community leaders were key influences who encouraged and discouraged appropriate physical activity behavior engagement post-MI. Thus, significant others

may need to change their values and expectations and to have more involvement in the development, implementation, and evaluation of programs, services, and resources to meet the unique needs of rural women post-MI.

5.2.2.2 Setting the pace.

The property of setting the pace refers to determining the speed and intensity of valued physical activities. Setting the pace of physical activity was often gauged using bodily symptoms, guidelines provided by cardiac rehabilitation programs (e.g., pulse, time duration of walking), or measures or rules developed by rural women themselves (e.g., ability to go up and down the stairs, going to the third telephone pole and back). Study participants, like MT, a woman who had three MIs, described being “dialed into bodily symptoms” (MT, 74 years) such as chest pain, shortness of breath, and fatigue to gauge duration and intensity of activity. If study participants began to experience physical and mental symptoms (e.g., fatigue, chest pain, shortness of breath, anxiety), it was interpreted as a signal to stop the activity and rest. Study participants shared that they “re-started things [activity] when the feelings [symptoms] disappeared” (SG, 57 years) or they “never tried to do any activity again that gave chest pain” (MC, 59 years). Conversely, when study participants, like LC, a professional, did not experience bodily symptoms during chosen and valued activities, it was a signal to “take on more things and to do heavier work [more walking, laundry, cleaning windows]” (LC, 54 years), activities which may or may not exceed recommended activity levels for post-MI patients (Heart and Stroke Foundation, 2010a).

A few study participants acknowledged that they had received pamphlets in hospital that gave “some activity effort guidelines” (LC, 54 years) and some “time limits for walking each week” (LC, 54 years). While these women admitted they appreciated this written material, they

did not always agree with the content. WB, a woman living with an alcoholic husband, said, “None of these things [pamphlets] or times is related to what I can do and what my life is like at home . . . what is 8 minutes outside?” I am used to cutting down trees . . . Why is ironing a moderate activity? I do that in my sleep” (WB, 50 years).

In Photograph 9 titled “My Stair Guide,” FP, an educated professional, wanted to show an example of a measure (e.g., going up and down the stairs) that she used to determine her functional status and to ascertain her progress in her recovery (e.g., energy level, strength). FP paced her physical activity and intensity based on her ability to go up and down these stairs with no difficulty.



Photograph 9: My Stair Guide.

If I can go up and down the stairs without pain or getting winded that means I can do heavier things now like lifting the laundry basket because this walking up and down the stairs is something I have always found easy to do. (FP, 68 years)

For a few study participants, like SW, attending cardiac rehabilitation classes taught them to use pedometers to keep track of the distance they walked and to take their pulse to “keep the activity within a safe limit and normal speed and heart range” (SW, 52 years). These women acknowledged this was a skill they would not have known how to do if they did not incur the

costs of travel and time to go to such classes in the city. However, these study participants also felt that urban-based cardiac rehabilitation programs did not incorporate contextually relevant rural measures such as stair guides, telephone poles or the weight of potato bags which have meaning for those living within rural settings. NT, a married woman who cares for her ill husband, also noted this was a significant problem as “many rural places do not have anything like classes or places to teach what to do after a heart attack” (NT, 64 years).

5.2.2.3 Summary.

The second sub-process of testing physical activity limits involves establishing boundaries and included the properties: figuring out the rules for physical activity and setting the pace. Overall, most study participants shared that urban-based educational materials and cardiac rehabilitation classes failed to include relevant contextual information about measures rural women could use to figure out rules for physical activity and to determine the speed and pace of physical activity.

For some study participants, the presence of debilitating bodily symptoms and declines in functional capacity influenced the setting of strict walking rules and the implementation of safety measures (e.g., carrying nitroglycerin during walks). The presence or absence of bodily symptoms and functional decline, as well as prior assessments of MI damage, also compromised study participants’ lack of knowledge or low self-worth and served as signals or cues to set the speed of physical activity and intensity. Sometimes, however, others, such as abusive husbands, family members, or co-workers, would establish rules and the pace for physical activity. In these cases, study participants were more apt to push themselves, take risks, and ignore bodily signals and cues, as well as their own personal measures of functional status, recovery, and physical activity capacity. In these cases, such actions increased their personal risk for recurrent MIs and

further functional limitations. Thus, health care providers may need to become more aware of including significant others, employers, and policymakers in community information sessions and the planning and implementation of programs, including financial assistance and support, to meet the unique needs of rural women post-MI.

5.2.3 Having to Improvise.

The third sub-process of testing physical activity limits is having to improvise which refers to study participants' demonstrations of resourcefulness (e.g., “being able to take on what comes your way” PS, 56 years) and creativity (e.g., “being able to come up with new things” FP, 68 years) during their engagement in physical activity behaviors post-MI. The process of having to improvise included making substitutions and finding creative solutions.

5.2.3.1 Making substitutions and finding creative solutions.

This property of making substitutions and finding creative solutions refers to finding viable alternatives to replace household, caregiving, work, or walking activities that have become difficult, as well as finding new and innovative ways to carry out valued activities (e.g., walking, household tasks). For most of the study participants, a lack of access to health care providers, a lack of quality health care services and physical activity resources, multiple work and family commitments, as well as geographic isolation meant that they had to be resourceful. SW, a married woman with a first time MI, defined making substitutions and finding creative solutions as “being tough enough to take on what comes your way” (SW, 52 years). JS, a married woman who lived in a remote area by a lake, agreed saying,

Rural life means learning to live without a lot of luxuries like being close to hospitals, your doctor, having lots of jobs and chances for education, paved roads and sidewalks

and such . . . you have to take the good with the bad and learn to make lemonade as they say out of lemons. (JS, 71 years)

For study participants who wanted to resume household, caregiving, work-related, and walking activities post-MI, there was a need to find viable substitutions that would allow them to engage in these activities without over-exerting themselves and creating physical and mental symptoms (e.g., chest pain, shortness of breath, anxiety). Many study participants like SG, BD, CA, and EW, all homemakers, shared that they found lifting heavy objects like a sack of potatoes and reaching their arms over their heads could induce physical symptoms of chest pain and palpitations as well as shortness of breath. To minimize the physical efforts involved in sweeping the floor and bending over to fill the dustpan, SG “replaced the old broom with a Swiffer . . . it makes it easier for me to get my floors done, it is light, and I don’t have to do all the bending” (SG, 57 years). EW, a married housewife caring for her ill spouse, also came up with a more beneficial substitution to help her make the bed in the morning. She explained, “Most health care people like doctors and nurses think that it is the simplest thing in the world to make a bed. . . . but they don’t realize that my comforter weighs 70 pounds and it is hard for me to lift so what I did was get my son to put all sheets and a light blanket on the bed so I can make it” (EW, 68 years).

For other study participants who were also homemakers, efforts were focused on finding new ways to clean house, to carry out household responsibilities (e.g., laundry), to do gardening, to cook meals, and to care for others. To take her baked cakes downstairs to the freezer, CA, a widow living alone, described “sliding down the stairs on my bottom and carrying one cake at a time in a roast pan . . . at the bottom of the stairs is a rocking chair to rest before I come up the stairs again” (CA, 81 years). BD, a married housewife who loved gardening, showed in

Photograph 10 titled “Home Gardening” how she and her husband came up with a solution to help her engage in this physical activity post-MI. She had mentioned that she had always loved gardening but found it difficult to bend over and tend to the plants in the garden and the outside flower beds. Together, she and her husband came up with the idea to start new plants indoors and to place them on high tables so BD could care for them without having to bend over.



Photograph 10: Home Gardening.

Gardening is a passion of mine and since the MI I have not been able to go outside, bend down in the garden, and put my hands in the dirt. My husband and I came up with this solution where he fills planters with seedlings and puts them on a table inside. I don't have to bend and at least I can help make the plants grow. (BD, 58 years)

To come up with alternative solutions that minimized the effort of walking, BF, a married woman who walks with her husband each day, found “a large flat parking lot near a church to walk on instead of going up the hills near our house . . . the hills bothered our breathing and my husband's knees so this has worked out well” (BF, 67 years). However, other study participants, like FM and SW, chose to move beyond walking behaviors. They found ways to seek variety in exercising if they did not like walking, such as Aquafit classes and swimming at the local community pool. As the physical environment had climate challenges, they also found indoor

venues (e.g., walking domes) or set up treadmills or routes to do in their homes. For example, SW found “safety sidewalks” to walk on in the next neighborhood as a way to overcome walking along the dangerous highway near her home. Photograph 11 titled “Bringing in the Outdoors” shows how JS, a married housewife, modified her indoor environment to make walking on her treadmill more enjoyable. To create an aesthetically pleasing indoor environment to exercise JS placed her treadmill by the large open windows to see the scenery outside and surrounded the room with a variety of indoor plants.



Photograph 11: Bringing in the Outdoors.

I really love to walk outside but since I can't in the winter, I set my treadmill up by the open windows to look outside and I surround myself with plants. (JS, 71 years)

While many study participants were able to come up with solutions that reduced physical efforts and promoted their engagement in physical activity post-MI, some study participants, like FP, a married professional with a first time MI, had to come up with a less than optimal way to do her family's laundry. FP shared that she had limited financial resources to afford a washer and a dryer and a lack of support from family members which created more physical effort, time and inconvenience. FP explained what was involved in taking her laundry to her daughter's house.

The rule is I have to do it when she is not there . . . my husband helps put the loads in the car but then I am left to drive over and carry them inside and up and down stairs. (FP, 68 years)

FP's situation highlights how the quality of social relationships and connections within a family can hinder their time and their ability to find effective substitutions and creative solutions to facilitate engagement in physical activity behaviors. Such relationships may also jeopardize study participants' personal safety, self-esteem, and health. MC and WB, two women who were married to alcoholic and abusive spouses, also reported that they had no friends or others to be there to support them or coach them in how to creatively engage in physical activity post-MI. MC, who felt vulnerable, alone, and helpless said, "I crave having someone to reach out to but I don't know how to do that out here and I don't know where to begin" (MC, 59 years). WB, in response to feelings of loneliness and inadequacy, learned to deal with such challenges and feelings on her own. She explained, "I have to attack the challenges I face head on because there is no one to help me . . . I help others and I keep to myself . . . I feel outside this community" (WB, 50 years). WB expressed her thoughts about what she needed in terms of social connection:

It might be nice to be in a support group of women . . . having one-on-one with someone or someone who called in on you to keep giving you the goods and walk through steps for me when I needed would work for me. (WB, 50 years)

Some study participants prioritized the maintenance of family and community relationships as a strategy to make substitutions and find creative solutions to engage in physical activity. JS, a married woman caring for her husband and grandson, said, "When you are out in a rural place you need to spend time visiting and being social with groups because you want to be

in good favor, because you never know when you will need them” (JS, 71 years). However, while SG, a retired service worker and homemaker, “appreciated help from family members and friends, I just like to know they are there for a rainy day and I don’t ask for help because I feel good doing things around the house” (SG, 57 years).

In some cases, the maintenance of previous social relationships and connections in rural communities only promoted study participants’ resumption of past household and caregiving activities. These social relationships and connections, based on gender role expectations and traditional rural cultural beliefs and patriarchal social structures, did little to promote physical activity behaviors like walking. Most study participants shared that walking, for the most part, was not a prioritized activity in rural settings.

JS, a married housewife, commented in her logbook, “Today I spent all day at the church cooking and quilting and while these activities are something I enjoy, I appreciate they are not exercise. I try to get exercise and it is frustrating but if I don’t do these other things I won’t belong and I will be looked down on” (JS, 71 years). In her logbook entry JS described how social and group activities were traditionally organized around gendered role expectations (e.g., cooking) and enjoyable, sedentary activities (e.g., knitting and quilting), not leisure activities such as walking. She apologized for not paying more attention to exercise but felt that the need to belong and to engage in activities valued by the group was more important than focusing on her own physical health needs, as social connections and relationships provided a buffer against and sometimes are resources for the challenges of rural life. FP, a professional, also agreed that social relationships and connections within rural settings were essential to “help weather hardships like storms and being far away from health care services” (FP, 68 years).

For a few study participants, the desire to regain health meant that they wanted to “make walking and other forms of exercise part of a new life” (SW, 52 years). To do this, FM, a married woman with a supportive husband, joined “an Aquafit group with a supportive instructor and other women who valued exercise” (FM, 67 years), as well as let go of relationships (e.g., church members) that discouraged exercise. She also sought relationships that supported making substitutions and finding creative solutions to engage in physical activity behavior post-MI. For her spouse, FM believed she needed to be a teacher and a mentor, working with her husband to re-negotiate roles and responsibilities in the home, and having him change his lifestyle along with her. FM, in Photograph 12 titled “Doing it Together” wanted to emphasize how important the consistent support and involvement was from family, especially her spouse, in making new physical activity changes post-MI.



Photograph 12: Doing it Together.

My husband is my best friend and I could not make these healthy changes without him helping me and doing it with me. This is us walking together and we try to do it most days. I can't imagine having a husband who does not . . . that would make it so difficult.
(FM, 67 years)

In her photograph, FM clearly suggested that study participants' engagement in physical activity behaviors such as walking required consistent support from family members and friends. Social connection with like-minded individuals who shared similar perceptions of MI and physical activity, and the willingness of others, whether that be walking buddies or a spouse, to re-negotiate past gendered roles and responsibilities and to make lifestyle changes along with these study participants was perceived to be essential. Also, FM suggested that there was a need to organize more rural community activities around the promotion of physical activity behaviors such as walking instead of gendered activities (e.g., cooking) and sedentary activities (e.g., knitting and quilting).

5.2.3.2 Summary.

The third sub-process of testing physical activity limits was having to improvise. The property of having to improvise includes making substitutions and finding creative solutions. Overall, most study participants, despite challenges with their rural settings (e.g., gender role expectations, social and geographical isolation, lack of accessibility to health care provider and quality local physical activity resources), continued to thrive within their communities by developing positive alternative substitutions and solutions to help them engage in valued physical activities (e.g., caregiving, housework, and walking) in the post-MI period. However, sometimes creative solutions to assist them in carrying out housework and caregiving activities risked personal health and injury (e.g., transporting and doing laundry in daughter's basement alone) and did little to promote engagement in physical activities such as walking.

Study participants who were motivated and who had the resources, such as money, time, and supportive encouragement from spouses and family members, were able to extend their efforts beyond walking behaviors by developing contingency plans to use limited physical

activity resources and facilities (e.g., walking domes, swimming pools) when they were unable to walk outside due to weather, climate, or seasonal changes. Study participants also perceived that building supportive networks and connections with other rural women post-MI and like-minded spouses, friends, and community members was essential to stimulate the development of contextually relevant and appropriate substitutions and creative solutions to enhance personal self-worth and physical activity engagement post-MI.

5.3 CONCLUSION OF THE CHAPTER

The process of seeking self-worth as a rural woman post-MI, in combination with conditions within the rural context, shape study participants' engagement in the interconnected processes of: a) assessing the MI damage and physical activity, and b) testing physical activity limits. Overall, most study participants expressed they received little to no information or guidance from physicians and other health care providers about how to interpret physical symptoms of CHD and MI, what physical activity they should be doing post-MI, and how to engage in physical activity post-MI within their rural setting. Instead, they had to make assessments of MI damage and physical activity as well as develop strategies for testing physical activity limits based primarily on received information from family, friends, community members, and the media, the presence or absence of physical or mental symptoms, and rural cultural expectations and beliefs about physical activity and health.

For study participants having a first-time MI, the lack of experiential knowledge made the interpretation of bodily signals difficult, particularly when attempting to assess MI damage and engaging in the testing of physical activity limits. As health was defined as strength and the ability to work within rural settings, several study participants used this measure to help them assess MI damage and physical activity and test physical activity limits. However, if some study

participants were the primary breadwinner and needed to return to work as soon as possible, they were motivated to minimize the impact of the MI and to engage in risky household, caregiving, and work-related activities (e.g., pushing a 1,700 pound food cart) prematurely or inappropriately, which may exceed maximum physical activity recommendations in the literature for post-MI patients (Heart and Stroke Foundation, 2010).

Some study participants shared that when they did have the opportunity to see their family physicians, they felt rushed, “brushed off,” disrespected, and devalued. This finding was concerning as study participants indicated that positive social relationships and connections were necessary to support their engagement in new physical activity behaviors such as walking post-MI. When health care providers devalued and disconnected themselves from study participants, the women’s desire to engage in physical activity behavior post-MI was discouraged. As a consequence, most study participants have said they invested their energies and efforts in more familiar physical activities related to gendered role and work-related expectations, which were familiar, valued, and recognized in their rural settings.

Most study participants also expressed that there was a paucity of effective local programs and physical activity resources that provided relevant and appropriate information and activity support regarding physical activity post-MI for rural women in rural settings. This, coupled with the lack of direction and guidance from family physicians and health care providers, truly made these study participants feel like they were on their own to figure everything out without the proper tools to do so. These study participants made it clear that there was a need for networking among rural women post-MI together so that they, along with family members, health care providers, and community leaders could create appropriate and relevant

programs to help enhance their personal self-worth and their abilities to engage in physical activity behaviors to improve their personal health and quality of life post-MI.

In Chapter 6, the process of choosing physical activity priorities and how intervening gender and contextual factors within the rural setting influence processes within the substantive theory will be presented.

CHAPTER 6 THE PROCESS OF CHOOSING PHYSICAL ACTIVITY PRIORITIES AND GENDER AND CONTEXTUAL FACTORS

In this chapter, findings about the process, choosing physical activity priorities (which is represented within the substantive theoretical interpretation of the narrative and visual study data) will be presented. Also, findings about how gender and contextual factors within the rural setting positively and negatively influence the process of seeking self-worth as a rural woman post-MI, as well as other subprocesses within the substantive theory, will be described and analyzed.

6.1 CHOOSING PHYSICAL ACTIVITY PRIORITIES

Choosing physical activity priorities refers to making decisions about what physical activities will take precedence in the latter stages of MI recovery. These decisions were influenced by study participants' pursuit of self-worth, assessment of MI damage and physical activity, testing of physical activity limits, and gender and contextual factors within the rural setting. Study participants' choice of physical activity priorities helped them formulate ideas and articulate thoughts about what programs, services, resources, and supports were needed to promote their engagement in physical activity behaviors post-MI in a rural setting.

Study participants shared that it was difficult to determine the course of MI recovery and physical activity behavior engagement as they moved forwards and backwards among all the interacting processes with the substantive theory. A change in life events or circumstances (e.g., a repeat hospitalization for chest pain), gender influences (e.g., the need and expectation to care for a spouse requiring dialysis), and rural contextual factors (e.g., the lack of available health care providers and local physical activity resources) often altered the process of seeking self-worth as a rural woman post-MI, as well as physical activity perceptions, actions, and decisions.

Thus study participants' long term goals of returning to normalcy or making a better life were regarded as visible but "distant dots on the horizon" (SW, 52 years). The sub-processes of choosing physical activity priorities within the substantive theory included: a) daily survival, b) meeting others expectations, and c) putting self-first.

6.1.1 Daily Survival.

Daily survival refers to decisions to utilize strategies and to engage in physical activities that protected self-worth, promoted or avoided further MI damage and risk, and minimized feelings of fear and uncertainty. The properties of daily survival included: a) minimizing risks and b) living day-to-day.

6.1.1.1 Minimizing risks.

This property of minimizing risks refers to the desire to limit physical (e.g., violence, chest pain) and emotional harm (e.g., ridicule, verbal abuse, lack of anonymity) as well as risks of death (e.g., a fatal recurrent MI). A few study participants isolated themselves post-MI because they were overwhelmed by the hospital experience, intimidated to ask questions of health care providers, fearful of ridicule from others, or worried about physical and mental harm from their abusive spouses. BD, a woman who isolated herself from her community music group following her MI, commented:

I have always been made to feel by people that I am taking up their time or being a bother in some way. Me having an episode in front of people or bumbling to the doctor, well I just want to curl up in a ball and avoid all that . . . just tell me what to do and I'll get on with it. (BD, 58 years)

In BD's situation there was a desire to protect self-worth. BD did not want others to perceive her as weak, ill, and dependent, as characteristics of strength, independence, and the

ability to work were associated with health and productivity in her rural setting, a finding supported in the rural literature (Leipert, Leach, & Thurston, 2012; Thurston & Meadows, 2003). In some instances, particularly in the work environment, study participants perceived it to be unsafe to display any weakness or inability to work as they believed that this may cost them their job. OD commented, “I worry about losing my job and it is very stressful trying not to let them [coworkers] see you fail” (OD, 48 years). It was interesting how OD, a service worker, was more concerned about eliminating her risks of unemployment than a recurrent MI, suggesting that in her mind the needs of others (i.e., her family’s financial stability) meant more than her personal self-worth, health, and physical activity behavior engagement. This perspective is quite different from that of health care providers and cardiac rehabilitation organizations (CACR, 2009; Heart and Stroke Foundation, 2010).

For WB and MC, socially isolated women living with alcoholic husbands, trying to hide themselves away from perceived ridicule and scrutiny from others in their community left them feeling depressed, helpless, and angry at times. To cope with this emotional pain as well as the stresses of their home environments, MC attempted to give up physical activities altogether while WB engaged in risky physical activities (e.g., lifting heavy rocks and carrying a treadmill down the stairs) to prove her worth to family members and her employer (e.g., cutting trees down in the woods). Another common response that both of these women had to daily emotional and sometimes physical abuse from their spouses was to engage in risky behaviors such as drinking, smoking, and inactivity, actions known to increase the risk of recurrent MIs and to facilitate the progression of CHD (Heart and Stroke Foundation, 2010).

While MC and WB acknowledged that smoking and drinking were activities they should not be doing post-MI, they were more interested in minimizing risks of physical and emotional

pain rather than the progression of CHD or a recurrent MI. MC acknowledged, “Yes, I know I shouldn’t be smoking . . . I know it is bad for the heart and all but it is lonely here all day and it calms me before he gets home” (MC, 59 years). WB concurred that “being alone and stressed with no one to talk with about things means I keep things inside and then it bubbles over and the demons [alcohol and cigarettes] take over . . . I know it’s not good” (WB, 50 years).

For other study participants, minimizing risks had more to do with slowing the progression of CHD and reducing the risk of another MI. Study participants who perceived their MI as a “wake up call” to make lifestyle changes to better themselves and their lives (e.g., adopting daily walking into their lives), as well as those who perceived a serious risk of future MI-related death, sought to minimize risks by engaging in daily walking behavior with a buddy; monitoring and watching symptoms; moving closer to a local community hospital; seeking information and supportive programs; and carrying medication and hospital cards for emergencies. MT commented, “I have to be careful and watch this heart . . . it is up to me to keep the vessels open and to not take any chances because the doctor said I am on borrowed time” (MT, 74 years). For SW, having a first time MI meant, “making sure I do everything by the book and never let this happen again . . . I have been given a second chance and I don’t want to screw it up” (SW, 52 years).

6.1.1.2 Living day-to-day.

The property of living day-to-day refers to the desire to live in the present as a way to focus on eliminating risks, reduce fears of death, and contain overwhelming feelings of uncertainty about the future. For some study participants choosing physical activity priorities was based on their need to protect any semblance of self-worth and for continued self-preservation. For example, BD, who withdrew from a music group post-MI to avoid ridicule,

stated that she had no desire to be overwhelmed with information about her MI because it was too stressful. BD explained, “I am already depressed about having a heart attack and not being able to do things in my 50s. When I feel bombarded by information from health care providers, pamphlets, and TV . . . I want to break down and cry because it is too much” (BD, 58 years).

MC and WB, women with abusive and alcoholic husbands, voiced uncertainties about how to find other women to talk to who had an MI as well as how to approach them. Both women shared that making connections with others and participating in group activities was intimidating as they did not know what to say or how they would be able to keep up with others. However, what they both desired was having someone to connect with who would help make them feel valued, safe, informed, and motivated to better their lives within their rural settings and marital relationships. MC said, “I need a real live person to talk to . . . like we [her and myself] are doing now . . . who listens to how I feel and gives me the steps on a list to follow to get out of this hell I live in and to get better” (MC, 59 years). WB shared what resources and support would make her feel safer and valued:

When you feel alone in a place, you want to hide sometimes and sometimes you don’t want them to see you weak. Not that I don’t want support, just more like one person I could call or meet when I have questions along the way . . . another woman or a health care person . . . it don’t matter. (WB, 50 years)

Study participants with multiple MIs faced significant debilitating physical symptoms (e.g., chest pain, shortness of breath) and declines in functional capacity. MT, a woman with multiple MIs, commented:

I want to be able to talk regularly with my physician, to be told the steps I need to do, and to just walk with my husband and get him to help me lift heavy things and take me to the

hospital . . . I don't need groups because it is too crowding and overwhelming. (MT, 71 years)

For MT, fearing the “time bomb” would go off any minute reduced her existence to living day-by-day in a self-preservation mode. She feared a recurrent heart attack and not being able to get to the hospital on time. MI shared “I get really scared because there was a time like when 911 did not pick up when I was out in the country having my second heart attack and I nearly died” (MT, 71 years). Thus being geographically isolated from quality health care providers and resources appears to promote physical activity priorities of minimizing risks and living day-to-day because of the fear of not being able to get help in time and the risk of death.

6.1.1.3 Summary.

Daily survival, a sub-process of choosing physical activity priorities, included the properties: a) minimizing risks and b) living day-by-day. For a few participants concerns about minimizing risks of physical and emotional abuse, financial instability, ridicule, distress in chronically ill spouses, and hardships for family members, friends, and co-workers were more important than minimizing other risks, such as recurrent MIs, that would impact their personal health, functional ability, and quality of life. These study participants shared that they were overwhelmed with information and thinking about the future because in their world all they felt they could do to survive and cope with the social isolation, disconnection from health care providers and others, and daily fears of financial instability and potential emotional and physical harm was to live day-to-day in a mode of self-preservation. Study participants indicated that this type of existence diminished feelings of personal self-worth and discouraged new or enhanced behaviors such as physical activity behavior engagement.

In contrast, other study participants who had a first-time MI or multiple MIs shared that it was important for them to obtain information as well as support to engage in physical activity behaviors that would eliminate risks of further MI damage, functional decline, and even death. These study participants also lived in fear of being able to access health care services and providers in a timely manner and of doing something wrong that may “make the time bomb go off again” (MT, 71 years). While these study participants prioritized engagement in physical activity behavior, they expressed uncertainty about how to go about this behavior change. They expressed needs to obtain step-by-step, contextually relevant, instructions as well as to have access and connections with qualified local health care providers, other rural women post-MI, and relevant and supportive local physical activity resources and programs. These same needs have also been also voiced by other rural women post-MI in the literature (Caldwell et al., 2005).

6.1.2 Meeting Others’ Expectations.

Meeting others’ expectations refers to fulfilling previous gendered roles and responsibilities as well as finding ways to return to normalcy (e.g., the way life used to be before the MI). For most study participants there was an overall desire to resume such activities as quickly as possible so they would once again be acknowledged and affirmed by others (i.e., family members, friends, and community members). The properties of meeting others’ expectations included: a) fulfilling roles and obligations and b) returning to normalcy.

6.1.2.1 Fulfilling roles and obligations.

For many study participants, parents, friends, and other caregivers within the community had socialized them to patriarchal ideals, gendered beliefs, and rural cultural values which defined a woman’s self-worth by her ability to keep a clean home, to keep unity within the family, to nurture others, to place others’ needs first, to take part in community groups (e.g.,

church), and to take on additional work (e.g., within the home or outside employment) to supplement the family income in times of financial difficulty.

For some study participants these culturally induced markers of self-worth defined their identity, their value, their behaviors, and activities they were passionate about in life. BD, a married housewife, said, “My home, my family, and my garden are my passion . . . they represent who I am and what I love and I feel most like myself when I am making others happy, making things clean, or putting my hands in the dirt to make something beautiful” (BD, 58 years). CA, a widow who lived alone in her 6-bedroom home, also expressed, “My home, my family, and my cooking are a source of pride . . . they represent who I am . . . I will not let my home run into the ground and I won’t stop baking . . . if I die doing it, so be it” (CA, 81 years).

MA and JS, both married women involved in church work and youth outreach organizations, described these places as “their second home,” a place of enjoyment and fulfillment, a main source of social support and connection with the rural community as well as a part of who they were as people. WB, a woman who was employed to cut down trees, expressed that “being outside and doing my job with others cutting down the trees . . . well I never felt so good and strong and fit in all my life” (WB, 50 years).

SG, a married woman caring for her ill husband, shared that she took Photograph 13 titled “Doing Laundry” to show what physical activity means to her, as well as that activity gave her a sense of purpose. The photograph of the laundry illustrates that housework was an integral part of her life. SG also expressed that showing the laundry on the clothesline would help, “health care people know that doing laundry involves more work like carrying the wet clothes outside and lifting them up on the line because there is no dryer . . . work that wears you out and makes you sweat more than walking” (SG, 57 years).



Photograph 13: Doing Laundry.

I don't think health care people do a good job all the time giving us directions about how to do housework. To me this is good physical work but it is more than just doing laundry in the washing machine. This picture shows it means bending to get the laundry out of the washer, carrying it to the backyard, standing on something and reaching up over your head to hang it up. I don't know if I should be doing it but I can say putting my arms over my head makes my chest hurt a bit . . . maybe talking with other women would give me tips. (SG, 57 years)

For these study participants, there was a comfort in knowing their place in the home, workplace, and rural community as well as genuine feelings of enjoyment and accomplishment in keeping a clean home, baking for others from scratch, gardening, raising money for the church, providing for underprivileged youth, and carrying out their job expectations. Thus for them the resumption of household, caregiving, community and work activities was deemed to be more important than and as useful as engaging in physical activities such as walking and swimming to improve heart function and health. For these study participants there was more urgency to resume household and caregiving responsibilities, as such activities reaffirmed feelings of self-worth and purpose as well as ensured social and financial stability within the

home and community. For example, LC, a professional with a first time MI, said, “I feel pressure to return to work because I am the breadwinner and my husband is laid off from the mill . . . I have no options but to work” (LC, 54 years).

Substitutions (e.g., using a Swiffer for a vacuum, CA, 81 years) and creative solutions (e.g., figuring out how to grow plants inside, BD, 58 years) were developed to facilitate engagement in valued household, caregiving, community (e.g., church) and work activities (e.g., demonstrating strength by passing a stress test) versus walking and sport-related activities, activities which many study participants acknowledged were not often valued for women in rural settings. As CA mentioned, “Walking was not really thought of as something enjoyable . . . but as a way to get somewhere. . . Walking for the fun of it is just plain foolish” (CA, 81 years).

Conversely, for other study participants household, caregiving, work, and community activities were not perceived to be enjoyable or part of their identity. Rather, such activities were considered to be duties they needed to carry out to meet their social, nurturing, and financial obligations to the family. FP, an educated professional, explained: “I married into a traditional rural family that seems to expect women to cook, clean, and take care of everyone else. . . I wasn’t brought up to believe it but I feel I must do these things first before I walk to fit in, keep the peace, and make everyone happy” (FP, 68 years). MM, a widow with a first time MI, explained, “As a woman you never get away from being expected to keep house and care for others first . . . but it does not define who I am . . . I have to get those activities done before I can go outside and visit friends and do what I want to do” (MM, 72 years). Thus some of these study participants felt no personal attachment or identification with these roles, even though their family members did. FP indicated “once you start doing those activities again the family will stop helping you and let things go back to how they were . . . me doing all the housework and

taking care of everything” (FP, 68 years). Such findings suggest that a lack of awareness or willingness by family members, friends, and co-workers to re-negotiate gender role expectations and work responsibilities hinders study participants’ abilities to carve out personal self-time to engage in physical activity behaviors to meet their personal health needs and to promote heart health.

Regardless of whether the motivation for resuming household, caregiving, work, and community activities was for the reaffirmation of value and identity, recognition, and affirmation, financial necessity, or duty, most study participants shared that they wanted health care providers, support programs, and written information to include more content about resuming housework, caregiving, and work activities within rural settings, as these activities comprised a large component of their everyday lives. OD, a 48-year-old married service worker, voiced, “I think that doctors and nurses should give us more information that we can use . . . like we have horses and I don’t know if I should be lifting their feed and bending over all the time to clean them” (OD, 48 years).

6.1.2.2 Returning to normalcy.

The property, returning to normalcy, refers to the desire to resume gendered roles, responsibilities, and activities within the family and community to re-establish self-worth, value, and belonging as well as previous employment for financial stability. LC, a professional and homemaker, revealed, “All I really want to do is get back to the way it was . . . I know it is not perfect but at least I know where I fit and what to do . . . and it is kind of expected, you know, being a woman and mother” (LC, 54 years). LC’s words also implied that she perceived normalcy as being able to return to and occupy a familiar and comfortable identity, location, and place. For her, this was evidently preferable to living with the unfamiliarity, uncertainty, and

multitude of emotions caused by the MI event. For some study participants such perceptions and desires often encouraged engagement in the premature resumption of behaviors (e.g., lifting wood outside, caring for horses, vacuuming, and pushing a 1,700 pound food cart), placing them at increased risk for recurrent MIs and poor health outcomes (Heart and Stroke Foundation, 2010)

Sometimes, in order to gain the strength and function to resume gendered roles, responsibilities, and activities, study participants would engage in walking behaviors, even though they acknowledged they were not usually prioritized or valued in their rural settings (e.g., perceived as just a mode of transportation). While LC, a professional, indicated that she received “little information about how, when, and where I should walk,” she and a few other study participants, like MM, a widow with a first time MI, felt “daily walking was something that should be done to help you get stronger and back to normal” (MM, 72 years). Such findings suggest that for these study participants engagement in leisure physical activities such as daily walking was only a temporary solution to accomplish goals such as the resumption of housework, caregiving, and work-related activities.

However, for these women being able to participate in walking behavior, even temporarily, was dependent on being able to fit it around energy levels, housework, caregiving, community and work-related activities, the demands of family, friends, and community members, as well as seasonal and climate changes, and unique rural physical environment challenges (e.g., traffic, wild animals, hunting season, hills, lack of sidewalks, poor lighting). LC revealed that going on walks alone or participating in walking groups was contingent on “cost, fitting it around home, caregiving and work schedules and energy levels at the end of the day” (LC, 54 years), a finding which has been consistently reported in the rural research (Kubik

& Moore, 2005; Leipert, Leach, & Thurston, 2012). MA, a 73-year-old housewife, also commented that health care providers needed to consider how challenges within the rural environment can make engagement in walking behavior difficult:

It was nearly impossible some times of the year [winter, fall] to fit in outside walking around the daily routine and schedule . . . because it gets darker in the fall and winter, there are hunting seasons and there is lots of speeding traffic, hills and wild animals . . . not very safe and not very appealing to me. (MA, 73 years)

Within the boundaries of their lives, many of these study participants suggested that ideal future programs and health services for rural women post-MI would include: “a flat walking track facility that was open 24 hours a day for women to walk at a time that would fit their schedule” (NR, 62 years), “local heart education and walking classes facilitated by health care providers or trained leaders within the community during the day and early evening at the local community church or center” (JS, 71 years), “added sidewalks and lighting” (OD, 48 years), “supportive family members and friends to take up some of the household responsibilities” (FP, 68 years), and “facilities that you would open up the roof or windows to let the outside in on good days” (BF, 67 years).

6.1.2.3 Summary.

Meeting others’ expectations, a sub-process of choosing physical activity priorities, included the properties of: a) fulfilling roles and obligations and b) returning to normalcy. For many study participants, self-worth was defined by gendered and culturally induced markers, traditional rituals, and patriarchal ideals inherent within the rural context. For study participants, these beliefs and traditional gendered roles and activities (e.g., caregiving, housework) also

prescribed how they should act (e.g., putting others' needs ahead of their own) and affected what physical activity behaviors they should or could engage in during the post-MI period.

For some study participants, the desire to resume gendered household and caregiving responsibilities as well as work-related activities and obligations was also associated with the need to recover self-worth and purpose, location and place with the social structures of the family, household and workplace, and financial stability, familiarity and predictability during a chaotic time of unpredictability and uncertainty post-MI. In some cases this desire would prompt study participants to prematurely resume behaviors such as heavy lifting and animal care, placing them at increased risk for recurrent MIs and further functional disability (Heart and Stroke Foundation, 2010). For other study participants, premature resumption of household, caregiving, and work-related behaviors occurred because family members, friends, or coworkers were not willing or supportive in taking over some previous gender role expectations and responsibilities (e.g., housework, caregiving, heavy lifting tasks at work).

For other study participants, temporary engagement in walking behavior was perceived and acknowledged only as a strategy, not a lifelong behavior change, to recover self-worth, location and place, and stability in their lives, as well as to increase their strength and functional ability to resume gender role expectations (e.g., housework, caregiving) and work-related roles and responsibilities (e.g., being able to return to cutting trees for employment). Yet these study participants indicated that even temporary engagement in physical activities (i.e., walking, swimming) was difficult to fit into a lifestyle of multiple family, caregiving (e.g., spouse needed weekly dialysis), community (e.g., church and social activities), and work demands, particularly if they received little support from family members, friends, and co-workers. In addition, these women revealed that rural settings created further unique challenges for physical activity

behavior engagement such as seasonal and climate changes, geographical barriers (e.g., lack of sidewalks, lighting), health care provider inaccessibility (e.g., lack of information and guidance), and limited availability of local, cost effective, and relevant physical activity resources, groups and programs.

6.1.3 Putting Self-First.

Putting self-first, a sub-process of choosing physical activity priorities, refers to finding solutions and alternative approaches to enhance personal self-worth; to prioritize personal needs; to adopt unfamiliar physical activities; to re-negotiate roles and responsibilities within the family, community, and workplace; and to make a better life within a rural setting post-MI. A property of putting self-first is re-defining the MI, self-worth, and physical activity.

6.1.3.1 Re-defining the MI, self-worth, and physical activity.

Re-defining the MI, self-worth, and physical activity means reflecting on and changing previous perceptions of the MI, self-worth, and physical activity in the post-MI period. For most study participants, perceptions of MIs, self-worth, and physical activity had been shaped by patriarchal ideals, hierarchical organizations (e.g., political), traditional gender role expectations (e.g., women are nurturers who put others' needs first), social structures (e.g., home, work, family), social relationships with others, and rural cultural beliefs (e.g., being healthy means being able to work). To move away from these culturally induced beliefs about MIs, self-worth, and physical activity, study participants needed to resist these previous mind-sets (e.g., traditional gender role expectations) if they were to recognize their own innate worth, the impact of the MI event, and how leisure physical activities such as walking can improve their heart health and quality of life.

In this study, most study participants experienced a first time MI event and over half of these women had less than a high school education, limited incomes, and were physically inactive. Most of these women indicated that they had no prior knowledge, experience, or understanding of an MI event, what they were supposed to do after an MI event to get better, or the importance of physical activity to improve their heart health post-MI. As well, the uncertainty and emotions they experienced after an MI event caused them to question their self-worth as rural women. BF, a 67-year-old retired service worker, said, “Before this [MI] happened I didn’t even give a second thought to my heart because no one I know ever had it . . . All I knew about it was from some television shows where a man is grabbing his chest . . . so that is why the whole thing doesn’t seem real” (BF, 67 years).

In contrast, those with multiple MI events, such as MT and JS, shared they had more knowledge, experiences, and understanding of MI events (e.g., blockages in the arteries) and physical activity (e.g., daily walking helps the heart work better). They revealed that they knew what an MI felt like (e.g., pressure on the chest, jaw pain, funny feeling in the arm) and what to do if they had chest pain (e.g., go to the hospital, rest, take nitroglycerin spray). They also realized that they needed to learn to put their innate self and personal health needs first (i.e., engaging in daily walking, giving up housework and caregiving responsibilities) or risk further functional decline and death. MT, a 71-year-old woman who experienced three MIs, said, “When you have heart attacks, they keep knocking you down and you know . . . I know the heart attacks have changed my body and who I used to be . . . I had to let go of things [traditional gender roles] and walk and look after my heart . . . I will die if I don’t (MT, 71 years).

Overall, most study participants indicated that they received little or no information about their MI, what to do after an MI, or the importance of physical activity from health care

providers. Most of these women wanted to be told what to do as they felt like they “didn’t know how or where to find the information on my own” (NR, 62 years). Most participants said they were overwhelmed and anxious when they did see doctors or other health care providers as they felt they had to “come up with the right questions on something I did not have a clue about . . . It made me feel stupid” (CA, 81 years). EW, a 68-year-old housewife who cared for her husband with dialysis, also said, “It is really hard to make sense of something like a heart attack and what to do after when all you get are snippets of information from people and TV here and not much from the doctor . . . So when it doesn’t seem to be much of a fuss to anyone else you start to think it is not a big deal . . . especially if you don’t feel different” (EW, 68 years).

Thus for most study participants, what made re-defining the MI, self-worth, and physical activity very difficult was a lack of received, experiential, and practical knowledge about MIs and physical activity, lower educational levels, the acceptance of traditional gender role expectations and rural cultural beliefs to define their self-worth, a dearth of information from health care providers, and a lack of unconditional support from family members, employers, and community members. For these reasons, study participants tended to rely on the presence or absence of symptoms, others’ MI stories and physical activity experiences, rural cultural beliefs (e.g., health is the ability to be able to work) and the fulfillment of traditional gender role expectations to determine the impact of the MI event on their bodies and lives, their self-worth, and where they should invest physical activity efforts (e.g., housework, caregiving, walking). Such perceptions may or may not be consistent with goals of putting personal needs first, recognizing innate self-worth, or engaging in leisure physical activities such as daily walking.

SW, FM, and PS, all socially connected and educated women, described their first-time MI event as “a wakeup call” that they needed to make changes in their lives. For PS change

meant “taking some time to rethink about my life, to look back on what I was doing, and to make a new commitment to me” (PS, 56 years). To make the change from putting others first to putting self-first, SW explained, “There needs to be a letting go somewhat of the activities that took so much time, like cleaning, and adding activities like walking and sports that are going to be better for me and my heart” (SW, 52 years). Thus these study participants recognized their innate worth as individuals and indicated their willingness to resist previous gender role expectations and rural cultural beliefs within their rural settings.

Two of these women (i.e., SW and PS) were younger than most of the study participants. However, for study participants age was not perceived to be a primary factor that influenced the process of putting self-first. Instead, educational opportunities, financial resources for transportation, flexible work schedules, and positive and supportive social relationships and connections with spouses, family, friends, or community members were identified as key factors that facilitated their motivation to enhance personal self-worth, to seek information about their MI event and recovery (e.g., participation in cardiac rehabilitation or daily walking), and to carve out self-time to engage in walking, swimming, and other leisure activities to promote heart health.

FM, SW, and PS described how they scanned local rural community boards, read community newsletters, and checked the internet for local programs and facilities to ascertain what resources they could access and utilize to help support their engagement in physical activity behavior. SW shared that she obtained the schedules of the local community swimming pool and the walking dome so that she could create contingency plans for physical activity in the event of seasonal, safety, or climate changes in the physical environment. However, these study participants acknowledged that the process of putting self-first was easier with financial

resources and available facilities and programs (e.g., local swimming pool) in the local community.

These women also said that it was easier to recognize personal self-worth and engage in physical activity post-MI to improve health outcomes (e.g., reducing risks of recurrent MIs) and their quality of life if spouses, family members, employers or community members were willing to re-negotiate previous gender role expectations and responsibilities (e.g., dividing up the housework and caregiving responsibilities) and employment related activities. For example, FM, a retired cafeteria worker with a supportive husband, said, “Me and my husband, who is a retired nurse, had to sit down and re-look at everything. He took on the vacuuming and carrying up the laundry and we arranged to have a cleaner come in twice a week. I know not all can afford that but it let me go to my Aquafit” (FM, 67 years).

SW, a 52-year-old woman working part time at a coffee shop, shared, “I talked to my boss and just told her I couldn’t lift the sugar bags at the coffee shop anymore and that I needed to change my hours to be able to care for myself. I was lucky it happened . . . some would have it tougher than me” (SW, 52 years). SW was then able to have the time to develop creative strategies to help her engage in walking behaviors such as recording daily activity, doing a variety of aerobic physical activities (e.g., swimming, biking), making contingency plans to accommodate seasonal, weather, and climate changes (i.e., early darkness in the late fall, having back up indoor facilities or the mall to use for walking), and addressing safety concerns (e.g., going to a nearby community to use sidewalks and lighting).

Being able to put self-first and adopt physical activity behaviors such as walking was also facilitated if study participants’ family, friends, and community members were willing to adopt similar physical activity values and engage in walking or other leisure activities with them. FM

said, “It makes it so much easier for me to go out walking with my arthritic knees when my husband is there walking beside me.” (FM, 67 years). PS shared, “My daughter adopted healthy eating habits and physical activities before I did and she has been so willing to walk with me and support me in this journey” (PS, 56 years). SW explained, “Walking with my best friends and other friends helps me to keep on track much easier because we have made a pact not to let each other down” (SW, 52 years).

While these study participants had the time, financial means, support from family members, friends, employers and community members, as well as transportation options to attend cardiac rehabilitation programs in the city, there was a realization that many rural women did not have the same opportunities post-MI. Therefore, these study participants felt it was essential to find ways to network with other rural women post-MI to provide information as well as counseling and support. SW shared, “I have already been fortunate to meet up with women by accident in the community [Sobeys] who have had heart attacks and told them what I had learned. There needs to be more of that . . . maybe getting family doctors or other health care providers to find ways to connect us” (SW, 52 years). FM also acknowledged that connecting rural women enhanced feelings of self-confidence among the women in her Aquafit class because “we can all talk and swap stories and information and we can push each other . . . there needs to be ways to do this for all rural women” (FM, 67 years).

6.1.3.2 Summary.

Putting self-first, a sub-process of choosing physical activity priorities, included redefining the MI, self-worth, and physical activity. Study participants’ indicated that their perceptions and abilities to redefine the MI event, self-worth, and physical activity were influenced by their previous knowledge, experiences, and understandings of MI events and

physical activity (e.g., having a previous MI event, attendance at cardiac information and rehabilitation programs). Also, their willingness to recognize their personal value as an individual and to place their needs first (e.g., perceiving the MI as a wakeup call and a second chance to improve their life or a permanent change to their body and lifestyle) was facilitated by their ability to resist patriarchal ideals and traditional gender role expectations commonly found in rural settings (e.g., having a higher level of education), the presence of financial resources, transportation, flexible employment options (e.g., to improve accessibility to physical activity resources and options), and supportive social relationships and connections (e.g., willing to renegotiate previous gender role expectations and responsibilities).

There were only a few study participants who had such opportunities (e.g., financial resources, educational prospects, positive and supportive social relationships with others who supported these changes, and flexible employment options) to enhance personal self-worth and to engage in physical activity behaviors. These study participants realized that most rural women post-MI, including the study participants with multiple MIs, were not afforded such opportunities, a finding supported in the rural literature (Caldwell et al., 2005; Leipert, Leach, & Thurston, 2012).

For these reasons, these study participants indicated there was a need for health care providers, community leaders, and rural women, like themselves, to find ways or approaches to connect rural women post-MI with one another. They believed that such connections would promote the sharing of contextually relevant information and stories as well as the development of positive social networks. They felt these social networks and connections could provide guidance and ongoing emotional, informational, and tangible support (e.g., sharing resources and

costs) to enhance rural women's recognition of personal self-worth and to encourage their engagement in heart healthy physical activity behaviors such as walking.

6.2 GENDER AND CONTEXTUAL FACTORS

Within the rural context, study participants identified or revealed gender and contextual factors that were in dynamic interplay with all processes and sub-processes within the substantive theory. Gender factors were associated with the unequal distribution of resources and power within the home, family, workplace, and rural community as well as the acceptance or rejection of gendered role expectations. Contextual factors were associated with the cultural, social, geographical, and physical environment features of the rural context, as well as the limited accessibility to and quality options for health care providers and health care resources. Within the substantive theory, gender and contextual factors were described as: a) rural economy and changing employment opportunities, b) supportive relationships and connections, c) ways of knowing, d) physical environment, e) limited options and access to health care providers and physical activity resources, f) traditional gender role expectations, g) self-confidence, and h) creativity. These factors, while noted briefly in presentations of the processes in Chapters 4 and 5, are addressed in more detail here.

6.2.1 Rural Economy and Changing Employment Opportunities.

Rural economy and changing employment opportunities refers to economic recession in local rural communities (e.g., the downsizing of the forestry industry), economic hardships (e.g., an unemployed spouse or partner, living in poverty), the illness and disability of a spouse (e.g., chronic kidney disease requiring dialysis), gender discrimination in ownership of assets, the lack of employment options for rural women with adequate pay and benefits, and the need for rural women to assume multiple responsibilities within the home, family, and workplace to provide

for the family's basic needs. The characteristics of the rural economy and changing employment opportunities include: a) limited employment options and financial benefits, b) volunteering in under-resourced rural communities, and c) self-employment enterprises in rural areas.

6.2.1.1 Limited employment options and financial benefits.

In Photograph 14 titled "Walking by the Closed Up Mill," LC, a primary breadwinner, caregiver, and homemaker, shared a visual image of how economic recession has impacted the forestry industry in her rural community. In the photograph the mill is locked up and in disrepair, the machinery is sitting idle, and the area is deserted. It is a metaphor for how urban industrialization and global competitive markets (Leipert, Leach, & Thurston, 2012; Nova Scotia Department of Health, 2007) have contributed to a declining rural economy and decreasing resources (e.g., fishing, lumber) in rural settings (RCIPP, 2003; Troughton, 1999).

As a result of such trends in rural Atlantic Canada, LC's husband has been unemployed for the past 7 years. Thus, LC has had to assume the role of primary breadwinner. This meant travelling an hour outside her rural community to acquire employment. LC shared: "There were not a lot of jobs for me here [rural community] and I have to take an hour of my day to drive to work and I still struggle to make ends meet" (LC, 54 years). In addition to financial challenges and stress, her husband's unemployment has contributed to stress and disagreements within the household as LC revealed she continued to do most of the caregiving and housework in the evenings and on weekends. These multiple responsibilities have left LC with little personal time or financial resources to pursue activities such as daily walking to improve her personal health post-MI and to reduce further risk, a finding supported in the literature (Caldwell et al., 2005; Leipert, Leach, & Thurston, 2012). Also, it has been supported in the rural Canadian literature that geographically isolated households with stresses of poverty and multiple responsibilities

may lead to an increased risk of depression, social isolation, poor health outcomes, and situations of domestic violence for rural women (Dyck et al., 2012; Hornosty & Doherty, 2003).



Photograph 14: Walking by the closed up mill.

I took this picture of the old closed down lumber mill near our house as I was walking by . . . it is an eye sore. My husband used to work there but it closed down 7 years ago and I have been the breadwinner ever since . . . definitely had no time for a heart attack. (LC, 54 years)

For study participants with higher levels of education like professionals LC and FP, local employment opportunities did not often match their qualifications. Therefore, these women took additional time out of their day to drive to nearby towns or cities (e.g., 35 min to 1 hour one way) to acquire better jobs with better pay and benefits, which still fall short of the pay and benefits men acquire in similar positions (RCIPP, 2003). Yet despite their additional employment responsibilities, they assumed housework, caregiving or additional responsibilities at home (e.g., getting groceries, paying bills, cleaning the house), which often meant very long days and little time or energy to attend to their personal needs, engage in leisure physical activities such as daily walking, or attend local programs or cardiac rehabilitation programs in the city.

When asked why she kept such long days, FP replied, “It is just an expectation I guess that women do it all . . . people in this rural community, like my husband, have always been

taught that inside work is for women and outside work is for men . . . it is just known and it is your duty to get it done” (FP, 68 years). In Photograph 15 entitled “Piling Up,” FP shared a visual image that captured how patriarchal mindsets as well as gender expectations and cultural beliefs in her rural setting (e.g., women are nurturers who put others’ needs first) made her life arduous. She said that her husband and grandson even let the laundry pile up during her hospitalization for her MI with expectations that she would do it when she came home. This pile of clothes, “is like all the responsibilities that keep being piled on my head, sometimes I feel like I’m drowning [laughs]” (FP, 68 years). Thus, FP’s abilities to enhance personal self-worth and engage in physical activity behaviors to promote heart health were buried under “piles” of traditional gender role expectations and beliefs fortified by the social relationships (e.g., spouse) and the social structures (e.g., home and family) in her life.



Photograph 15: Piling up.

I took this picture of the laundry, mostly my husband’s and my grandson’s . . . They let this pile up for me when I was in hospital for the heart attack . . . it would not occur to them to do it and I don’t know if they know how . . . I know people just say to get them to help but it is so tiring having to ask and fight about it . . . easier to do myself . . . getting him to lift the loads. (FP, 68 years)

Most study participants had less than a high school education and did not have the gas money, time, or transportation options to pursue work outside of their rural communities when their families were struggling financially. Within their rural settings these women acknowledged they had limited options for outside employment. Most often, only contractual, seasonal, or service industry jobs with low pay, little vacation time, and few benefits were available (e.g., hospital kitchen worker, local cook, cutting trees in the woods, serving coffee at a shop, school cafeteria worker, or cashier). These employment realities did not allow these study participants the time or the money to afford home exercise equipment, gym memberships, or travel to the city (e.g., which could be a 40-minute to 2-hour drive one way for study participants, depending on their rural location) for cardiac rehabilitation.

Local employment options for many study participants involved “standing long hours” (NR, 62 years), “few breaks” (DS, 64 years), an expectation of “physical strength” (WB, 50 years), and repetitive tasks such as “washing the dishes, stacking them up, and getting them all down again” (OD, 48 years). These study participants often perceived that these work-related activities provided sufficient levels of physical activity as they depleted their energy to assume additional physical activities such as daily walking post-MI. Also, as the primary breadwinner of the family, OD, a service worker, felt pressured, in a community with few employment options, to “keep up with the others [coworkers] or risk losing the job and facing money problems” (OD, 48 years). For OD, as a rural woman there were few other employment options for her in her community that offered full-time work or any benefits, a finding which suggests continued gender discrimination in the rural labor market in Nova Scotia (RCIPP, 2003).

For OD, keeping up meant working overtime when other coworkers were sick and pushing a 1,700-pound food cart to deliver meals to patients, regardless of the risks to her

personal health (e.g., a recurrent heart attack), as putting others' needs first and caring for others was something she learned was expected by women in her community. OD also indicated that there were no options provided to resume work gradually following an MI and no support from health care providers to re-negotiate work responsibilities and activities with her employer, findings consistent with literature supporting rural women's limited voice and oppression in the workplace and the lack of access to health care providers (Leipert, Leach, & Thurston, 2012).

Most of the study participants perceived that health care providers, with their urban developed instructional pamphlets on the nature and intensity of physical activity levels, did not fully appreciate the movements or the levels of exertion that were involved in carrying out household, caregiving, and work-related activities in these rural women's lives. OD, a 48-year-old service worker commented, "I don't believe that health care providers really know what working in the kitchen is really about . . . the hard work, the lifting and the bending . . . I have to take a nap when I get home before I start the housework, meals, and caring for the horses" (OD, 48 years). Thus, many study participants such as NR, a part time service worker and full time caregiver, felt that the "activity involved in the home and at work should be recognized more by health care providers in their advice and programs" (NR, 62 years), as these traditionally expected gendered activities included significant effort and energy.

The realities of women's work and employment options within rural settings were that they were carrying multiple responsibilities which depleted their time and energy to focus on their own personal needs and energy levels. FP, a 68-year-old professional, perceived that it was easier to try and do all household, caregiving, and work-related activities herself than to expend constant energy and effort asking her husband and grandson for help and dealing with potential arguments, frustrations, and conflicts that would arise. For other study participants it was hard to

let go of household and caregiving activities post-MI, even with a return to employment activities, because “it is who I am . . . a mother and what I am supposed to do” (LC, 54 years). In other words, the recognition of their innate self-worth was lost in the traditional gender roles and responsibilities as well as rural cultural values and beliefs which defined women’s purpose and value within rural settings.

6.2.1.2 Volunteering in under-resourced rural communities.

Volunteer work in under-resourced rural communities refers to formal (e.g., work with a non-profit community organization or institution such as the church or community boards) or informal (e.g., neighborly) ways of providing services and meeting the critical needs of rural communities (e.g., transportation, lack of access to health care programs and services, social support, financial support) that are not met by other means. Many study participants shared that they had been taught they had a responsibility to nurture rural relationships with and to rely on neighbours, friends, and family members to assist with critical needs (e.g., financial hardship, transportation, assistance following an MI) to create an environment of self-sufficiency and connection in under-resourced rural communities.

Some study participants, like MA, a married housewife with a first time MI, volunteered in church groups and youth programs “to belong, help others, feel good and make connections with young people because I understand what it was like to be a child ward [orphan] on a working farm growing up” (MA, 73 years). JS, a married woman with a second MI, said, “The church is like a second home to me and the people like a second family . . . without all of us, the church and community it helps would fall apart” (JS, 71 years). For these study participants, volunteer work gave them a sense of purpose, value, strength, and connection with others (e.g.,

spirituality and faith, giving back to others), as well as a means to cope and to preserve, recover or enhance self-worth post-MI.

On the other hand, JS apologized in her logbook entries for prioritizing church activities over “real exercise,” which to her was taking time to walk on her treadmill post-MI. She explained that she prioritized her volunteer activities because she had a sense of duty and responsibility to others in her church and community that often exceeded “taking time to get my walking in” (JS, 71 years). In this way, the social connections and relationships JS established in the church shaped her perceptions, decisions, and behaviors and discouraged her from taking the time to attend to her personal needs and walking activities, forcing her to “squeeze in” time on the treadmill whenever she had time left over in her day.

For these study participants, self-worth as a rural woman was defined and measured by gender role expectations (e.g., nurturer), patriarchal ideals, rural cultural beliefs (e.g., the importance of connecting with others in under-resourced rural settings to survive), and others’ perceptions, comments, and praises. In some ways, formal and informal volunteering in their rural communities gave study participants a sense of place and purpose. Also, such activities gave them opportunities to form social relationships and connections to address critical needs such as a lack of transportation, rural poverty with the economic decline, lack of employment options (e.g., knitting hats and mittens, making quilts, organizing fund raisers for needy families), and a lack of physical activity resources and access to health care providers (e.g., sharing stories and health information among each other). On the other hand, study participants like JS felt that she had to sacrifice her own personal needs and engagement in physical activities to belong to the church, making it very difficult for her to find the time and support for her to

enhance her own personal self-worth and to prioritize physical activities in her life (e.g., walking) to promote heart health.

6.2.1.3 Self-employment enterprises in rural areas.

Self-employment enterprises in rural areas refers to participation in small scale self-initiated income generating activities or business opportunities to supplement or earn income as well as provide important services for under-resourced rural communities (e.g., general stores, hair styling salons, electrician services) (Bollman & Alasia, 2013). With limited employment options in their rural communities, some study participants like PS shared that the option of self-employment (e.g., running a local hair salon) was a viable alternative for her to be her own boss, to organize her working schedule, and to be innovative and creative to make her business thrive. The downside of her self-employment was that she did not have medical benefits or paid sick and vacation leave to take time to recover post-MI. PS explained, “If I don’t work, I don’t get paid, I lose customers” (PS, 56 years). Thus in some ways, PS’s need for income and to sustain a business may mean having to prioritize and engage in work-related activities over walking and other leisure activities post-MI. On the other hand, PS shared that self-employment was also positive in that she had the “ability to play around with my schedule at the shop, giving me mornings to rest or to go for a walk . . . having a regular job with hours and a boss would not give me the same flexibility” (PS, 56 years).

6.2.2 Social Relationships and Connections.

All study participants shared that their sense of self-worth as rural women as well as ability to engage in physical activity behaviors post-MI was significantly influenced by the nature and quality of social relationships and connections within their rural settings. These women also shared that the establishment and maintenance of positive social relationships and

connections was essential to help them cope with and create an environment of self-sufficiency in their under-resourced rural settings (e.g., economic decline in key industries such as farming and forestry, a dearth of employment and educational opportunities, limited access to and quality options for health care providers and physical activity resources, and geographical isolation). The characteristics of social relationships and connections include: a) being unsupported, b) being conditionally supported, and c) being unconditionally supported.

6.2.2.1 Being unsupported.

Being unsupported refers to study participants' involvement in social relationships and connections that promote fears of physical or emotional harm, risks of ridicule, feelings of inadequacy, loneliness and depression, or situations of social isolation and disconnection from others in the community, including health care providers. While involvement in dysfunctional social relationships and connections can occur for all women in a variety of settings (Statistics Canada, 2013), limited access to and limited quality options for local access to health care providers and services, geographical isolation (e.g., lack of transportation options), and few rural employment and educational opportunities have been shown to further exacerbate social disconnection, depression, and isolation in women living in rural settings (Dyck et al., 2012; Hornosty & Doherty, 2003).

A few married study participants with low educational levels (i.e., below high school level), incomes generally under \$30,000 per year, and home locations about 40 minutes one way from community hospitals and 1–2 hours one way from the city, shared that their social relationships and connections were unsupportive in meeting their physical and emotional needs post-MI (e.g., engaging in physical activity behavior and sharing their feelings and stories). These study participants expressed that their past and current social relationships and

connections were often based on control (e.g., being made to feel guilty by spouses and family members if they didn't do carry out gender and caregiving responsibilities), power imbalance (e.g., being in abusive relationships with alcoholic spouses), and the suppression of their voices, opinions, and decisions (e.g., being told what to do by others, physical and verbal abuse from spouses, feeling excluded by local community groups).

For example, MC, a study participant currently living with an alcoholic husband and periodic episodes of either verbal or physical abuse (e.g., pushing), expressed that she felt “numb, useless, fearful, and worthless all at the same time” (MC, 59 years). The choice to engage in physical activity behaviors post-MI “was left up to my husband, not me” (MC, 59 years). Having this lack of voice and support in her relationship with her husband therefore inhibited MC's desire or ability to enhance her personal self-worth, devalued her perceptions of physical activity, discouraged her freedom to test out physical activity limits, and eliminated her capacity to choose physical activity priorities. WB, a 50-year-old woman living with an alcoholic spouse and unsupportive family members, explained, “I don't count . . . No one is there for stupid old me after the heart attack . . . they [family and husband] all just keep drinking and smoking . . . and . . . well, some snobby people in this place [rural community], they just stare and talk about me and my bad family behind my back as we don't fit with them” (WB, 50 years).

Study participants who felt unsupported in their social relationships expressed that they experienced disconnection with their innate self, within the family, and within the rural community. Thus they felt that their only choice was to protect self-worth by engaging in actions and activities that promoted self-preservation (e.g., isolating themselves and withdrawing from others, doing as they are told by their spouse, staying silent). For study participants such as MC and WB, both married women living with alcoholic husbands, emotional and physical pain

and harm occurred from “the gossip and ridicule of others” (WB, 50 years) and perceived judgements from other community members and rural women about “not being good enough or being able to keep up with others” (MC, 59 years). As a result, these study participants perceived that their only options post-MI were to participate in solitary and sedentary activities (e.g., watching television, smoking, drinking), to only talk to someone they trusted one-on-one in person or on the telephone, and to avoid group activities (e.g., local heart health information sessions, women’s walking groups) and contact with limited local health care services and providers as “everyone [community and health care providers] would be standing there staring at me and trying to know my business” (WB, 50 years).

6.2.2.2 Being conditionally supported.

Being conditionally supported refers to social relationships and connections where study participants perceived that support from family members, friends, and community members was provisional, meaning that it was offered and accepted in certain circumstances (e.g., assistance with lifting heavy objects post-MI, being driven to doctor’s appointments), and withheld and rejected in other situations (e.g., accompanying study participants on daily walks, cooking dinner, emotional support). Some of the study participants expressed desires to have their spouses adopt extra responsibilities around the home (e.g., vacuuming), yard (e.g., raking leaves, snow removal), and to go for walks together as well. However, FP, a 68-year-old professional commented, “My husband and grandson don’t think of how to help . . . I don’t think they were ever taught . . . they even did not make me lunch when I came home from the hospital . . . I know that when I start doing housework they’ll be happy to let me do it . . . and forget about walking with me . . . they don’t like walking” (68 years). JS, a married woman involved in the church, also commented, “The women in the church are great and they are there to listen and to quilt and

bake . . . but I don't think they would be the ones I'd call if I had chest pain or wanted to go for a walk . . . they wouldn't understand that (JS, 71 years).

For most study participants like FP and JS, the offering of support from family, friends, and community members tended to coincide with the promotion of traditional gender role expectations, objectives that were not supportive of enhancing study participants' personal self-worth and time to engage in leisure physical activities to promote personal heart health. Although some study participants expressed frustration at the lack of support they received at times from family members and community members, they lacked the assertiveness to speak up. FP explained, "It is sometimes just easier to not bother asking for help . . . it takes too much time and energy to explain how to do things and it just causes a lot of conflict and drains more energy arguing that doing things myself" (FP, 68 years). JS, a 71-year-old housewife and church committee member, added, "The church group is the only main support I have out here in the middle of nowhere . . . if I upset them I may not have anyone out here to rely on . . . and I would be further alone" (JS, 71 years).

At times other study participants admitted that they did not like to ask for help with activities around the household or workplace that they felt they were strong enough or capable enough to do, as "being able to do the things I have always done means that I can get back to who I am, be strong . . . and the very real thing keep my job" (OD, 48 years). CA, a widow with a first-time MI, said, "I did not want to have my kids and neighbours helping out even though they wanted to . . . I felt too obligated and useless that way . . . so I don't like to ask but feel happy they are just there if I need them" (CA, 81 years).

Most study participants such as SG, a retired cook with less than a Grade 9 education, also did not like seeking emotional support from family members and co-workers because "it is

like being a burden to them all . . . they don't want to hear my problems . . . I'm the one that usually does the smoothing things over when they [family members] have troubles" (SG, 59 years). As well, most study participants perceived that family members and co-workers were more comfortable with offering tangible support (e.g., help with housework, transportation) than emotional support, as "husbands and children don't like to get into the feeling stuff" (LC, 54 years). For most study participants it was preferable to seek emotional support from friends or other rural women post-MI in their community versus family members and co-workers, even though it was sometimes problematic to make such connections within their geographically isolated and under-resourced rural communities post-MI (e.g., limited access to and quality options for local health care providers and physical activity resources). MM, a widow and a retired store manager, explained,

It is much more comfortable to share feelings with other women who have, you know, gone through things that relate . . . you have nothing to prove to them either . . . but that is not what you are supposed to do with family . . . I have to listen to their feelings and help them and not burden them. (MM, 72 years)

For most of the study participants conditional support was offered and perhaps only asked for by participants to help with the resumption of traditional gender roles and activities within the home, community, and workplace, not physical activity such as walking. Also, sometimes when such household, work, and caregiving activities were resumed by these women, family and community members were comfortable to withdraw support and go back to the way things were before the MI, perhaps because the MI was often an invisible condition. JS, a 71-year-old church committee members, remarked, "Support is not there when I wanted to take time to walk for myself . . . as they [church committee members] would make me feel like I was

abandoning them and what was going on at the church” (JS, 71 years). Thus with these conditional social relationships and connections, study participants faced assuming more housework, caregiving, and work-related responsibilities and tasks post-MI. This left them with less time and energy to adopt leisure physical activities such as walking to improve their personal health. However, these findings also raise the following questions: a) Why were study participants not always believed and helped by family, friends, and rural community members? and b) Would an MI event in rural men be more believable by others and would they receive more help?

6.2.2.3 Being unconditionally supported.

Being unconditionally supported refers to social relationships and connections where study participants perceived that family members, friends, and community members would offer respect and support whatever their needs were, including the need to engage in physical activity behaviors such as walking, to improve personal health. Study participants with such social relationships and connections generally had higher levels of education, were comfortable with being assertive in asking questions and sharing their perspectives, had spouses or employment that offered financial stability, had transportation access to cardiac rehabilitation programs in the city, and had accessibility to local physical activity resources (e.g., sidewalks, walking dome, and swimming pool).

Study participants like SW, PS, and FM shared that their partners, friends, co-workers, and community members were open to consistent communication (e.g., sharing feelings and perspectives), re-negotiating gender roles and responsibilities within the household and workplace post-MI, and to support and often engage in physical activity behavior changes such as walking, swimming, or Aquafit with them. FM, a 67-year-old service worker, explained, “My

husband and I can talk about anything . . . if something needs to change like me getting more help for housework I just speak up. . . we talk about it and come up with a solution like getting a part time homemaker or him helping with the laundry” (FM, 67 years). Walking with a spouse, a walking buddy, or being part of a community walking group or exercise group (e.g., Aquafit) helped motivate these study participants to “carve out time for walking” (SW, 52 years), search for information about local physical activity resources in their communities, offer information and support to other rural women post-MI they encountered in their community, and travel to Halifax to participate in cardiac rehabilitation programs. SW, a 52-year-old housewife and part time worker at a coffee shop, said:

You know . . . I know that I am fortunate to go to cardiac rehabilitation and to have a great husband and family . . . and that just makes me want to help other women like me who have had a heart attack . . . I remember feeling lost and I want to share what I know and be there for them too. (SW, 52 years)

With unconditional support from their social relationships and connections study participants were able to work with others (e.g., spouse, friends, and employers), enhance personal self-worth, gain confidence, as well as problem solve and formulate creative solutions (e.g., going swimming at the indoor pool when the weather is bad outside to walk) to promote engagement in heart healthy physical activity behaviors. They also developed a sense of accountability to family members, walking buddies, or group members which facilitated commitment to physical activity behavior in their lives post-MI. SW explained, “My walking buddy and I have been friends forever . . . we made a pact to walk together and we don’t want to let each other down” (SW, 52 years). Also for SW, “Being connected with other rural women helps us all work together to fit walking into our busy lives” (SW, 52 years).

6.2.3 Ways of Knowing.

Ways of knowing refers to how study participants acquire knowledge, values, gender expectations, and practical skills through social interactions situated within the rural context. For all study participants, ways of knowing helped or hindered the way they sought self-worth as a rural woman post-MI, assessed MI damage and physical activity, tested physical activity limits, and chose physical activity priorities. The ways of knowing described and portrayed by these study participants were similar to those identified by Belenky, Clinchy, Goldberger, and Tarule (1986) in their seminal work on diverse groups of women across a broad range of contexts. The characteristics of ways of knowing include: a) received knowing, b) experiential knowing, c) practical knowing, and d) required knowing.

6.2.3.1 Received knowing.

Received knowing refers to information acquired or passed on from family members, friends, rural community groups, media, or expert authorities such as health care providers. Most study participants had acquired less than a high school education and reported limited literacy levels, a finding consistent in the rural literature (Leipert, Leach, & Thurston, 2012). Many study participants explained that few secondary educational opportunities were offered in their rural communities and that their families had little money to support them leaving their community to attend such programs in the city or in another province. However, another key reason for not leaving their rural communities was that the majority of study participants had married very young, assuming domestic and childcare responsibilities, a common and valued gendered expectation for rural women (Leipert, Leach, & Thurston, 2012). “All these things [housework and child care] . . . give me very little time at the end of the day to do anything for myself” (OD, 48 years).

Most study participants shared that they wanted to “be verbally told what to do step-by-step” (CA, 81 years). Several study participants wanted to receive information from health care providers, community leaders, and other rural women post-MI in local community information sessions held in accessible community churches or halls, not just anecdotal advice from family members, friends, and media messages on television “and pamphlets targeting old men with heart attacks” (PS, 56 years). These participants shared that they wanted to be told what a heart attack was; how things can be fixed after a heart attack; what local physical activity resources, community supports, and health care providers were accessible; what transportation options were available; and how to contact these resources. These women also wanted to know what specific things they should do and not do around the house, in the yard, at work, and in regards to walking, using accessible language, rural activity examples (e.g., how many telephone poles to walk each day, how many potatoes in a bag weigh 10 pounds, what household activities were equivalent to walking, and what activities should be avoided when caring for horses in the barn), and stories from other rural women post-MI.

However, most study participants indicated that they were not told these things by health care providers and that they were not connected with other rural women post-MI in their communities. Thus most of these women failed to gain a full understanding of their MI event, the importance of physical activities such as walking for heart health, or when, what, why, where, or how to go about engaging in such behaviors. Being uninformed and unsupported by health care providers, community leaders, and other rural women post-MI meant that study participants were being left on their own, without the proper tools (i.e., knowledge) to make informed assessments of MI damage and physical activity, to test physical activity limits, and to

choose physical activity priorities that may possibly enhance their personal self-worth and quality of life post-MI in rural settings.

6.2.3.2 Experiential knowing.

Experiential knowing refers to learning acquired through bodily experiences (e.g., fatigue, pain), observances of others' illness presentations and activities, personal MI or chronic illness experiences, and other stressful life events (e.g., cancer, dealing with the death of a child). Experiential knowing influenced study participants' perceptions and understandings about MI presentation (e.g., heart attacks happen differently for men and women), the impact of physical activity on the heart (e.g., being active makes the heart muscle pump and get stronger), and when to access ambulance and hospital services (e.g., what symptoms should prompt a hospital visit).

Experiential knowledge, particularly interpretations of bodily symptoms, helped many study participants, especially those with multiple MI events like MT, a 71-year-old retired service worker, assess MI damage (e.g., more symptoms and functional decline means more damage), test physical activity limits (e.g., regulating physical activity intensity and pace), and choose physical activity priorities for the latter phases of recovery (e.g., getting back to household and caregiving responsibilities). However, for study participants with a first time MI, limited experiential knowledge of physical symptoms related to CHD and MI made the interpretation of bodily symptoms more difficult, increasing the likelihood of the premature resumption of household, caregiving, and work-related activities (e.g., lifting heavy rocks) which have been found in the literature to exceed recommendations for post-MI patients and their heart health (CACR, 2009; Jenson et al., 2003). Also, while all women post-MI may rely on experiential knowledge to help gauge bodily symptoms post-MI, this way of knowing becomes

even more imperative for these study participants who have limited access to and quality options for local health care services, providers, and resources.

6.2.3.3 Practical knowing.

Practical knowing refers to learning acquired by doing certain physical activities (e.g., housework, caregiving, walking) and following established routines in the home, community, and workplace. Study participants shared that proficiency and expertise was often achieved by doing routine gendered activities such as cooking (e.g., making cakes from scratch), gardening and cleaning, over and over again until perfection was achieved and recognized by others (e.g., a clean house, beautiful gardens, nourished family members). CA explained, “From a young age, mother encouraged me to clean floors until they sparkled and that bread had to be made perfectly or it wasn’t good enough . . . if I made a mistake, I had to start all over again” (CA, 81 years). Thus many study participants had developed a sense of familiarity and competency in carrying out physical activities related to housework, caregiving, and yard work which served to increase their confidence in engaging in these familiar activities post-MI versus walking and other leisure activities such as Aquafit using new, strange, or unfamiliar exercise equipment or swimming.

Most study participants described having very little practical knowledge about walking routines, swimming, cardiac rehabilitation activities, home exercise equipment, and gym facilities which makes these things “unfamiliar and scary” (WB, 50 years). WB, a 50-year-old woman living with an alcoholic spouse, said,

It is much more comfortable for me after a heart attack to pick up and do stuff that I have always known how to do like cutting trees . . . to try something new like fancy exercises or equipment scares me more than doing what I did before. (WB, 50 years)

Some other study participants, having little proficiency and skill in physical activity behaviors such as walking or gym activities, also experienced feelings of fear and uncertainty as well as uselessness. BD, a married woman who withdrew from her music group post-MI, explained she was hesitant to join walking groups because she may be “singled out because I don’t know what to do and keep everyone back if I can’t keep up at those classes” (BD, 58 years). OD, a 48-year-old service worker, experienced uncomfortable feelings when she was placed on a treadmill for the first time by a physiotherapist who left her alone. OD said

“She [physiotherapist] just placed me on this big treadmill in this small room with nothing on the walls and left and told me to go for 10 minutes. I didn’t know what I was doing or what I should be looking for or doing. (OD, 48 years)

What such findings suggest is that without professional guidance and encouragement, some rural women may be less inclined and comfortable to try a new activity and less able to assess its utility and gauge their progress.

6.2.3.4 Required knowing.

Required knowing refers to learning what was desired or wanted. For many study participants whose priorities were to resume pre-MI roles and responsibilities and to meet others’ expectations in the rural setting, there was an expressed need for verbal and written information related to the “resumption of household, caregiving, and work-related activities for rural women at home” (MA, 73 years). However, while these contextually relevant and appropriate guidelines may help rural women resume familiar gender roles, responsibilities, and activities post-MI, they may do little to enhance rural women’s personal self-worth and their motivation and abilities to engage in new and unfamiliar physical activity behaviors or to influence family, friend, employer, or community values that shape women’s behaviors post-MI.

For some study participants such as MC who protected self-worth by investing efforts in self-preservation and survival post-MI, there was an expressed desire to avoid being “overwhelmed and overburdened with too much confusing information about the heart attack and changing my habits” (MC, 59 years). A few study participants expressed their preference to be given step-by-step instructions from health care providers or trained recreational community leaders to help them enhance their feelings of self-worth, live day-by-day, and to avoid physical and emotional harm and further social isolation. MC, a 50-year-old housewife living with an abusive spouse, explained,

having a heart attack is just like putting another card on the deck of all my problems . . . I live in fear some days and I am so lonely . . . just to have someone to talk with like we are doing now to help me feel better is what I need . . . not tons of medical information. (MC, 59 years)

BD, a 58-year-old housewife, also expressed,

I don't want to know all the details about the heart attack and going to a rehabilitation class . . . it is too overwhelming and I'm not there yet . . . I need to talk and get my feelings out . . . to have someone listen and who will understand if I cry. (BD, 58 years)

There were a few study participants like FP, LC, SW, PS, and MM who did leave their home communities to study at community colleges and universities. For these study participants, higher levels of education and literacy were associated with financial stability and the self-confidence “to go look for information on my own, to ask doctors questions, and to get the answers I need no matter what” (SW, 52 years), as well as opportunities to attend cardiac rehabilitation classes in Halifax, purchase exercise equipment, and acquire information (e.g., health care providers, internet, written materials) about physical activity post-MI.

For example, SW, a part-time service worker, shared that in hospital she went “up to the main desk and asked the nurses where the information was at so I could read Once I started pushing, they went and found some stuff for me” (SW, 52 years). SW also expressed in her logbook that there was a need to

create a variety of options for ensuring that I get physical activity like walking or swimming each day (e.g., walking, swimming) and I can share these ideas with other rural women with heart attacks and my doctor to pass on. (SW, 52 years)

Also, some study participants felt that the generation of knowledge with other rural woman post MI would encourage creative problem solving and the development of relevant and appropriate educational materials and physical activity resources and services to “help rural women get involved in new activities that will help their heart and give them a better life” (FM, 67 years). Such findings raise the question of why these study participants have to push for this education instead of being offered it by rural public health nurses, nurse practitioners, and other health care providers.

6.2.4 Physical Environment.

Physical environment refers to the characteristics of the geographical landscape of the rural context as well as study participants’ responses to the land. Study participants expressed many differing perspectives about the nature of the rural physical environment. At times, study participants like BF, a 67-year-old service worker, described the physical environment as “beautiful, peaceful, energizing, open, and an escape from the work and family pressures” (BF, 67 years), positive characteristics which encouraged gardening and walking outside as well as a feeling of connection to the land and the aesthetics of her surroundings. At other times some study participants like OD in Photograph 16 titled “Desolate Area,” visually depicted the rural

landscape as “desolate and well . . . unsafe with speeding traffic, wild animals, uneven ground to walk on, hills, snow in winter and no sidewalks or lights at night” (OD, 48 years), negative characteristics which discouraged walking outside. In OD’s photograph, there are no houses, no sidewalks, and no lighting. The highway stretches out for traffic and there is only a little room to walk in an uneven and unpaved space between the highway and the ditch where the bushes are located. There is no shelter from climate extremes or temperature changes. Also, if OD needed help during her walk (i.e., chest pain, an encounter with a wild animal), she would be far away from help. The characteristics of the physical environment included: a) open spaces and b) changing climate.



Photograph 16: Desolate area.

Rural landscape is beautiful and open and free but the homes are far apart, there is no light, and there is no place to walk between the road and the ditch . . . plus you can be alone with wild animals. (OD, 48 years)

6.2.4.1 Open spaces.

Open spaces refers to having limitless rural geographical boundaries, multiple opportunities to make physical activity choices (e.g., walking, running), and flexibility to see various aesthetic surroundings and to choose various walking routes, freedoms not found in urban settings that “are all crowded and confining with no choices where to walk outside” (BD,

58 years). Many study participants photographed the outside environment to show its beauty, serenity, peacefulness, and contrasts (e.g., trees, small animals, water, and plants), aesthetic features which made “walking outside enjoyable because there was a new place to go everyday and different things to see” (BF, 67 years). JS, a married woman who lived by a lake, described the outside environment as a “place to escape the stresses of family and church activities . . . somewhere that is peaceful where you can get energized, connect with nature, and be alone” (JS, 71 years). WB, a socially isolated woman with an alcoholic husband, agreed that being outside in a rural setting meant “having options and the ability to do what you want . . . like an escape from stress” (WB, 50 years) (e.g., gardening, yard work, animal care, walking in different locations for free).

While most study participants acknowledged there were positive characteristics of the rural landscape that facilitated physical activity such as walking, they also acknowledged that the openness of the rural landscape was associated with geographical isolation from others, (e.g., health care providers and ambulance services in an emergency), and safety risks (e.g., uneven ground, hills, craters, ice, no sidewalks, limited lighting, hunters, wild animals, and speeding traffic) which could promote falls, physical injuries (e.g., fractures), shortness of breath, and chest pain.

6.2.4.2 Changing climate.

Changing climate refers to unpredictable weather conditions, (e.g., snow, rain, hail, wind), seasonal changes (e.g., fall, winter, spring, summer), and varying outside temperatures (e.g., very cold or very hot). In their rural settings, study participants indicated that there were about 6 months of very cold weather with periodic snowstorms, sleet, freezing rain, and early evening darkness. These participants also mentioned that spring, while beautiful, could also

“bring lots of rain, creating lots of mud that your feet could sink into . . . and lots of craters” (LC, 54 years), and that summer could bring very hot and humid temperatures as “well as awful blackflies and mosquitoes” (OD, 48 years).

All of the study participants said they were motivated to walk, garden, or do yard work outside when the weather was warm, the sun was shining, and the temperature was pleasant. They particularly enjoyed doing these activities in the spring and the fall when beautiful flowers outside or the changing leaves in the fall gave them more to look at and enjoy. On the other hand, when the weather was extremely hot or cold, when there were mosquitoes, or when there was rain, snow or hail, walking outside was perceived as an “unpleasant task and a burden” (LC, 54 years) that created much discomfort (e.g., increased shortness of breath with cold winds, exhaustion with the heat). In these kind of conditions many study participants such as LC did “not want to walk outside when it was bad out . . . just stay indoors and watch television because it is not like there are many places to go walk inside where I live [rural]” (LC, 54 years).

6.2.5 Limited Options and Access to Health Care Providers & Physical Activity Resources.

Limited options and access to health care providers and physical activity resources refers to the paucity of local quality health care service options post-MI, limited or no physical activity resources, facilities, and health care providers in the rural context, and limited access to tertiary care services (e.g., specialist follow up, urban-based cardiac rehabilitation programs) post-MI. The characteristics of limited options and access to health care providers and physical activity resources include: a) lack of choice and limited contextually relevant information, and b) limited access to relevant programs and resources.

6.2.5.1 Lack of choice and limited contextually relevant information.

Lack of choice and limited contextually relevant information refers to the dearth of health care providers and information about MIs and physical activity for women post-MI in rural settings. During their MI hospitalization, all of the study participants reported that they spent very little time “talking about what happened and what activity I should do after this and who to contact when I get home” (MC, 59 years). Also, some study participants shared that they received urban-based pamphlets from health care providers during their hospitalization from health care providers about MIs and cardiac rehabilitation programs located in an urban setting. Study participants perceived these informational materials to be devoid of contextually relevant and appropriate information about how to go about physical activity as rural women post-MI in an under-resourced rural setting, or what “local programs and facilities that I could go to and what they cost . . . or even other women with MIs who I could talk to or call that were in my home town” (NR, 62 years).

Only about half of the study participants revealed they had a 5- to 10-minute visit with their family physician (e.g., these were mostly participants who lived about 30 minutes from a local community hospital). For the study participants who did visit a family physician, all of them reported that “doctors did not talk about physical activity or put much importance to it” (FP, 68 years), despite evidence-based cardiac and physical activity literature and cardiac rehabilitation guidelines (CACR, 2009; Heart and Stroke Foundation, 2010). Also, few study participants mentioned having any kind of contact with a public health nurse, a VON nurse, a dietician, or a physiotherapist. Those who did have interactions with health care providers described them as “rushed in person or on the phone and not really having enough time to ask questions or learn about what to do and where to go” (CA, 81 years).

Some of these study participants who interacted with health care providers also perceived they were disrespected and devalued. CA, a widow with a first-time MI, shared that specialists, and family physicians in particular, “talked over my head about some clogged artery or blockage . . . using big words . . . I don’t think they were concerned about an old dingbat like me getting exercise as they must have figured I’m old and will die soon” (CA, 81 years). Other study participants who felt “brushed off by the doctor” (BD, 58 years) or “rushed out the door” (SG, 57 years) by health care providers had below Grade 9 education levels. SG admitted she was often hesitant to speak up to health care providers because she did not know what to ask and she feared she would “not get cared for by the doctor if I got them all upset by being difficult . . . “(SG, 59 years). As a result, SG expressed that she often felt that she was left on her own to “fly by the seat of her pants” (SG, 59 years) and to figure out what to do. Thus to feel devalued and disrespected by health care providers decreased the possibilities that study participants would recognize their personal self-worth and engage in physical activities to improve their heart health and quality of life. Moreover, these professional behaviors are counterintuitive to health care providers’ responsibilities to promote physical activity behavior in all MI patients, regardless of where they live (CACR, 2009).

6.2.5.2 Limited access to relevant programs and resources.

Limited access to relevant programs and resources refers to a perceived lack of access to affordable and expedient ambulance, specialist, and tertiary cardiac care services (e.g., cardiac catheterization), as well as a lack of follow-up care with a cardiac specialist and urban located cardiac rehabilitation programs (a 40-minute to 2-hour drive one way for study participants). It also refers to the scarcity of local quality health care services (e.g., lack of follow up with rural family physicians, nurse practitioners, public health nurses and other allied health care

professionals), programs (e.g., local community heart support and walking groups for rural women), and physical activity resources (e.g., lack of sidewalks, affordable and convenient indoor walking facilities) within the rural context.

Study participants reported that a follow-up visit with a cardiac specialist in the city was a rare event and three participants attended urban-based cardiac rehabilitation programs. Most of the study participants said they were still awaiting follow up appointments with specialists 1 month to 6 weeks after their MI, and only some of these women managed to have a brief appointment with their family physician because they “were backed up with appointments” (FP, 68 years), “they were not even aware of my heart attack” (PS, 56 years) and “he [family doctor] felt I had been fixed in Halifax and didn’t need to be seen until I was having symptoms” (MC, 59 years).

For many study participants there was a perception that local paramedics and ambulance attendants would provide excellent care in the event of an MI if they could find women and get to them on time. Consequently, most of these women expressed that they felt more comfortable having their spouse or friends drive them to the nearest clinic or community hospital, despite the risks of having no paramedics in attendance. SG, a married woman living in a mountainous area with twisted roads, commented, “I figure it takes half the time to drive to the hospital as to wait for them . . . they are good and all but it costs money and they may take time finding me” (SG, 57 years). MT, a woman who had suffered multiple MIs, explained,

I prefer to have my husband drive me because one time with a heart attack I called and called and called and 911 was busy . . . if I had waited for them [paramedics], they [the doctors] told me I would have been dead. (MT, 74 years)

Also, only very few study participants were referred to cardiac rehabilitation programs in the city, even though it has been recommended as a standard of care for all post-MI patients in Canada (CACR, 2009). This meant that study participants were not offered universal care and follow up that are standard for all MI patients. The centralization of tertiary care services and cardiac rehabilitation programs in urban centers created accessibility issues and challenges for many study participants (e.g., time, money, weather and road conditions during the winter).

Most study participants reported an annual income of under \$30,000 per year and a few participants reported lost wages from their jobs as a result of their MI with no sick benefits or disability compensation. FP, a 68-year-old professional, explained, “I don’t have sick pay or disability or anything . . . I am a casual school teacher who is too sick to work . . . I only have a total of \$400.00 and my medications cost me almost that . . . I can’t afford to do anything” (FP, 68 years). Many study participants revealed that they also had multiple family and caregiving responsibilities (e.g., EW taking her husband to weekly dialysis), few transportation options for driving to the city for cardiac rehabilitation classes, and inflexible working hours with no paid benefits (e.g., sick time, vacation time), all barriers to attending urban-based cardiac rehabilitation programs.

SW, one of the study participants who attended cardiac rehabilitation classes, said “the information was excellent in the cardiac rehabilitation program but there was no mention of how to use this information where I live and what programs and services are available for me to tap into at home [rural]” (SW, 52 years), suggesting that present urban-based programs were currently inappropriate for rural women as they did not respect the unique self-care challenges study participants experience (e.g., lack of quality health care providers, limited physical activity facilities and resources) and rural gender role expectations.

Only a few study participants shared that they had access to yoga, walking, or Aquafit classes with trained coaches to support their physical activity post-MI. Those who had such programs without qualified coaches felt “very timid to just go to some exercise class when there is no one there who may know about what I need after my heart attack” (EW, 68 years).

PS, a 56-year-old self-employed woman, said that there were heart information classes organized a few times a year but “they were not being offered the time I had my MI and the pamphlets and advertisements showed an old man on the front . . . which turned me off from going” (PS, 56 years). Some of the women said that they attempted to go to the walking domes or swimming pools in their communities but “sometimes the cost was too high and the hours were not convenient . . . Depending on the time of year, prime time is given to the young people for sports or on their school breaks” (FP, 68 years). In addition, many study participants indicated that they had no outdoor sidewalks or lighting for walking outside. They also felt forced to contend with uneven ground, climate and seasonal changes, speeding traffic, potential contact with wild animals, and hills which “often take my breath away when I try to walk outside” (SG, 59 years), factors which often hindered their engagement in physical activity behavior post-MI.

In Photograph 17 titled “Out of Reach,” FP, a married woman with a first time MI, visually depicted her perceptions about access to health care services, health care providers, and physical activity resources in a rural setting (FP, 68 years). For FP, being out of reach meant there were obstacles (i.e., poor roads, weather conditions, lack of health care provider follow up, financial hardships, multiple gender role expectations, lack of employment benefits) represented by the snow that was blocking her from crossing the street. These barriers made her feel alone, trying to find a way to move forward after her heart attack.



Photograph 17: Out of reach.

I took this picture to show how the snow blocks me from moving across the street to the other side . . . Living after a heart attack is not easy . . . just like crossing the walk . . . you have to go it alone, looking for your own way and hope for the best. (FP, 68 years)

6.2.6 Traditional Gender Role Expectations.

Traditional gender role expectations refer to identities, roles, and responsibilities (e.g., homemaker, caregiver, and teacher) that are learned and assumed by rural women, partners, families, and community members. These expectations of women were described by CA, an 81-year-old widow, as “ways rural women should behave if they are to be well thought of” (CA, 81 years). The characteristics of traditional gender role expectations include: a) valued roles, responsibilities, and place, and b) keeping it together.

6.2.6.1 Valued roles, responsibilities, and place.

Valued roles, responsibilities, and place refers to the importance of and identification with specific positions, functions, and locations. Most study participants identified themselves as homemakers, caregivers, nurturers, and teachers, roles that had been learned within the social structures of the home, family, and community as well as valued and recognized by others (e.g., spouse, family members and community organizations) within rural contexts. For BD, a married woman with a passion for her home and gardening, the ability to engage in these valued activities and to resume a familiar place within her family, household, and community was

associated with “a lot of pride and feeling like I have really done something special” (BD, 58 years). CA, a widow with a first time MI, said, “I feel a lot of accomplishment and pride when I can keep the house clean, cook for people . . . I would just lay in bed and cry if I couldn’t be myself” (CA, 81 years).

This sense of place was something most study participants wanted to protect as it represented their identity and where they were comfortable. For MM, a widow with a first-time MI, beliefs about her roles, responsibilities, and place were formed by observations and messages embedded within the rural context that connected women with “nurturing and caring for the sick, like when I watched her [mother] care for my sick father and when I cared for my own late husband dying from cancer” (MM, 72 years). Also, for some study participants having an identity, function, and place afforded a sense of self-worth which also provided them with direction and guidance to engage in physical activity post-MI (e.g., starting with dusting, doing dishes), as they often had little information provided to them about physical activity resumption in the hospital.

For these participants, doing housework (e.g., cooking), working around the yard or barn (e.g., caring for horses, gardening), and caring for others (e.g., providing personal care to an elderly neighbour) were familiar physical activities, recognized and rewarded by family and community members, even though they involved “the heart pumping and sweat” (EW, 68 years). Thus, it was not surprising that some study participants, like CA, a widow and homemaker, resumed such activities post-MI to recover self-worth, even if it meant the premature resumption of doing laundry, vacuuming, and cleaning floors, despite bodily symptoms (e.g., fatigue, chest pain) and “dying of a heart attack in the process” (CA, 81 years).

Conversely, other study participants viewed these gendered roles and responsibilities not as identities but as expected duties they had to perform in rural contexts to belong. These women expressed that they felt obligated to prioritize housework, caregiving, and work-related activities over walking and leisure activities, so that they would maintain unity within their family as well as be accepted and valued by their spouse, family members, and rural community groups (e.g., church groups). For JS, a married woman and community church member, to not prioritize such activities increased her risk of “becoming an outsider in my community and being alone . . . and well, I need to have others I can count on living out here [rural]” (JS, 71 years). While JS selected physical activities such as caregiving and housework as a means of surviving and adapting within her rural setting, such decisions may not support recognition of her personal self-worth and the promotion of her heart health post-MI.

For a few study participants, the recognition of personal self-worth in the aftermath of the MI event meant re-evaluating the merit of these gendered roles and responsibilities as well as valued physical activities post-MI. SW, a married woman with a first time MI, said “I knew I needed to find ways to let go of some of some of the things around the house to make time for walking” (SW, 52 years). For this change to happen, study participants like SW needed to have education, self-confidence, financial resources, flexible employment options with benefits, transportation, and positive social relationships and connections with family members and other individuals who were willing to re-negotiate previous roles and responsibilities and to engage in new physical activity behavior change with study participants within the rural setting in the post-MI period.

6.2.6.2 Keeping it together.

Keeping it together refers to being able to “keep things going” (CA, 81 years) or organized in the family, household, community, and workplace post-MI. MM, a widow with a first time MI, explained, “Women are the ones that keep things together to keep things going. It is real important because no one else can do that, not a man and not the kids” (MM, 72 years). Many of the study participants agreed that a woman needed to be the center of their family and household, a place essential for maintaining unity and supporting others’ needs and expectations within rural settings. Study participants perceived that being the center meant being the “constant mainstay” (MM, 72 years), the “stable one” (SG, 59 years), or the “rock” (WB, 50 years) that others depended on to keep everything moving and to keep the peace. To accomplish these goals, study participants believed they needed to “be strong and nurturing” (BD, 58 years), “to get things done” (CA, 81 years), “to make others count first” (WB, 50 years), “to pick up the slack in troubled times” (JS, 71 years), and to “shoulder the responsibility” (OD, 48 years).

Many study participants felt it was very important to “be strong” (CA, 81 years), to “be independent and humble” (MA, 73 years), and not to be a burden to others as it “makes me feel useless and not like myself” (BD, 58 years). Activities which study participants associated with keeping it together in the family (e.g., “making meals and cooking,” CA, 81 years), the community (e.g., “fund raising for the church,” JS, 71 years), and the workplace (e.g., “moving a 1,700-pound meal cart,” OD, 48 years) were often perceived to be more important than engaging in walking behavior and cardiac rehabilitation programs, activities perceived by CA, a widowed housewife, to be “selfish . . . and having no purpose” (CA, 81 years).

In Photograph 18 titled “Caring for My Husband,” SG, a married woman with multiple MI events, provided a visual image to represent how her life revolved around activities related to

caring for her ill husband who cannot breathe well, move around, or offer her assistance with household tasks. For SG, caregiving was associated with feelings of purpose and identity as well as a sense of her valued place within the home. Responsibilities such as making meals, administering the multiple medications on the coffee table, and driving him to doctor's appointments allowed little time or energy to engage in physical activities (e.g., walking), placing her at increased risk for future MI events and a poorer quality of life (Heart and Stroke Foundation, 2010).



Photograph 18: Caring for my husband.

This is a picture of my husband and he has a lot of health problems and he finds it hard to move around and breathe. All of his pills stay on the coffee table and I have to keep a watchful eye and make his meals and drive him to doctor's appointments. (SG, 57 years)

6.2.7 Self-Confidence.

Self-confidence refers to perceptions of personal capacity and ability to cope as a rural woman with the MI event, and to engage in physical activity behavior post-MI. These perceptions can be influenced by traditional gender role expectations and rural cultural values and beliefs passed down through generations. They may also be shaped by patriarchal ideals

within hierarchical institutional organizations and structures within the rural context; educational, employment, and income status within rural locations; women's ways of knowing in rural settings; the physical environment of the rural context; and the quality of social relationships and connections within families as well as rural households, workplaces, and communities. A characteristic of self-confidence was beliefs.

6.2.7.1 Beliefs.

Beliefs refers to study participants' opinions of their purpose and value as rural women as well as their faith in their abilities to engage in various physical activities post-MI. For a few study participants like MC and WB, their low opinions of their self-worth (i.e., before and after the MI event), as well as their trust in their abilities to do activities around the house, to care for others, to interact with women in the community, and to engage in leisure physical activities (e.g., walking, sports) were diminished or rejected by alcoholic and abusive husbands, strict and unloving parents, the gossip of others in the community, few educational and employment opportunities, financial hardships, limited options for and quality access to physical activity resources, geographic isolation, and limited social interaction with others including health care providers. MC, a socially isolated woman, commented, "I didn't make no decisions about what to do when I came home . . . he [husband] told me what to do . . . if he said stay put, I did" (MC, 59 years). WB said, "I do what I know how to do automatically like dishes but doing things I haven't done scares me a little . . . like when the men laughed about whether I could hold a saw at work" (WB, 50 years). BD, who grew up with a strict and an unloving mother and as a single mother, avoided participation in walking groups in her community because she never believed "I was good enough or able enough to keep up with the walking and exercise other women do . . . I don't want to bring them down" (BD, 58 years).

For most study participants, belief in self-worth as a nurturer and caregiver as well as in their abilities to engage in hard work (e.g., animal care) and physical activities such as housework, gardening, and caregiving was supported and fostered by family and community members who identified with prescribed rural cultural values and traditions, informed by patriarchal ideals (e.g., social structures where men are primary authority figures). Receiving recognition for engagement in hard labour as well as housework and caregiving encouraged study participants to identify with these roles and responsibilities and to trust in their abilities to make decisions about and engage in these valued activities. For example, CA, a widow who spent her childhood helping her mother in the house, explained, “I don’t do those walking things . . . to put myself out like that . . . I do what I do best . . . making cakes and taking care of my home because that it is what I was told by mother I did well” (CA, 81 years).

For the few study participants who experienced a “wake-up call” (PS, 56 years) after the MI event, they realized that they needed to start putting themselves first, defining and valuing their inner well-being and quality of life. For most of these study participants, there had been some previous experience with walking, doing Aquafit, and swimming, giving them past experiences and successes “to believe that I could get into doing those kinds of things again [walking, swimming] after the heart attack” (FM, 67 years). These study participants also had more financial resources, higher levels of education, flexible employment options, and transportation options, factors which facilitated their engagement in physical activity behavior post-MI.

What also helped foster these participants’ personal sense of self-worth and belief in their abilities to engage in new walking routines and leisure aerobic activities (e.g., swimming) was encouragement (e.g., praise), education (e.g., cardiac rehabilitation classes), support (e.g.,

walking with study participants, participation and membership in walking groups), and accommodations (e.g., re-negotiating previous roles and responsibilities) from others. Higher levels of self-confidence encouraged study participants' engagement in physical activities to improve their lives. In addition, they believed in lobbying to change the conditions where they live (e.g., more relevant physical activity programs for rural women in rural settings and more flexible physical activity facilities).

6.2.8 Creativity.

Creativity refers to having an ability to come up with new ideas and better ways of engaging in physical activity behaviors post-MI as a means to overcome the challenges and limitations imposed by the rural context (e.g., economic decline, limited employment and education options, limited quality options for and access to health care services and physical activity resources, geographical isolation). Creativity also refers to the creation of new knowledge (e.g., rural women networking together, problem solving and sharing ideas) and the innovative use of this knowledge. The characteristics of creativity include: a) figuring things out and b) innovation.

6.2.8.1 Making sense of things.

Many of the study participants indicated that they had received very little information from expert health care providers about their MI or how, when, why, how, or where to engage in physical activity in rural settings. With most having low educational levels (i.e., below high school) and limited opportunities to receive information from local health care providers (e.g., limited follow up, being rushed, being “brushed off,” BD 58 years), as well as a paucity of relevant health education programs and physical activity resources focused on rural women in rural settings (e.g., “a heart survivor class had pamphlets with old men on them” PS, 56 years),

most study participants were left to make sense of how to engage in physical activity behavior post-MI.

SW, a married woman who attended urban cardiac rehabilitation classes, commented that “there needed to be a way for health care providers to bring rural women post-MI together in rural settings to have the opportunity to share stories, to swap ideas about what makes physical activity easier or harder, and to come up with new ideas and ways to fit things like walking into life” (SW, 52 years). However, for a few study participants, like WB and MC, living in abusive spousal relationships encouraged them to withdraw and isolate themselves from other rural women in settings already geographically isolated from health care providers, services, and physical activity resources. This limited their desire and opportunities to problem solve and come up with solutions to help them engage in physical activity behaviors and thus recover post-MI.

Many study participants acknowledged they had close ties to family members, friends, and community members and that “some family like my mother and grandmother also had heart attacks . . . so I learned from them” (SG, 57 years). While many of these women felt it helpful to exchange stories with siblings, friends, and neighbours, most of them, like OD, a married woman with two MI events said, “their [family members’] heart attacks were much different than mine . . . even different treatments because I had a stent and my brothers had bypass, makes it hard to compare sometimes” (OD, 48 years). Also, some study participants like MM and JS were connected with social groups such as a group of friends who met at a coffee shop to socialize (MM, 72 years) and a church group (JS, 71 years). While sharing stories and information with family and friends provided a forum for emotional support and advice about how to resume valued household, caregiving, and community church activities, often there was little discussion

about solutions and approaches to facilitate daily walking behavior post-MI, as many did not value, prioritize, or understand the benefits of such physical activities for heart health.

Study participants who did attend urban-based cardiac rehabilitation classes found that these classes facilitated the creative exchange of ideas about how to engage in physical activity behavior post-MI (e.g., pedometers, monitoring carotid pulse, warming up and cooling down periods). However, SW stated, “there was a lack of rural women who could go for this class . . . and there was little discussion about creative strategies and solutions that would be relevant to rural women” (SW, 52 years). FM, a woman attending Aquafit classes, noted that there needed to “be more ways to connect quality instructors and health care providers with rural women . . . and for rural women to come together to talk and come up with new ideas . . . for women like us having heart attacks and getting active” (FM, 67 years). For these study participants the key to helping them figure out what to do was to come up with strategies to bring rural women, like themselves, together and to have a qualified community leader or health professional facilitate and participate in forum discussions to figure out how to engage in physical activity behaviors within their everyday lives and rural settings.

6.2.8.2 Being innovative.

Innovative refers to finding ways to use ideas, strategies, and limited rural resources (e.g., local physical activity resources and facilities, money, time, limited health care services) to develop solutions that will facilitate engagement in physical activity behavior (e.g., housework, caregiving, gardening, or walking) post-MI. All study participants indicated that living in under-resourced rural communities (e.g., limited educational and employment opportunities, limited or no physical activity resources, limited access to health care providers and services, geographical isolation, declining rural economy) and dealing with seasonal changes and climate extremes

required making innovative physical activity behavior substitutions, changes, adjustments, or modifications. For SG, a retired cook with multiple MIs, living in rural settings has always been about “learning to make the most of what we [family] had” (SG, 59 years). For many study participants, making the most of what they had was often dependent on their level of education or knowledge (e.g., relying on experiential and practical knowing when they received little or no information from health care providers). They also revealed that a lack of financial resources; decreased access to transportation, health care providers, and health care services; and the quality of their social relationships and connections (e.g., being involved in dysfunctional relationships meant having less people to rely on and offer help) influenced what strategies they employed to engage in physical activity behaviors post-MI.

Study participants who valued housework, caregiving, animal care (e.g., horses), or work-related activities (e.g., lifting a 25-pound saw to cut down trees) shared that they make adaptations to help them do some of these activities. Several study participants commented that raising their arms above their heads to reach for things on shelves or to hang up laundry was “much more uncomfortable than lifting small loads of laundry out of the dryer” (BD, 58 years).

However, while many of these women were able to rely on spouses or family members to lift vacuum cleaners, reach for food or items on high shelves, and carry laundry and groceries, other participants in abusive and dysfunctional relationships (e.g., alcoholic spouses) were not able to use such strategies. These study participants’ revealed they “would just try to get a chair or stool to stand on to reach high shelves or just do without those things” (MC, 59 years).

Some of the study participants were innovative in making additional modifications or inventions to help them engage in housework, caregiving, or work-related activities. NR, a married housewife and caregiver to her spouse, said, “I found that making a new long handle to

attach to the vacuum so the vacuum could be moved back and forth while I was sitting down helped a lot” (NR, 62 years). Other study participants shared that “I have him [adult son] lower shelves and cupboards in the kitchen so I didn’t have to reach” (SG, 59 years), “I created an area inside to grow seedlings so that my husband could plant them outside” (BD, 58 years), “I use lighter sheets on the bed than the 70-pound comforter” (MC, 59 years), and “I keep a chair and a telephone at the bottom of the stairs so I could rest before going back up from the freezer in the basement” (CA, 81 years). Such findings demonstrated study participants’ problem-solving abilities and innovative approaches to recover self-worth as rural women post-MI and to subsequently engage in physical activity behaviors that were valued and recognized by others in their rural settings.

For walking activities, several study participants shared that there were few local physical activity resources and programs in their communities (e.g., cardiac rehabilitation programs, sidewalks, lighting), as well as constantly changing seasonal (e.g., early darkness in the fall and winter, snow and ice covering the roads), climate (e.g., rain, blowing wind, extreme heat and extreme cold), and environmental (e.g., mosquitoes in the spring, uneven ground, hills, craters in the road) changes. Thus, some of the study participants were innovative in adapting locations within their rural environment to create safer walking conditions and to adapt to seasonal and climate changes such as “driving 10 minutes to a nearby town to walk on their sidewalks” (SW, 52 years), “using the inside Wii games like bowling, golfing, and tennis on bad outside days” (WB, 50 years), “going inside the malls, walking in my house and getting out to a nearby walking track” (FP, 68 years), and “looking for other activities to do inside like swimming instead of walking during the winter” (SW, 52 years).

Other innovative strategies included looking for ways to use limited resources in the community, to find ways to save money and to look for routes and places within the physical environment that would make walking easier. For example, BF, a married housewife, explained, “I don’t have no gyms and stuff like that here . . . my walking is outside but it is nothing but hills . . . so I scouted out a flat church parking lot down the road and that is where I go” (BL, 67 years). FP, a married school supply teacher with little money, revealed, “I don’t have a lot of money so I look for things to do that are free, like going to the free walking times at the walking dome . . . just wish there wasn’t limited times” (FP, 68 years). Other women, like WB, a tree cutter on current leave, said, to save some money she “borrowed a treadmill instead of buying one to keep down costs” (WB, 50 years). Thus, in rural contexts, many study participants had to find solutions (e.g., looking for free facilities to walk, looking for alternative places to walk outside) to help them engage in physical activity behaviors, as there were limited health care providers, few flexible physical activity facilities that worked around women’s work and family schedules, a lack of quality health care options, and limited income from no work and/or employment in lower paying jobs with few benefits. Such findings suggest that engaging in physical activity may take more time and effort for rural women than urban women post-MI.

6.3 CONCLUSION OF THE CHAPTER

The processes and sub-processes described in Chapters 4, 5, and 6 regarding the substantive theory, “Seeking Self-Worth: A Theory of How Rural Women Engage in Physical Activity Behavior Post-MI” take place within an ever-changing rural context. Gender and contextual factors within the rural context interact in positive and negative ways in all of these processes, promoting, discouraging or changing study participants’ engagement in physical activity behaviors in the post-MI recovery period.

Within the rural context, study participants identified that the presence of quality social relationships and connections (e.g., family members, walking buddies, other rural women post-MI, co-workers, and community groups) was vitally important to reduce feelings of social and geographical isolation, enhance feelings of self-confidence, and increase motivation to engage in creative thinking and the development of innovative strategies to adapt physical activity behavior change within rural settings. On the other hand, study participants indicated that having very few social connections as well as dysfunctional social relationships (e.g., verbally and physically abusive relationships with alcoholic spouses, unsupportive family members) and conditional social relationships (e.g., those that supported traditional gender role expectations and activities such as church work, housework, and caregiving over walking) reduced their feelings of self-worth. Such relationships and disconnections increased their desire to isolate themselves from others, discouraged abilities to re-negotiate roles and responsibilities and time in the home and workplace, encouraged them to place their personal needs “at the bottom of the pile” (MC, 59 years), and diminished their self-confidence as well as their creative abilities to engage in physical activity behaviors post-MI.

A lack of contextually relevant knowledge and information about their MI condition and physical activity from health care providers diminished study participants’ feelings of self-worth as well as their engagement in physical activity behaviors post-MI. As well, urban-developed pamphlets and tertiary cardiac rehabilitation classes made it difficult for study participants to understand the MI event and the importance of physical activity post-MI for them as rural women in rural settings. Also, limited quality options for and access to health care providers, disconnection from other rural women post-MI, and decreased local access to physical activity

resources gave study participants limited opportunities to develop creative solutions that would facilitate physical activity behavior engagement post-MI in their rural settings.

What was also concerning was that declines in the rural economy created increased work demands for study participants who had to seek outside employment (e.g., work with limited pay and benefits) in addition to all their household, family, and caregiving responsibilities at home. These multiple home, family, and work demands left study participants with little time, money, and energy to engage in leisure physical activities at home or the ability to travel to the city for cardiac rehabilitation programs. In addition, challenges within rural settings such as a lack of safe lighting and sidewalks, fast traffic, mosquitoes, wild animals, the isolation of the open physical environment, seasonal and climate changes, and dangerous weather conditions (e.g., snow, thunderstorms) were risks to study participants' personal safety, discouraging their engagement in outdoor walking post-MI.

In Chapter 7, the substantive theory will not be discussed in its entirety. Rather, what will be highlighted and discussed is new knowledge which has arisen from this work.

CHAPTER 7 DISCUSSION OF THE FINDINGS

In this study, a substantive theory was constructed of how 18 rural NS women engaged in physical activity behavior post-MI (Figure 1). The main concern of these participants was questioning their self-worth as rural women post-MI. To manage this problem these women engaged in the process of seeking self-worth. This theory provides insights into how their pursuit of self-worth as rural women, as well as gender and contextual factors, helped or hindered their engagement in physical activity behavior post-MI.

In this chapter, new knowledge arising from this work will be discussed in the following areas: a) how the process of seeking self-worth influences study participants' physical activity behavior choices post-MI within rural settings, b) the diversity and complexity of study participants' assessments of MI damage and physical activity within rural contexts, and c) how perceived experiences of being unsupported, conditionally supported, or unconditionally supported within rural contexts discouraged or facilitated study participants' testing of physical activity limits, and choosing physical activity priorities. These findings will be related to the literature and explained in terms of how they challenge the dominant discourse of traditional physical activity and cardiac rehabilitation research, standards, and practices.

7.1 SEEKING SELF-WORTH SHAPES PHYSICAL ACTIVITY CHOICES POST-MI

For study participants, the MI event triggered a questioning of their self-worth as rural women which they described as their overall sense of purpose and value in life. Before and after the MI event, study participants' constructions of self-worth were moulded by ongoing interactions with family members, friends, health care providers, and community members within rural home, family, and community structures (i.e., church, workplaces). Self-worth formation was based on various measures such as being the best homemaker, being the most

nurturing caregiver, teaching and inspiring others, looking good, being self-reliant, and being able to perform expected work and volunteer responsibilities. Thus, fulfilling the needs and expectations of spouses, family, friends, coworkers, and community members often took precedence over study participants' attention to personal self-worth.

In the aftermath of the MI event, study participants engaged in the process of seeking self-worth. This process included the sub-processes of protecting, recovering, and enhancing personal self-worth. Protecting self-worth meant study participants chose to preserve what remained of their diminished self-worth post-MI. This choice often occurred in situations where study participants perceived they had to mask emotional pain or avoid ridicule (e.g., being in abusive spousal relationships, having unsupportive family relationships and experiencing social exclusion within the rural community), deal with chronic physical pain and fatigue (e.g., living in socially and geographically isolated settings with chronic illnesses), or fear death and injury (e.g., potential for a recurrent MI, increased risk of falling outside on the ice in winter time while walking). These study participants would cautiously engage in independent daily walking behavior to avoid a recurrent MI, remain sedentary to avoid conflict and potential physical or emotional injury, or resume risky practices such as smoking and drinking to cope with potential or actual domestic violence.

Recovering self-worth meant study participants chose to regain self-worth by resuming previous household, caregiving, volunteer or self-employment roles and responsibilities, activities which were valued and recognized by family, friends, community members, and coworkers. In the rural context, most study participants were familiar with and accepting of cultural beliefs, rituals, and customs that prescribed benchmarks (e.g., putting the needs of others first, re-establishing stability) for women's mastery and acceptance within rural contexts (e.g.,

being competent homemakers, completing work responsibilities). Therefore, these study participants were often willing to engage in temporary walking behavior to facilitate recovery or to take risks by prematurely resuming strenuous household, caregiving, and work-related activities for the well-being and financial security of the family, even at the expense of their personal health and well-being.

Enhancing personal self-worth meant study participants chose to augment their personal self-worth by adopting and maintaining physical activities such as daily walking and swimming to promote their own health, quality of life, and well-being. A few study participants said that they had to make a conscious commitment to themselves to put their needs first in a context where customs, rituals, patriarchal ideologies, and gendered roles and expectations acted as constraints to enhancing personal self-worth. To do this it was essential to have mutual, empathetic, and empowering relationships with spouses, family members, friends, health care providers, employers, or community leaders. Such relationships supported these women in their efforts to carve out self-time for physical activity and to re-negotiate roles and responsibilities within the home, community, and workplace.

Over the years there has been an over-reliance on quantitative measurement instruments and surveys to define and test constructs such as self-efficacy (i.e., defined as a person's belief in his or her ability to be physically active on a regular basis) and self-worth (i.e., defined as an individual appraisal of value), to determine if they are strong and consistent predictors of physical activity in men and women post-MI (Allison & Keller, 2000; Blanchard et al., 2007; Luszczynska & Sutton, 2006; Yates, Price-Fowlkes, & Agrawal, 2003). The definitions of these constructs varied across studies but researchers shared core assumptions that self-efficacy and

self-worth were individual personality characteristics that could be quantified (Blanchard et al., 2007; Huberty et al., 2008; Luszczynska & Sutton, 2006).

Even though findings from these multiple studies suggested that self-efficacy may hold promise in explaining exercise participation in the short term (Allison & Keller, 2000; Blanchard et al., 2007; Huberty et al., 2008; Luszczynska & Sutton, 2006), self-efficacy did not explain more than 20% of the variance in physical activity in research participants across these studies (Blanchard et al., 2007), implying that 80% of this variance remained unexplained. Also, these findings were based on studies of participants attending or who had attended urban-based cardiac rehabilitation programs (Blanchard et al., 2007; Huberty et al., 2008; Luszczynska & Sutton, 2006). Thus such studies failed to consider context or rural influences and these findings could not be extrapolated to cardiac patients who did not attend cardiac rehabilitation such as rural women and other marginalized ethnic populations (Blanchard et al., 2007; Woodgate, Brawley, & Weston, 2005). In addition, recent evidence from descriptive and correlational studies has indicated that the presence of self-worth, defined as an individual characteristic, was positively associated with physical activity behavior in women (Elavsky, 2009; Huberty et al., 2008) and older adults (Gothe, Mullen, Wojcicki, Mailey, White, & Olsen, 2011). Collectively, however, such findings have limited ability to assist health care providers to understand how the processes of seeking self-worth and engaging in physical activity behavior influence one another.

This study offers insights about self-worth that are different from those found in traditional physical activity and cardiovascular research (Golden & Earp, 2012). This study engaged rural NS women in dialogue to elicit detailed descriptions of their perceptions of physical activity and the process of how they engaged in physical activity behavior post-MI. Study participants described self-worth development and pursuit (e.g., their purpose and value in

life) as a process shaped by changing circumstances (e.g., MI event) and gender and contextual factors within their rural settings which influenced physical activity behavior choices post-MI. Such findings advance understanding of rural women's self-worth post-MI as being an evolving process embedded within the rural context, rather than a fixed, stable individual personality characteristic that shapes physical activity behavior choices. For example, study participants such as WB and MC, living with unsupportive and abusive spouses post-MI, reported low self-worth before and after the MI event. To seek self-worth post-MI, both selected the sub-process of protecting self-worth which facilitated engagement in activities for self-preservation such as withdrawing from social groups and engaging in sedentary or risky behaviors to cope (e.g., smoking, drinking, and lifting heavy objects such as rocks). However, they also indicated that they may re-evaluate their self-worth, self-worth pursuit strategies, and physical activity behaviors post-MI if they were able to have contact with "someone . . . like a health care person or whomever would take the time and listen and talk with me when I needed them" (WB, 50 years).

In support of this study's findings, there has been some work in psychology research to examine the impact of self-esteem and self-worth on individuals' perceptions of self, others, and events in their lives as well as their actions and behaviors (Crocker & Park, 2004). These authors contend that what individuals do to achieve and to avoid a decline in their self-worth influences their decisions about where to prioritize and invest their efforts in life as well as their selected actions. According to Crocker and Park (2004), when individuals engage in strategies to pursue goals that help to successfully achieve self-worth, whatever they perceive that to be, there are emotional and motivational benefits to keep engaging in activities which achieve this outcome (e.g., continuing to exercise if they see benefits of weight loss). However, these authors

argue that the costs of self-worth pursuit to meet others' expectations (e.g., engaging in smoking and drinking to fit into the group) may have individuals making decisions and taking actions which are the opposite of what they need to thrive as people and to achieve positive self-worth.

In this study, the process of seeking self-worth and the sub-processes of protecting, recovering, and enhancing self-worth influenced study participants' ongoing assessments of MI damage and physical activity, testing of physical activity limits, and choice of physical activity priorities. What these study findings add is further understanding of how gender and contextual factors within the rural context can influence study participants' perceptions of self-worth, the process of seeking self-worth over time, and physical activity behavior engagement post-MI. For example, EW, a housewife and caregiver for her husband, engaged in the sub-process of recovering self-worth to meet others' expectations of fulfilling her housework and caregiving obligations and responsibilities. EW said:

I had to get back to who I always was because, well . . . because my husband was depending on me . . . he needs dialysis and there are no buses out here [rural] to drive him to his appointments or nurses to come in 24 hours a day. (EW, 68 years)

Rural nursing practitioners (Leipert, Delaney, Forbes, & Forchuk, 2011) or rural public health nurses (Canadian Public Health Association, 2010) may have a role to play in learning to recognize and to help to address changes in study participants' situations or circumstances, social relationships and connections, as well as rural context. At present, rural public health nurses in Nova Scotia are primarily involved in healthy beginning programs for families with young children, school aged children, and youth; communicable disease prevention and immunization; and chronic disease prevention (Nova Scotia Department of Health, 2012). Similar to current programs for young families with children, rural public health nurses and nurse practitioners, in

collaboration with inter-sectoral groups, rural community recreational organizations, rural community members, and rural women post-MI, could facilitate the development of an education packet or informational flyer for rural women post-MI. This educational packet or informational flyer would contain a list of contact numbers for local health care providers, community leaders, community home visitors, and physical activity resources within their rural settings. This information could then be distributed to all rural women post-MI in urban and rural hospitals, in local family doctors' offices, and visiting community immunization clinics by health care providers as well as published in the local community newsletter.

Rural public health nurses or nurse practitioners could be contacting all rural women post-MI following hospital discharge by telephone to ascertain whether a home visit would be welcomed. Regular home visits, local community information sessions, or referral to health care services, providers, or community services (e.g., mental health services, volunteer transportation programs, walking groups, churches) could then be developed with and offered to rural women post-MI based on need and assessment (Nova Scotia Department of Health, 2012). These nurses and nurse practitioners could also help represent and advocate for rural NS women's needs at local community health board meetings and at key community (e.g., local recreational departments and facilities) and provincial organizations (e.g., Provincial Department of Physical Activity, Sport, and Recreation, Heart and Stroke Foundation), as well as provincial government forums (e.g., provincial legislation, policy, and program development).

7.1.1 Summary.

Study participants revealed the processes they engaged in to pursue self-worth in the aftermath of their MI events. These processes were influenced by gender, contextual factors, and the quality of social relationships and connections within rural settings. The process of seeking

self-worth influenced study participants' assessments of MI damage and physical activity, the testing of physical activity limits, and their choice of physical activity priorities. For a few study participants, their realization of intrinsic worth and the consistent and positive support of family members, friends, community leaders, employers, and health providers were factors that facilitated physical activity behavior engagement post-MI.

Such findings suggest that rural public health care nurses, other health care providers, rural recreational and community leaders, and policymakers need to further research and understand the trajectory of self-worth development in rural women over the life course and post-MI, as the process of seeking self-worth was found to have influenced study participants' physical activity behavior choices before and after the MI. As well, it would be helpful to involve rural NS women in the development, implementation, and evaluation of interventions and programs aimed at enhancing their personal self-worth development post-MI.

Rural public health care nurses (Canadian Public Health Association, 2010) and nurse practitioners have been perceived as accessible and trustworthy health care providers by rural residents (Leipert et al., 2011). For this reason, they may be best suited to recognize and address changes in study participants' situations or circumstances, social relationships, and connections or rural context. Also, rural public health nurses and nurse practitioners monitor interrelated conditions and factors that influence population health, participate in inter-sectoral collaboration and communication, work with community leaders and members to find large scale solutions, and advocate for provincial legislation, policies, and programs to meet the needs of rural populations (Nova Scotia Department of Health, 2012). For example, study participants with outside employment prior to the MI event indicated policies related to improved sick benefits and the development and implementation of transitional back to work programs in their places of

employment would provide them with the time to engage in physical activity behavior post-MI to improve their personal health outcomes post-MI.

7.2 ASSESSMENTS OF MI DAMAGE AND PHYSICAL ACTIVITY ARE DIVERSE AND COMPLEX

In this study, I sought to understand the process of how rural NS women engaged in physical activity behaviors post-MI and factors that affected their physical activity behaviors post-MI. In the substantive theory, study participants' engagement in physical activity behavior post-MI is clearly embedded within a gendered rural context. The rural context is characterized by traditional gender role expectations and is challenged by unique accessibility, geographical, socioeconomic, and educational issues. Within the rural context, there are multiple levels of interacting intrapersonal (e.g., self-confidence, creativity, ways of knowing), interpersonal (e.g., social relationships and connections, traditional gender role expectations), and extrapersonal factors (e.g., rural economy and changing employment opportunities, physical environment, and limited options and accessibility to health care providers and physical activity resources). Study participants' ongoing social interactions within and among these multiple levels of influence shape their complex and diverse assessments of MI damage and physical activity.

Before the MI event, most study participants described physical activity as housework, caregiving, gardening, yard work, volunteer work, employment-related activities (e.g., pushing a food cart), walking, or a combination of these activities (Table 1). Also, walking was usually perceived to be an activity to "get to some place, not a thing you did for enjoyment" (CA, 81 years). Following the MI event, study participants engaged in the process of seeking self-worth to manage their questioning of self-worth and to decide about physical activity. In tandem with the process of seeking self-worth, these women engaged in other processes such as testing physical activity limits and choosing physical activity priorities, both of which continuously

influenced their assessments and re-assessments of MI damage and physical activity in the post-MI period. For example, EW, a 68-year-old married woman with a first-time MI, chose to seek self-worth by engaging in the sub-process of recovering self-worth post-MI. With a desire to resume stability in the home and to alleviate stress on her chronically ill husband, EW assessed the MI as a temporary setback and prematurely engaged in vacuuming her first week home. She decided to devise an attachment device for the handle of the vacuum that would allow her to sit down doing the activity and she paced this activity by taking frequent breaks and rest periods. However, the chest pain and shortness of breath that ensued during this premature resumption of heavy lifting (e.g., a risky behavior) temporarily forced her to change her priorities from meeting others' expectations to putting herself first. She was re-admitted to the hospital overnight and had to re-question her self-worth again. While still desiring to resume her previous way of life, EW re-assessed her MI damage to be more severe and an interference in her life. Her perceptions of physical activity now involved walking. Thus she focused on looking for directions, establishing boundaries, and making improvisations (e.g., going for small 15-minute walks at a time) to engage in walking activities. However, the goal was to re-gain her strength so she could get back to doing the physical activities she loved and valued (e.g., cooking, housekeeping, and caregiving) and to help her husband (who required weekly dialysis treatments at a community hospital, an hour drive one-way in good weather).

Study participants' assessments of MI damage and physical activity were shaped by the sub-processes of interpreting mixed messages (e.g., understandings about the MI event and physical activity before and after the MI event from numerous sources such media, family member, friends, and health care providers), listening to their body (e.g., recognizing and interpreting bodily symptoms and gauging functional performance), and determining MI impact

(e.g., understandings of the MI event being a temporary setback, interference or a permanent change in their lives). For example, if a study participant interpreted that others (e.g., family members and health care providers) were unconcerned about the MI event and if she experienced no bodily symptoms or perceived functional limitations, her original perceptions of physical activity were less likely to change post-MI event (e.g., valuing traditional gender role activities such as housework and caregiving over walking). On the other hand, if a study participant was told by her family doctor and specialist that the MI event was serious and if she was having multiple symptoms and functional limitations, her perceptions of physical activity may change greatly (e.g., valuing sedentary behavior or walking). In this case, a study participant may place more emphasis on daily walking activity to prevent death and injury versus housework and caregiving activities.

Study participants had diverse perceptions of physical activity, implying that physical activity was perceived to be a multifaceted concept and that the interconnected processes of seeking self-worth, assessing MI damage and physical activity, testing physical activity limits, and choosing physical activity priorities were complex, chaotic, and unpredictable, not linear and predictable. Also, inconsistencies and limitations in the rural context (e.g., poor or no access to quality health care providers and services) and a lack of physical activity, health care service, educational and financial resources often contributed to this complexity and unpredictability.

The substantive theory from this study is consistent with gendered socio-ecological perspectives within the literature. Socio-ecological perspectives originated and evolved from Bronfenbrenner's (1979) ecological theory of human development and socialization (McLeroy, Bibeau, Steckler, & Glanz, 1988; Sallis, Cervero, Ascher, Henderson, Kraft, & Kerr, 2006). Those who adopt a socio-ecological perspective assume that individuals are embedded within

larger social systems and that interactions between individual, social, and environmental factors influence people's health behaviors and outcomes (Golden & Earp, 2012).

In Canada, a socio-ecological perspective influenced Mikkonen and Raphael's (2010) broad social determinants of health framework. This framework identifies living conditions such as disability, early life, education, employment and working conditions, food insecurity, health services, gender, housing, income and income distribution, race, social exclusion, social safety net, and unemployment and job security that significantly impact health outcomes and health behaviors in individuals and populations. Since 2002 the social determinants of health have been targeted as areas for future public policy action within various populations (Mikkonen & Raphael, 2010; Romanow, 2002).

In this study, the substantive theory further supports that gender and contextual factors need to be targeted for intervention and policy development (e.g., talking to employers and policymakers about financial supports and resources for rural NS women post-MI) as a small improvement in any of these factors may have a significant positive or negative impact on the processes of seeking self-worth, assessing MI damage and physical activity, testing physical activity limits, and choosing physical activity priorities. Changes in rural economy and changing employment opportunities, supportive relationships and connections, ways of knowing, the physical environment, limited options and access to health care providers and physical activity resources, traditional gender role expectations and self-confidence may cause ripple effects resulting in a re-questioning of self-worth as a rural woman post-MI (Figure 1). Many of these factors were similar to what Moss (2002) identified in her integrated socio-ecological framework for the patterning of women's health outcomes. Moss (2002) focused on how gender inequity and socioeconomic inequality were perpetuated through fluctuating economic, health, political,

and social structures. These social structures were present in the geopolitical environment, the physical environment, cultural and religious norms and sanctions, and roles of production and reproduction within the community, household, and family.

Rural public health nurses and rural nurse practitioners may have a role advocating on behalf of rural women post-MI in community health board meetings and with policymakers for policy change related to sick-time, vacation, and health benefits for rural women post-MI and improved local accessibility to physical activity resources and health care services. Such changes would give rural women more time, financial resources, and choices to engage in physical activity behavior and to attend to their personal health needs post-MI. Also, these nurses may be able to act as a catalyst to facilitate the re-negotiation of gendered roles and responsibilities within the home, family, and workplace among rural NS women post-MI, family members, community leaders, and employers in focus group forums.

Four prominent theories, The Social Cognitive Theory (SCT), the Theory of Planned Behavior (TPB), the Self-Determination Theory (SDT), and the Transtheoretical Model (TTM), that have been utilized within physical activity and cardiac rehabilitation research and intervention studies since the mid-1980s (Buchan, Ollis, Thomas, & Baker, 2012), encourage researchers and health care providers to regard physical activity behavior change as a universal, individual, linear, and phase-staged process (Buchan et al., 2012). The underlying assumptions of these models is that physical activity and cardiac rehabilitation definitions, guidelines, interventions, and programs can be standardized and controlled for all populations, regardless of gender or context. Also, health behaviors such as physical activity behavior initiation and maintenance are believed to be predictable (Buchan et al., 2012).

In contrast, the substantive theory from this research study illustrates the diversity, complexity, nonlinearity, and unpredictability of study participants' assessments of MI damage and physical activity as well as their testing of physical activity limits and choosing of physical activity priorities within rural contexts post-MI. Thus physical activity behavior in cardiac populations such as rural women post-MI cannot be understood or encouraged using universal, standardized stage-based theoretical approaches (Buchan et al., 2012). Socio-ecological approaches and substantive theories such as the one in this study may be more useful to guide the development and evaluation of interventions and programs to help rural NS women engage in physical activity behavior post-MI (Buchan et al., 2012; Clark, Redfern, & Briffa, 2013).

In recent years, researchers and health care providers have acknowledged that the utilization of socio-ecological frameworks in research and practice holds great promise in capturing gender differences in quality of life for patients with coronary artery disease (McDonnell, Riley, Blanchard, Reid, Pipe, Morrin et al., 2011), and developing multilevel interventions to meet the needs of cardiac populations (Ferrier, Blanchard, Vallis, & Giacomantonio, 2011). However, researchers continue to struggle with how to use broad socio-ecological frameworks in research and practice (Golden & Earp, 2012). At present, researchers in the area of cardiac rehabilitation still rely heavily on cognitive rational models and behavior theories to study individual and environmental determinants, inform instrument development (Huberty et al., 2008), and design prospective, longitudinal studies to assess and predict the exercise behavior of women with CHD across domains and settings (Arthur, Blanchard, Gunn, Kodis, Walker, & Toner, 2013). However, such research approaches are incongruous with study participants' perceptions that physical activity behavior engagement post-MI is a complex,

diverse, nonlinear, and unpredictable process for rural women in isolated and underserved environments.

Thus, there may be a need for researchers, educators, and clinicians with a background in the use of socio-ecological perspectives and frameworks in research and practice to educate and mentor current nursing and allied health profession researchers and students in professional workshops and conferences as well as in the classroom. This expert education and mentorship may help to promote awareness and a better understanding of the complexity of healthy lifestyle behaviour change. As well, such initiatives may encourage future nurse and allied health profession researchers to design studies (e.g., community participatory research studies, experience based co-design studies) that seek to understand the impact of gender and the rural context on seeking self-worth and physical activity behavior engagement in rural NS women post-MI during the trajectory of their MI recovery process. All of these activities can help to inform the development of future health promotion and primary and secondary prevention programs for many diverse groups within the population.

7.2.1 Summary.

The substantive theory in this study is unique because it captures study participants' diverse and complex interpretations of engagement in physical activity post-MI, as well as the impact of gender and context on physical activity. A positive or negative change in the theory processes (e.g., testing physical activity limits, or choosing physical activity priorities) or contextual factors (e.g., physical environment, rural economy and changing employment opportunities, improved access to contextually relevant local and physical activity resources) will influence study participants' assessments of MI damage and physical activity as well as processes of testing physical activity limits and choosing physical activity priorities post-MI.

Traditional theoretical approaches which exist within positivist and cognitive rational paradigms to guide research and intervention development (Buchan et al., 2012) appear to be limited in their contribution to understanding how rural NS women engage in physical activity behavior post-MI. Such approaches do not capture the diversity and complexity of physical activity behavior change and the impact of contextual influences on the processes within the substantive theory.

Socio-ecological theoretical approaches are more congruent with a complex adaptive systems approach that captures study participants' perceptions of and interactions with multiple interacting levels of influence such as gender and contextual factors (Moss, 2002). What may be helpful is for researchers with experience in the application and use of a socio-ecological framework in research and practice to educate and mentor nursing researchers and students in this approach through professional workshops, conferences, and classroom settings.

7.3 BEING UNSUPPORTED OR CONDITIONALLY SUPPORTED DISCOURAGES PHYSICAL ACTIVITY

The problems that study participants faced regarding physical activity in the post-MI period and factors that negatively influenced physical activity behavior engagement post-MI often stemmed from being and feeling unsupported or conditionally supported by others within the home, family, community, workplace, or health care settings. As a result, many study participants shared that they experienced multiple levels of disconnection (e.g., from their intrinsic self, within social relationships, in interactions with health care providers, and in their ability to access local and tertiary physical activity resources and services). Being unsupported or conditionally supported was described by study participants as “being left on my own,” “being interrupted,” “being left out,” “being brushed off,” “not having any me time,” and “being cut off from everything.”

In the substantive theory study participants who felt unsupported or conditionally supported reported feeling disconnected from their intrinsic self, family members, community members, health care providers, or employers. These women often engaged in the sub-processes of protecting or recovering self-worth to seek self-worth post-MI. The sub-process of protecting self-worth post-MI was chosen when there were needs to mask emotional pain and to avoid ridicule, to manage chronic pain and fatigue, or to cope with fears of death and injury. The sub-process of recovering self-worth was chosen when there were desires to put the needs of others first and re-establish stability in the home, family, community, or workplace.

Often these study participants conveyed that they had limited understanding of the MI event, difficulty in recognizing and interpreting bodily symptoms and functional performance, and interfering or permanent changes in their abilities post-MI to carry out the valued household, caregiving, volunteer, and work-related activities. Also, these participants struggled to test physical activity limits because they had no direction from health care providers or opportunities to make inquiries, participate in group activities, or engage in dialogue and stories with other rural women post-MI.

As a result, these women had to figure out the rules for physical activity and set the pace for activity on their own which often resulted in more sedentary or cautious approaches to physical activity or engagement in risky behaviors (e.g., smoking, drinking) detrimental to their personal health post-MI. However, study participants who desired to put others' needs first and to re-establish stability in the home, family, community, and workplace placed value on housework, employment, church, and caregiving activities, even if it meant engaging in activities harmful to their personal health (e.g., lifting and pushing heavy objects, prematurely returning to work post-MI). Thus, being unsupported or conditionally supported on multiple levels

frequently led to testing physical activity limits and choosing physical activity priorities centered on behaviours that centered on daily survival (e.g., minimizing risks and living day-to-day) or meeting others' expectations (e.g., fulfilling roles and obligations and returning to normalcy prior to the MI event).

Within the substantive theory (Figure 1), study participants who were disconnected from recognizing their intrinsic worth as a person often reported that they were unsupported or conditionally supported in their social relationships and connections, had a lack of opportunity to obtain received or required knowledge following the MI, were geographically isolated in their rural settings, had limited options and access to health care providers and physical activity resources, identified with traditional gender role expectations, and had little self-confidence and limited creativity. Furthermore, gendered roles and expectations, literacy challenges, and reduced outside employment opportunities and stability within the home and the family exacerbated feelings of disconnection. This instability and sense of disconnection on multiple levels made it difficult for study participants to find a voice and to have the time, support, and resources to recognize and to meet their personal health needs in the midst of their multiple responsibilities, the realities of the rural context, and the circumstances of their everyday lives.

In addition, most of these study participants shared that it was difficult to express their feelings, to ask for help from family members and friends, and to articulate their questions and concerns during their limited interactions with health care providers. While many of these women acknowledged that family, friends, and co-workers offered initial support and assistance after the MI, they also revealed that previous gendered divisions of work and responsibilities were quickly resumed by others once they re-engaged in household, caregiving, and work-related tasks. Thus it appeared that spouses, family members, employers, and community members

significantly enabled or disabled rural women's development of personal self-worth and, subsequently, their engagement in physical activity behavior post-MI.

Rural women's experiences of being unsupported or conditionally supported have also been described in the literature. Feminist researchers have described patriarchal-based institutions, cultures, and relationships, often found in rural settings (Leipert, Leach, & Thurston, 2012), as those that afford men with relationships and communities of power and privileges, control, and entitlement, and that encourage or require women to accommodate and defer to male interests (Dickerson, 2013). Canadian rural researchers have revealed that rural women are frequently exposed to and live within hierarchical institutional structure (e.g., economic, educational, health care, political), patriarchal ideologies, and traditional gender roles and expectations within rural contexts (Leipert, Leach, & Thurston, 2012). These social structures and cultural beliefs within rural settings have facilitated the development of social relationships within the home, family, workplace, and community that allow others to have power over rural women (Leipert, Leach, & Thurston, 2012).

Features of rural culture and context such as public visibility, social cohesiveness, shared values (Hornosty & Doherty, 2003), geographical isolation (Websdale, 1998), economic stress, higher levels of illiteracy, and a lack of accessibility to quality local health services and health care providers escalate the risk of intimate partner violence (Riddell, Ford-Gilboe, & Leipert, 2009) and social disconnection (Shucksmith, 2003). Work by developmental psychologists Jean Miller (1976, 1986, 1990) and Carol Gilligan (1982) in the area of relational cultural theory and women's psychological development of self contend that social disconnection creates diminished zest or vitality, disempowerment, lack of clarity or confusion, diminished self-worth, and a turning away from relationships and healthy lifestyle practices.

Though many study participants suggested that spouses, family, and community members acted as enablers or disablers of their self-worth development and physical activity engagement, present cardiac rehabilitation and physical activity research and programs continue to focus on individual, urban-based interventions (Clark, Redfern, & Briffa, 2013) or the augmentation of supportive relationships between individuals and primary health care providers (Cole, Smith, Hart, & Cupples, 2013). Within the literature, secondary prevention family-focused interventions and strategies for rural women post-MI are non-existent. Only one American qualitative research study on a family dyad group intervention for caregivers of congestive heart failure patients in an urban setting was found (Duhamel, Dupuis, Reidy, & Nadon, 2007). The intervention, which took place in an urban hospital, consisted of weekly family meetings with a clinical nurse specialist to discuss feelings and issues. These authors revealed that family nursing meetings allowed family members to gain a better understanding of their loved one's congestive heart failure experiences, needs, and behavior. However, there were no details about how family members used this understanding to help their loved ones with congestive heart failure management. Such findings suggest that nurses and other health care providers within urban and rural hospital settings may be better able to start family group meetings. Study participants identified hospital settings as initial locations where access to rural family members and spouses was most probable after an MI event.

What is apparent from this study is that there is a compelling need to examine rural health care practice. Public rural health care nurses (Canadian Public Health Association, 2010) or nurse practitioners who Canadian rural women have been found to trust and respect (Leipert et al., 2011) may have a role in facilitating communication and large social change among community leaders, local health care providers, and policymakers for improved access,

assessment, and augmentation of relationship supports (e.g., family counseling services during and after rural women's hospitalization post-MI, contacting rural women and family members by phone to set up home visits, local literacy programs) and family involvement in health behavior change (e.g., family member inclusion in rural women's education before discharge from the hospital post-MI). In cases where family members will not participate in such initiatives, rural public health nurses and nurse practitioners, for example, can focus on socially connecting rural NS women with mentored community lay health advisors and other supports in the rural community (e.g., the church, recreational community organizations and leaders), walking buddies, or local walking groups with other rural women post-MI. In particular, rural women's walking groups have been found in the literature to enhance feelings of group camaraderie, unconditional support, and increased self-worth among rural women (Perry et al., 2008). As well, rural public health nurses and nurse practitioners may also initiate and facilitate discussions and collaboration about large social change related to the delivery of safe, effective care to rural NS women (e.g., improved ambulance access and services) among health care providers, community leaders and organizational groups, family members, employers, rural women post-MI and policymakers at organized rural community workshops, community theatre presentations (Niskar, Martin, Bluhm, & Daar, 2006), and forums. Such understanding and initiatives may serve to facilitate rural NS women's pursuits of enhancing self-worth, changing rural gender norms, expectations and behaviors, the valuing of rural NS women as persons, and rural NS women's engagement in physical activity behavior post-MI.

A recent Canadian study of 12 men and women from northern Ontario using an ethnographic approach and photo-elicitation interviews was conducted to better understand how engagement in heart healthy lifestyles were complicated by such contextual barriers and supports

(Timmermans, Rukholm, Michel, Nielson, Lapum, Nolan, & Angus, 2011). Study findings revealed that health care providers needed to develop a deeper understanding about how place creates barriers and feelings of disconnection. Also, Kilgour and Parker (2012) completed a study to examine physical activity participation patterns among a group of 131 female employees and students from a university in the southwest of England. While these authors did not identify the percentage who lived in rural settings, they did acknowledge that women's various and diverse experiences with regards to the social and cultural aspects of fear and risk in the outdoor environment may shape physical activity participation. As a result, these researchers recommended that more understanding was needed to uncover the complex relationships that women across varied populations and landscapes have with outdoor spaces.

In this study, analysis of participant data revealed that unequal distribution of power and resources for rural women post-MI within hierarchical institutions (i.e., education, workplace), a lack of access to local employment opportunities with benefits, and the centralization of cardiac specialist and rehabilitation services in the city facilitated study participants' feelings of being unsupported. Furthermore, study participants' feelings and experiences of disconnection were exacerbated by a lack of contextually relevant information materials and programs, decreased accessibility to local health care providers, unsafe physical environments (e.g., lack of sidewalks, lighting, bike trails), seasonal climate changes, social and geographical isolation, and a lack of local cost-effective and flexible physical activity resources. Thus, factors that hindered study participants' engagement in physical activity behavior post-MI need to be identified, addressed, and targeted by health care providers, community organizations, and policymakers in collaboration with rural women post-MI. Such collaborative discussion and planning may facilitate the development of programs, strategies, and initiatives to promote cardiac risk

modification and reduce rural women's risk for future cardiac events, functional disability, social and geographical isolation, and poor health outcomes post-MI (Heart and Stroke Foundation, 2010).

In spite of this knowledge, the centralization of health care services and resources in urban settings has created limited availability and access to specialists, family physicians, and other health care providers in rural settings with less than 10% of physicians and 18% of nurses employed in Canadian rural contexts (Hanvey, 2005; Kirby & LeBreton, 2002; Leipert et al., 2008). Such trends, along with limited funding and other resource constraints, afford rural nurses and other allied health providers with very few opportunities to engage in collaborative forums with rural women post-MI, community recreational leaders, and policymakers (Desmeules & Pong, 2006; Leipert, Leach, & Thurston, 2012, Strasser & Neusy, 2010).

However, study participants consistently identified the need for more resources such as time, funding, and programs for rural settings. Literature review findings in the area of medical education and rural practice (Pong & Heng, 2005) and nursing education and preceptorship in rural Canadian settings (Yonge, Ferguson, & Myrick, 2006) recommend increasing exposure of educators, providers, and students to rural professional workshops, undergraduate, graduate, and professional curriculum course content (e.g., more rural courses in nursing and other health care professional programs), as well as mentorship and clinical placements with community leaders and health care providers living and working within rural settings. Leipert and Anderson (2012) also found that the use of qualitative research methodologies and methods such as photovoice in a classroom of 38 third and fourth year nursing students facilitated nursing students' awareness and reflection about rural issues and nursing students' interest in rural practice.

7.3.1 Summary.

Gendered roles and expectations as well as structural, economic, educational, geographical, accessibility, and cultural aspects of the rural context created conditions which perpetuated multiple levels of disconnection for study participants. Being unsupported or conditionally supported in social relationships within the home, family, community, and workplace had negative influences on many study participants' self-worth development, pursuit of self-worth as a rural woman post-MI, assessment of MI damage and physical activity, testing of physical activity limits, and choice of physical activity priorities in the post-MI period. Study participants indicated that spouses, family members, and friends enabled as well as hindered personal self-worth development and physical activity behavior engagement post-MI. Yet there is a paucity of cardiovascular intervention studies including family and community members in rural settings. This may be because health care providers have not been found to be as available or accessible to rural residents (Leipert, Leach, & Thurston, 2012).

Future areas of nursing research should focus on how nurses, in partnership with rural NS women, family members, other health care providers, and recreational community leaders, can approach relationship assessments and relational interventions. There is also a need to increase the exposure of health care provider students to rural residents, rural research projects, and rural preceptorship and mentorship programs so they can acquire new understanding about the rural context. As well, is it essential to promote the participation of researchers, health care providers, and community leaders in rural workshops, focus group forums on rural issues, and preceptorship and mentorship experiences within rural settings. Such experiences may facilitate self-reflection, opportunities for open dialogue, enhanced rural practice, and research initiatives which include rural NS women post-MI, family members, employers, recreational community

leaders, and organizations and policymakers. Outcomes of such initiatives may include the collaborative development of contextually relevant educational materials and programs to match this population's unique literacy, informational, and support needs.

7.4 BEING UNCONDITIONALLY SUPPORTED CONTRIBUTES TO PHYSICAL ACTIVITY

The factors that positively influenced participants' physical activity behavior engagement post-MI were related to experiences of feeling unconditionally supported. For study participants, being unconditionally supported meant being joined or linked together in helpful and encouraging ways with spouses, family members, community members, health care providers, health care services, the physical environment, and community organizations and institutions. A few study participants described unconditional support as being in relationships that made them feel better about themselves as people. While study participants did not specifically use the word "empowerment," they did vocalize their desire to have the freedom and the resources (e.g., time, finances, walking trails) to participate in leisure activities and to have contextually relevant information and knowledge to make decisions about physical activity behavior engagement. These study participants shared that they would like to take part in future collaborative research projects with community leaders, health care providers, and policymakers as well as the design of contextually relevant educational materials, interventions and programs, and public policy development.

Within the substantive theory, study participants who felt connected to their intrinsic self-engaged in the sub-process of enhancing personal self-worth following the MI event. This sub-process involved carving out personal self-time and building supportive networks and connections that would facilitate their engagement in leisure physical activities such as walking, swimming, or Aquafit. However, these study participants were better educated and more

financially stable which afforded them more opportunities to attend cardiac rehabilitation programs in the city and local physical activity facilities (e.g., swimming pools and walking domes). As well, these advantages enhanced their self-confidence and abilities seek out information from a variety of sources (e.g., health care providers, internet, and community newsletter).

These study participants were committed to acquiring knowledge to help them understand their MI event, the importance of physical activity engagement in the post-MI period, the recognition and interpretation of bodily symptoms and functional performance, and the significant impact of an MI on their personal health. These women commented that they were quite comfortable making inquiries of health care providers in hospital and participating in walking group activities, cardiac rehabilitation classes, and initiatives to provide support to other rural women post-MI in their communities. Enhanced educational opportunities, accessible transportation to physical activity resources, financial stability, flexible employment conditions, and unconditionally supportive family members, spouses, employers, and community members gave them the time to figure out the rules for physical activity, set the pace of physical activity, and to find substitutions and creative solutions to engage in physical activity behavior for their own personal health (e.g., walking and swimming) in their rural settings. Thus for these participants, physical activity priorities centered on putting themselves first and redefining the MI, self-worth, and physical activity in the post-MI period.

As a researcher, an unexpected finding arising from this study was that many study participants described the research interviews, journaling in their logbooks, and taking photographs with provided cameras as therapeutic. In other words, their involvement in the research process encouraged self-reflection and a connection with their world and experiences

and with researcher inquiries and reflections. These findings are supported in other qualitative studies. Mattingly and Lawlor (2000) contend that qualitative interviewing can provide study participants with the opportunity to share their stories and to think about their physical activity behaviors post-MI in different ways such as the applicability of hospital guidelines to their lives. Drury, Francis, and Chapman (2007) assert that talking about particular contextual experiences and showing or telling their everyday story helps marginalized populations “make sense of what has happened or is happening . . . problem solve difficulties they are having . . . and share their story with someone who will listen” (p. 384).

Similarly, many study participants indicated that an emotional connection occurred with other women in their communities when they felt comfortable to share their stories, felt respected and valued, and sensed they were safe to disclose their thoughts and feelings. Having mutual, empathetic, and empowering social connections with other women post-MI (e.g., walking buddies, community Aquafit classes) was crucial for enhancing their feeling of self-worth post-MI and facilitating their engagement in leisure physical activity behaviors such as daily walking. Such social connections increased study participants’ feelings of camaraderie and commitment to the other women in the group which facilitated their need to give back to others.

These findings were comparable to those in a qualitative study that described physical activity barriers and facilitators for 20 rural American women participating in a 12-week walking program (Perry et al., 2008). Findings revealed that being part of a group stimulated group camaraderie, learning, energy, and self-confidence among participants. Being part of a group with a stable membership facilitated relationship building, attending to the needs of others, and justifying self-time to themselves and family members. This walking group fostered a sense of accountability among members leading to regular participation as well as opportunities to

commiserate and share creative and innovative insights to address physical activity challenges and barriers within the rural context.

A few study participants also indicated their desire to become community leaders and supportive advisors for other rural women post-MI, particularly those who were isolated or socially excluded in the community. They also wanted to represent rural women's voices in committee forums with community leaders, health care providers, and policymakers. However, research on social networking strategies for rural women post-MI and their family members was non-existent in the current cardiac rehabilitation literature.

In American cancer literature, Eng (1993) developed a landmark social networking intervention called the Adopt-a-Sister program in a rural community of North Carolina. The purpose of this intervention was for public health nurses to recruit and train 64 Black women as lay health advisors. These lay health advisors networked with other rural Black women through their kin, friendship, work, and community networks to provide interpersonal counseling, in person or on the phone, and share stories. They were involved in community organizations such as the church and would mobilize volunteers to drive rural women to appointments, support groups, or programs. They were also present on local committees and in forums to review policies, health care system changes, and the development of contextually based videos on breast cancer screening as well as the development of T-shirts and other educational materials.

An evaluation of Eng's (1993) social networking intervention determined that it was successful at addressing a gap that had existed in rural African American women's engagement in breast cancer screening as evidenced by an increase in their annual mammogram rates (Earp, Viadro, Vincus, Altpeter, Flax, Mayne, & Eng, 1997). Interestingly, this work inspired the development of a similar community health advisor theory-based intervention study to reduce

cardiovascular risk in over 2,000 African American women in Alabama which facilitated far-reaching changes in this population's capacity to reduce cardiovascular risk behaviors (e.g., diet, sedentary lifestyles) and make improvements in community infrastructures and policies to recognize the voices of these women (Cornell, Littleton, Greene, Pulley, Brownstein, Sanderson, et.al., 2009). Such findings suggest that public rural health nurses, nurse practitioners, and other health care providers may have a role in facilitating and educating rural NS women post-MI as community health advisors to network with other rural women post-MI and represent their interests in community forums with other health care providers and policymakers. The program and activities discussed in Eng's (1993) research could be useful for women in rural settings in Canada to address post-MI physical activity and other issues.

Many study participants also commented that another way of being unconditionally supported was being given the opportunity to be heard by family, friends, community leaders, health care providers, and policy makers. Nursing researchers can provide rural NS women post-MI with a voice by involving them in community participatory action research approaches for the development of contextually relevant educational and intervention programs, as well as physical environment adaptations and policy changes. In the literature, Look, Kaholokula, Carvalho, Seto, and Silva (2012) used a conceptual framework and community-based participatory research methods to integrate multiple community perspectives to inform the design of a culturally-based, community involved cardiac rehabilitation intervention for a marginalized native Hawaiian population. To plan this hula cardiac rehabilitation intervention which was appealing to the community, the research team invested time in bringing researchers, clinicians, and knowledgeable community leaders together.

In the United Kingdom, researchers have been using a form of participatory action research called experience based co-design to develop patient-centred breast and lung cancer services and interventions in a large, inner city cancer centre in England (Tsianakas, Robert, Maben, Richardson, Dale, Griffen et al., 2012). Experience-based co-design seeks to capture and understand how people experience a process or service by drawing out subjective, personal emotions of service users, family members, community members, and health care providers to identify touch points “which are key factors or moments that shape a person’s overall experience” (Tsianakas et al., 2012, p. 2).

In Tsianakas et al.’s (2012) study, qualitative researchers conducted filmed, narrative unstructured interviews with study participants. Study participants were sent their own film to view and asked to provide consent whether or not the film could be shown to health care providers and policy makers. Films were edited to produce a film that represented all key touch points. At the same time, health care providers were interviewed and observed in clinical practice. Researchers then held a separate event with study participants to show them a composite film of their interviews, dialogue about the composite film, and seek approval to share it with health care providers and policymakers. A separate event was also held with health care providers to review the themes arising from their interview and observational data. Finally, health care providers and study participants were presented all the data and the composite study participant film at a joint event which promoted dialogue and new understanding. At this event, collaborative co-design working groups were established that consisted of study participants and health care providers to develop relevant services, programs, and informational materials (Tsianakas et al., 2012).

Although these participatory community-based approaches in the literature were described as time consuming (Look et al., 2012; Tsianakas et al., 2012), they may be able to be modified and utilized with rural NS women post-MI (e.g., the use of study participants' titled photographs in slide presentations), family members (e.g., filmed, narrative unstructured interviews with family members to share with rural NS women and others), community leaders, health care providers, and policymakers (e.g., local and combined focus groups and informational sessions with rural NS women and family members) for effective collaborative service, program or educational material, and policy development in the future. Another strategy that has been successful as a public engagement tool for research and health policy development has been the use of theatre (Niskar, Martin, Bluhm, & Daar, 2006). In this form of research, a play is written to educate others about key issues from the perspectives of various groups and to foster empathy and understanding. Audience discussion can be taped and transcribed for qualitative analysis to capture informed and diverse opinions (Niskar et al., 2006).

7.4.1 Summary

Study participants shared that positive and unconditionally supportive connections with family members, community members, health care providers, researchers, policymakers, and the physical environment helped to improve their feelings of self-worth and engagement in leisure physical activity behaviors in other settings such as walking and swimming. Research evidence revealed that rural public health nurses and rural nurse practitioners may have a role in contacting rural women and understanding the quality of their social relationships and unique needs. Also, these nurses can promote, facilitate, and advocate for the collaborative development of strategies to build social networks and connections among rural women post-MI such as walking buddies, the mentoring of lay community health advisors, and the development

of partnerships with recreational and government community leaders and organizations (e.g., the church, local physical activity facilities). Such initiatives in NS would require rural public health nurses, nursing researchers, nurse practitioners and other rural community leaders, employers, and policymakers to invest time in participating in face-to-face focus groups within safe locations such as community halls or churches within the rural context. These rural public health nurses and nurse practitioners could also organize, invite, and facilitate the participation of lay community health advisors and recreational and government community leaders in organized, local rural community forums with health care providers and policymakers. Also, this study and literature findings suggest that community participatory research designs such as experience based co-design or theatre may be effective methods to value and respect rural women's voices, needs, strengths, and diversity in the development, implementation, and evaluation of programs, educational materials, interventions, and local health services and physical activity resources.

7.5 STUDY LIMITATIONS

While this study made a contribution, it also had limitations. First, there were limits within the study sample. All of the study participants were Caucasian and the majority of these women were married, retired housewives between the ages of 50 and 81 years who had a first time MI (Table 1). Most of the study participants had less than a high school level education, were less than a 30-minute drive away from their local community hospitals, and were a 1–2 hour drive one way from the city. Thus, the substantive theory from this study may not be applicable in larger, more ethnically diverse rural populations of younger and older rural Canadian women who may experience different historical, personal, and geographical influences; MI events; varying cultural beliefs; and different educational and economic experiences.

Second, an interesting issue related to photovoice arose during the research process. Many study participants avoided taking photographs of other individuals because they needed to approach other individuals with a written consent form and obtain their consent, a limitation also found in other photovoice studies (Palibroda, Krieg, Murdock, & Havelock, 2009). Study participants also suggested that they would have rather used digital instead of disposable cameras or their cell phone to take pictures so they could be sure they captured the image they wanted to take. As a result, many of these women expressed they were not happy with all the pictures they had taken (e.g., poor visibility, lighting issues). Palibroda et al. (2009) acknowledged that ethical considerations and consent processes associated with photovoice methods may discourage study participants from taking photographs of human subjects. This was important since most study participants identified significant others within the family, community, and workplace as key sources who enabled or hindered their engagement in physical activity behavior post-MI.

Study participants were subsequently encouraged to say the following: “Are you ok with me taking your picture for a research study I am in? If so, can you read and sign this form? The researcher will get a hold of you if she wants your permission to use it in any papers or presentations.” This approach did create a noticeable increase in the number of photographs that included humans in the latter stages of data collection. Having multiple sources of data, including audio-recorded interviews and written participant logbooks, added richness and contextual depth to the data. However, such observations suggest that future areas of nursing research should focus on understanding how traditional ethical guidelines and consent processes may discourage rural participant involvement and connection in the research process, particularly if it involves the use of photographs or emerging technologies such as video and film.

Third, I acknowledge that my socially privileged position as an educated woman and health care professional subconsciously influenced my occasional language choices (e.g., using medical terminology such as stent, infarct, and symptoms on occasion). My initial interviewing style (e.g., more closed ended questions, more interruptions, less listening) and the study participants' desires to give the "right" answers and take the "right" pictures may also have affected the nature and type of data obtained. Subsequently, in latter interviews I used more lay terminology, asked more open ended questions (e.g., Tell me more about what you mean by "flying by the seat of your pants?"), and listened more carefully to study participants' descriptions. Study participants' were also informed that their words, perspectives, and photographs were valued and important, not judged.

To address the limitations with the photovoice consent process, my socially privileged position as an educated woman and health care professional, and my interviewing approaches, I recorded and analyzed field notes and memos throughout the research process. Writing field notes and memos encouraged me to be reflexive about how my actions and thoughts (e.g., interviewing approaches) influenced study participants' responses and actions (e.g., avoidance of photographing family members and friends) and data collection and analysis processes (e.g., decisions about coding and category development). By having multiple data sources as well as the feedback of my expert co-supervisors, I was encouraged to let go of my traditional preconceptions of physical activity and standardized cardiac rehabilitation guidelines and my clinician language throughout this research process. I was encouraged to listen more and say less during the interviews and to look deeper into the data as well as to capture tacit understandings. I was also urged by my co-supervisors to reflect on my roles and responsibilities as a clinician and as a researcher when a couple of study participants divulged they were victims of spousal

verbal and physical abuse. In these cases, I provided resource information and safety contact phone numbers to these study participants.

7.6 CONCLUSION OF THE CHAPTER

In this study, I sought to understand the process of how rural NS women engaged in physical activity behaviors post-MI, and the factors that affected their physical activity behaviors in the post-MI period. The substantive theory illustrates that study participants' assessments of MI damage and physical activity are complex and diverse within their rural settings, and that the process of seeking self-worth as well as gender and contextual factors within their rural settings continually influenced their physical activity behavior perceptions, testing of physical activity limits, and choice of physical activity priorities and actions. Study findings also indicated that perceptions of being unsupported or conditionally supported by health care providers, spouses, family members, community organizations, local and urban health care services, and physical activity facilities and programs diminished feelings of self-worth and discouraged study participants' engagement in physical activity behaviors in the post-MI period. In contrast, feeling unconditionally supported by health care providers, spouses, family members, community organizations, local and urban health care services, and physical activity facilities and programs provided opportunities for some study participants to recover or enhance personal self-worth and to engage in physical activity behaviours in the post-MI period.

Traditional physical activity and cardiac rehabilitation research, practice, and educational approaches continue to rely heavily on cognitive rational models and behavioral theories (Buchan et al., 2012), are conducted in urban-based settings, and are incongruous with the realities, complexities, and diversities of study participants' physical activity perceptions, behaviors, and lived experiences in rural contexts. Building social connections on multiple levels

and unconditionally supporting rural women post-MI requires a paradigm shift. This paradigm shift includes the use of gendered, socio-ecological theoretical approaches to guide research and the adoption of community participatory action strategies in research, program and intervention development, and educational material design. This alternative approach would necessitate health care providers, recreational community leaders, family members, employers, and policymakers letting go of standardized, urban-based individualized and controlled approaches as a means to promote and maintain physical activity behavior change in rural NS women post-MI. An alternative, more effective approach would be the development of rural community forums and working groups and collaborative partnerships which include rural NS women post-MI, family members, health care providers, recreational community leaders and organizations, employers, and policymakers.

Rural public health nurses and nurse practitioners could be the initial providers to contact rural NS women post-MI and to assess the quality and understand the meaning of social relationships in their lives as well as to involve family members and community recreational leaders in local committee forums, committees, and working groups. They can also have a role in mentoring and partnering with lay community health advisors to help develop supportive relational networks and social networking interventions as well as facilitating, organizing, and advocating for local community information sessions in safe local locations (e.g., churches and community halls), rural professional workshops, conferences and research initiatives, curriculum changes, and rural preceptorship experiences for health care profession students.

Ultimately, these collaborative partnerships and research, practice, and education initiatives may promote the development and design of contextually relevant interventions, programs, health care services, and educational materials as well as larger social changes (e.g.

policies on transition back to work programs in rural settings) that meet the unique needs of rural NS women. While study findings cannot be generalized to other groups of rural women post-MI, they are important and instructive in the development of recommendations for practice, education, research, policy development, and nursing roles. These recommendations and implications will be summarized in the next chapter.

CHAPTER 8 IMPLICATIONS AND RECOMMENDATIONS

In this chapter, key theoretical insights, practice, education, research, and policy implications and recommendations from the discussion of the study findings in the previous chapter will be summarized. As well, future nursing roles and responsibilities in all of these areas will be highlighted.

8.1 THEORETICAL INSIGHTS

To resolve the tension between the underlying theoretical assumptions of feminist standpoint theory and CGT, I chose to only adopt the aspects of standpoint feminist theory (Harding, 1991) that support women's central role in knowledge creation and the influence of social structures, cultural beliefs, relationships and environments on standpoint formation. These specific aspects of feminist standpoint theory are consistent with Charmaz's (2006) teachings and perspectives on standpoints (e.g., individuals' points of view are local, relative, historically based, situational, and contextual), as well as the research assumptions underlying photovoice (e.g., feminist theory, Friere's (1970) assertions that societal oppression shapes the perceptions of marginalized populations).

In her CGT approach, Charmaz (2006) acknowledges that study participants have diverse standpoints and create meaningful worlds. In this study, participants' seeking of self-worth and engagement in physical activity behavior post-MI occurred through dialectical processes of conferring meaning through interpretations of language, symbols, and interactions with others (e.g., family members, friends, health care providers, and myself) and within the rural context. Study participants' interpretations also determined what information had practical application and meaning in their everyday lives (Charmaz, 2006). Thus, in this study, congruency between the CGT approach and standpoint feminist theory is based on the premise that women's

standpoints can be contextually located and influenced by social interactions with others, including researchers.

To address some of the implicit potential power imbalances (e.g., class differentials, researcher control over the account of and diagramming of the substantive theory) that occurred within the study, photovoice methodologies and methods (e.g. from a critical paradigm) (Wang & Burris, 1994, 1997) were blended with CGT (e.g. from a constructivist paradigm) (Charmaz, 2006). Despite their different research traditions, CGT served to strengthen photovoice as a research method (e.g., provoking a more organized and reflexive approach) in this study and photovoice elicited data that enriched CGT inquiry (e.g., by providing additional visual social and contextual data). While the photovoice method has often been used by researchers to seek emancipatory change (Wang & Burris, 1994, 1997), it was used in this study to provide study participants, who were hesitant, unsure, and unfamiliar with research processes, with a unique initial opportunity to start showing, dialoguing, and thinking about their experiences with physical activity behavior engagement post-MI. As such this gave the women an opportunity for voice and empowerment through information identification and dialogue.

8.2 PRACTICE IMPLICATIONS AND RECOMMENDATIONS

At present, health care providers and students are encouraged to be strong advocates of individualistic and standardized exercise-based cardiac rehabilitation programs for all populations post-MI, regardless of gender or context (CACR, 2009; Clark, Redfern & Briffa, 2013; Heart and Stroke Foundation, 2010). With this mindset, health care providers are not sensitized to consider how family, community, and workplace relationships as well as gender and rural contextual influences inform rural NS women's pursuit of self-worth, and subsequently, their physical activity perceptions, decisions, actions, and priorities post-MI.

Very few physical activity and cardiac rehabilitation programs for women post-MI have actively encouraged the involvement and participation of family members and rural community recreational leaders (Cole et al., 2013; Duhamel et al., 2007). This is concerning as study participants revealed that family, friends, employers, and community leaders were significant influencing factors who enabled or hindered their pursuit of personal self-worth and subsequent engagement in physical activity behaviors post-MI. Thus, such findings strongly suggest that urban and rural health care providers may need to involve family members in rural women's discussions with health care providers in hospital, as well as in dialogue about the quality of their relationships and their values and expectations for their wife or partner post-MI. Health care providers, including rural nurses and nurse practitioners, may need to facilitate and advocate for family and community members' participation in home visits, local health information sessions for rural women post-MI, local community discussion forums (Canadian Public Health Association, 2010), telehealth information sessions, and in the development, implementation, and evaluations of programs and services for rural women post-MI.

In the rural Canadian literature, it is acknowledged that rural residents have limited access to specialists, family physicians, public health nurses, nurse practitioners, and other health care providers in rural settings, with less than 10% of physicians and 18% of nurses employed in rural contexts compared to 90% of physicians and 72% of nurses employed in urban settings (Hanvey, 2005; Kirby & LeBreton, 2002; Leipert et al., 2008). Because of these low statistics and compromised access to care, urban and rural health care providers must engage in continuous learning about the application of professional standards in rural contexts (e.g., confidentiality), the social determinants of health in rural populations, rural health issues and diverse health concerns and resources, the importance of social relationships and connections in

rural settings, and principles of interprofessional practice (Zawaduk, 2011). In addition to the need for health care providers' continuing education, Leipert and Reutter's (2005) findings on rural women in northern British Columbia revealed that study participants required respect, value, and understanding from others, including health care providers. These authors recommended that health care providers need to recognize and value rural women's practical and experiential knowledge to deal with adversity (e.g., inaccessibility to health care resources) and for their self-reliant behaviors (e.g., seeking out walking routes in rural small towns).

Respecting, valuing, learning about, and connecting with rural residents such as rural NS women post-MI and within rural contexts can be accomplished through government and business sponsored and rurally located professional workshops (e.g., at rural community health board meeting rooms, rural hotels, local community halls, churches), conferences with expert rural lecturers and rural women who share their experiences (Laurence, Newbury, & Wilkinson, 2002), academically supported and provincially funded mentorship, preceptorship opportunities (e.g., with rural health care providers, community members and rural residents), and rural work placements (Bennett, Jones, Brown, & Barlow, 2012; Laurence et al., 2002; Yonge et al., 2006). Health care educators can also address gaps in access, communication, and connection with rural residents, family members, community leaders, and local employers by making commitments to invest in more clinical placement time and preceptorship opportunities for students within rural settings to observe, actively listen, learn from, collaborate with, and build partnerships with rural NS women post-MI, family members, recreational and community organizational leaders, employers, and policymakers.

Health care providers such as rural public health nurses (Canadian Public Health Association, 2010) can play a key role in advocating for, organizing, and facilitating local

community health board, community recreational department, employer and resident and family discussion groups and committees to promote dialogue (Look et al., 2012; Tsianakas et al., 2012) among rural NS women post-MI, lay community health advisors, community recreational providers, and policymakers. Some of the issues study participants shared they would like discussed at such forums were: a) the development of transitional back to work programs and workload accommodations from employers post-MI; b) increased sick leave, disability, and vacation benefits from their workplace to ease financial hardship post-MI; c) funding for medical driver programs to assist with transportation access to local and more distant programs and health care services and providers post-MI; and d) promoting local rural community information newsletters and health care provider facilitated information sessions and support groups post-MI in local community halls and churches.

Rural public health nurses and nurse practitioners are in key positions to facilitate social networking and connections among rural NS women post-MI and family members in the community as well as to assess the quality of family, workplace, and community relationships (e.g., incidences of abuse, valuing, expectations, and support for rural women by spouses and community members) (Duhamel et al., 2007). For example, these nurses could receive self-referrals from hospital health care providers, community leaders, family members, employers, and rural women themselves to contact rural NS women post-MI. Study participants shared that they preferred to receive “a telephone call to check up on things” (WB, 50 years) or a home visit to “just have someone to see what is going on and listen to what I need” (MC, 59 years). Based on initial assessments of each rural woman’s needs as well as the quality of her social networks, relationships, and connections, rural public health nurses or nurse practitioners could refer these women to other rural women post-MI acting as community lay advisors, to community

recreational programs, or local women's support groups (Nova Scotia Department of Health, 2012).

Rural public health nurses and nurse practitioners, similar to Eng's (1993) community health advisor intervention to improve breast cancer screening in rural African American women, could also mentor motivated rural women post-MI such as SW, FM, and PS about how to reach out and network with other rural woman, including some who were socially excluded through kin, friendship, workplace, and community networks. These nurses, as well as other health care providers, could also educate and learn from community health advisors about how to provide counseling by phone or in person to rural women post-MI, how to access community organizations (e.g., domestic services for abused women, recreational facilities, women's local support groups), health care, and government services (e.g., financial assistance), and how to establish support groups for rural woman, using storytelling and the promotion of group camaraderie and membership to increase feelings of self-worth, acceptance, knowledge, and commitment to exercise post-MI. Rural public health nurses, nurse practitioners, other health care providers, recreational community leaders, and community lay advisors could also distribute brochure and community newsletter information about local health care services and resources at local immunization clinics (Canadian Public Health Association, 2010), during church and community events, and on community bulletin boards.

8.3 EDUCATION IMPLICATIONS AND RECOMMENDATIONS

In this study, findings have indicated that there are significant education implications and recommendations for urban and rural health care providers as well as for rural women and other rural residents. Over the past 30 years, physical activity educational materials and interventions have been generically developed using narrow definitions of physical activity (Caspersen et al.,

1985), and standardized cardiac rehabilitation guidelines (CACR, 2009). Within these definitions and guidelines are individualistic assumptions that physical activity behavior engagement is a simple, predictable, and acontextual behavior that can be controlled, manipulated, and changed by having all men and women post-MI participate in standardized exercise-based cardiac rehabilitation programs. In reality, this approach continues to be flawed as the majority of men and women, particularly marginalized women and ethnic minorities, continue to engage in more sedentary lifestyle and to exhibit suboptimal outcomes post-MI (e.g., recurrent MIs, increased morbidity, reduced quality of life) (Chow et al., 2005; Clark et al., 2005; Heart and Stroke Foundation, 2010).

In this research project study participants indicated that physical activity perceptions and definitions were diverse and not standardized. Also, the processes of seeking self-worth and engagement in physical activity behavior change post-MI were complex, chaotic, and uncontrollable as well as influenced by gender and contextual factors. Most study participants commented that their health care providers, particularly family physicians, did not share similar perceptions about physical activity and did not understand or have the knowledge regarding what was involved in their everyday household, caregiving, and work-related activities. As OD, a hospital service worker with multiple MIs, said, “I am really not sure my doctor knows what going back to work in the kitchen really means” (OD, 48 years).

Health care professional organizations (Canadian Public Health Association, 2010) and nursing education programs and initiatives (Canadian Nurses Association, 2010) have a professional obligation to prepare health care providers and nurses to assist all people, including those living in rural communities, to meet their highest level of health. Thus it follows that there is an increasing need to promote interdisciplinary professional rural conferences and workshops

for health care providers on rural issues (e.g., lack of accessibility to health care services, limited educational opportunities, and traditional gender role expectations). As well, there is a need to develop rural course curriculum content and materials for health professions students, including nursing students, on social determinants of health in rural populations, rural health issues, culture and gender sensitivity (Leipert & Anderson, 2012), rural interprofessional practice, the diverse nature of landscapes, seasons, types of employment, and cultural history of persons in rural places, and how natural and economic rural surroundings shape the challenges of health care (Yonge et al., 2006; Zawaduk, 2011).

This content may be taught by nursing and other experts in the area of rural women's health and by public health nurses, nurse practitioners, and others who have grounded reliable knowledge regarding the health needs of rural residents (Leipert et al., 2011). Rural community leaders and rural residents such as rural women post-MI (Cornell et al., 2009) may also be invited to share their experiences with students and health care professionals within the classroom, workshops, and conferences. Specifically, Leipert and Anderson (2012) found that exposing undergraduate nursing students to the use of innovative qualitative research methods such as photovoice within the classroom and rural settings helped to promote interest in rural locations and to foster contact and contextual rural knowledge.

Pong and Heng (2005), in their Canadian report on rural medical education and preceptorship, and Yonge et al. (2006) in their research on nursing education and preceptorship in rural Canadian settings, report that there is an increased need to educate students outside of the classroom on how to communicate and collaborate with rural women and other marginalized populations about their unique needs to make healthy lifestyle decisions. These authors also indicated that several learning activities could facilitate mentorship and preceptorship learning

opportunities for health professions students in rural settings. For example, rural preceptorship opportunities could provide students with exposure to the physical environment, rural community infrastructure, economics, culture, and health issues (Pong & Heng, 2005; Yonge et al., 2006). Also, rural preceptorship opportunities as well as clinical placements would allow students to explore population and health-related statistics to develop a community profile, to attend local public events, and to engage in purposeful and meaningful conversations with rural residents and community leaders and informants (Eide, Hahn, Bayne, Allen, & Swain, 2006).

In this study, participants also shared their own required learning needs regarding the MI event and engaging in physical activity behavior post-MI. In the substantive theory (Figure 1), participants revealed that assessing MI damage and physical activity required them to acquire knowledge about how to interpret mixed messages about the MI event and perceptions of physical activity pre- and post-MI. These women also wanted to learn how to listen to the body to recognize and interpret symptoms and gauge functional performance, and how to determine whether the MI impact was a temporary setback, interference, or a permanent change. Study participants shared that they also needed directions to establish boundaries and to make improvisations while testing physical limits.

In this study, the majority of study participants had less than a high school education as a result of having had limited post-secondary education options within their rural settings, as well as a lack of resources to pursue such opportunities in urban centers. This finding is similar to other women living in rural situations (Leipert, Leach, & Thurston, 2012). Thus most of the study participants commented that current urban-based educational pamphlets received in the hospital were overwhelming to read and, in some cases, difficult to understand which emphasizes the need to have written materials provided at a more proper readability level.

Public health nurses and nurse practitioners may have a role in advocating for and facilitating the formation of local community forums or working focus groups (Canadian Public Health Association, 2010). Within these forums and working groups, rural NS post-MI women, family members, workplace employers, and recreational community leaders need to be given opportunities to articulate what kind of education and information they would like to receive, how they would like to receive it, and to share stories about innovative and creative problem-solving approaches they have used to engage in physical activity post-MI in rural settings. As a result of this dialogue, these working groups can develop, plan, and lobby for the funding for the development, implementation and evaluation of contextually relevant educational materials; communication and social networking strategies (e.g., newsletters, online webpage, workplace walking activities, physical activity community events); counseling programs (e.g., face to face and telephone counselling with community lay advisors); and information sessions (e.g., local face to face sessions in local community halls or churches with health care providers). Such initiatives would be mindful of rural women's literacy levels, geographical and physical environment challenges, physical activity facility access, financial constraints, and accessibility to community resources.

8.4 RESEARCH IMPLICATIONS AND RECOMMENDATIONS

Over the last 20 years, traditional physical activity and cardiac rehabilitation research has been guided by theories that exist within a positivist and cognitive rational paradigm (Buchan et al., 2012). These theories place importance on individual control over health behavior and emphasize that health behavior is a predictable, linear stage-based process (Buchan et al., 2012). However, study participants indicated that physical activity perceptions were diverse and that the process of seeking self-worth and engagement in physical activity behavior was chaotic,

unpredictable, complex, and interactive with multiple individual, gender, and contextual factors. Also, these women conceptualized themselves as being at the center of this complexity and chaos. Thus, in this study, the substantive theoretical interpretation of the data appears to be more consistent with socio-ecological perspectives and frameworks (Moss, 2002; Sallis et al., 2006).

Such findings suggest that alternative theoretical approaches such as the substantive theory from this study, socio-ecological frameworks, and models that promote study participant involvement in the research process and a focus on social relationships, connections and interactions may be more suitable to guide future physical activity and cardiac rehabilitation research with rural women post-MI. However, many researchers and health care providers struggle with how to apply and use such broad frameworks in research (Arthur et al., 2013; Blanchard et al., 2007; Huberty et al., 2008). As well, the use of participant-centered research designs such as community participatory action research (Look et al., 2012) and experience based co-design (Tsianakas et al., 2012) can be time consuming and costly.

In this study, participants shared that they had never been part of a research study. Therefore, most of these women noted that the ethical requirement of obtaining consent from individuals they photographed was intimidating and inhibited their desire to photograph family, friends, coworkers, and community members. This was a concern as these relationships had a significant influence on their seeking of self-worth and engagement in physical activity behavior post-MI. This issue has been raised in other photovoice studies with marginalized populations who have not been used to participating in research (Palibroda et al., 2009). Such findings may imply that traditional ethical guidelines and processes may need to be re-examined by nurse researchers to ascertain how to encourage and support participants' creative expression and

response to obtaining visual data using cameras, cell phones, or film. Researchers using qualitative photovoice methodologies and methods as well as the use of video, film, or other creative expressions of data may need to be part of ethical review boards to educate others in these methodologies and methods (Palibroda et al., 2009; Tsianakas et al., 2012). There may also be a need for health care researchers and health professions students to continue to develop research expertise in research training opportunities, conferences, workshops, and courses about how to use and apply new and alternative research methods and gendered socio-ecological theoretical perspectives and frameworks in future qualitative research such as photovoice, community participatory action research, and experience-based co-design studies.

This study has also generated further questions and identified further areas of research inquiry. In this research project, study participants' indicated that self-worth development and the seeking of self-worth were embedded within and influenced by gender and contextual factors. For these women, self-worth development and the process of seeking self-worth also had an impact on the processes of physical activity behavior engagement post-MI. Such findings suggest that further understanding is needed about how rural women's self-worth development evolves over the life course and within their spousal, partner, family, and community relationships. In this study, participants shared that their self-worth, physical activity definitions, and acceptable behaviors and activities were often influenced by others before the MI event. Previous self-worth as well as these relationships were factors in the selection of strategies to pursue seeking self-worth and physical activity behavior choices post-MI. Thus, an understanding of self-worth development over the life course may provide health care providers, recreational community leaders and policymakers with better insights about what rural women, their spouses, family members, and communities need (e.g., education, employment options and

benefits, respect, transition back to work programs, childcare) at different phases of the life course to facilitate the enhancement of women's personal self-worth and engagement in healthy lifestyle behaviors such as physical activity.

In this study, participants' narrative and visual data were collected within the first 4 to 6 weeks of their MI recovery period. What needs further understanding is how the processes of seeking self-worth and the processes involved in physical activity behavior engagement interact with and are influenced by gender and contextual factors over the course of the latter stages of MI recovery in rural NS women. Such understanding may be imperative for guiding rural public health nurses, nurse practitioners, recreational community leaders, and other allied health care providers in the ongoing development and revision of physical activity services, supports, and services during the trajectory of MI recovery in this population.

Study participants also suggested there was considerable disconnection between themselves and health care providers in terms of accessibility to health care services and follow up care, respectful communication and interactions, local presence in rural settings, and receiving contextually relevant information and educational materials post-MI. Study findings indicated that from the study participants' perspectives there was often a gap between health care provider perceptions, expectations, and messages about physical activity behavior post-MI and their own physical activity perceptions, interpretations, needs, rural resources, and behaviors. Thus future qualitative focus group studies with health care providers and rural NS women post-MI using experience based co-design (Tsianakas et al., 2012) may help to identify important knowledge that can be shared between the groups to promote understanding and dialogue.

A key finding from this study was that study participants perceived family, friends, coworkers, and community members as important in their pursuit of self-worth and,

consequently, their engagement in physical activity behavior post-MI. However, recognition of the significance of these influences is underrepresented in traditional physical activity and cardiac rehabilitation research as well as in intervention development. For example, there were no cardiac rehabilitation interventions found in the cardiac rehabilitation literature that included the active involvement of spouses, significant others, or community members. However, to effectively involve others in programs that meet the needs of rural women post-MI to engage in physical activity behavior, additional research would enhance understanding regarding how to involve spouses, community members, and family members in such programs in rural settings, and how to address gendered expectations of rural women (Cornell et al., 2009; Eng, 1993). Such research may promote changes in thinking about rural gender norms, expectations, and behaviors and the valuing of rural women as persons, not just what they can do for their spouses and others.

8.5 POLICY IMPLICATIONS AND RECOMMENDATIONS

There is a need for study participants to be informed about economic, education, employment, technology, and health care services policies that would affect their income, their ability to access information, and local and urban health care services and providers and employment stability, accommodation, and medical benefits. Most of the study participants preferred to receive this information through community newsletters or in local community public forums with health care providers, recreational community leaders, local employers, policymakers and government officials, written or explained at appropriate readability levels to accommodate their education and literacy levels. However, most study participants did not have access to high speed internet and did not have a desire to receive required information on the computer or through telehealth sessions as they did not know how to use this technology.

Initially, rural public health nurses and nurse practitioners may have a role in facilitating public forums (e.g., using theatre, film or focus group discussions) for rural post-MI women, family members, employers, and community recreational leaders to share their views and concerns about economic, education, employment, technology, and health care policies. The results of these discussions could be reported in accessible, rural community newsletters. There could also be an editorial section within the community newsletter to invite other members of the rural community, health care providers, employers, and policymakers to respond to the results of these discussions, to offer solutions about how to improve high speed internet services and local computer access in rural areas, and how to recruit community volunteers to educate rural residents in the use of computer technologies, telehealth sessions, discussion boards, and webpages.

For some study participants, the need to generate income for the family was a primary concern and a source of stress which encouraged them to engage in strenuous activities (e.g., heavy lifting, caregiving for an ill spouse), ignore chest pain and shortness of breath, and return to work prematurely. Thus a priority topic for discussion in public forums and community newsletters is how to create employment situations that offer extended sick time, vacation and medical benefits, as well as transitional back to work programs. Also, rural public health nurses and nurse practitioners, as well other health care providers and rural community leaders, need to lobby policymakers to develop policies and programs aimed at the development of new job opportunities and employment strategies for family members currently unemployed from the forestry and fishing industries. Such initiatives have not been found in the rural Canadian literature (Leipert, Leach, & Thurston, 2012).

Rural public health nurses and nurse practitioners need to lobby policymakers for policy change in the area of public transportation as many study participants had to travel between 1–2 hours to the city to see specialists and to receive tertiary care services (e.g., cardiac catheterization). Government officials have a responsibility to ensure that the roads are in good condition for driving, particularly in inclement weather. Also, rural public health nurses and nurse practitioners, in collaboration with rural community leaders and church organizations, can advocate for the development and organization of government subsidized volunteer medical driver programs or timely, reliable, and affordable rural public transportation systems (i.e., buses or trains) to help with transportation issues and missed work costs for rural women post-MI and family members who need to travel to the city for appointments.

Rural public health nurses and nurse practitioners can also lobby rural recreational community leaders and policymakers to improve rural women's local accessibility to and quality options for local physical activity resources and programs, health care services, and health care providers post-MI. For example, local physical activity facilities within rural communities such as walking domes, swimming pools, or community halls need to offer more flexible, cost effective options for rural women post-MI to use the facilities, options which consider their work schedules, seasonal changes, and financial situations. Also, there needs to be discussions about recruitment strategies to acquire trained recreational community coaches to facilitate physical activity community events, Aquafit classes, and walking groups. In terms of the physical environment and safety issues for rural women post-MI, rural public health nurses and nurse practitioners need to urge the provincial government and private organizations to: a) fund and support the construction of local sidewalks and outdoor lighting, b) enforce traffic speeding regulations, c) repair craters and holes by the sides of the road, d) improve the attractiveness of

physical activity facilities, and e) create designated local aesthetically pleasing walking trails in rural communities to facilitate physical activity engagement in rural women post-MI.

8.6 CONCLUSION OF THE CHAPTER

Overall, study participants have indicated that there needs to be a paradigm shift in physical activity and cardiac rehabilitation practice, education, research, and related policies as well as in the approaches and roles of rural public health nurses, nurse practitioners, and other allied health care providers. Traditional approaches in all of these areas have served to ignore the importance of social relationships, gender, and contextual factors on rural women's engagement in physical activity behavior post-MI. Disconnection from health care providers, required information, health care services, and family and friends, whether it was due to financial hardship, inaccessibility to and quality options for physical activity resources, disrespectful spousal and family interactions, a lack of contextually relevant information, domestic violence, or the inflexibility related to traditional gender norms and expectations, discouraged study participants' engagement in the process of self-worth and interconnected processes of physical activity behavior engagement post-MI (Figure 1). These factors and levels of disconnection may also continue to contribute to the creation of irrelevant programs, educational materials, and services for rural NS women post-MI with consequent suboptimal health outcomes.

Study participants have articulated that new approaches may be needed in practice, education, research, and policy to acknowledge the diverse, complex, chaotic, uncontrollable, and interactive nature of seeking self-worth and interconnected physical activity behavior engagement processes, as well as the multiple influences of social relationships and connections and gender and rural contextual factors on these processes. These women have shared that connections with spouses, family members, community leaders and organizations, health care

providers, and quality local health care services are essential to encourage the enhancement of personal self-worth and their engagement in physical activity behavior post-MI. Understanding the mechanisms of these connections and involving rural NS women in building partnerships on all levels may contribute to effective programs, services, resources, and interventions that enhance personal self-worth, support physical activity behavior engagement, and meet rural NS post-MI women's unique needs. In addition, revisions to professional education curriculums and rural preceptorship, mentorship opportunities, or local and collaborative community forums can be advocated for and facilitated by nurse researchers, nurse educators, rural public health nurses and rural nurse practitioners in partnership with rural women post-MI, family members, recreational and organizational community leaders, other health care providers, and policymakers to advance rural women's health post-MI.

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Appendix A

Contact Permission Form

TITLE: Understanding how rural, Nova Scotia women engage in physical activity and behaviors following a heart attack.

INVESTIGATORS: Heather Helpard, RN, MN, Doctoral Nursing Student
Marilyn Macdonald, RN, PhD, Principal Co-Investigator
Beverly Leipert, RN, PhD, Principal Co-Investigator

STUDY INTRODUCTION

Heather Helpard is a doctoral student in the PhD in Nursing Program at Dalhousie University. She is also a registered nurse who has worked in the areas of emergency and cardiovascular nursing for the past **twenty** years. She is conducting a research study to help health care professionals better understand what influences rural women’s physical activity levels during their recovery after a heart attack.

Heather Helpard would like to meet with rural women who have had a heart attack. Your views and experiences about taking part in physical activity behavior after a heart attack will help health care professionals and health care organizations understand what services and programs rural women need to help them stay physically active after a heart attack.

SIGNATURES

Your signature on this form says that you would like to hear more about this study and that you agree to be contacted by Heather Helpard within one week after you are discharged home from the hospital.

You will receive a signed copy of this permission form to keep for your records and reference. If you have further questions about matters related to this research, please contact: Heather Helpard, RN, MN or Dr. Marilyn Macdonald, PhD.

Your Contact Information: Phone Number: _____
Time of Day to Call _____
Email Address: _____

Participants’ Name (Printed) Signature and Date

Witness’s Name (Printed) Signature and Date

Appendix B

Participant Consent Form

TITLE: Understanding how rural Nova Scotia women engage in physical activity behaviors following a heart attack.

INVESTIGATORS: Heather Helpard, RN, MN, Doctoral Nursing Student
 Marilyn Macdonald, RN, PhD Co-Supervisor
 Beverly Leipert, RN, PhD Co-Supervisor

INTRODUCTION

We invite you to take part in a research study being conducted by Heather Helpard who is a doctoral nursing student at Dalhousie University. Your participation in this study is voluntary and you may withdraw from the study at any time. The quality of your health care will not be affected by whether or not you participate. The study is described below. This description tells you about the risks, inconvenience, or discomfort that you might experience. Participating in the study may or may not benefit you, but we might learn things that will benefit others. You should discuss any questions you have about the study with Heather Helpard, RN, MN at heather.helpard@dal.ca or Dr. Marilyn Macdonald, PhD at marilyn.macdonald@dal.ca.

PURPOSE OF THE STUDY

Health care professionals want to help heart attack survivors prevent future heart attacks and to live healthy, productive, and satisfying lives. One of the ways that they can do this is to help heart attack survivors become more physically active in their daily lives. In heart attack survivors, physical activity can help to a) lower the risk of future heart attacks, b) lessen chest pain symptoms and c) improve heart functioning during everyday activities.

Research shows that rural women do not always find it easy to get exercise. Also, rural women sometimes do not attend exercise based cardiac rehabilitation programs after a heart attack. Health care professionals need more information to better understand how rural Nova Scotian women take part in physical activity following a heart attack.

The purpose of the study is to develop further understanding of how rural NS women take part in physical activity behaviors after a heart attack, and things that affect your physical activity behaviors in the post heart attack period.

We will ask you questions such as the following: What problems do rural women face regarding physical activity following a first time heart attack? How do rural women deal with the problems they face regarding physical activity after a heart attack? What things influence rural women's physical activity after a heart attack?

STUDY DESIGN

In this study, we would like to “see” how you take part in physical activity behaviors after a heart attack and learn about the problems or challenges you face, using a research method called photovoice. Photovoice is a type of research where people are given cameras. By using a camera, you can take pictures over a two week period that show others your “world,” your experiences, and your point of view about engaging in physical activity where you live. You can also write any thoughts about your pictures and picture taking experiences in a provided logbook (i.e., hard covered journal).

You understand that the researchers will not use any research materials that identify you personally without your written permission. Also, you understand that the researcher will not use any of your photographs at public events, on the Internet or in publications (i.e., exhibits, lecture, in books and articles etc) without your permission.

WHO CAN PARTICIPATE IN THE STUDY?

All rural women who are heart attack survivors living in this District Health Authority are invited to take part in this study. It is anticipated that about 20-30 participants will be needed for this study.

Women will be excluded from the study if they: a) are unable to give consent; b) do not have a fixed address; c) plan to leave the study area within six months of their heart attack; and d) have life threatening illness (e.g., chronic renal disease), psychiatric conditions (e.g., depression, bipolar states), or neurological states with significant disabilities (i.e., stroke, dementia).

WHO WILL BE CONDUCTING THE RESEARCH?

The research study is being conducted by Heather Helpard who is a doctoral nursing student at Dalhousie University. She will be under the supervision of Dr. Marilyn Macdonald, RN, PhD from Dalhousie University and Dr. Bev Leipter, RN, PhD from the University of Western Ontario.

WHAT WILL YOU BE ASKED TO DO?

Participate in an initial one-on-one 60- to 90-minute audio recorded interview and camera orientation session with Heather Helpard.

Following the initial interview and camera orientation session, you will be asked to do the following over a two week period:

- a) Take pictures, using a provided disposable camera, that capture your feelings about rural living and the problems and opportunities you face when taking part in physical activity.
- b) Write any thoughts about your pictures or picture taking in a provided logbook (i.e., hard covered journal book)

- c) Get written consent from all individuals you wish to photograph.

The researcher will contact you after the first week of picture taking and log book writing to see how you are doing with the provided study materials, to answer any of your questions, and to arrange a time to pick up your cameras, logbooks, and consent forms for individuals you photographed. Also, after the researcher has picked up your study materials, a week will be taken to process two sets of your pictures and a digital copy of your pictures at a photo lab outside CEHDHA. A hard copy of the photographs will be placed in an album for you and the digital copy of the photographs will be stored on the researcher's password protected laptop for this study.

Following the processing of your pictures:

- d) You will be asked to participate in a second 60- to 90-minute one-on-one audio recorded interview to title your developed photographs and share your views and feelings about the photographs you took.

Study activities will take approximately 6-8 hours of your time over a one month period. After completing the study, the researcher will provide you with a summary document of the research findings if you request one.

POSSIBLE RISKS AND DISCOMFORTS

To avoid risks or potential discomforts, you are encouraged not to exceed physical activity recommendations suggested by your attending physician for your phase of recovery after a heart attack.

Some participants may feel emotional when discussing their physical activity behavior experiences. If this occurs, you have the right to refuse to answer any question during the interview sessions that you feel is too personal or uncomfortable. You also have the right to stop either interview session at any time if you are uncomfortable.

Key safety risks for you may include: a) putting yourself in dangerous settings or situations to take photographs, b) having difficulties with individuals you want to photograph, and c) being identified in connection with your photographs and stories. To address these issues, you are encouraged to take pictures in safe areas, to take pictures of objects in your environment if you are having problems with individuals you want to photograph, and to take photographs in public places. So you will have control over how your photographs will be used and how you will be identified with the photographs, you will sign a release of creative materials form.

POSSIBLE BENEFITS

You may appreciate the opportunity to share your perceptions and experiences with taking part in physical activity behavior following a heart attack. However, you may not receive any personal benefits to being in this study.

COMPENSATION/REINBURSEMENT

There will be no cost to you for any interviews in this study. We will refund you for travel/parking costs for interviews not conducted in your home. We will pay for photo processing, and give you a disposable camera and copies of your photographs in an album. Also, we will give you a written summary of the research findings at the end of the study, if you wish.

STATEMENT OF FINANCIAL INTEREST

The primary investigator for this study has no financial interest in this study and will receive no financial compensation.

CONFIDENTIALITY & ANONYMITY

This study design necessitates the researcher meeting with you. Therefore, there is no anonymity which means I will know who you are.

Confidentiality is addressed by asking your permission, and respecting your preferences, about sharing or not sharing your photographs and identity in community public presentations, in written reports, at professional conferences, or in publications.

Your study information may be available to the Health Sciences Human Research Ethics Board at Dalhousie University and the Ethics Committee of the District Health Authority and to the researchers involved in the study. Interviews will be audio recorded using a digital recorder. After the audio recorded interview is uploaded to the study computer, the digital recording will be deleted. Electronic interview transcripts and photographs will be stored in password protected files on Heather Helpard's computer. Hard copies of your logbook entries, interview transcripts and photographs will be kept in a locked file cabinet for seven years from the completion of the study, as per university policy. At the end of seven years, all of your information and hard copies of your photographs will be shredded and all electronic data will be deleted on the dedicated laptop and encrypted 4GB memory stick. Also, digital CD copies of your photographs will be destroyed.

PROBLEMS OR CONCERNS

If you have any difficulties with, or wish to voice concern about, any aspect of your participation in this study, you may contact Catherine Connors, Director of Dalhousie University's Office of Human Research Ethics Administration, for assistance (902)-494-1462, catherine.connors@dal.ca.

TITLE: Understanding how rural Nova Scotia women engage in physical activity actions and behaviors following a heart attack.

SIGNATURE PAGE

I have read the explanation about this study. I have been given the opportunity to discuss it and my questions have been answered to my satisfaction. I hereby consent to take part in the study. However I realize that my participation is voluntary and that I am free to withdraw from the study at any time.

Participants' Name

Signature and Date

Investigator's Name

Signature and Date

I consent to the audio recording of my two 60- to 90-minute scheduled interviews with Heather Helpard.

Participants' Name

Signature and Date

Investigator's Name

Signature and Date

I consent to the use of my quotations from my two 60- to 90-minute scheduled interviews with Heather Helpard or my logbook in future publications and presentations. Also, I would like to be identified by a false name or by my first name

Participants' Name

Signature and Date

Investigator's Name

Signature and Date

You will receive a signed copy of this consent form to keep for your records and reference.

Appendix C

Release of Creative Materials

TITLE: Understanding how rural Nova Scotia women engage in physical activity behaviors following a heart attack.

Please check all that apply:

I give permission for my pictures to be used for the following:

- Published papers on this topic
- Public presentations on this topic
- Research study analysis only

Please check all that apply:

I give permission for my logbook entries and interview quotes to be used for the following:

- Published papers on this topic
- Public presentations on this topic
- Research study analysis only

2. Please check one:

- I want to be identified by the following name _____
- I want to be identified by my own **first** name in any project reports or publications.
- Do NOT use a nickname or my first name to identify me.

* Please also note that in order to further protect your privacy, some pictures may be cropped or blurred if they contain any of the following:

- a) Any illicit activity
- b) Any company advertisements or identifying logos
- c) Persons who have not given their consent to be photographed.

Participants' Name (Printed)

Signature and Date

Name of Person Who Obtained Consent (Printed)

Signature and Date

* The person who may be contacted about this research is Heather Helpard who may be reached at heather.helpard@dal.ca.

Appendix D

Background Information Form

Code No. _____

Participant Information

Age (in years) _____

Years in Community _____

Cultural Background: _____

Education: < Grade 9 Grade 9-13 College Courses
University Graduate Degree

Occupation: _____ Hours Worked Each Week: _____

Full time: Regular Part Time: Irregular or Casual Part Time:

How do you rate your health? Good Fair Poor

Do you live alone? Yes No

Do you have children? Yes No If so, how many? _____

Do you have grandchildren? Yes No If so, how many? _____

Partner's Information (if applicable)

Age (in years) _____

Years in Community _____

Cultural Background: _____

Education: < Grade 9 Grade 9-13 College Courses University Degree
Graduate Degree

Occupation: _____ Hours Worked Each Week: _____

Full time: Regular Part Time: Irregular or Casual Part Time:

How do you rate your health? Good Fair Poor

Annual Family Income

Under \$10,000/yr \$10-20,000/yr \$20-30,000/yr \$40,000-50,000/yr
Over \$60,000/yr

Rural Location

Driving Distance to the Nearest Community Hospital

Less than 30 minutes 30-40 minutes 40-60 minutes 1-2 hours
Over 2 hours

Driving Distance from Halifax

Less than 30 minutes 30-40 minutes 40-60 minutes 1-2 hours
Over 2 hours

Physical Activity

What do you consider to be physical activity?

Were you physically active before the heart attack? Yes No

How much physical activity did you take part in before the heart attack?

None < 30 minutes per week 30-60 minutes per week
60-90 minutes per week 90-120 minutes per week Over 150 minutes

What kinds of physical activities (e.g., household tasks, personal care activities, exercise) have you done since your heart attack?

Do you do physical activities in a group or with a partner? Yes No

Why or why not?

Do you participate in physical activity programs or exercise facilities in your community?

Yes No

Do you use physical activity programs or used exercise facilities?

Yes No

Do you use home exercise equipment? Yes No

Do you have sidewalks in your community? Yes No

Do you have street lighting in your community? Yes No

Do you feel your neighborhood is safe to do activities outside? Yes No

Appendix E

Camera Orientation Session Guidelines

The purpose of this camera orientation session is to learn more about you and your “world,” your experiences, and your views of physical activity. We will also discuss potential safety and ethical considerations, camera and logbook use, photograph consent forms, camera collection, and photograph processing that I have outlined in the table below. Please feel free to ask any questions at any time during this session.

Key Safety Concerns	Researcher Recommendations
<p>Potential risks to photovoice photographers from putting themselves in dangerous settings or situations.</p> <p>Potential risks to photovoice photographers from photo subjects.</p> <p>Potential risks to photovoice photographers from being identified in connection with their photos and stories</p>	<p>Give careful thought to the communities in which you live, the issues you will be exploring.</p> <p>Because you know your neighborhoods’ better than I do, I encourage you to maintain personal safety. No photograph is worth personal danger.</p> <p>Remember that there are alternative ways to present issues (e.g., through pictures of objects, symbols and the environment).</p> <p>Take your photos in public spaces (from which you can photograph without being seen as trespassing) versus private property.</p>
Subjects of Photographs	Researcher Recommendations
<p>Potential risks to photo subjects from being identified in connection with particular situations or activities in photos.</p>	<p>When a study participant uses a camera as a research tool, there is a risk of intrusion into a person’s private space, public embarrassment, and photograph publications without permission.</p> <p>You must respect the privacy of others. If someone does not want his or her picture taken, don’t take it.</p> <p>If you do wish to take pictures of people, you must have all photo subjects sign a release form to be photographed prior to taking the picture (Appendix E).</p>

	Again, there may be ways to portray issues of concern that don't require showing individuals.
How to Use the Disposable Camera and Logbooks	Data Collection Process
Review of the use of logbooks and disposable cameras and assessing understanding regarding the use of the materials	<p>You will be given a disposable camera for a period of 2 weeks to take pictures that capture your feelings about rural living and the problems and opportunities you face when taking part in physical activity. You will also be given consent forms for any photo subjects to sign before you photograph them (Appendix F).</p> <p>In the logbook, you will write about the pictures you took, the pictures you would have liked to have taken and why you did not take them, and any other relevant information that you would like to share with me regarding physical activity in rural areas for women post heart attack.</p> <p>You will be shown how to use the disposable camera. Then you will be asked to take a picture for return demonstration</p> <p>You should use the flash to take pictures in areas of low light and try not to take pictures in front of windows or intense light sources which could cause glare.</p>
How Cameras and Logbooks Will Be Collected and Photographs Will Be Processed	Data Collection Process
Review of how pictures and logbooks will be collected and processed	<p>Within one week after this session, I will call you to assess your progress and offer encouragement, and to confirm a date, time, and place for pick up of the cameras, logbooks and consent forms.</p> <p>Within 2 weeks, I will print two sets of the photographs (one for you and one for me) and a digital copy of the photographs for our second meeting.</p>

How Will My Photographs Be Used?	Confidentiality Information
How will my photographs be used in the research?	You will receive a hard copy of your photographs as well as an easy to read summary of the findings, if desired. You will have signed a creative release consent form (Appendix C) indicating your preferences for the use of photographs. Also, I will not identify you in a presentation or publication without your consent.

Reference: Wang and Redwood-Jones (2001).

Appendix F

Acknowledgement and Release Form

TITLE: Understanding how rural Nova Scotia women engage in physical activity behaviors following a heart attack.

I am taking pictures for a research study about rural, Nova Scotia women and physical activity after a heart attack and I would like to photograph you.

It is your right to refuse or to consent to have your picture taken.

By signing below, you:

- a) are providing me with consent to take your picture and include the picture in the project
- b) understand that there is a possibility that these pictures may be used publicly in a written report or presentations

* Please also note that in order to further protect your privacy, some pictures may be cropped or blurred if they contain any of the following:

- a) Any illicit activity
- b) Any company advertisements or identifying logos
- c) Persons who have not given their consent to be photographed.

Please check one:

- I want to be identified by the following name _____
- I want to be identified by my own **first** name in any project reports or publications.
- Do NOT use a nickname or my first name to identify me.

Participants' Name

Signature and Date

Name of Person Who Obtained Consent

Signature and Date

* The person who may be contacted about this research is Heather Helpard who may be reached at 1-(902)-473-3346.

Appendix G

Transcriptionist Confidentiality Form

TITLE: Understanding how rural Nova Scotia women engage in physical activity behaviors following a heart attack.

I understand that all audio recordings and typed documents associated with this research study are confidential, shall not be disclosed and shall be returned to the primary investigator, Heather Helpard.

My signature below affirms my agreement to uphold the confidentiality of any information learned by transcribing the audio recordings of study participants.

Signature

Printed Name

Date

Appendix H

Interview Guide

1. What title would you give this picture?
2. Tell me about this picture you have taken.
3. What is happening in this photograph? What message do you want this picture to convey?
4. How is living in a rural town different than in a larger center?
5. As a rural woman, how do you describe the physical activity you do?
6. As a rural woman, what are the positive or negative aspects of the physical activity you described?
7. How is physical activity before and after a heart attack different for a rural woman versus a rural man?
8. What hinders or interferes with you doing physical activity after your heart attack?
9. As a rural woman, tell me about the opportunities and resources that help you to participate in physical activity after a heart attack.
10. Describe what you want this picture to say to other rural women, community leaders, health care providers or policymakers.
11. Describe what you think would help you increase your physical activity in your rural setting.

* Logbooks may generate interview questions as well.

- Adapted from Wang, & Burris (1994, 1997).

Appendix I

Letter of Intent

71 Poplar Drive
Lantz, Nova Scotia
B2S 1X4
Date

To Whom It May Concern

Dear _____:

My name is Heather Helpard and I am a doctoral student in the PhD nursing program at Dalhousie University. To fulfill the requirements of this degree program, I plan to complete a research study and present it in the form of a dissertation. As I would like to recruit study participants from the ICU and Medical Units at the Colchester Regional Hospital, I am submitting an ethics application to your committee for review and to receive ethical approval. My supervisory committee includes co supervisors Dr. Marilyn Macdonald, PhD, RN from Dalhousie University and Dr. Beverly Leipert, PhD, RN from the University of Western Ontario. Other members of my committee are Dr. Alex Clark (at the University of Alberta), and Dr. Jerome Singleton from Dalhousie University. I would like to give you a brief outline of my proposed study.

The purpose of this research study is to further our understanding of how rural Nova Scotia women, who reside in towns and municipalities within the Colchester/East Hants District Health Authority (CEHHA), engage in physical activity behaviors following hospital discharge post-Myocardial Infarction (MI), and factors that affect their physical activity behaviors in the post-MI period. Constructivist grounded theory informed by a feminist lens and photovoice methodologies and methods will be used to give all participants a voice in this study.

Evidence indicates that increased exercise capacity and regular physical activity (e.g., aerobic physical activity for 30 minutes most days of the week) reduces recurrent cardiac events and mortality in women with coronary heart disease. However, geographic disparities, health inequities, and traditional gender role expectations may create further self-care challenges for rural women), such as engaging in recommended physical activity behaviors following a heart attack. As rural women still lack visibility in cardiac-related research, the impact of the rural context on women's recovery and physical activity behavior following a heart attack is poorly understood. In Nova Scotia, this is concerning as over two-thirds of Nova Scotia women will return home following a heart attack to recover in rural settings, with limited numbers of health care providers, cardiac care resources, and rehabilitative programs.

I would like to recruit rural women from the intensive care unit and medical unit at this institution. Study participants will be those who have had a myocardial infarction and who live within your district health authority. The nursing team leader on the intensive care unit and medical unit or his or her designate will discuss potential clients with me who meet the inclusion criteria. The nursing team leader on either unit or his or her delegate will provide the potential participant with a contact permission form. If the potential participant is interested in hearing

more about the study, she will sign this form and I will contact her within one week after she is discharged from hospital.

If there are recruitment challenges, study participants will be asked if they would like to assist with the recruitment of others for this study. Using a contact permission form, all interested study participants would approach eligible women within their social networks to ask if they would like me to contact them about the study. If a woman expresses interest to the study participant, I will obtain her contact information from the study participant who referred her. I will then call each woman to tell her about the study and, if she is interested, we will arrange a date, time, and location for a camera orientation session.

Over the period of one month, I will ask all women who are interested in participating in the study to do the following: a) participate in a one-on-one 60 to 90 minute audio recorded initial interview and camera orientation session with me, b) take pictures, using a provided disposable camera, and document any thoughts relating to their picture taking, using a provided logbook (i.e., hard covered journal book), over a two-week period following the camera orientation session c) obtain written consent from all individuals they wish to photograph, and d) participate in a second one-on –one 60-90 minute audio recorded interview with me three weeks after the initial interview and camera orientation session to title their developed photographs and share their views and feelings about the photographs they took. This means a total of 6-8 hours of every participant's time over one month.

Every participant will receive a copy of her photographs in an album during the second interview. After completing the study, I will provide each study participant with a summary document of the research findings if she requests one. Also, with study participants' permission, the concerns, issues and needs of the women in this study will be shared with policy makers, health care professionals, community boards and government officials through publications, public and conference presentations, and displays.

If you have any further questions about this research study, please contact: Dr. Marilyn Macdonald (902-494-2433 (Dalhousie University), Dr. Beverly Leipert (519) 661-2111 Ext. 86599 (University of Western Ontario) or Heather Helpard (902) -473-3346 (Dalhousie University).

I look forward to your anticipated ethical approval of my research study and to developing a positive rapport with your institution.

Sincerely,

Heather Helpard, MN, BScN, RN
Doctoral Student
School of Nursing
Dalhousie University