THE LIVED EXPERIENCE OF YOUNGER, ACTIVE WOMEN IN RECOVERY FROM A TOTAL HIP REPLACEMENT

A dissertation presented to

The Faculty of Saybrook University

in partial fulfillment of the requirements for the degree of

Doctor of Philosophy (Ph.D.) in Psychology

by

Valerie E. M. Kendall

San Francisco, California
December 2014

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Approval of the Dissertation

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This dissertation by Valerie E. M. Kendall has been approved by the committee members below, who recommend it be accepted by the faculty of Saybrook University in partial fulfillment of requirements for the degree of

Doctor of Philosophy in Psychology

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Abstract

THE LIVED EXPERIENCE OF YOUNGER, ACTIVE WOMEN IN RECOVERY FROM A TOTAL HIP REPLACEMENT

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This study is a qualitative exploration of the lived experience of five active Canadian women from 40-70 years of age, who underwent a first time total hip replacement (THP). The extensive literature search drew out numerous issues related to recovery, which were categorized under operative factors, social factors, and personal factors. Aware that the vast majority of studies evaluating the preparation and recovery from a total hip replacement had used scales, clinical scoring systems, health measures, and patient satisfaction ratings, the author sought a method to allow the patient's voice to come through.

The grounded theory approach allowed concepts to emerge from the experiential data, which included in-depth individual interviews, participant journals, field observations, and researcher reflective notes. Data were gathered approximately one week pre and four weeks post surgery, followed by a group interview when analysis was nearly completed. Analysis utilized coding, categorizing, and thematic conceptualization. Results conceptualized two patterns, one described three major components, which supported the patient in recovery: The character qualities of the patient, the personal support system and the medical system, while the other examined the reality of the experiential process though which the patient passed (i.e., pain and loss, delay, decision, confusion, preparation, delivery, and reclaiming self along with posttraumatic growth). The author considered a variety of perspectives emerging from the data, one of the most vexing ones being uneven leg lengths, a complication of THR requiring more research in order to assure leg length equality after THR. Another influential discovery was the benefit of a participant group meeting after the recovery, and participants felt this should be pursued. A significant contribution was the age-range of this group, which embraced the Baby Boomers, and the implications concomitant with that. This process suggested a unique metaphor of a woman having her first baby. Hence, the substantive grounded theory offered was "Rebirth, Regaining a Level Playing Field."

Dedication

This dissertation is dedicated to the wonderful, courageous, and generous women who volunteered to participate, without whom, this research would not have been possible. I am indebted to you, for without your support the journey to achieve my Doctor of Philosophy may have petered out.

To my parents, Fred and Vi Ward. Poor working-class people, originally residing in a thick-walled sandstone farm laborer's cottage in rural Shropshire, with no running water and candles for light; thank you for believing in me and supporting me at all times. If you could witness this, you would be so amazed and proud. To my beloved sister, for all her loving care and generosity: What an incredible angel! Thank you for your staunch belief in me and along with loving, loyal brother-in-law, John, absolutely behind me for a lifetime. To my dear husband, Trevor, who I believe values this even more than I. I owe you big time for prodding me to keep going and always supporting me to achieve my dream for higher education, and being so unselfish in giving me freedom over so many years to put the time in. Without your help in moral support and computer technology, I'm not sure I would have made it. To my three children and their partners, and my eleven grandchildren, thank you so much for your generosity in not being over demanding, but affording me time to study, and giving your loving support. To all my loyal friends, too many to name, thank you!

To the Saybrook University Community and especially my Dissertation chairs, Dr. Jeanne Achterberg, who started this journey with me, but sadly passed away in the spring of 2011, to be superseded by the generous Dr. Zonya Johnson, who took on the task, and like Jeanne, has had immense patience - thank you.

Acknowledgements

As I come to the completion of my doctoral journey at Saybrook University in San Francisco, California, I reflect on the opportunities Saybrook has provided for an existential, humanistic, transpersonal education. I have felt such a freedom and flexibility within this environment to follow my own interests, with support and enthusiasm from Saybrook's congenial and intelligent community. I have loved the interdisciplinary nature that allows us to take courses from a number of different tracts, such as Consciousness and Spirituality, Human Science, Mind-body Studies, Expressive Arts Creativity, and Jungian studies, as well as Clinical and Counseling Psychology. I have taken advantage of many of these. I gratefully thank all the pioneers, management, faculty and students who have fought for this and maintained that freedom of choice, and cutting edge for professional and personal growth

To my dissertation chair, Dr. Zonya Johnson, thank you for your gentle guidance, juggling my needs into your very busy schedule and "going to bat for me" on more than one occasion. To my committee members, Dr. Donald Moss, Dr. James Rankin, and formerly, Dr. Joshua Schwartz, without your comments, oversight and approval, there would be no PhD degree. I acknowledge the generosity of spirit of Dr. Schwartz and Dr. Moss for offering to stand down, so that we could elect Dr. Rankin to the committee in order to secure ethics approval in Alberta, and thank you to Dr. Rankin for all the hard work entailed bringing that to a successful conclusion. I also want to acknowledge the support of the chair of Saybrook Institutional Review Board, Willson Williams, in trusting me with another extension when I was right on the line

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Chapter 1: Introduction

Undergoing major surgery is a trauma. The definition of trauma is of a life-threatening event that happens to the self or is witnessed happening to others (American Psychiatric Association, 2000). Few studies truly examine the patient's perspective of the lived experience of surviving and healing from the trauma of surgery. A total hip replacement (THR) or arthroplasty *is* such a trauma. In the light of this understanding, it is overwhelming to look at the statistics for THRs.

Currently, there are 190,000 THRs per year performed in the European Union (EU) member states (Montin et al., 2011), while the United States of America (USA) is ahead with 285,000 each year (Swanson, Schmalzried, & Dorey, 2009). Within the next 15 years, THRs are expected to double in the USA (Iorio et al., 2008), but unfortunately the number of adult orthopedic surgeons available is decreasing, predicting a shortfall within 25 years (Iorio et al.). What is the reason for this increase?

Total hip replacements are increasing as the aging population grows, and life expectancy increases (Swanson et al., 2009). In addition, people have become more health conscious in regard to the advantages of staying physically fit (Bauman, 2004; Brown, Burton, & Rowan, 2007; Miles, 2007), and there is increased attention to staying physically active, and engaged in sports, especially with the boomer generation (born 1946-1965) who are now coming into middle age (Gifford-Jones, 2006; Meisler, 2003; Wallack, 2008). Increased participation in high-impact athletic activities leads to increased wear of the joints and a greater incidence of arthritic hip and knee joints. Mundy, Esler, and Harper (2005) reported that of the hip primary replacements performed each year, about 10% are completed in people of 55 years or younger With the increased capabilities of artificial hip components (Jacobs, Christensen, & Berend, 2009; Learmonth, Young, & Rorabeck, 2007), and the constant refining of these models, younger individuals see replacements as a way of relieving their pain and continuing their sporting activities and recreational pleasures (Learmonth et al., 2007; Vail, Mallon, & Liebelt, 1996).

Alternatively, lack of exercise, especially in early menopausal women leads to loss of bone density (Broos & Fourneau, 2000; Engelke et al., 2006), weakening of the axial skeleton and hips, and an increased risk for osteopenia – osteoporosis, which may raise the incidence of hip fracture (Boonen, Broos, & Dequeker, 1996; Yamanashi et al., 1998) possibly resulting in a THR. There is an increased prevalence of obesity (Leveille, Wee, & Lezzoni, 2005; Mokdad et al. 2003) and this weight gain also leads to increased arthritis, and degeneration of the hips and knees (Leveille et al.). Women particularly are prone to require more THRs than men (Kennedy, Stratford, Pagura, Walsh, & Woodhouse, 2002; Crowninshield, Rosenberg, & Sporer, 2006) because osteoarthritis is more common in women (Charlson & Allegrante, 2000; Hawker et al., 2000; Warren, 2008). However, in 2000, Hawker et al. reported that in Ontario, Canada, there was underuse of hip replacements in women, as much as three times the degree of underuse in men, even when adjusting for willingness to undergo the surgery. They posited various reasons for this that have yet to be researched.

In view of the large numbers of people undergoing hip replacements, as outlined above, and the dramatic improvements possible after the trauma of this major surgical procedure, dubbed the “operation of the century” (Learmonth et al., 2007), it is surprising that more research has not addressed the experiential stories of those undergoing joint replacement. Only three research articles were found in the professional literature addressing the patient's personal perspective (Fujita, Makimoto, & Hotokebuchi, 2006; Marcinkowski, Wong, & Dingham, 2005; Grant, St John, & Patterson, 2009;). The first is a qualitative, Japanese based study on hip arthroplasty, with a mean range of participants of 62 years, the second study used a grounded theory approach to examine the experience of knee replacements, again with older patients,and the third study an Australian-based, grounded theory study on hip arthroplasty, examined the recovery process from the point of view of the older adult (i.e., 65 years plus). All studies incorporated male and female. Pertinent as THR is to this writer, who was in the process of recovery from such surgery herself, the topic seemed an ideal selection for research, with the variant that participant selection would be limited to Canadian active, younger women from 40 to 70 years inclusive.

Background

The Plastic Hip Explosion

John Charnley (Brand, 2010) revolutionized treatment for arthritis of the hip when he deduced that the fundamental problem with degenerative joint disease and the joint replacement of the time was one of lack of joint lubrication. In 1954, Dr. Charnley observed a case of a squeaky hip (Hardinge, 1983), which led to him examining the literature about animal joint lubrication. He found that very little research had been done about joint lubrication (p. 26). He engaged in studying aspects of lubrication and frictional resistance between surfaces in a joint, and realized that the less they touched, the easier it was for them to move. This writer recognized this when she tried prolotherapy prior to defaulting to surgery. Prolotherapy is a process whereby dextrose solution is injected into the joint to stimulate the joint's natural repair system. She crawled onto the operating table in pain with arthritis, and after a few injections deep into the hip joint, was amazed to experience absolutely no pain on rising from the table. Pain did return later, but initially she experienced normal joint movement by virtue of the fact that the injected fluid allowed the joint surfaces to float apart temporarily, allowing ease of movement. Charnley understood that a well-oiled bearing is superior to a dry one, and he was instrumental in trying out different technological techniques to improve artificial joint function. Once the cartilage that normally coats the articular ends of the bones has been rubbed away, bone on bone results in arthritic changes and successful joint movement is impacted. Cartilage in good condition allows molecules of the synovial fluid in the joint to adhere by means of chemical interaction. Thus, this boundary lubrication reduces resistance to sheer forces, as the bone articular surfaces gyrate against each other. In addition, a second mechanism known as 'weeping lubrication' becomes operative under heavy loading of the joints. Interstitial fluid from cartilage is squeezed out into the periphery of the imminent contact area, adding a viscose quality to it that further helps to separate the cartilage surfaces (Hardinge, 1983, p. 28). Charnley strove to find a material that would be as close as possible to the strength and flexibility of the body's natural cartilage.

The slipperiest material known at that time was polytetrafluoroethylene (PTFE), accidentally created by a refrigeration chemist and brand named Teflon later by DuPont, Teflon surfaced as a non-stick coating for cooking pans. Tepper (1962) writes that PTFE "is physiologically inert, insoluble, nonirritating to the skin and nontoxic when taken by mouth" (p. 349). Charnley applied this low-friction material in 1958, as a liner for the replaced hip socket, while articulating it with a replaced femur head of a different material. Teaming two different materials for the hip junction was the first time anyone had tried it in medicine. Charnley justified it as a sound engineering principal, comparing it with practices in the automobile industry (i.e., in the crankshaft where cast iron journals run on white-metal bearings in the crank; Hardinge, 1983, p. 30).

Initially, excellent results were obtained with this new technique. Recipients were pain free, were spared the muscle spasms commonly experienced, and could move without restraint. Enthused, Charnley performed 300 hip replacements. Unfortunately, the exciting results were short-lived, and within 12 to 18 months, wear on the thin plastic caused shedding into the joint resulting in swelling and a regression to the previous pre-operative pain level. Fortunately, Charnley had restricted these operations to his own control, and with the fortuitous appearance of a new high-density polyethylene on the market, he was trusted by his patients to redo the operations. The new material proved a success and there have been millions of this hip replacement strategy worldwide since 1962.

Charnley was also instrumental in reducing infections in the operating room. In collaboration with air engineer, Hugh Howarth, he designed an "ultra clean air system" and a whole body exhaust suit for operating surgeons to wear (Hardinge, 1983, p. 44). These interventions reduced the incidence of operative infections to one quarter of what it had been originally. Queen Elizabeth II knighted Charnley in 1977 for his dedicated and remarkable pioneering work in orthopedics (Brand, 2010).

Since Charnley’s time there have been many other developments in hip prostheses, and the continuance of refinement and research in this area remains big business, with annual sales reported as close to $20 billion in the world market in 2005 (Callaghan et al., 2005). Charnley developed the use of acrylic cement as a grout and not an adhesive in both the bonding of the prosthetic stem, which is hammered into the thighbone, and the fixation of the prosthetic cup within the acetabulum of the hip (see Figure 1). In the present day, there are choices between cemented and uncemented prostheses, choices between ceramic, metal or plastic lined acetabular cups. There are choices between simply resurfaced hip joints and fully replaced hip joints, which necessitate the femur head being completely removed and replaced by an artificial one. The latter is what is defined as a total hip replacement or arthroplasty.

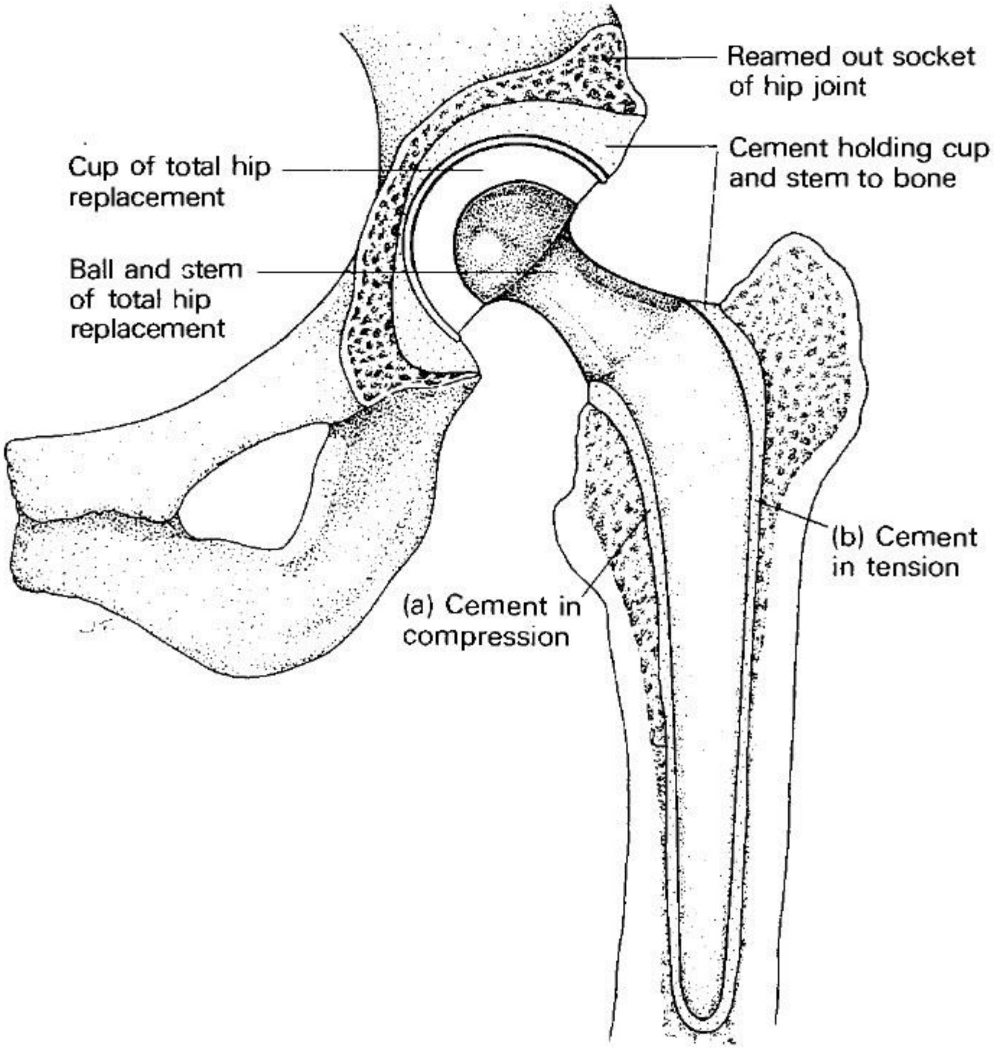

Figure 1. Total Hip Replacement. Adapted from *Hip Replacement: The facts*, by K. Hardinge, 1983, p. 31. Copyright 1983 by the Oxford University Press. Reprinted with permission.

The Baby Boomers

Just as techniques and materials for THR have changed over the years, so have the patients. Currently, recipients are 20% heavier, more active physically, better educated having completed high school or college graduation, and living 25% longer than patients of several decades ago (Crowninshield et al., 2006). In addition, recipients are more likely to be female, as previously delineated. Apart from these demographical changes, attitudes have changed.

Baby Boomers is designated to people born during the post, second world-war years, generally from 1946-1965. These individuals are presently entering their “middle years” and soon will enlarge the ranks of the senior citizens. The increased affluence of Western society and the rapid social changes of the last few decades have led to this cohort having health issues associated with being overweight and obese (Buckley, 2008). Among many fundamental changes, but just to name one or two here, are the changing gender roles, the increase in women seriously pursuing long-term professional careers and the dwindling of the culture where a family sat down at regular times to eat a nourishing meal together, replacing it with fast food take-out, solo eating, munching in front of the television, restaurant eating and snacking (Offer, 2006). Trying to manage to be the perfect career woman and the perfect wife and mother has greatly increased the stress factor for women, which is seen as the key trigger for overeating in restrained eaters (i.e., those intent on restraining their eating in order to lose weight; Offer, Polivy, & Herman, 1999).

Buckley (2008) defines two waves of boomers, the first from the years 1946-1955, and the second from the years 1956-1965. Defined by a transitional status, the boomers bridged two worlds, the first of their parents, which symbolized predictability, security, and routine, and the second, of the more modern world, where risk, flexibility, change, uncertainty and material comforts predominated. Reduced exercise patterns have been engendered by (a) increased urbanization, especially where characterized by low density car-based cultures such as the United States and Australia; (b) a change from manual to administrative and service occupations; and (c) the increase in labor saving devices such as elevators, vacuums, washing machines and remote controls (French, Story, & Jeffrey, 2001). The late boomers have enjoyed more individuality, but increased interconnectedness because of globalization. The information age, and the accessibility of the marketing techniques of the orthopedic industry through the internet, fuels the bloomers' natural inclination to fight "the traditional stereotypes of aging" (Mason, 2008, p. 147), and to demand continued enrollment in their favorite sports by proactively accessing the use of expensive medical technologies to manage chronic conditions such as arthritis. Unfortunately, the prudence of prevention by managing weight control through sensible diet and a tempered exercise program may not be realized until the hip and knee joints are the worse for wear and need replacing (Amin, Sales, & Brenkel, 2006). Felson and Zhang (1998) reported that if obesity were eliminated, the prevalence of hip osteoarthritis would decrease by 25%, while Karlson et al. (2003) found that those women obese at 18 had a fivefold increased risk of having a THR later.

Selection Procedures

Age, patient gender, degree of pain, degree of deformity, patient health, time on the waiting list, availability and skill level of orthopedic surgeon, availability of technologically safe implants, and government policy are all variables impacting the choices for a hip replacement.

A viable alternative that has reemerged in the market during the last twenty years is hip resurfacing. Developed initially in Britain, it became blacklisted "in the United States during the late 1970s and early 1980s because of a high failure rate compared with traditional hip arthroplasty" (Patterson & Coleman, 2010, p. 44). The failure rate has been attributed to the use of suboptimal materials. With the development of better components (e.g., metal on metal articulating surfaces of a larger diameter, and enhanced metallurgy) latest data report a 10-year implant survival rate, equivalent to that of a THR (Patterson & Coleman). In contrast, this writer’s surgeon reported a 10/15-year implant survival rate for resurfacing compared with a 20 to 25-year implant survival rate for THR.

Resurfacing has the following advantages over THR: Less bone loss because only the arthritic surfaces of acetabulum and femur head are smoothed down and capped, rather than the head and neck of the femur being removed; weight-bearing supported by proximal femur in preference to the mid femoral stem, a more physiologically natural mechanic; less danger of dislocation; potential for continuation in physically demanding athletic sports; and conversion to a traditional THR if the resurfacing strategy breaks down. Risks inherent in the resurfacing technique are that the femur neck may fracture, and avascular necrosis may develop (bone death through lack of circulatory blood; Little et al., 2005), and metal ions from metal articulating on metal could theoretically cause renal problems and hypersensitivity in the surrounding tissues (Lohmann, 2005; Mont et al., 2006).

Only persons with a normal hip morphology and equal leg length are suitable for hip resurfacing. Younger, active women may seek out resurfacing, but optimal clients are males under the age of 65 (Patterson & Coleman, 2010). Older women may have poor bone stock and rates of revision for women have been reported at double the rates of men (Australian Orthopaedic Association National Joint Replacement Registry, 2007).

A Success Story

In 1980, fitness professional Teri Diamond was unaware that her left hip was traumatized in a car accident. Eighteen years later, she discovered that drugs she had been using for endometriosis had accelerated osteoarthritis in her left hip. Soon, she could hardly raise her leg. Diamond was only 40. On consulting two orthopedic surgeons on separate occasions, she learned that she needed a THR, but that it would only last 12 to 15 years (A. F., 2003), so that she should postpone it for as long as possible. One surgeon suggested that she should retire from her aerobics instructor's job and cease exercising, maintaining that she could likely only have one revision (i.e., a second replacement after the first one wears out), before resorting to a wheelchair. The second surgeon advised her to remain teaching and stay active, suggesting that her hip could re-calcify not only improving bone density, but also maintaining muscle strength. Being active would better prepare her for surgery, leading to a speedier and more permanent recovery. The alternative was to risk gaining weight and for each pound, the stress on her hip joint would be equivalent to four pounds.

Diamond, a high energy person, followed the second piece of advice and managed to carry on for another three years with modifications, as her body demanded, and a pain management program. She also added Power Yoga, which had the benefit of stretching the spasmodic muscles that were struggling to hold her hip in place. After consulting five more surgeons, one of whom advised her to seek counseling to accept that her active lifestyle was over, Diamond located a surgeon who, with minimal invasion, implanted an "Athletic Hip," metal on metal, approved by the United States Food and Drug Administration (FDA) in 2000 (A.F., 2003). Diamond was discharged from the hospital within 48 hours, walking 2.5 miles on crutches in under a week, and back teaching a step aerobics class in six weeks.

Diamond’s story is not necessarily atypical of the boomer generation, which aggressively demands what it wants and does not easily accept ‘no’ for an answer. Only time will tell if Diamond’s approach has been successful over the long-term. Mason (2008) makes the point that the present population characteristics will probably sway “the outcome of present designs and the development of future strategies” (p. 466), and he acknowledges that the current paradigm must necessarily drive an altered view of the surgeon’s goals. Whereas they used to be focused on infection delimitation, radiolucencies and survival rates, they must now also embrace “rapid recovery, improved cosmesis, high functional demands, cutting-edge technology and one (and only one) operation” (p. 148). These definitions, he admits, are an outcome of surgeons’ own promotions in the media.

Some sources have claimed there is a trend to ‘patient centered care’ (Mason, 2008 p. 149), but it was not apparent in any proliferation of professional literature. Out of hundreds of journal articles, only four were concerned with examining in any depth the patient’s lived experience. Mason continued, “true patient-centered decision processes is potentially dangerous because we lack evidence-based data to support many of the new technologies and techniques our patients desire” (p. 149). This is a suitable juncture to pursue why this dissertation was initiated.

Purpose

The purpose of this research was to illuminate the lived experience active women aged 40-70 undergo when they have a THR, and to develop a substantive grounded theory of recovery.

Rationale

Although evaluative tools for surgical patients use patient-completed, disease specific instruments (e.g., *Sickness Impact Profile* [SIP], *Medical Outcomes Study Short Form 36* [SF-36], *Western Ontario and McMaster Osteoarthritis Index* [WOMAC], *Health Assessment Questionnaire* [HAQ], *Arthritis Impact Measurement Scales* [AIMS], *Clinical Health Assessment Questionnaire* [CLINHAQ], *Modified Health Assessment Questionnaire* [MHAQ], *Harris Hip Score* [HHS]), these measurement scales are limited in capturing the real life experience of the surgical patient. They are generic, questions may be bounded to reduced content, answers may be constrained to a limited range (e.g., Wamper, Sierevelt, Poolman, Bhandan, & Haverkamp, 2010, have shown that ceiling effects limit the HHS as a tool for evaluating the efficacy of primary THR), and the instruments are generally created without the input of patients. However Wolfe and Pincus (1999) declare that patient questionnaire data is invaluable in guiding patient care, rating it as important as laboratory tests or radiographs, claiming that without it the patient-physician encounter is “inaccurate and incomplete” (p. 1800). One is thankful for their pioneering attitude in this respect. Completing this qualitative dissertation exploring the healing life experience adds to the knowledge bank from which to draw questions for such questionnaires.

Research Questions

1. Why do active women of 40 to 70 years age elect to undergo THR?
2. How do active women ranging from 40 to 70 years of age experience recovery from a THR?

Design

The grounded theory research method was used to explore Canadian surgical patients' experience of the phenomenon of a THR. Glaser (2007), one of the principle pioneers of formal grounded theory, advocates allowing the problem to emerge, and not studying the literature field before the research so as not to preconceive and compel the concepts (p. 59). He also describes the difficulty this presents to graduate students who are required by their institutional review boards to justify their research topics by proving from the literature that there is a need for their research topic. Faced with such a dilemma, this writer attempted to circumvent the methodological problem by thickly citing literature in providing a contextual background to THR in her introduction, and focusing her formal literature review on a wide examination of the field of hip replacement in general, allowing challenges to healing to emerge from the readings, and seeking where there might be a void that could be filled. In addition, this researcher bracketed her personal experience, by being aware of her own values, thoughts, beliefs and assumptions, and using a reflexive journal both prior to beginning this study, and during the study. She used self-monitoring throughout, in order to identify potential biases. Additionally, she used open-ended questions in the interview process and delayed reading results of grounded theory studies until after data gathering and analysis processes were complete. As the researcher is a counselor, bracketing is something that is part of her everyday occupation.

W**hy grounded theory?** Although he was speaking in reference to counseling, Giddings (2009) focused on the crux of the methodological preference in this research. Clients are the experts on themselves (p. 10) and for successful outcomes, there needs to be a team approach between patient and surgeon. Until now, it appears that approaches have focused on a systems priority and the medical establishment as the expert. Although it is acknowledged that surgeons are the experts when it comes to surgical procedures and technological management, they sometimes leave much to be desired when it comes to human sensitivities. In addition, as in counseling, surgeons may deal with symptoms, rather than etiologies (e.g., some have been known to ignore uneven leg length and not recommend physiotherapy approaches to adjust this if it is a functional problem, prior to scheduling someone for surgery). Giddings specifies a need to work on the whole person, rather than objectifying him/her into a set of symptoms (p. 10).

Corbin (Corbin & Strauss, 2008), another pioneer in the field of grounded theory, recounted that doing qualitative research led to significant changes in her nursing practice. She recognized that her “patients knew more about their illnesses, their body’s responses to it, and the regimens designed to control the illnesses than [she] could ever know because they *lived* with these every day” (p. 49). She felt compelled to drop her previous role of the authority figure, in preference to one of co-creator or negotiator of patient care (p. 49). Her conclusion was an echo of Merleau-Ponty’s (1945/2002) identification of sensation as a unit of experience, expounding that we experience both ourselves and others through our senses, and that “perceptions become an ‘interpretation’ of the signs that our senses provide in accordance with the bodily stimuli” (p. 38). His supposition was that it is the scientist, the historian or the sociologist, who tries to provide causal explanations and underlying psychological underpinnings of experience but phenomenology merely offers “an account of space, time and the world as we ‘live’ them" (p. vii). This sounds very like the process the researcher goes through when he/she tries to extrapolate concepts from experiential data collected from patients.

Glaser (1992) is adamant that theory can be generated "by the systematic collection and analysis of data . . . to bring concepts of reality to a substantive area both to others and subjects in the area itself" (p. 14). Although Glaser, as mentioned previously, warns against researcher bias, he cannot support the researchers who maintain that the best way to minimize this is to report the data verbatim and to describe the observations as seen. The reader is referred to Corden and Sainsbury's (2006) paper: "Using Verbatim Quotations in Reporting Qualitative Social Research: Researchers' Views," where they report that the use of verbatim quotations has become standard practice (para. 3). Glaser believes that "untouched data … fails by non-presentation of essential patterns within the data that are not reduced to conceptual formulations and interpretations" (p. 14). He reminds us that there are some safeguards against allowing researcher bias to creep in once conceptual hypotheses are presented. He elucidates "constant comparison and saturation and core relevance" (p. 14) as the pivotal methods by which this can be accomplished (see definition of terms). In order to be true to all three of these notions, it is important to have data collection, data analysis, and data presentation juxtaposed, for in that way they can nudge each other to the emergent theory by means of theoretical sampling, memoing, and sorting, all the time staying close to the data, but achieving conceptualizations (p. 14). In addition, a theory can always be further modified as new concepts emerge (e.g., people thought the world was flat for years until someone sailed around it and the concept of a globe emerged).

The Glaser and Strauss controversy. Any student of grounded theory will eventually encounter the rift that developed between the originators, Glaser and Strauss (1967). In clarifying method, the student must sort out the subtle nuances between their philosophies in order to defuse any confusion about the method he/she will use. The main distinction appears to be the notion of allowing the free emergence of theory from data and excluding preconceptions or a priori hypotheses, contrasted with the forcing of data to fit preconceived hypotheses resulting in conceptual descriptions, rather than emergent categories, which can be confirmed or discounted when compared with subsequent data (Glaser, 1978, 1992, 2007). Free emergence is an inductive process, but fitting data to preconceived hypotheses is a deductive process. Glaser subscribes to the former idea and accuses Strauss of the latter (Glaser, 1992).

Cooney (2010) addressed the challenge and came up with some criteria for her decision-making between Glaser and Strauss' approaches. She observed that initially they both felt that there was predominance in research approaches on verifying theory, rather than generating it, which is why they wrote their ground-breaking book in 1967: It was an attempt to systematize the collection of qualitative data as a means to creating theory. By using theoretical sampling and constant comparison, they hoped to imbue qualitative data with the rigor and logic of quantitative data analysis. In time, Glaser remained attached to positivist assumptions of the researcher as an objective, unbiased observer of an external world that had one truth to be revealed, and through dispassionate empiricism. Meanwhile Strauss reflected a more pragmatic view. In line with his genesis from the Chicago school, with the influences of the work of Blumer (1969), Wiseman (1987), and Mead (1934), his emphasis grew more in line with symbolic interactionism, a philosophical base where emphasis is on language and communication as scaffolding for the construction of reality. There is an assumption that people think about their actions, as opposed to simply reacting to stimuli.

Glaser bemoans the fact that since he and Strauss first mentioned formal grounded theory (FGT; see Glaser & Strauss, 1965, p. 276), declaring that it would develop from systematically analyzing and comparing data from substantive realms, little follow-up has occurred (Glaser, 2007). Many have tried to define FGT, but Glaser simply puts it “the conceptual extension of the general implication of a core category” (p. 19). In this dissertation, it was recognized that there would not be sufficient time to extend substantive grounded theory (SGT) into a FGT, as the central idea of this research is the understanding of the healing journey from a THR. It would likely take a couple of years to expand this specific examination of an emergent area into other substantive studies (e.g., healing from other surgeries, healing from mental health issues, healing from losses, healing from relationship issues, and so on). Therefore, this study was limited to one substantive area as previously defined: Recovery from a THR. In addition Glaser, much to his disappointment, admits that there is no inspired demand for FGT, nor direction how and where to go to generate it. The reasons are expounded in his latest book, *Doing Formal Grounded Theory: A Proposal* (Glaser, 2007), but continued illumination here would direct us beyond the scope of this research. Hence, this line of inquiry will not be examined further.

In view of the previous comments, it is not surprising that grounded theory research focusing on the healing experience from THR is minimal. Only two studies could be located (i.e., Fujita et al., 2006; Grant et al., 2009).

Constructivist grounded theory. Kathy Charmaz (2000, 2006), a student of Glasser and Strauss, further simplified grounded theory to a constructivist version. She pointed out that data are a narrative form of an experience, whether recounted by the interviewee or the interviewer, and as such are reconstructions. She also elaborated that there are multiple sources of this data, whether it be observations, formal interviews, archival documents, respondents' diaries, public records, or the researcher's own tape-recorded reflections (Charmaz, 2000, p. 514). Rather than being limited to a strict formulaic procedure and the prescriptive techniques proffered by Strauss and Corbin (1990), such as their axial coding matrix, this writer preferred to have the freedom of the more open-ended approach offered by Charmaz (2006) who believes that mechanistic applications only, "yield mundane data and routine reports" (p. 15). This researcher wishes to avoid forcing data into preconceived frameworks, preferring to remain open to the field and challenged by the need to grapple with it. What comes to mind is the thought that one might miss the wood when one can only see the trees. Additionally, one could compare this precept to the advent of whole language learning, the idea that children need to grasp the whole idea of what reading is before breaking it down into component parts, but parts that might be necessary later to study, when one understands why one is studying them (e.g., phonics, sight words, and syllabication).

Definition of Terms

The following definition of terms were used in this research:

Category. A standalone conceptual element of a theory (Glasser, 1967, p. 36).

Coding. Applying tags or labels to assign meaning to chunks (words, phrases, sentences, paragraphs) of descriptive or inferential information in the collected data (Miles & Huberman, 1994, p. 56).

Constant comparison. "Initially comparing data set to data set; later comparing data set to theory" (Dick, 2005, para. 7). Constantly doing this enables similarities and differences to be recognized and adjustments made so that finally there is a goodness of fit between data and resulting theory (Glasser, 1967; Henwood & Pidgeon, 2003).

Core relevance. Central to the emerging, integrated framework of the theory arising out of the phenomenon being studied (Glasser, 1967, 1992).

Density. Allowing numerous avenues of thought and insights (Strauss & Corbin, 1998).

Emergence. This applies to categories that are birthed and evolve through the data, gradually developing into a theory that accounts for the data (Dick, 2005; Glasser, 1967; Strauss & Corbin, 1998).

Grounded theory. The inductive, analytical method of theory building from data by conceptualizing and coding themes until hypotheses are developed (Creswell, 1998, 2003; Glasser & Strauss, 1967; Strauss & Corbin, 1998).

Integration. Assimilation of categories and their properties into a central inter-related conceptual theory (Glasser, 1967).

Interchangeability. Capability of parts such as properties or categories that can be put or used in place of each other, helping the researcher validate their fit and relevance as saturation point is reached (Glasser, 1992, p. 18).

Memoing. Act of making notes to oneself regarding hypotheses one may have about a category or property, especially relationships between categories (Dick, 2005).

Property. An element of a category (Glasser, 1967, p. 36).

Saturation. The point reached when data collected and interpreted about a certain category yields no further clarification. Coding then ceases for that category (Dick, 2005; Henwood & Pidgeon, 2003).

Sensitizing. An essential feature of a concept that paints a picture of its meaning by the use of pertinent illustrations in a way that is relative to the reader's own experience rather than definitive specificity (Blumer, 1954; Glasser, 1967).

Sorting. The process of grouping memos and notes (commonly recorded on cards) of like nature together, and then sequencing the cards to organize for writing (Dick, 2005).

Substantive theory. Theory "developed for a substantial or empirical area of sociological inquiry" (e.g., surgical recovery or patient care; Glasser, 1967, p. 32).

Theoretical sampling. "Theoretical sampling is the process of data collection for generating theory whereby the analyst jointly collects, codes, and analyzes his data and decides what data to collect next and where to find them, in order to develop his theory as it emerges" (Glasser, 1967, p. 45, 1992).

Chapter 2: Literature Review

"Like a camera with many lenses, first you view a broad sweep of the landscape. Subsequently you change your lens several times to bring scenes closer and closer into view" (Charmaz, 2006, p. 14). Charmaz is talking about methods, but this researcher feels that the foregoing statement aptly describes the literature search too. This researcher experienced her own hip replacement, which roused her interest in this topic. Not wanting to be biased, she bracketed that experience, while throwing the net wide to capture the vast expanse of information available now in joint arthroplasty, and grapple with how to organize it coherently. The healing experience being the focal point, this writer conjectured that concepts which applied to this would be an appropriate organizing frame, and hence, has first looked at comprehensive challenges to healing throughout THR literature, and secondly, she focused in on qualitative studies that further revealed what was important to recipients of new hips. That being said, the literature review is not completely inclusive, and further explorations were required based on what emerged from participant interviews, participant journal entries, observations in the field, and researcher's reflections. Indeed, this researcher has left out literature that explores recovery in other surgical instances that might also be relevant here.

Complications or Challenges to the Healing Process of THR

Although THR is recognized as a successful procedure to relieve hip pain and improve one's health related quality of life (Jones, Voaklander, Johnston & Suarez-Almazor, 2001; Rissanen, Aro, Slätis, Sintonen, & Paavolainen, 1995; Wylde et al., 2009), outcomes do not measure up to the health standards of the general population (Jinks, Lewis, & Croft, 2003; Jones et al., 2001; Wylde et al., 2009). Wylde, Blom, Dieppe, Hewlett, and Learmonth (2008) report that 25% of recipients cannot resume sports in which they participated before the surgery. A pre-surgery expectation to participate in recreational sporting activities post-surgery leads to disappointment, impeding the positive impact of THR on the lives of these people. There are a number of reasons for quality of life not attaining the same standard as the general population and they are outlined below.

Operative factors. These factors tend to issue from the mechanics of a THR. Nevertheless, patients must surmount these obstacles to effect a successful operation. These disconcerting elements are outlined first. The second section looks at variables that may help to surmount these problems.

Leg length discrepancy (LLD). LLD remains a controversial issue in THR and Meldrum and Feinberg (2006) reported LLD perception as the "most common cause of patient dissatisfaction" (p. 83). A number of researchers contributed to this finding (Abraham & Dimon, 1992; Edeen, Sharkey, & Alexander, 1995; Rubash, & Parvataneni, 2007; Turula, Friberg, Lindholm, Tallroth, & Vankka, 1986). As such, this section devotes more space to the problem of LLD. Although not well understood, awareness of uneven leg length after THR leads to at least 27% of patients complaining about it and needing a shoe lift for balance (O'Brien, Engela, Trainor, & Beverland, 1996; Williamson & Reckling, 1978). According to Konyves and Bannister (2005), and Love and Wright (1983), radiographic leg length discrepancy (LLD) is reported as varying between 1 and 15.9mm, but sometimes it is as much as 19mm, while variation mentioned in the literature continues to remain as high as 30mm (Love & Wright, 2003; Rand & Ilstrup, 1983; Turula et al., 1986; Williamson & Reckling, 1978; Woo & Morrey, 1982).

Turula et al. (1986) reported that 6% of 55 patients with completed THRs subjectively identified a LLD and exhibited a distinct limp when the lengthening was over 14mm. Turula et al.'s study concluded that undue LLD could also be a contributing factor to low back pain, pelvic tilt, and prosthetic loosening. In studies by Chudasama (2006), and Edeen et al. (1995), 32% of subjects noticed LLD after THR, and more than half of these were upset by it. In the former study, LLD led to almost 41% of subjects post-operatively limping, and the greater the leg discrepancy, the greater the abnormal gait, the need for shoe lifts and the need for assistive devices for walking and climbing stairs, even with a minimum follow up of two years and average follow-up of 6.6 years.

Edeen et al.'s (1995) study found a correlation between prior LLD and post-operative discrepancy. In view of Gurney, Memier, Robergs, Gibson, and Rivero's study (2001) accounting that a measurable LLD is a common problem in the general population, it is surprising that leg length disparity is frequently a neglected aspect of THR (O'Brien et al., 1996; Turula et al., 1986). D'Amico et al. (2006) completed a literature search in biomechanical studies and found that none of them dealt with uneven leg length issues in relation to THR. D'Amico et al. also noted that if post-operative patients did not wear a suggested foot wedge under the healthy leg side, or wore one lower than the suggested height, there was a worsening of their postural balance. On the other hand, mistakenly wearing a shoe lift based on an incorrect diagnosis can lead to a chronic psoas muscle syndrome (see Racont, 2007, 2009, for details). This highlights another critical issue. There are two types of LLD (a) *structural* anatomical problems due to congenital trauma, disease, or poor placement of the prostheses components in a THR; or (b) *functional* distorted mechanics of the lower body such as flawed foot positions, (e.g., asymmetrical positions, such as pronation or supination [as defined by Dalton, 2007], and malpositioning of a hip prosthesis resulting in compensatory body mechanics such as torsion of the sacrum, a pattern referred to as pelvic obliquity in which the pelvis rotates contralaterally). Either way, involvement of the cerebral cortex in postural balance is a relatively new science (Jacob, & Horak, 2007; Maki & McIlroy, 2007), which is pertinent to losses of balance related to hip replacements. Accommodations in the brain might be applicable to the reported alteration of patients' perceptions of LLD over time post-operatively, although Konyves and Bannister (2005) reported that in their study "perception of LLD did not change over time in 86% of patients" (p. 156).

Kasis, Stockley, and Saleh (2008) described a leg length discrepancy of 5 cm as the etiology of a 51-year-old woman's increasing back pain after primary THR, necessitating further surgical treatment (femur shortening) to accommodate the problem. Happily, Defrin, Benyamin, Aldubi, and Pick (2005) found that a shoe insert could successfully reduce chronic low back pain provided the LLD is 10 mm or less. Uneven leg length after THR can also detrimentally affect other joints such as knees (Bhave et al., 2007; Kasis et al., 2008; Tokuhara et al., 2011), ankles (Seeley, Umberger, Clasey, & Shapiro, 2010), and spine (Bhave et al., 2007; Ten Brinke, van der Aa, van der Palen, & Frits, 1999). Organs other than joints may also be affected by LLD. Gurney et al. (2001) completed research using an artificial leg length discrepancy of two cm and found that an individual needed greater exertion and greater oxygen consumption than an individual who had equal leg length. The subjects used ranged in age between 55 and 86 years of age. If the artificial leg length discrepancy was 3 cm, it brought about a 54% increase in quadriceps effort for the longer leg resulting in muscle fatigue (p. 914). The authors pointed out that for elderly patients who might be compromised by lung, heart or neuromuscular function, even a 2 cm LLD could interfere with their walking.

Although White and Dougall (2002) determined that leg length was not important after THR, based on a statistical analysis comparing “validated functional outcome scores (*Harris Hip Score* and the *SF36 Health Survey*) and patient satisfaction” (p. 335) with a lengthening index derived by themselves, their study seems flawed by the fact that they assumed that the contralateral leg was equal in length to the operated leg prior to onset of arthritic deterioration and subsequent surgery. If this was a fallacy, the patient may have become accustomed to a differentiation or not even noticed it due to the brain accommodations possible (Jacobs & Horak, 2007; for example, this writer’s own head is crooked on the cervical bones and she is completely unaware of it). In addition, White and Dougall’s study was limited to objective instrumentation and did not include interviews allowing subjective feelings to be expressed. Benedetti et al. (2010) assert that biomedical evidence from their study shows that up to 2 cm leg lengthening following THR does not need a correctional shoe lift under the contralateral leg. However, Konyes and Bannister (2005), found that although the Oxford hip score (OHS) improved considerably from pre to post surgery, there were still 27% of patients who perceived themselves as having “true” leg lengthening, who were scoring worse at three months post surgery, and there remained 18% who continued to have worsened OHS scores at 12 months post surgery. Konyves and Bannister surmise from their study that better positioning of the femoral component could allay leg lengthening, and they suggest that surgeons should take appropriate actions to have leg length equalized, thereby improving satisfactory outcomes for clients. LLD after THR still remains a frequent cause of litigation (Attarian & Thomas, 2005; Nercession, 1999; Upadhyay et al., 2007). An even more alarming statistic is the revelation by the American Academy of Orthopaedic Surgeons' (AAOS) task force in 1998 that 68% of wrong site surgery "involved orthopaedic procedures" (Robinson & Muir, 2009).

Dislocation of the operated limb. Arguably, a less frequent complication than LLD, but still a major impediment to a successful THR (Yuan & Shih, 1999) is the dislocation of the operated limb. Ji, Kim, Lee, Ha, and Koo (2011), claim dislocation as "the most common early complication after THR" (p. 1). Dislocation is most likely to happen within the first three months after surgery (D'Angelo, Murena, Zatti, & Cherubino, 2008; Meek, Allan, McPhillips, Kerr, & Howie, 2008). However, Fender, Harper, and Gregg (1999) reported a 5% dislocation rate at five years after surgery and D'Angelo et al. (2008) confirmed that late first time dislocations can occur many years after surgery. Dislocation rates of 0.8% to almost 10% have been reported in the literature (Blom et al., 2008; Ekelund, Rydell, & Nilsson, 1992; Paterno, Lachiewicz, & Kelley, 1997; Woo & Morrey, 1982; Yuan & Shih, 1998).

Causes of dislocation are multifactorial (e.g., "previous surgery, old age, female gender, mental disorders, neuromuscular disease, alcoholism, surgical approach, soft tissue repair, patient's positional factor, soft tissue laxity, implant design, alignment of components, and surgical technique" [Ji et al., 2011, p. 6]; also see Masonis & Bourne, 2002; Soong, Rubash, & Macaulay, 2004; Turner, 1994). The topic of surgical approaches ranging from posterior, posterolateral, direct lateral, to anterolateral, has been in hot debate regarding their abilities to hold the hip stable. Despite Downing, Clark, Hutchinson, Colclough, and Howard (2001) finding no difference in abductor strength when comparing posterior and lateral approaches in 100 patients, the literature has conflicting views (D'Angelo et al., 2008), with Masonis and Bourne (2001) citing a six times greater dislocation rate with a posterior approach (p. 46) than a lateral one. More recently, Ji et al. (2011) laud the success of the posterior approach provided the soft tissue is also repaired which has not always been the practice. Woo and Morey (1982) state, "Previous surgical intervention approximately doubles the risk of dislocation of the hip" (p. 1306). Ekelund et al.'s (1992) research affirms dislocation to be higher in a fracture group than a degenerative diseased group (p. 105), positing the possibility of poorer muscle condition around the hip, so patients who have suffered a previous femoral fracture, or a primary THR, should be cautioned to follow pre- and post-operative instructions very carefully (Lübbeke, Suva, & Perneger, & Hoffmeyer, 2009).

Fevang, Lie, Havelin, Engesæter, and Furnes (2010) reported an increase in dislocation rates during the period from 1987-2007. They posited that this might be due to the increase in young, more active people having implants. As a result of these dislocations (and also infection rates increasing), there were more revision surgeries than previously. Blom et al. (2008) reported on recurrent dislocations as averaging 2.81% with a range of two to eight dislocations, and very similarly with dislocations for revision THR surgery patients" (p. 156).

Revision surgery. Aseptic loosening of the femur or acetabular component of a THR, "a major problem in cemented THA" (Turula et al., 1986, p. 163) may be an outcome of leg length discrepancy requiring revision surgery (Amstutz, Steven, & Mai, 1982). Malchau, Herberts, and Ahnfelt's (1993) national study, which followed up 92,675 THRs performed in Sweden from 1978-1990, concluded that 79% of revisions were as a result of aseptic loosening. Their results presented 10% as a result of infection, 6% as a result of technical error, and 2% due to dislocation. Malchau et al.'s findings also reported that younger patients (i.e. 64 years and below) were at an increased risk for aseptic loosening, and that THR for those below 55 years of age was still experimental. Since Malchau et al.'s report, there has been a "steady annual increase in incidence of hip arthroplasty in young patients" (i.e., less than 60-years-old), in Finland (Skyttä, Jarkko, Antii, Huhtala, & Ville, 2011, p. 3). The acceleration trend over the last 15 years particularly seems to have been triggered by the advent of the resurfacing hip arthroplasty (RHA) technique in 2001 (Skyttä et al., 2011).

Similar statistics are recounted in Australia (Wells et al., 2002), Spain (Jimenez-Garcıa et al., 2011), the United States (Liu, Valle, Besculides, Gaber, & Memtsoudis, 2008), the European Union (Stargardt, 2008), the Nordic countries (Havelin et al., 2009), and Canada (Landry, Jaglal, Wodchis, Cooper, & Cott, 2007). Parvizi, Sharkey, Bissett, Rothman, and Hozack (2003), evaluated revision treatment performed at a mean of eight months after primary arthroplasty in 21 patients who had symptomatic uneven leg length after THR. The mean age of patients was 66 years, and the mean leg differential reported in their study was 4 cm. These revisions were completed because of severe pain in the back or hip (11 patients), instability of the hip (eight patients), ipsilateral limb paresthesia accompanied by hip pain (1 patient), and ipsilateral foot-drop along with hip pain (one patient). Most patients were satisfied with the outcome of the revision. The researchers'conclusion was that revision arthroplasty could be indicative provided there was a surgically correctable etiology, (e.g., a malpositioned acetabular or femoral component).

As the aging population expands, and earlier primary THR are performed, the number of revisions is expected to increase exponentially (Skyttä et al., 2011).

Nerve damage. Other possible pathological outcomes of THR include nerve damage, especially in developmental dysplasia (DDH), where Kasis et al. (2008) reported that the incidence of nerve palsy in the literature is 5-17% (p. 36).

Implant infection. This is regarded as catastrophic for the patient and it is also extremely costly to the health care system. Bozic and Reis (2005), Dreghorn and Hamblen (1989), and Olsen, Snorrason, and Lingaas (2010) reported that the direct medical cost of managing an infected THR is four times that of a non-infected one. Hospital stays are increased by 3.5 times as long as for a revision for aseptic loosening, or 4.5 times as long as for a primary THR (Bozic & Reis, 2005). Based on Medicare data from 1986-1989, Sculco, (1993, p. 1750) estimated that the number of infected joint arthroplasties in the United States was close to 3500-4000 per year, with a case cost of $50,000 to $60,000. Apart from this economic burden, the physical and psychological impact to the patient is hard to bear (Cahill, Shadbolt, Scarvell, & Smith, 2008). Unfortunately, since 1996, bacteria have been becoming multiple drug resistant (Ip, Yam & Chen, 2005) and by far the most common infectious culprit is Staphylococcus Aureus (p. 125). Only half the hip replacements infected with these resistant organisms can be successfully treated (Kilgus, Howe, & Strang, 2002).

Infections can be transferred to the hip prosthesis by dermatitis from body sites distant from the operative location (Lim, Tan, Kagda, & Ang, 2007). Dermatitis is reported as common in the elderly (p. 366). Another source of infection for an implant is from bacteria in the mouth. For this reason, a prerequisite prior to dental visits for the first two years after a THR is the use of a high antibiotic dose (e.g., penicillin; Fitzpatrick & Hyde, 2006; Portnof, Israel, Brause, & Behrman, 2006). However, indiscriminant use of antibiotics is not without risks (e.g., induced anaphylactic shock, and the danger of the increase in bacterial resistant species).

Hence, only high risk patients should be administered antibiotics: those with a prosthetic joint replacement in the last two years, the immuno-suppressed, hemophiliac patients, HIV infected, Insulin-dependent, cancerous, and the malnourished (Fitzgerald & Hyde, 2006.). Uckay et al. (2009) reported that prophylaxis before dental treatment in patients with artificial joints lacks evidence-based information and cannot be universally recommended. Olsen et al. (2010) maintained that simply brushing the teeth or chewing can cause bacteremia, and there is no justification for routine antibiotic prophylaxis. Rather, “optimal dental hygiene and regular dental visits are more important” (p. 5672). The jury is still out on this issue and there are conflicting reports in the literature.

Information on urinary tract infections is also contradictory. Whereas some reports advise that urinary tract infection at pre-admission puts the patient at high risk for wound infection post surgery (Ollivere, Ellahee, Logan, Miller-Jones, & Allen, 2008), others (Koulouvaris, Sculco, Finerty, Sculco, & Sharrock, 2009) believe otherwise and state that treated urinary tract infection “should not be a reason to delay or postpone surgery” (p. 1859).

Metal allergies. Unfortunately, a small percentage of patients may respond negatively to the prosthetic material (Nasser, 2007). According to the literature, allergic responses vary from 1% to 11% (Nasser), while at least one manufacturer of ceramic knee implants suggested that more than half the knee revisions required are due to allergic reactions to cobalt-chromium. Kosukegawa et al. (2011) reported on hypersensitivity to cobalt-chromium in a THR, precipitating a revision and a three-year duration of pain and cystic lesion before full recovery. Unlike other allergic reactions, hypersensitivity to biomaterials involves a complex and rapid T- lymphocyte cell response to the antigen, as the metal degrades producing "particulates, oxides, insoluble salts, and free metal ions" (p. 89), which act on the host proteins eliciting hypersensitivity reactions such as dermatitis, swelling, pain, or loosening of the implant (Yang, 1995). Nickel is identified as a common irritant, especially in women and in industrial areas (Nasser, 2007), while Titanium is reported to be more inert (Nasser). Techniques for identifying patients with high metal sensitivity have not yet been mastered pre-operatively so treatments tend to be relegated to post-operative situations, when options are limited to removal of offending materials or revision surgery. Allergy medications cannot solve the problem because they check histamine discharge but do nothing about T cell responses (Nasser, p. 91). THR can indeed be a confusing and life-threatening ordeal.

Surgeon skill. *The Globe and Mail* presented an article (Gordon, McIlroy, & Maki, 2012, pp. 4, S4), which highlighted the ethical dilemma that looms when a physician is employed by a professional sports team. When an athlete is injured and an important league date is approaching, who is the priority, the athlete or the team that needs to win this all-important game? The organization is financing the physician so he or she faces competing demands. Similarly, in hip surgery some surgeons receive research financial support from companies manufacturing implants (Lavernia, Alcerro, & Rossi, 2010), or the physicians may have shares in the companies. These companies want the surgeons to utilize their products. The companies are even willing to train the surgeons in techniques. Again, there are competing pressures for the physicians (G. Abelseth, personal communication, May 28, 2010). Will ambition and financial greed lure the surgeon to be less than ethical?

Validating this concern is the revelation by the former marketing director of De Puy International, a subsidiary of Johnson and Johnson, that corrupt practices of accepting incentives to use De Puy's orthopaedic implants were endemic in the Greek Public Health System. Characterized as 'professional education' payments, the funds amounted to a standard 20% of the end user sale price (Dyer, 2010). "The price of a prosthetic knee in Greece was twice that of the European average" (Dyer, para. 4). The Greek taxpayer footed the bill.

The *World Wide Web* enables prospective THR candidates to examine alternative methods of surgery, obtain feedback on surgeons' skill levels, and make more informed decisions than patients of even 20 years ago. Some surgeons now advertize on their own websites and operate private clinics, which may be part of a large conglomerate. Westley and Bennett (2007) term this the "carriage trade trend" and see it as consistent with economic theory and a rebellion against hyper-regulation in the health care environment today. This trend has a down side too. *The Times* (2009, News Section) reported that although private treatments cut wait times, clients are "20 times more likely to need painful and expensive repair work" (p. 3). Research does show that the more experienced surgeons make fewer errors. (Katz, Wright, & Losina, 2008; Sendtner et al., 2011) and candidates for THR are advised to "shop around." As more surgeons get into the carriage trade trend, the remaining traditional physicians may become overwhelmed by excessive caseloads.

Social factors. Humans are social animals. Their helplessness as tiny infants, their likely dependence as octogenarians, supports this observation, as does the collective nature of groups in families, villages, towns, cities, organizations, cultures, and countries. The huge following on social network websites such as Facebook, now a multibillion-dollar business, speaks to the strong desire for connection in humans. Christarkis and Fowler (2009) argue "our interconnection is not only a natural and necessary part of our lives but also a force for good" (p. xii). Social support is a multidimensional construct (Cohen, 1988; Uchino, Cacioppo, & Kiecolt-Glaser, 1996). This section examines how potential mechanisms impact healing from a surgery such as a THR.

Healing presence. Godkin (2001) derived a model of healing presence by illustrating the hierarchical relationship of the six factors of nursing presence proposed in Doona, Chase, and Haggerty's (1999) existential study. Godkin framed her findings in a pyramidal fashion with the major quality of "being present" at the peak of the pyramid, supported by the underpinnings of "uniqueness" (the base), "connecting with patient's experience," the second level, "sensing," the third level, "going beyond scientific data," the fourth level, and "knowing what will work and when to act," as the fifth level. Further, these six dimensions occupy three stages through which a nurse passes as she matures in her experience: (a) bedside presence, (b) clinical presence, and (c) healing presence. Ultimately, mastering healing presence facilitates the potential for healing within the nurse-patient dyad (Godkin, 2001, p. 6). Clients report feeling cared for as individuals, rather than just objects (e.g., see Efraimsson, Rasmussen, Gilje, and Sandman, 2003, for client experience of objectification); patients feel that they are heard. "Presence" leads to client encouragement, motivation, reduced isolation and loneliness, increased abilities to cope (Morgan & Moffatt, 2008; Pettigrew, 1988) as well as an increased feeling of self-worth (Peplau, 1991). Presence is a hard phenomenon to define, and many have tried (Benner, 1982; Boykin & Schoenhofer, 1993; Euswas, 1993; Ferlic, 1968; Horner, 1991; Newman, 1994; Parse, 1992; Ray, 1991; Roach, 1984, 1992; Vaillot, 1966; Watson, 1979, 1999). Covington (2003) examined this literature and settled on a working definition for caring presence: “A way of being that allows for nurse and patient to connect in a human-to-human experience that promotes healing” (p. 313). Using a grounded theory approach, Santy (2001) deduced that the orthopaedic nurse was a "harmonist" (p. 22), and his/her role was composed of: “guide, comfort enhancer, mediator, risk manager, and technician" (p. 22).

This point seems an appropriate juncture to consider patient satisfaction. Unless the medical personnel develop a caring relationship with the patient it is unlikely that patient satisfaction can actually be measured accurately. Slevin, Plant, Lynch, Drinkwater, and Gregory (1988) showed that correlations between doctors’ or nurses’ and patients’ scores using scales (Karnofsky Performance Scale, Spitzer Quality of Life Evaluation, Hospital Anxiety and Depression Scale, Linear Analogue Self Assessment Scales, and rating scales designed specifically for the study) to evaluate quality of life, anxiety, and depression in cancer patients were poor. None of these measured nurses and doctors on “presence.” Quality of life, being a concept that includes many subjective elements, suggests that “presence” might be a necessary component to facilitate the patient deeply sharing what matters to him/her. Slevin et al. extended the study to test the reproducibility of the scales and found that there was a sizeable inconsistency in results between different doctors. Their suggestion was that “if a reliable and consistent method of measuring quality of life in cancer patients is required it must come from the patients themselves and not from their doctors and nurses" (p. 109).

Similarly, Lieberman et al. (1996) stimulated by their literature review, which suggested it was difficult for treating physicians to be objective when evaluating a therapeutic intervention, compared physicians' and patients' assessments of their THR surgery. Independently, these two groups evaluated the pain and their satisfaction in general with the outcome by means of a visual analog scale, and a questionnaire covering functional ability, pain, and general health. Results indicated that as long as the patients had minimal or no pain, and were satisfied with the result, their evaluations were similar to the physicians, but if the patients had pain or limited activity that did not meet their expectations, the disparity between patient and physician evaluations grew larger. Lieberman et al. offered several explanations for this: (a) variation in expectations of the THR procedure by patient and surgeon; (b) different definitions of what constitutes an excellent outcome; (c) patients' reluctance to define what troubles them clearly for fear of disappointing the surgeon; (d) even in those cases where the patient is clear, the inability of the surgeon to appreciate the significance of the patient's pain and dissatisfaction; and (e) the influence of the patient-physician relationship. The latter highlights the importance of a caring presence.

Gustafsson, Ekman, Ponzer, and Heikkila (2010) stated how previous memories of harsh care in hospital and being lonely, away from loved ones, influenced a patient's sense of hope and fear. Naef and Bournes (2009) described the experience of being on a wait list for life threatening surgery and how one of the core concepts was patients feeling supported by engaging in fortifying relationships, whether it be with others also waiting, who became more like family, or actual family and friends.

Loft, McWilliam, and Ward-Griffin (2003) explored empowerment after THR. Their interest was spurred by the changing emphasis on earlier discharges and patient rights, as the authors witnessed the rise in consumerism. Their results working with patients in the 66-89-age range indicated that deference to authority figures such as doctors, physiotherapists, and nurses, still remains, and was not identified as a source of dissatisfaction. However, post-operative homecare services with personal support workers, as opposed to professional service providers, contrasted in that patients felt able to have a more equitable relationship, which “afforded the participants the confidence they needed to express themselves within the relationship” (p. 45).

In contrast, Morgan and Moffatt’s (2008) research on the nurse-patient relationship in community nursing of patients with non-healing leg ulcers highlighted the issue of labeling patients as awkward, argumentative, complaining, or demanding, when they tried to retain some control over the way their care was delivered. In the case of chronic wounds, or other long-term diseases (e.g., diabetes) Patterson and Sloan (1994) and Thorne, Ternulf Nyhlin, and Paterson (2000) pointed out that this discrepancy in understanding is due to the professional being unable to acknowledge that the patient is “expert” in his/her own long-standing disease, and may actually surpass the nurse in knowledge. However, even in short-term hospital stays, a patient knows when the nurse is dragging his/her body across a new incision on the buttock or hip, and expects the nurse to stop when he/she cries out in pain, and not to be told by the nurse, “Oh no, you’re fine” (personal experience, January 2011).

McWilliam (1992) found that expectation was a strong factor in the empowerment level of a relationship. Loft et al.'s study (2003) endorsed this finding, showing that patients had variable expectations for participation in decision-making in their care, and recommended that "perhaps the public, as well as the professional, education is needed to attain the goal of greater empowerment of patients as partners in care" (p. 46). Perry, Hudson, and Ardis (2011) in their qualitative study identified four relevant themes in patients' experiences of discharge: (a) a paternalistic medical model, (b) lack of a shared decision on departure date, (c) dependence on family to feel confident at home, and (d) hit and miss in rehabilitation. Efraimson et al. (2004) query whether we are fooling ourselves about patient participation in discharge planning, as a result of being captive to an institutional system that proffers competing demands, the healing presence for the patients, and the efficiency and rationalization of hospital protocols (p. 562).

Social facilitation of physiological systems. Detillion, Craft, Glasper, Prendergast, and DeVries (2004), working with hampsters, provided evidence that social bonds decrease stress activated by the hypothalamic-pituitary-adrenal (HPA) axis, enabling better wound healing. Detillian et al. observed that humans also form social bonds. Related, is a study by Morgan and Moffatt (2008) indicating how lack of a therapeutic relationship detracted from leg ulcers healing. Gouin and Kiecolt-Glaser (2011) completed a meta-analytical study, reporting on observational, experimental, and interventional methods investigating the relationship between stress and wound healing. The authors reported that there was not only a statistical significance between psychological stress and wound healing, but also clinical relevance. The potential underlying physiological mechanisms were discussed (e.g., over-activation of the HPA axis, increased glucocorticoids and catecholamines production, retardation of the necessary initial inflammatory phase of wound healing (p. 86). Support for these findings was also found in previous work (Bierhaus, Humpert, & Nawroth, 2006; Glaser, 2005; Grivennikov & Karin, 2010; Padgett & Glaser, 2003; Victor, Rocha, & de la Fuente, 2004).

Thorsteinssen and James (1999) indicated that social support counters the effect of laboratory stressors on cardiovascular and corticosteroid responses. In a comprehensive review, Uchino et al. (1996) stated that “both the quantity and the quality of social relationships have been reliably related to morbidity and mortality” (p. 488) and that this association “is comparable with standard risk factors, including smoking, blood pressure, and physical activity” (p. 488). Using qualitative and meta-analytic procedures, the researchers explored the physiologic factors involved. They suggested that emotional support is a component of social support that influences the immune system positively through a proliferation of lymphocytes (i.e., protective white blood cells) to antigens (i.e., foreign invaders, potentially harmful).

In summary, stress is exacerbated by lack of social support. Social support can be categorized as structural (i.e., interconnections between social networks, such as family members, supportive colleagues, professional carers), and functional (i.e., providing emotional or informational support). In diverse ways, social support impacts aspects of the body either directly physiologically (e.g., immune, cardiovascular, and endocrine systems) or by bringing about behavioral changes that improve chances of healing (Uchino et al., 1996).

Pre-operative education. In the context of this dissertation, pre-operative education refers to both individual and group interventions offered to patients awaiting THR. In a field dominated by patient education services for chronic diseases, such as diabetes mellitus (Osterbrink, Muenzinger, Glaesner, & Heinemann, 2005), rheumatoid arthritis (Riemsma, Taal, Kirwan, & Rasker, 2004), cancer (Menhert & Koch, 2008), and asthma (Guevara, Wolf, Grum, & Clark, 2003), it is only in the last 25 years that studies have emerged reporting the benefits of pre-operative education for patients undergoing primary THR (Lübbeke et al., 2009; Wong & Wong, 1985). Research by Lübbeke et al. (2009) suggested that pre-operative education could reduce the incidence of dislocation within the first six months after a THR using an anterolateral approach, while acknowledging that the magnitude of this effect might vary with other surgical approaches.

In a systematic review of the literature, Sharma, Morgan, and Cheng (2009) concluded that pre-operative physiotherapy was advantageous for speedier post-operative functional recovery, but recommended "larger, well-designed prospective studies with outcome measures and cost-benefit analysis to facilitate its inclusion in a standard rehabilitation protocol" (p. 1408). Coughlin (2009) concluded that benefits accrued for those patients involved in pre-operative education because of the opportunity to physically practice and rehearse tasks ahead of time (e.g., getting on or off a bed safely, negotiating stairs, sitting and standing from a chair, using a walker, avoiding movements likely to dislocate the new hip). Experiencing these activities increased the likelihood of both remembering how to do them, and actually doing them (p. 127). Spalding (2003) explained that pre-operative education is about preparing patients by letting them know what to expect, demystifying the environment and the processes as much as possible.

However, clients' perceptions regarding the psychological benefits differed depending on preexisting levels of anxiety, and personality aspects of the instructors.

Coughlin's (2008) work with occupational therapists focused on the significance of using an "inviting" approach to prospective patients, and she highlighted the importance of empowering the patients, drawing extensively on Bandura's work in personal efficacy (1977, 1993, 2001, 2004, 2007; Bandura & Locke, 2003), Novak's (2002, 2005) invitational leadership ideas, and Purkey's (1996, 2000) emphasis on self-concept approaches to learning that instill the importance of positive internal dialogue. Geanellos (2004) endorsed the benefits of friendly attitudes in nurses. Her research showed that their interpersonal skills facilitated more than just the patient's physical recovery; they contributed to psychological health too. Spalding's research (2003) ratified this as she recorded one patient's comment on her presenters as "wonderfully caring people, the way they spoke" (p. 287). Wong and Wong (1985) highlighted the importance of educational and behavioral strategies (reminders, verbal encouragement, automatic "talking" alarm clock) to increase compliance to a post-operative regime. Using these tactics, their research showed a significant difference between experimental and control groups in amount of adherence to the educational plan, with the experimental group expressing greater willingness and satisfaction.

THR is usually the end outcome for osteoarthritis (OA), when surgery seems the only way to deal with the pain, after other approaches have been exhausted. A 13-member panel from Ottawa interested in producing evidence-based guidelines for patient education programs in the management of arthritis (Brosseau et al., 2011), systematically scanned over 1000 articles about the efficacy of educating patients about OA. After excluding articles that were considered substandard, the panel concluded that patient education had the potential to reduce pain in the short-term, and improve compliance with exercise in the long-term. In like manner, Daltroy, Morlino, Eaton, Poss, and Liang (1998) found that an informative slide-tape covering post-operative hospital rehabilitation procedures resulted in less pain medication for the type of patient who exercised most denial (i.e. avoids thinking about disagreeable events), and also lowered “post-operative anxiety and cognitive errors on the Mini-Mental Exam for patients with most baseline anxiety” (p. 469). Length of hospital stay was also reduced but there seemed to be no effect on post-operative pain. Daltroy et al. observed that formal psychological testing for anxiety/denial would be a better barometer for decisions regarding what information should be supplied to patients, than determination by client request.

Similarly, Butler, Hurley, Buchanan, and Smith-Vanhorne (1996) found that patients who received an education booklet 4-6 weeks before being admitted for THR surgery were “more likely to have practiced physiotherapy exercises prior to hospitalization, and required considerably less occupational therapy and physiotherapy while in hospital” (p. 189) than patients who did not receive the booklets. In a comparable project, except that in addition to a booklet, the intervention group also received a video and a plastic model, patients reported that they felt “less confronted by information on arrival for the hospital stay” (Clode-Baker, Draper, Raymond, Haslam, & Gregg, 1997, p. 107). In addition, family and friends or prospective carers, enabling them to give more informed support, can also view such information. However, the work of both Butler et al. (1996) and Clode-Baker et al. (1997) found no difference between intervention and control groups for length of hospital stay. Contrastingly, in a later study

McGregor, Rylands, Owen, Dore, and Hughes (2004) found that a pre-operative class and an information booklet led to a shorter hospital stay by as much as three days, which dramatically decreased the cost of the procedure. In addition, patients had more realistic expectations of the surgery and higher levels of satisfaction.

Hough, Crosat, and Nye (1991) drew attention to the reduced hospital stay for a THR procedure as the years have passed. One surmises that this has resulted from improved surgical skills and techniques, increased demands for the operation, and a requirement for cost saving. A result is that of nursing staff having less time to prepare patients for their impending procedures. Hence, the preadmission education practice has become more necessary and Hough et al.'s experience with a pilot study in the use of a pre-admission seminar, confirmed their suppositions that well prepared patients have fewer complications, experience shorter hospital stays and have greater satisfaction, as do their hospital personnel (p. 80P). Santavirta et al. (1994) reported increased motivation by a group of patients who had received intensified teaching compared with a control group.

Timing of the pre-operative programs is important and Lucas (2007) recommended a few weeks before THR as an opportune time. At this point, patients can be screened for the presence of any infectious disease and there would still be time to treat this before commencing surgery. In addition, clients have time to assimilate the information and ask any further questions that arise. Lucas sees the preparation of patients as a multidisciplinary process with nurses playing a key role, provided they have the essential training (Santy, 2001; Santy et al., 2005). Continuity of care pre- and post-surgery could allow a trusting relationship to develop between patient and nurse, reducing patient anxiety by making the unknown familiar (Spalding, 2003). In addition, presenting pre-operative education close to the ward or rehabilitation area of the allocated hospital provides the reassurance of familiarity to the prospective patient. Spalding recommended that visual images of other settings the patient will encounter should also be provided (p. 290).

Personal factors. Basińska, Andruszkiewicz, and Grabowska (2011), in reporting on work-burnout, discovered that regardless of personal and occupational environmental stress, there were qualities about some persons that allowed them to transcend the stress. There is an increasing body of evidence (e.g., Johnston, Morrison, MacWalter, & Partridge, 1999; Johnston, Pollard, Morrison, & MacWalter, 2004; Orbell, Johnston, Rowley, Davey & Espley, 2001; Orbell, Johnston, Rowley, Espley, & Davey, 1998; Petrie, Weinman, Sharpe, & Buckley, 1996; Wilcox, Kasl, & Berkman, 1994) that recovery from hospitalization is influenced not only by level of physical impairment, but also by how a person responds psychologically. This section looks at personal attitudinal qualities that influence healing. It includes individual temperament, personality traits, and psychological and psychiatric considerations. Empowerment, motivation, encouragement, knowledge, and shared responsibility have been mentioned previously. People who are goal-driven (Brehm & Self, 1989), but also willing to listen to post-operative instruction and cooperate with it, will gradually participate in physical activity. The importance and progression of physical activity is outlined next.

Physical activity. Although pain relief and basic functionality of a diseased hip have been the primary goals of THR historically, presently with younger clients electing for the surgery, an important goal is to re-establish participation in physical sports (Swanson, Schmalzried, & Dorey, 2009). There continues to be debate regarding what activities and intensity and duration of activities are safe after a THR. Careful counseling is required of surgeons to elective candidates prior to the surgical decision being made. It would be unethical for prospective patients to not have realistic expectations established, and would likely affect the healing process if patients were dealing with emotional issues such as anger, disappointment, and grief. Current trends allow a higher level of activity than previously and Vogel, Carotenuto, Basti, and Levine's (2011) systematic review of the literature concluded that "some degree of activity promotes bone density and decreases early prosthesis loosening but that too much activity leads to excessive wear and increased late prosthesis loosening" (p. 447).

Vogel et al. (2011) recommended that high joint loads, such as involved in running or jumping, and impact sports (e.g., soccer, baseball, hockey, football, basketball and doubles tennis) should be avoided. "The true relationship between athletic activity and the rate of revision surgery remains unclear" (Vogel et al., p.448). Vogel et al.'s conclusion draws on previous authors (Dubs, Gschwend, & Munzinger, 1983; Kilgus, Dorey, Finerman, & Amstutz, 1991; Healy, Lorio, & Lemos, 2001), and seems supported by research that indicates increased osteoarthritis in the hips of people who engage in long-term occupational lifting (e.g., farmers, construction workers, firefighters, food processing workers), or sports entailing undue stress on the hips joints (e.g., football; Klünder, Rud, & Hansen, 1980; Shepard, Banks, & Ryan, 2003; Vingard, Alfredsson, Goldie, & Hogstedt, 1991).

How soon after THR should weight bearing occur? Hol, van Grinsven, Lucas, van Susante, and van Loon (2010) completed a systematic review of the literature, seeking for guidance about weight bearing after implantation of an uncemented femoral stem; there are concerns with uncemented stems due to questions about subsidence and integration of the bone with the stem. It has been common for activity and weight restrictions to be enforced for six weeks post surgery (Youm, Muarer, & Stuchin, 2005). On reviewing the studies, Hol et al. (2010) reported “strong to moderate evidence that no adverse effects on subsidence and osseus integration of the femoral stem after uncemented total hip arthroplasty occur after immediate unrestricted weight bearing” (p. 547). Hence, Hol et al. recommended immediate weight bearing as tolerated, use of crutches, while maintaining a reciprocal gait (i.e., non limp), and contralateral use of a cane in the early days at home, again without a limp. Patients are cautioned to protect weight bearing during stair climbing in the initial weeks at home. Continued strengthening of pelvitrochanteric muscles (abductors) should be maintained long-term (i.e., more than a year according to this writer’s physical therapist) to facilitate a normal gait.

Additionally, van den Akker-Scheek, Stevens, Groothoff, Bulstra, Zijlstra (2007) asserted that recovery of gait function is more complex than the very limited analyses performed. Mostly, post-operative assessments are by questionnaire research. “Normal” walking assessments do not take into account the need for automaticity, which one needs to be able to accomplish any cognitive tasks while walking. Van den Akker-Scheek et al. illustrate how spatiotemporal parameters and dual task principles need to be incorporated into gait assessments to reduce risk of falling in older adults (Beauchet, Dubost, Gonthier, & Kressig, 2005; Jogi, 2010). This writer has alignment problems after THR and still has to “think” how she is walking to accomplish it properly.

Personality traits. The literature (e.g., Aardstad, Heimdal, Aardstad, & Olofsson, 2002; Ritter & McAdoo, 1979; Yamaoka et al., 1998) drew attention to some personality traits implicated in the healing process after surgery. Dorr and Chao (2007) pointed out that the emotional state of the patient is often hidden from the surgeon because commonly used scoring instruments do not evaluate the psychological outcome.

Sense of coherence. Antonovsky (1985) expounded on the advantages of a personal sense of coherence (SOC). SOC refers to a global view of one's internal and external environment as comprehensible, manageable, and meaningful, and a confidence that one can adapt successfully to the circumstances that present themselves (Griffiths, Ryan, & Foster, 2011). This naturally has a positive influence on one's health. SOC is akin to Bandura's (1977) concept of personal efficacy, which was mentioned previously in this dissertation. Coughlin (2008) found an interrelationship between "self-concept, self-talk and the personal efficacy beliefs of clients awaiting total joint replacement surgery" (p. 108). During their pre-operative interviews, the five participants displayed high confidence that they would be able to take responsibility for the prescribed post-operative exercises. However, concerning the ability to observe post-operative hip precautions, two participants presented with a low sense of personal efficacy. Coughlin suggested that their anxiety might be triggered by a perceived threat to their maintenance of selves (Combs, 1999).

Butler et al. (1996) explained that if people have assessed circumstances as important to them, yet believe their skills are deficient, then stress levels will rise with their own sense of inadequacy. Johnston et al. (2004) observed that "there is ample evidence that interventions which enhance control beliefs result in reduced disability" (p. 194). They cited Lorig's Arthritis self-management programs as evidence (Lorig et al., 1989). Previous research (Johnston, Morrison, MacWalter, & Partridge, 1999) also suggested, "that experience of success promotes the cognitions that are predictive of further recovery" (p. 190).

Significantly lower levels of systolic blood pressure and total cholesterol were identified in 43-year-old women who had a strong SOC (Lindfors, Lundberg, & Lundberg, 2005). Another study (Basińska et al., 2011) showed that SOC correlated with healthy work functioning in a group of nurses. In contrast, a low SOC related strongly with nurse burnout. Limb-amputation patients who had higher scores of SOC rarely suffered from phantom limb pain (Badura-Brzoza, Matysiakiewicz, Piegza, Rycerski, & Hese, 2008). Badura-Brzoza, Matysiakiewicz et al. linked SOC to physiological hormonal responses, which increased the body's resistance to pathogens. Antonovsky (1985) proposed that high SOC counteracted the transformation of tension into psychosomatic diseases, mental disturbances, and abuse of psychoactive drugs. High SOC increased resilience, which is beneficial in recovering from THR.

Trait anxiety and neuroticsim. In a health-related quality of life after THR study, Badura-Brzoza, Zajac et al. (2008) reported a negative correlation between patient trait-anxiety/neuroticism as measured on the *Eysenck Personality Inventory*, and postsurgical quality of life pertaining to physical and mental dimensions (p. 122). Badura-Brzoza, Zajac et al. suggest that such patients have low coping skills under stress, and may present physical complaints where there is no physical disease, thereby delaying functional recovery after THR. Ciesielski, Michałek, Szłapo, and Scisłowicz (1994), in a study with women with pathological pregnancies, found that neurotic women appeared on three times as many occasions as did emotionally stable individuals, while introverts were found more than twice as much as extroverts. Feelings of depression, aggression, severe anxiety, and guilt were reported in the neurotic people. Neeleman, Ormel, and Bijl (2001) found links between neuroticism and psychiatric disorders, and neuroticism and somatic disorders. Although the links appeared mainly independent, Neeleman et al. suggested an overlapping etiology.

When medical treatment such as THR is assessed using typical instruments (e.g., Health related Quality of Life [HRQoL]), there is a possibility that "subjects' personality types might have influence on the subjective judgments of their HRQoL" (Yamaoka et al., 1998, p. 535; see also Akihito & Kayo, 1999; van der Steeg, de Vries, van der Ent, & Roukema, 2007). Yamaoka et al. (1998) suggested that concurrent personality assessments administered alongside measures such as HRQoL scales might give a more accurate assessment of actual quality of life; this was echoed by Warrian, Spaeth, Lankaranian, Lopes, and Steinmann (2008). Although the studies mentioned are with populations other than recipients of THR, the control group in the Yamaoka et al. (1998) study also showed the correlation between personality type and HRQoL assessment. This writer believes that similarly, personality traits could also affect HRQoL questionnaires given to patients who have undergone THRs and that qualitative interviews of these patients by well qualified, professional personnel are alternatives that are capable of relaying significant information of post-surgical quality of life.

Anger. Gross (2009) completed a dissertation aimed to compare differences in the serum C-reactive protein (CRP) level between post-menopausal women classified as either high or low anger trait. CRP is a biomarker for inflammatory conditions leading to coronary heart disease, a leading cause of death in American women (Greenlund et al., 2006; Rosamund et al., 2007). Although Gross did not find significant correlations between total anger trait scores or total anger expression scores and CRP, she did find a significant inverse relationship between what she termed, after Spielberger's (1999) definition, "anger-in" (i.e., anger suppressed, induced by calm and relaxation as soon as an angry feeling wells up) and CRP. The more that angry feelings were controlled the lower the CRP. The same inverse correlation was noticed with "anger-out" scores (outward expression of angry feelings), but not to a statistically significant degree; high anger control-out scores showed that a person devoted a lot of "time and energy in self-monitoring their outward expression and experience of anger" (Gross, 2009, p. 54). Gross' study, endorsed two prior studies (Gouin, Kiecolt-Glaser, Malarkey, & Glaser, 2008; Hapuarachichi, Chalmers, Winefield, & Blake-Mortimer, 2003), both of which, like Gross, used the State-Trait Anger Expression Inventory (STAXI).

Gouin et al. (2008) reported that lower levels of anger control resulted in higher cortisol release during the blistering stage of wound healing. Hence, healing was delayed. Anger control was a greater predictor of healing over other variables such as hostility, negative effect, social support, and health behaviors (p. 699). Hapuarachichi et al. (2003) noticed that a decreased immunity mechanism accompanied increased anger. Lawler et al. (1998) identified that there was less trust and gregariousness, but more depression and aggression in families with a history of hypertension. In addition, those individuals were less aware of their somatic responses to stress and put less effort into relaxing post-task. As in the other studies, high anger control correlated with lower cardiac reactivity, allowing lower levels of systolic blood pressure, and lower resting heart rate. Healing from a THR is stressful and therefore it follows that self-monitoring anger successfully can be beneficial to the healing process.

Spiritual strength. Risdon, Eccleston, Crombez, and McCracken (2003) summarized spiritual strengths as displaying the outlook that life has inequalities that may have to be accepted, that pain may be unavoidable, and realistically, one can live with it and make the best of one's life. The spiritual person has a source, known by various names (such as God, Creator, Higher Power, and so on) from which to draw strength and empowerment, and additionally, the understanding that experiences of suffering can make one a stronger person who can be rewarded in the end. The literature shows ethnic variations in spirituality. Ang, Ibrahim, Burant, Siminoff, and Kwoh, (2002) found that compared with white people, black people were more likely to draw on prayer both during the process of decision making about, and the experiencing of hip replacement. Similarly, other authors also found that African American patients used religious and spiritual beliefs for coping with serious illness and end-of-life decisions more than white patients (e.g., Figueroa, Davis, Baker, & Bunch, 2006; Harvey & Cook, 2010; Leach & Schroenberg, 2008; Levine, Aviv, Yoo, Ewing, & Au, 2009; True et al., 2005). Possibly related is the conclusion from Lavernia et al. (2010) that race plays a role in fear in arthroplasty surgery, as they found African Americans to have higher fear scores before the surgery than whites.

Matthews, Marlowe, and MacNutt (2000) reported that patients with long-standing and moderately severe rheumatoid arthritis (justification for THR) derived significant relief, both in the short-term and in the long-term (e.g., one year) from receiving in-person intercessory prayer (involving laying on of hands on affected joints over a period of six hours, and six hours of group educational sessions relevant to spiritual healing). The group contribution could have been regarded as a contaminating variable, but clinical benefits were found to exceed those recounted from group educational interventions for patients with rheumatoid arthritis. Reduction in number of affected joints, and the intensity of their inflammation, plus pain reduction, compared favorably, but grip strength, erythrocyte sedimentation rate (ESR) and global functioning as rated by the patients, were inferior to results of previous studies' treatment with the drug methotrexate (Anderson et al., 1985; Kremer & Lee, 1988; Weinblatt et al., 1985; Weinstein, Marlowe, Korn, & Farouhar, 1985). However, Matthews (2000) also recounted from another study the amazing improvement in a 58-year-old white woman, who had suffered 30 years with severe rheumatoid arthritis, had undergone bilateral hip and knee replacements, along with hand and foot joint procedures, and who experienced a reduction in self-reported pain and fatigue of 35% and a doubling in "her global sense of well-being and functional level" (p. 177). Improvements continued throughout the next year.

According to a recent Gallup Poll Religion: Gallup Historical Trends (March 6, 2012), surveys averaged over the last 10 years, barring a slight downward trend in the last five years, show approximately 60% of Americans asserting that religion is very important to their lives, and 75% of non-church goers praying (Sitomer, 1985). "More than half of them would also welcome the opportunity to enlist their physicians in such prayerful endeavors" (O'Hara, 2000, p. 34; see also Duckro & Magaletta, 1994; King & Bushwick, 1994). Most researchers in the field of religion and health make a point of distinguishing a difference between religiosity and spirituality. The former is regarded as an organized system of beliefs and formal worship involving church attendance, rituals, prayer, Bible-reading, often in a socially-affiliated fashion, and with the aim of relating to what is sacred, whereas the latter is more concerned with an individual's personal seeking of relationship with the "source" of all life in the universe, recognition of the interrelatedness of all, and connection with that which is regarded as a transcendent power (Bjarnason, 2007; Elkins, Hedstrom, Saunders, Leaf, & Hughes, 1988; Figueroa et al., 2006; Maselko & Kubzansky, 2006; Moss, 2002; O'Hara, 2000). However, research demonstrates that both religiosity and spirituality provide many health benefits, although may be in slightly different ways too lengthy to extrapolate here.

Apart from strengthening healing from surgery (Matthews, 2000), faith and religious healing activities have assisted people in coping with pain, depression, anxiety, and substance abuse (Koenig, 2007, 2010; Koenig et al., 1999), healing from coronary heart disease (Byrd, 1988), and healing from cancer (Levine et al., 2009). Not all studies in this field show positive correlations between health and religiosity and spirituality. Feinstein, Liu, Ning, Fichett, and Lloyd-Jones' (2010) multi-ethnic, longitudinal study of cardiovascular risk factors/incidents and subclinical atherosclerosis found no confirmation of previous studies in which religiosity eased symptoms of coronary heart disease (Byrd, 1988). Instead, Feinstein et al. (2010) found that there was a positive correlation between obesity and religiosity. Feinstein et al. drew on Cline and Ferraro's (2006) theories that the underlying mechanisms for this may include religious organizations' emphasis on vices such as smoking, while giving negligible attention to gluttony, and the greater acceptance of stigmatized people by church organizations. Owen, Hayward, Koenig, Steffens, and Payne (2011) found that religious factors were correlated with hippocampal atrophy in late life. The implication is that in some people, and in particular aspects of religiosity, stress may be increased, leading to less desirable outcomes. Such studies raise curious questions meriting further exploration. During the last decade, there has been an increase in the use of mind-body-spirit research using biofeedback, neurofeedback, meditation, relaxation exercises, visual imagery, and so on to achieve more information about the physiological mechanisms involved. These mechanisms teach one to quiet and calm the mind-body (Moss, 2003), reducing its stress, the culprit behind so many disorders today.

Patience. “Everything comes to him who waits” (EnglishClub.com, 2012). The capacity to accept delay or trouble and to wait for a long time without getting angry or upset is very important during the process of obtaining and recovering from a THR. In the first instance, one may have to wait a very long time before one actually gains admittance to the operating theatre. This writer consulted an orthopedic surgeon in May 2009, and was told she could have a THR or wait until she could not stand the pain any more. She waited until February 2010 and telephoned for a further consultation. It took three months before she could attain an appointment with her surgeon. Thereafter, it took eight months of waiting before the surgery was accomplished. These waits are not unusual in Canada, the only country in the Organization for Economic Co-operation and Development (OECD) that outlaws private health care systems (Esmail & Walker, & Fraser Institute, 2006). In 2011, the median wait time was 19 weeks from first visit to a general practitioner to an elective treatment, which has been the longest since 1993 (Barua, Rovere, & Skinner, 2011). The median wait time for orthopedic surgery was 19.7 weeks (Barua et al., p. 29). Barua et al. reported that this is three weeks longer than physicians believe is reasonable.

In Britain, *The Times* newspaper reported that people were being forced to wait anything up to four years under the *National Health Service* (Allardyce, 2006). In one incident, the European Court of Justice approved a THR in Europe for a British woman who had “undue” wait times; this at the public’s expense. Canadian patients are absconding to the United Sates and may pay privately or be employer-covered to cut their wait times (Moorhouse, 2002). Even if a surgeon has categorized prioritization on the wait list, this does not mean that has those needing to be seen more urgently are actually seen earlier (McHugh, Campbell, Silman, Kay, & Luker, 2008). Kapstad et al. (2007) suggest that waiting lists should be constantly reviewed, as not all patients deteriorate (Kelly, Voaklander, Johnston, Newman, & Suarez-Almazor, 2001) or deteriorate at the same rate (Ostendorf et al., 2004), and other researchers suggest that prioritization does not occur according to the burden of the illness (Kelly et al., 2000).

Consequences of these waiting times are far reaching. There are costs in term of lost work time, decreased productivity associated with physical impairment and anxiety, and physical and psychological pain and suffering (Esmail & Walker, 2009, p. 9). Pain usually increases and function deteriorates (Fielden et al., 2005; Ostendorf et al., 2004; Vergara, Bilbao, Gonzalez, Escobar, & Quintana, 2011), jeopardizing successful final results (Fortin et al., 1999; MacWilliam, Ulkickas Yood, Verner, McCarthy, & Ward, 1996), though MacWilliams et al. also found that fewer of the patients who had higher pre-operative scores on the Health Status Questionnaire (HSQ) actually gained benefits from the surgery, leading to questioning of the decision-making process to have the surgery. In some cases there was psychological distress also (O’Connor, 2004). What was particularly disturbing for patients was the uncertainty that prevailed about having a set date for the surgery (O'Connor). Rapid psychological adjustments may be required when dates are changed at the last minute, such as in this dissertation author's case, when unexpectedly the date was moved forward twice; thus, allowing only a few days to get mentally prepared for what is basically a life-threatening surgery.

When a THR has been completed, then there is another wait, the wait through recovery. Although precautions to some extent may be relinquished after three months (e.g., crossing the operated leg over the non-operated leg, lifting the knee above the waist, turning quickly when the legs are planted, bending to put on socks, dismounting a car; Lane-Carlson, 2011), as mentioned before, dislocation is a constant consideration and return to full health can be 18 months to 2 years (G. Abelseth, personal communication, December 14, 2011). A patient's disposition can be invaluable in facing these challenges.

Depression. "Mood and anxiety disorders before and also after surgery can disrupt the recovery phase and reduce both psychological well-being and medical compliance" (Badura-Brzoza, Zajac et al., 2008, p. 280). On the other hand, good mental health has been observed to assist in rehabilitation (Talo, Hamalainen, Kervila, & Kallio, 1993). However, Talo et al. also distinguished that this dichotomy illuminated how a linear assumption between good mental health and good functioning is flawed due to the multidimensional influence of other factors (e.g., biopsychosocial). They recommended broader models of assessment function rather than depending on a single psychological factor.

In Badura-Brzoza, Zajac et al.'s (2008) study, the Hospital Anxiety and Depression Scale (HADS) showed significantly improved scores for non-psychiatric patients from two weeks pre- to six months post-THR for both depression and anxiety. Many authors use the Medical Outcomes Study Short-Form 36 (SF-36) to assess outcomes for THR. The mental component summary scale (MCS) indicates how patients experience their mental status. Several studies (Badura-Brzoza, Zajac et al., 2008; Bayley, London, Grunkemeier, & Lansky, 1995; Ethgen, Bruyere, Richy, Dardennes, & Reginster, 2004; Jones et al., 2001; Mainard et al., 2000; Naylor, Harmer, Heard, & Harris, 2009) have recorded improvements in mental state after THR. However, some authors disclosed improvement only in physical functioning, not the mental domain (Brodie & Sloman, 1998; Garellick et al., 1998). Salmon, Hall, Peerbhoy, Shenkin, and Parker (2001) reported that although patients' mood and satisfaction in general reached their maximum improvement within a month after arthroplasty, continued improvement of other variables was "accompanied by worsening depression and life evaluation" (p. 365). Salmom et al. reasoned that such a paradoxical result indicated that patients' subjective responses do not necessarily relate to their physical condition and that it is a mistake to use just one component of evaluation, such as 'satisfaction" to assume others. Bates (2004) endorsed that depression reduced the benefits of joint replacement.

Sometimes patients were disappointed with the quality of life achieved after THR and this correlated with lower scores post-surgery on mental status measurements (Bischoff-Ferrari et al., 2004; Kurlowicz, 1998). Riddle, Wade, Jiranek, and Kong (2010) underscored how catastrophic thoughts about pain were the only psychological and social variable that consistently predicted poor scores on the Western Ontario and McMaster Universities Arthritis Index (WOMAC), a commonly used assessment tool post THR and post knee replacement surgery. Gibson (2007) determined that 31% "of the variance in the scores for Harris Hip Score (HHS) functional component was explained by pre-operative functional level and catastrophizing” (p. 1145).

Ritter and McAdoo (1979) administered The Minnesota Multiphasic Personality Inventory (MMPI) 12 months post-operatively THR and noted that “women who did not respond well to surgery had more physical symptoms, anxiety, depression, and difficulties relating to people” (p. 49). Unfortunately, because the researchers did not administer the MMPI pre-operatively, “it is impossible to determine whether these differences existed prior to surgery, whether they were influenced by surgery, or whether they were a response to the results of surgery” (p. 48). At any rate, Riediger, Doering, and Krismer (2010) confirmed that patients who scored high in depression and somatization (which seem linked according to Sheenan and Banerjee, 1999) could still get the same benefit from THR as patients with low scores in these disorders. However, Riediger et al. relate that “patients with high somatisation and depression scores felt worse in their hips and in general well-being before and after surgery” (p. 17), and posit that the presence of these two disorders may at times elucidate the “relatively inferior outcome in some patients after THR” (p. 17).

Pain. Trends are moving toward fast-track arthroplasty focusing on reducing hospitalization from a span of 5 to 12 days, to 1 to 4 (Husted et al., 2010). Pain, along with dizziness and weakness has been cited as the main clinical reason for delay of discharge (Husted et al., 2010; Khan et al., 2011). Women were reported to experience more severe pain, reduced activity, and to live alone (Ebrahimpour, Do, Bornstein, & Westrich, 2011; Nikolajsen, Brandsborg, Lucht, Jensen, & Kehlet, 2006; Rosseland & Stubhaug, 2004). Pain management is of primary importance and if not managed well can lead to an inferior surgical outcome (Ebrahimpour et al., 2011). Untreated post-operative pain, which is reported by 50% of patients, can affect the patient physiologically, emotionally, mentally, and economically (Polomano, Dunwoody, Krenzischek, & Rathmell, 2008). Pain makes the patient fearful of moving and loath to do the rehabilitative exercises (Joelsson, Olsson, & Jakobsson, 2010). Greater disability and work loss, out of proportion to the physiological variables identified, may be the result (Klenerman et al., 1995; Sions & Hicks, 2011; Waddell, Newton, Henderson, Somerville, & Main, 1993). Beswick, Wylde, Gooberman-Hill, Blom, and Dieppe (2012) completed a systematic review and discovered that 7% to 23% of people recovering from THR reported unfavorable long-term painful outcomes. In addition, pain has been postulated to be a factor in the development of arthrofibrosis after total knee replacement (Lavernia, D'Apuzzo, Rossi & Lee, 2008).

Khan et al. (2011) elaborated on the importance of controlling acute pain before it became chronic, citing 12% of THR patients who have developed chronic pain after surgery (Katz & Seltzer, 2009; Nikolajsen et al., 2003). Katz and Seltzer hold out hope for understanding this phenomenon through future research in the genetics of chronic postsurgical pain but lament the lack of currently available cohorts. Even with what can appear to be a uniform surgery, there is a great variability in the subjective experience of pain, and researchers have established that psychological factors play a key role (Keefe & Somers, 2010; Khan et al., 2011; Lewandowski, 2004; Pellino et al., 2005). The International Association for the Study of Pain (IASP; 1979) defined pain as "an unpleasant sensory and emotional experience associated with actual or potential tissue damage or described in terms of such damage" (para. 3). Traditionally, the links between pain experience and anxiety and depression have been most prominent (Munafo & Stevenson, 2001), with increased pain correlating with increased depression or anxiety (Howard, Ellis, & Khaleel, 2010). However, if there is a directional path it has not been established (Lewandowski, 2004) and some researchers posit that depression and pain may be linked because of common neurochemical mechanisms (Magni, Moreschi, Rigatti-Luchini, & Merskey, 1994), supporting this hypothesis by citing the proven efficacy of tricyclic antidepressants on both chronic pain and depression.

During the last 20 years, pain catastrophizing (PC) has been identified as a major contributor to pain experience and progression to chronic pain (Pavlin, Sullivan, Freund, & Roesen, 2005; Sommer et al., 2010; Sullivan, Bishop, Scott, & Pivik, 1995; Sullivan et al., 2001). PC refers to an exaggerated fear of dire pain expected as a result of a present or future situation. A contributing factor can be previous memories of painful episodes (Chaves & Brown, 1987). This writer can certainly relate to this during repeat dental surgery in which she felt her heart racing harder and faster, and feared a heart attack as the dentist approached her mouth. Sullivan et al., (1995) described the multidimensional nature of PC, recounting three constructs: magnification (“I am scared that something bad will happen”), rumination (“I can’t stop thinking this is going to really hurt”), and helplessness (“There’s nothing I can do about it”). Esteve, Ramirez-Maestre, and Lopez-Martinez (2007) found that catastrophizing self-statements revealed two statistically significant path coefficients: (a) to higher anxiety, and (b) to higher pain intensity. The latter then led to higher depression and greater functional impairment (p. 184).

Treatment options included cognitive behavioral therapy (CBT; Naylor, Helzer, Naud, & Keefe, 2002), distraction technique, which derives from the *Gate Theory of* *pain*, promulgating the notion that pain signals can be disrupted by other brain signals (Melzack & Wall, 1965), emotional disclosure (Sullivan & Neish, 1999), self instruction techniques (Heyneman, Fremouw, Gano, Kirkland, & Heiden, 1990), public health prevention programs, particularly for those who rarely consult with their physicians (Picavet & Schouten, 2003), addressing social reinforcers (Flor, Turk, & Rudy, 1989; Kerns, Haythornthwaite, Southwick, & Giller, 1990; Severeijns, Vlaeyen, & van den Hout, 2004; Thorn, Ward, Sullivan, & Boothby, 2004), and acceptance of pain (Esteve et al., 2007; Keefe, Rumble, Scipio, Giordano, & Perri, 2004; Wren et al., 2011).

Using a Q-methodological analysis to discover key factors for people learning to live with chronic pain, Risdon et al. (2003) found eight predominant notions: “taking control, living day to day, acknowledging limitations, empowerment, accepting loss of self, more to life than pain, don’t fight battles that cannot be won, and spiritual strength” (p. 376). All of these aspects could be relevant during the recovery period from a THR too. Key to living with chronic pain are acknowledging that a cure is improbable, refocusing on other aspects of life, and resisting the thought that acceptance of pain indicates weakness or personal failure (p. 385).

Obesity. In North America obesity has reached epidemic proportions (Mokdad et al., 2003; Mokdad, Marks, Stroup, & Gerberding, 2004). According to height and weight measures from multiple sources, more than 25% of Canadians are obese and obesity has become a worldwide issue (Public Health Agency of Canada, 2009). As obesity rates increase with age, at least up to 65-years-old in Canada, and THR is also associated with older patients, there is an increased chance of obesity in those undergoing hip replacement. Hence, it seemed appropriate to examine whether or not obesity influences incidence and recovery from THR, especially in view of the fact that obesity increases the risks of other diseases (e.g., osteoarthritis, type two diabetes, hypertension, coronary heart disease, cancer, sleep apnea, depression, gall bladder disease; Allison & Saunders, 2000; Fabricatore & Wadden, 2006; Hill, Catenacci, & Wyatt, 2005; Namba, Paxton, Fithian, & Stone, 2005), all of which could indirectly affect recovery potential.

In parallel with this increase in obesity in Canada, joint arthroplasty rates have increased substantially over time with the number of THAs and TKAs in Canada “increasing by 87% in the 10 years between 1994-1995 and 2003-2004” (Bourne, Mukhi, Zhu, Keresteci, & Marin, 2007, p. 185). Three studies reported a connection between obesity and hip osteoarthritis, the primary cause of THR (Marks, 2010; Marks & Allegrante, 2002; Tjepkema, 2006). Weight loss reduces the risk for osteoarthritis in weight-bearing joints (Felson, Zhang, & Anthony, 1992). However, Middleton and Boardman (2007) found that even though overweight patients blamed loss of mobility and pain for why they did not exercise more, even after a THR, their habits did not change and they continued to carry excess weight, or even gain weight up to two years after the surgery, increasing their chances of having to go through revision surgery later (Marks & Allegrante, 2002; Woodruff & Stone, 2001).

There have been conflicting reports regarding risk factors in the surgical procedure involved with a THR in obese patients compared with regular weight patients. Although at least three studies reported increased risk in surgery of obese patients, citing wound infection, and delayed wound healing (Dowsey & Choong, 2008; Feinstein & Habermann, 1977; Namba et al., 2005), Soballe, Christensen, and Luxhoj (1987) completed research that yielded no increase in surgical problems or increased risk of prosthetic loosening. The exception seems to be revision hip surgery (Lübbeke, Moons, Garavaglia, & Hoffmeyer, 2008), in which the adverse effects of wound infection and dislocation are mentioned.

Comorbidities. "Twenty-five to 50% of people with a chronic disease have comorbidity or multimorbidity" (van Weel & Schellevis, 2006, p. 550; see also van den Akker, Buntinx, Metsemakers, Roos, & Knottnerus, 1998). Comorbidity and multimorbidity refer to having more than one medical condition at the same time. In treating one condition, there may be detrimental outcomes for the other condition (e.g., severe hip arthritis might indicate a hip replacement, but if the patient has restricted pulmonary capacity, major anaesthesia may be contraindicated; van Weel & Schellevis, 2006). Ackland, Harris, Ziabari, Grocott, and Mythen (2010) reported that patients who had higher scores on a modified revised cardiac risk index (mRCRI) had increased non-cardiac morbidity and a longer hospital stay after elective orthopedic surgeries.

Apart from cardiac disease, other most common comorbid diseases, which may be faced alongside THR, included chronic pulmonary disease, diabetes, hypertension, and rheumatoid arthritis (Jain, Guller, Pietrobon, Bond, & Higgins, 2005; Zhan, Kaczmarek, Loyo-Berrios, Sangl, & Bright, 2007). A late complication can arise if commonly experienced urinary tract infection (Moczynski, Abraham, Barmada, & Ray, 1973) and urinary retention are not resolved after THR. The result can emerge as major morbidity to intrapelvic structures (Wheeler, Babayan, Austen, & Krane, 1983). Wheeler et al. explicated difficulties with migrating pins, wire and extruded cement, leading to hematuria, septicemia, renal failure, epididymitis, kidney stone, retroperitoneal bleeding and fibrosis, bladder fistulas, or tumors, and prostatectomy.

Coexistent diseases may influence the outcomes of the THR negatively (Ackland et al., 2010; Jain et al., 2005; Young, Cheah, Waddell, & Wright, 1998; Zhan et al., 2007). Evaluating THR surgeries without taking into account the comorbid diseases can lead to reporting of distorted results (Feinstein, 1970; Greenfield, Apolone, McNeil, & Cleary, 1993). The implication is that elective patients for THR should ensure they are as fit and healthy as possible prior to surgery, including weight-loss and building up the immune system. As baby boomers move into their 60s, Martin, Freedman, Schoeni, and Andreski (2009) have reported rising trends in cardiovascular disease, obesity, diabetes, and lung disease. Co-existent disease has proven to be a significant predictor of post–operative complications with rates increasing as much as 38% from the lowest to the highest levels as measured on the Index of Co-Existent Disease (ICED; Greenfield et al., 1993).

Van Weel and Schellivis (2006) pointed out how “performance indicators based on single-disease guidelines cannot accurately reflect the quality of care with multiple chronic diseases” (p. 550). Individual needs have to be addressed at the same time as accounting for various disease perspectives to attain best results (Starfield et al., 2003). Van Weel and Schellivis (2006) appealed to the need for a patient-centered approach.

Explorations of Patient Qualitative Experience

There have been many studies evaluating the preparation and recovery from a THR using scales, clinical scoring systems, health measures, and patient satisfaction ratings (Bayley et al., 1995; Siggeirsdottir et al., 2005; Yoon et al., 2010), but few studies exist with the goal of assessing patients’ qualitative experiences. Standardized questionnaires tend to be generic and specific, not allowing the patient's voice to come through (Lane-Carlson, 2011).

Dissertations/theses. Three qualitative dissertations/theses addressing THR were found (Coughlin, 2008; Cardoza, 2010; Lane-Carlson, 2011). Both Coughlin and Lane-Carlson were interested in assessing whether or not a pre-operative education class would improve outcomes for THR patients, and both focused on the perceptions and empowerment of the patients. Both researchers drew on adult learning theory, however, Coughlin approached from a framework of invitational theory (Purkey, 2000; Russell, 1992), which draws on both self-concept and perceptual psychology, such as Bandura's theory of self- efficacy (mentioned earlier in this dissertation) and optimism. The five Ps of people, places, policies, programs, and processes (Stanley, Juhnke, & Purkey, 2004) were the scaffolding in which Coughlin organized the influences of external and internal factors affecting patients' perceptions of their recovery process. Lane-Carlson based her inquiry on her own theory of change and a logic model (Evaluation Tools for Racial Equity, 2010; W. K. Kellog Foundation*,* 2004). Her framework drew on Knowles' "andragogy" terminology (i.e., as opposed to pedagogy; Knowles, Holton, & Swanson, 2005), asserting that adults learn differently from children. She also utilized role theory (Biddle, 1986), which looks at a person's characteristic behavior in light of his/her social position including profession. This is particularly apt in view of the long-term perception of the doctor as expert and the patient as a novice.

Both Coughlin (2008) and Lane-Carlson (2011) were interested in learning how the patients made meaning out of their THR surgical experiences, and pursued this through pre and post-operative in-depth semi-structured interviews. It was appropriate to bracket these interview results until after completion of the present study's interviews in grounded method. However, exploring methodological challenges to these authors was helpful in avoiding the same pitfalls. In contrast, Cardoza (2010) used a correlational study, checking predictions by means of pre- and post-operative mailed-out surveys, which included a number of data collecting instruments (i.e., researcher created demographic check list, researcher designed surgical outcome survey, the Self Efficacy Scale [GSE], and the Stanford Health Assessment Questionnaire Disability Index [HAQ-DI]). Cardoza included a final open-ended question in her surgical outcome survey, which invited patients to comment on their joint replacement experience. Eight lines were provided for the answer.

This reader suspected that the narrative strategy may have been an afterthought because there was no mention of it in Cardoza's methodology chapter, but she both explained her procedure of extracting themes and presented a narrative content analysis within her "Presentation of Findings" chapter. This minimal qualitative part of her study was by far the most interesting and the only time the reader got to hear the voices of the patients. Themes identified included "recovery expectations" and "healthcare provider support," while subthemes included: "communication, time, and environment, lack of pre-operative preparation, and pain and nursing care" (Cardoza, 2010, p. 74). Cardoza recognized the briefness provided by her tool, and the drawback of mail responses, which did not allow observation of the patients and the reading of non-verbal behavior, speech patterns, or settings that might have throw light on contextual meanings. She reflected on comments by Riessman (1990, 2008) and Hsieh and Shannon (2005) who highlighted that within any thematic cluster, there can be different meanings assigned to what is written, depending on context, and hence an inaccurate rendering of the data.

Cardoza’s (2010) findings with her 111 male and female participants were that self-efficacy remained high both pre- and six-week post-operative, even though functional ability declined, the latter significantly more so in females compared with males. Using a regression analysis, she reported that selected personal factors such as age, income, household composition and the capacity for physical activities such as walking, climbing, and carrying groceries were predictive of efficacy changes between first and second measures, and that functional abilities were moderated by educational level. Cardoza’s expectation that lower functional abilities post-operatively would negatively influence self-efficacy or vice versa proved unfounded. She suggested three explanations: (a) post-operative high self efficacy might be related to participant personal characteristics; (b) insensitivity of measurement instruments to capture the specifics of THR (e.g., some questions on the HAQ-DI measured abilities that THR patients are not allowed to do for the first three months post-operatively, which would have negatively affected functional disability scores); and (c) the time frame of six weeks between pre- and post-operative measurements was not a long enough recuperative time to affect participants self-efficacy beliefs about themselves.

In this writer’s view, Lane-Carlson’s (2011) study became too complex in addressing both knee *and* hip surgery, and the constructs of patients taking a pre-op class or not taking a pre-op class, and being successful or not successful. In addition, she subdivided patient-centered needs into physical, social, psychological, and concrete supports and her approach required making hypothetical assumptions about outcomes.

Lane-Carlson essentially did a descriptive study and spent a lot of space on describing each participant's experience. With all the computations of the constructs, it became unwieldy and was confusing to follow.

Another issue with which Lane-Carlson (2011) had to contend was the fact that she found it unavoidable to actually deliver the pre-op classes to some participants herself and was instrumental in designing the pre-op classes and working at the hospital from which most of the participants came. She acknowledged that all these factors could have led to bias, including the fact that she herself had had a hip replacement. She recounts her need to self-monitor in order to avoid issues of reactivity. In addition, she used an orthopedic nurse practitioner as a reviewer to address possible bias. Other limitations were difficulties in participant recruitment, the small number involved (24 people, 12 for THR, and 12 for TKR) and uneven numbers of men and women, possibly creating a gender bias. Another issue confusing results for this reader was that Lane-Carlson did not (or could not) complete her post-operative interviews for the same duration of time for each participant and her post-operative interviews ranged from 3 to 111 weeks after the surgery. Pre-operative education classes occurred anywhere from 1 to 44 weeks prior to surgery. Because of the complexity of the study, methodological problems arose.

Implications for further research were regarding pain management, precautions with bariatric patients because of the more likely development of infection (King, Goulet, Perkal, & Rosenthal, 2011), education of patients' care-providers, and methodological concerns in patient education (e.g., timing, opportunity to practice skills, a chance to ask questions, and multidisciplinary team to ensure consistent messages). Above all, Lane-Carlson (2011) stressed the importance of using qualitative inductive research and the preference of patient-centered approaches, rather than evidence-based medicine (p. 165), observing that there has been a preponderance of quantitative designs, which have not take into account patients' perceptions, but favored health professionals objectives.

Coughlin's (2008) study verified the beliefs of theorists who advocate that active participation in learning is both desirable and beneficial to learners (Durand & Farlardeau, 2003; Johansson, Salanterä, & Katajisto, 2007; Purkey, 2000), reporting that patients incorporated learned precautions that had meaning for them into pre and post-operative sessions. Especially beneficial was the multisensory approach, to appeal to all learning styles (van Hoose & Strahan, 1992). Coughlin found that other results both enhanced and challenged some previous findings that pre-operative education decreases patient anxiety (Daltroy et al., 1998). Although Coughlin assessed that 75% of her patients believed that the pre-habilitation program prepared them psychologically for THR, in the case of one very highly anxious patient, any connection between physical preparation and psychological grounding was not consciously recognized. In this case, Coughlin determined that the more anxious clients were looking for reassurance that their decision to undergo orthopedic surgery was the right one. Coughlin only had four participants, which put a limitation on her findings. Like Lane-Carlson, she tried to incorporate both knee and hip replacement clients, and both genders.

Implications gleaned from Coughlin's (2008) study focused on requirement for further research in the area of using invitational theory in assisting highly anxious clients, and she listed the following practical ways to help patients with coping strategies: pre-operative home assessments (considered reassuring because familiar), creation of an instructional video, a chance to review necessary exercises both visually and verbally and rehearse physically, overview of the surgery and recovery course, and access to adaptive equipment.

Coughlin (2008), Lane-Carlson (2011), and Cardoza (2010) all used purposeful selection and convenience sampling for their participants. They acknowledged that such a method does limit any generalization to the population as a whole. Regarding the small sample sizes, Lane-Carlson counters by referring to the work of Sharan Merriam, who espoused that the rich, thick description of in depth interviews provided opportunity for the reader to compare the research environment to his/her own and determine whether or not there is transferability (Merriam, 1998, p. 201). Regarding the small number of participants, Coughlin defended by quoting Creswell (1998), as declaring the average number of participants in a qualitative case study is four, justifying that larger numbers preclude being able to attain the in-depth knowledge associated with case study research, and that the goal of her research was to "look at the manner in which a select group of individuals experienced a life event" (p. 66).

Self-selection of participants also may have introduced a bias in that those who volunteer for things may bring their own bias (e.g., may have an axe to grind which may not be representative of the population; could result in an exaggerated finding). In addition, Cardoza's (2010) recruitment method (i.e., "private practitioner office referrals, New York State Nurse Practitioner website advertisement and word of mouth" [p. 76]) may have biased the sample towards participants displaying more confidence and trust in the research, and more leniency toward favoring responses likely to be approved by authority figures.

Other qualitative literature. A number of themes presented themselves in addition to those previously mentioned.

The path leading to the decision for surgery. In some cases, people spent a long time avoiding the decision for THR surgery and only one third of those eligible actually opted for the surgery (Hawker, 2006; Hawker, Wright, Badley, & Coyte, 2004). Ballantyne, Gignac, and Hawker (2007) found four overarching themes accounting for this: (a) arthritis severity in the context of co-morbid conditions, which were worse, and therefore in comparison, the arthritis was rated of lesser importance, and surgery might even be contraindicated; (b) identity variations as a result of arthritis (e.g., normalizing role changes as results of aging, minimizing pain and disability); (c) impact and management of arthritis through social connections, such as family and friends; and (d) previous unpleasant experiences with the health care system. Other studies identified other factors, such as limitations of expectations for success, fueled by either lack of knowledge or other persons' recounts of their experiences, and fear (Figaro, Russo, & Allegrante, 2004). Additionally, particularly in the African American culture, preference for natural remedies or belief in the power of God for healing was preferred, as mentioned previously in this dissertation.

Using in-depth interviews, Clark et al. (2004) discovered two main factors that influenced decision-making: severity of symptoms and information sources. Over time, individuals sized up benefits and costs of THR, and as pain and disability increased there became a watershed point where the expected advantages outweighed the disadvantages. Pain was the main decisional incentive for surgery (Clark et al.; Demierre, Castelao, & Piot-Ziegler, 2011; Dosanjh, Matta, & Bhandari, 2009; Fujita et al., 2006). Usually the decision was a shared one with the help of the physician (Adams & Drake, 2006; Barry, 2002; Sheridan, Harris & Woolf, 2004).

Dosanjh et al.'s (2009) research using focus groups and semi-structured interviews revealed that further influences leading to "the final straw" (p. 719) were limitations (e.g., with self-care, work-related activities such as needing to sit or stand or walk between sites for any length of time, and sexual intimacy difficulties), psychological distress (e.g. depression, fear, coping), and perceptions about THR (e.g., optimal surgical approach, such as small incision, preservation of muscles and tendons on the bone, skill of the selected surgeon, speed of recovery). Dosanjh et al. recommended further exploration in the decision-process relative to different age, ethnic, occupational, or socioeconomic groups. Another lead for research was in the area of prospective patients' perceptions of ideal recovery time with the use of new, innovative technologies in THR.

Body image. Fujita et al. (2006) related patients' psychological issues both pre- and post-THR with feelings of inferiority because of their abnormal posture or difficulties accepting the presence of an artificial component as part of their bodies. Dosanjh et al. (2009) confirmed that prospective patients wanted to preserve "normal anatomy' (p. 726). Similarly, as a result of completing semi-structured interviews with 24 participants one month prior to hip or knee replacements, Demierre et al. (2011) analyzed that there were two particularly prominent themes: (a) the path leading to the decision for surgery, and (b) post-operative life: how to live with a prosthesis (p. 551). The researchers' future plan was to perform further interviews with these participants at six months and 12 months after surgery with a view to comparing participants' expectations pre- and post-surgery. One limitation was any lack of differentiation between patients with a prior arthroplasty, and those with a first time experience. Demierre et al. also made no attempt to investigate pre-surgery quality of life referents such as pathology type, degree of disability, or pain intensity. The study provided a helpful single-page temporal path diagram.

The lived body. Gustafsson, Ponzer, Heikkila, and Ekman's (2007) study explored this concept in an urban area of Sweden.. Their longitudinal study was completed over a period of two years examining the perioperative experience of 12 male and female, older (over 65) patients undergoing total joint replacement (hip or knee). This experience was viewed as a transitional pathway in which the patient held a dream of recovering the disabled body to wholeness and being able to do the things he or she used to do. Six themes and 10 subthemes emerged from the series of five interviews completed with each participant. Another important finding was that the recipients "lacked knowledge about the surgical intervention as a whole" (p. 20). Grant et al. (2009) situated in southeast Queensland, Australia, also examined the recovery process in following a THR with 10 patients aged over 65 after they had been discharged 4 to 6 months. This grounded theory study revealed three interrelated processes braiding together the physical, psychological, and social aspects: (a) reclaiming physical ability, (b) reestablishing roles and relationships, and (c) refocusing self (p. 1617). The authors claimed that the reclaiming of social roles and the self was a new and unanticipated finding and that families might need counseling assistance to deal with this development.

Existential anxiety. Participants feared serious injury or death as a result of undergoing THR surgery and recounted feelings of fear and horror when they could not feel their legs for some time when recovering from a spinal block after surgery. Seeing their own body parts being manipulated in some cases without feeling them was “an absolutely macabre feeling” (Gustafsson et al., 2007). Experiencing total joint replacement led to contemplations about life, past, present, and future (Gustafsson et al., 2010), including inner negotiations relevant to the decision to go ahead, relief about surviving, and accommodations when anticipated, future, positive changes did not always materialize, sometimes generating despair or bitterness, and finally, adjustment to acceptance.

Expectations and satisfaction. Editorial comments in the *Journal of Orthopaedic Nursing* (Montin, Suominen, & Leino-Kilpi, 2002) drew attention to the increased interest in acquiring patients’ feedback on their level of satisfaction with total joint replacement. Few are the studies that have used a qualitative approach with this, but Mancuso, Salvati, Johanson, Peterson, and Charlson (1997) attempted it and found that it was a complex phenomenon. They listed 45 different expectations collected via open-ended questions through telephone interviews with THR recipients two to three years after discharge. Grouping the expectations into categories yielded five: (a) pain relief; (b) improvement in walking; (c) psychological benefit (i.e., independence and not stigmatized by having a disability, feeling “normal”); (d) improvement of essential activities (e.g., personal hygiene, elevating from a chair, shopping, food preparation, sexual activity); and (e) improvement in nonessential activities (e.g., sport participation and recreational travel). “Overall, satisfaction and expectations were strongly correlated, with satisfied patients having their expectations fulfilled and dissatisfied patients not having their expectations filled in 91% of cases” (Mancuso et al., p. 391). Dissatisfied patients cited as reasons: residual pain disrupting sleep, work or recreational activities, LLD, or a new limp, dislocation, revision requirement, necessity for future antibiotic prophylaxis, and embarrassment with the scar.

Mancuso et al.'s study (1997) also used standardized questionnaires at the clients' scheduled 2/3-year follow up examination. Gustafsson et al. (2010) pointed out that the longitudinal aspect of a design with a single interview after the perioperative period may allow memories to fade and previous hopes and fears be forgotten as the patients direct their thoughts to their current experiences.

Carr, Gibson, and Robinson (2001) questioned whether quality of life is governed by expectations or experience, and asserted that in the case of health, quality of life "is the gap between our expectations of health and our experience of it" (p. 1240). The researchers highlighted the difficulty of actually measuring health quality of life when perception varies between people, and within the individual, who is a dynamic being constantly shifting from hour-to-hour and day-to-day. Hence, with research using repeated measures, typical in quantitative research, the terms of reference used to judge quality of life are subject to change (e.g., the size of the effect of any disease or surgery is subject to the time measurement is made; i.e., at what point in the trajectory of the disease or healing process, and there is no standardized pattern of response for *all* patients). Carr et al. (2001) found that (a) people with the same clinical condition would report different quality of life due to their expectations, (b) people whose health had actually changed would report no difference on a repeated quality of life health measure, and (c) current quality of health measures do not make allowance for expectations and are incapable of illuminating changes in the experience of disease or expectations of health (p. 1240).

Experiences of care received. Generally speaking, patients reported satisfaction with their hospital care and appreciated it when carers listened to them, had time for them were patient, cheerful, gentle, and treated them like individuals (Kralik, Koch, & Wotton, 1997; Montin et al., 2002). However, Hunt et al. (2009), investigating results of the trend toward early discharge (e.g., three-four days), recalled patients' "well known tendency to mask critical views of their care" (p. 130), reporting that all of the 35 THR recipients interviewed up to 12 weeks after their surgery complained in some degree of being neglected or uninformed, and some indicated concerns about early discharge in a covert way. A disengaged nurse was a nurse who lacked empathy, objectified the patient, was rough in physical handling, inferred the patient was lazy, and was efficiently task oriented, rather than person-centered (Kralik et al., 1997).

Patients mostly reported satisfaction with perioperative pain management (McMurray, Grant, Griffiths, Lefford, & Wilson, 2005; Stomberg & Oman, 2005, [survey studies]; i.e., 66.6% very satisfied, 33% satisfied, 0.9% dissatisfied), but a slight discrepancy between nurse responses to females compared to males was noticed (an interesting observation, which this writer can verify based on personal experience). In Stomberg and Oman's study, although most patients waited less than 15 minutes for painkiller administration, nearly 3% had to wait an hour or more and of these, 3% were female and 2% were male. Such a difference seems insignificant, but may be it is influenced by women's apparent acceptance of poorer service, or lack of assertiveness, or greater patience, because even though the study reported that the longer the time lag before pain relief the more dissatisfied were the patients with their care, more females were very satisfied with pain management than males (i.e., 70% vs. 61%); p. 455).

As mentioned previously in this dissertation, acute pain can develop into chronic pain with long lasting repercussions, so Stomberg and Oman's (2005) suggestion to develop organizations in which patient-controlled-pain-administration (PCA) is provided is a good one, and some younger patients in their study who wanted PCA claimed to have had that possibility. Older patients who might be suffering from dementia could prove a danger to themselves with self-administration though. Miller, Moore, Schofield, and Ng'andu (1996) reported that elderly orthopedic patients get acutely confused, precipitating difficulty in identifying both how much and where they are feeling their pain. Justification of neglect by commenting that staff was busy is common (Kralik et al., 1997; Stomberg & Oman, 2005), and reluctance to complain (Derrett, Paul, & Morris, 1999), and the reason may be fear of repercussions (e.g., being dropped to the bottom of the waiting list in the case of waiting for THR surgery). Sometimes, on discharge to a rehabilitation center, patients reported inadequate care because of conflicts between different establishments and doctors (Montin et al., 2002). In addition, patients were disgruntled if they perceived inequities of service based on the communities from which they originated (Montin et al.).

Summary of the Literature Review

In some ways, this writer has approached this literature review from a grounded theory perspective, which means that a general body of literature on a topic of interest (e.g., total hip replacement) has been examined, and from that reading, categories (listed under "challenges") regarding influences on healing have emerged. Then, there followed a deviation in that instead of trying to group like-categories to form a single main one, a core concept of healing, this writer looked for what was missing, a gap in the research that she could fill. Her exploration revealed that more women underwent THR than men (Furnes et al., 2001; Lucht, 2000; Mäkelä, Eskelinen, Pulkkinen, Paavolainen, & Remes, 2008; Rissanen et al., 1995), that they experienced more pain than men (Rosseland & Stubhaug, 2004), had lower clinical outcome scores both pre and post operatively (Kostamo, Bourne, Whittaker, McCalden, & MacDonald, 2009; López Alonso et al., 2010), and needed a longer hospital stay (Abbas, Umer, Qadir, Zaheer, & Ur Rashid, 2011). In addition, most studies investigated older people (e.g., over 65 years old; Felson, 1988; Skyttä et al., 2011).

In view of the baby boomers approaching retirement and their interest in maintaining an active lifestyle ("Active Baby Boomers Fuel Demand for Long Lasting Joint Replacements," 2011; "Baby Boomers Boost Demand for Hips, Knees," 2007; Anonymous, 2011), and the fact that there is a global epidemic of obesity (Mokdad et al., 2003) contributing to an increase in diseases such as degenerative arthritis, an underlying etiology for THR (Bourne et al., 2007), and the fact that exercise is now being advocated as a prescription for a better quality of life (McDermott, Yelmokas, & Mernitz, 2006), there appeared a need to investigate recovery in active, younger women (e.g., 40-65 years of age). There were indications that quantitative research could not capture the total experience of the patients (Coughlin, 2009; Lane-Carlson, 2011), but that they needed opportunity for their voices to be heard, that such an approach would avail their carers of information that could assist in better handling of patients' recovery. Hence, the emergence of the significant research questions: (a) Why do active women of 40 to 70 years of years elect to undergo THR; and (b) how do active women ranging from 40 to 70 years of age experience recovery from a THR?

Chapter 3: Methods

Sample and Participant Selection

There was purposive selection of up to 10 women from 40 to 70 years of age who were on a wait list in Alberta, Canada, for THR. Waiting times were variable depending on the center, and in Calgary, Canada, were up to 18 months (Alberta Hip and Knee Clinic, Jennifer Hendrix, personal communication, November 2010).

Procedure

After a request for advertizing submitted to The Alberta Hip and Knee Clinic (AHKC) could not be accommodated, this researcher located community resources, which might be frequented by prospective hip replacement candidates, and verbally requested if the businesses would be willing to display recruitment posters (poster is illustrated in Appendix A1). After several local places responded positively to this request, a list of prospective community resources (see Appendix B) was compiled and approached to display recruitment posters. In all, more than 706 business owners were addressed face to face. In addition, the author developed a personal blog site on the Internet to advertize. Thirdly, she pursued ethics approval with the University of Calgary Health Research Ethics Board (CHREB) because without this approval, recruitment posters were not permitted in any facilities overseen by the Alberta Health Service (AHS; e.g., hospitals AHS clinics). After coopting the kind assistance of Dr. James Rankin, a professor at the University of Calgary, CHREB approval was received and permission was obtained from the newer Bone and Joint Clinic in another hospital to display posters.

A new poster was derived indicating CHREB approval (see Appendix A2). Unfortunately, the timeline left for completing the research did not yield further participants. When volunteers telephoned the researcher, she asked a few questions to see if volunteers met certain criteria (see Appendix C; e.g., they were not suffering a serious comorbid condition, and they were ascertained to be *active* participants). Volunteers were considered appropriate if they had a minimal exercise habit of two and a half hours per week (Canadian Society for Exercise Physiology, 2011), and had no serious comorbid conditions. If considered inappropriate, the volunteer was thanked for her time, and it was explained to her that she did not meet certain criteria. If a volunteer was considered appropriate, an outline of the expected procedure was explained to her (see Appendix D) and she was invited to ask any questions, and asked if still interested in participating. If she affirmed, a date was arranged to meet in her home during the week prior to her THR surgery. Gustafsson et al. (2007) found that a majority of participants preferred to be interviewed in their own homes. It was more convenient and empowering for the participant. If the volunteer did not want to meet in her home, the researcher offered a private office instead. The research procedures were explained again, and informed consent (see Appendix E) was obtained along with permission to videotape interviews (see Appendix F) and agreement to keep identities of the group participants confidential (see Appendix G). Then the pre-surgery interview was completed while being videotaped, after which the participant was presented with a journal for keeping daily records of her recovery experience by means of writing or/and drawing for the duration of the next month, at which time a post-surgery videotaped interview was scheduled, again within the participant's home (or researcher's office if the participant prefered).

The purpose of videotaping was to capture non-verbal expressions and voice intonations, which might be important for analysis of data. In addition, it facilitated reflexivity in that the researcher could check for her own subjectivity in examining the relational process within the interview (see Brown and Gilligan, 1992, pp. 25-31, 1993). Regarding voice-centered relational analysis, in which Brown and Gilligan expanded on in a listening guide where the interviewer listened four times to the interviewee's story, this researcher was being careful to remain open and distinguished any constrains for the interviewees, and subsequently, could revise her understandings of meanings for the participants. Any of her leanings toward patriarchal domination could be recognized and adjusted. After the post-surgery interview, the participant's journal was collected for perusal by the researcher, who then utilized it as part of her analysis.

When analysis of all of the participant interviews was concluding, as assessed by saturation of the core categories (see Definition of Terms section), the researcher invited the participants to a rented office for a videotaped theoretical group interview as defined by Morse (2007, p. 241). The ongoing analysis was presented using a PowerPoint presentation and the goal of the interview was to further facilitate the analytical process by adding information, clarifying obscurities, and providing opportunity for participants to add insight from their unique perspectives, thereby contributing to the final model of the healing process. Participants had had some time to heal further and reflect on the meanings of the phenomena they had experienced. Seidman (2006) advocated completing a series of three interviews, suggesting that the first one gives an opportunity to learn how experience is contextualized within the participant's life history, the second one affords space to learn of the concrete details of the present lived experience, while the third one provides for participant reflection on meaning, as defined by Morse (2007, p. 241).

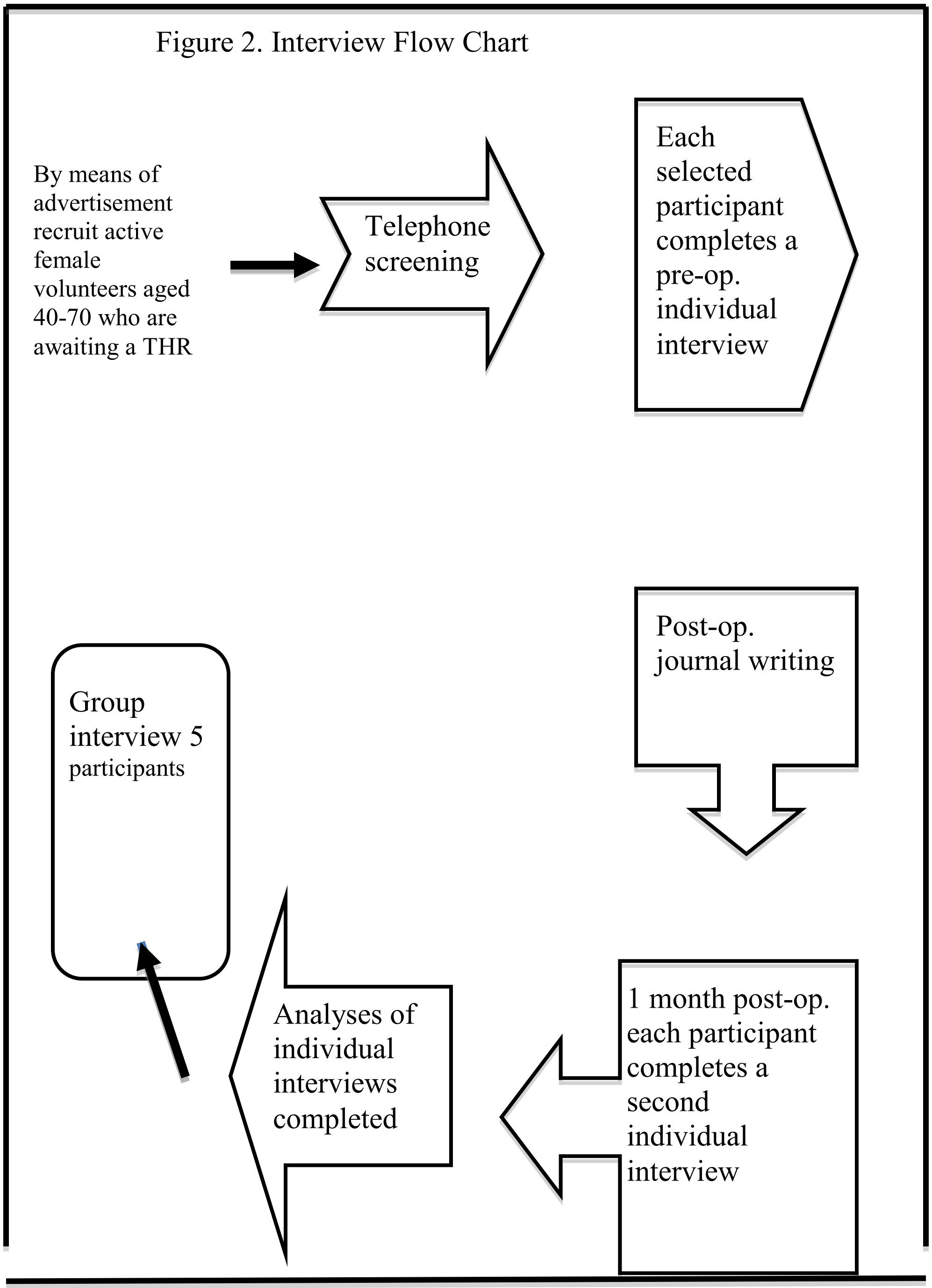

Figure 2. Interview Flow Chart.

Based on Kortteinen's (1982) thoughts that initial interviews may only reach superficial levels, Junninen (2008) also used a three-interview sequence to achieve deeper knowledge in his study of professional criminals. The repeated interview pattern gives a participant more time to get comfortable with the interviewer and develop more trust. Figure 2 illustrates the interview flow pattern used.

Pseudonyms selected by the participants at their individual interviews were used at the group session for reasons of confidentiality. Refreshments were served at the meeting and participants were thanked for their kind participation and given a small gift of aromatherapy oil. They were assured that videotapes and other data would be locked in filing cabinets to which only the researcher had access, and that these tapes would be erased at conclusion of the research project (i.e., within five years, as it is acknowledged that research data may be utilized for further projects with a view to publication). Participants' personal journals were returned at this time.

Interview Format

In keeping with Grounded Theory Method (GTM; Mruck & Mey, 2007), and a constructivist framework (Charmaz, 2006), an attempt was made to reach a non-hierarchical relationship with the interviewee (Mills, Bonner, & Francis, 2006). To facilitate this, the researcher asked herself consciousness-raising questions, such as "What are the similarities and differences between me and the participant and how are these affecting our interactions? Are they clarifying or obscuring the course of the research?" The researcher also kept a personal journal as a self-monitoring tool (Chiovitti & Piran, 2003). Care was taken to assume a non-judgmental stance.

Keeping uppermost in the mind that a grounded theory approach relies on the emergent nature of data, the researcher used open questions to invite each participant to embark on her story leading up to her surgery, her story of ongoing recovery from surgery, and her perception of the future (e.g., Could you please share with me how you've reached this point?). Gustaffson et al. (2007) completed five perioperative THR or TKR in-depth interviews and initiated every interview with the question, "Could you please tell me how you are today" (p. 22)? Participants were encouraged to speak freely, in their own words with minimal interruption by the researcher (i.e., when there was a need for clarification or deepening of understanding). Appendix H offers open-ended interview guide questions if required (adapted from Charmaz, 2006, pp. 30-31).

This researcher has had experience in-group facilitation and endeavored to give each participant equal time and maintain a balance, so that particular individuals did not dominate. She also stayed alert for any pressures toward group conformity. It was important to maintain a subtle balance between allowing enough openness for the participants to recount their stories and yet maintain enough focus to collect the meaning making of their experiences and pay attention to identified categories becoming saturated. The suggested introduction and possible questions are outlined in Appendix I. Up to two hours were allotted for the group interview, although it was completed in 1.5 hours, keeping in mind that sitting longer than that may be aggravating physically for the participants. Comfortable, firm-cushioned chairs were available, at a height appropriate for people who have recently had a THR. This researcher was knowledgeable in this respect, having had her own THR almost four years ago.

Data Collection

Data included information from transcripts of the individual videotaped interviews, the transcript of the videotaped group interview, researcher observations of participant behaviors and non-verbals during the interviews, the participants' personal daily journals, memos of researcher reflections about the interview information, and the researcher's letter to the care manager after her own THR surgery. In keeping with the cannons of grounded theory (Charmaz, 2006; Glaser, 1967, 1992; Strauss & Corbin, 1990, 2008), data collection, organization, and analysis took place simultaneously, resulting in a theoretical formulation of the experiences of younger, active women's healing from a THR.

Data was coded, categorized, and compared to incoming data, as is fundamental to the grounded theory's constant comparative method (Charmaz, 2006; Strauss & Corbin, 1998). Data continued to be collected until the theoretical ideas that emerged from the continuous analysis and the theoretical sampling, reached saturation point. In other words, no new ideas were emerging. Theoretical sampling is peculiar to the grounded theory method in that unlike random sampling that intends to increase statistical generalizability, theoretical sampling relates to the research journey during which questions about direction may arise, especially when curious about properties of tentative categories. Based on the questions arising out of the data, this researcher needed to expand the number questions to gather more data to clarify and refine categorical ideas (see Appendix J). It was hoped that the group interview would be able to address this. As a safeguard to ensure the resulting theory was grounded in the data, member self-checking was facilitated by the researcher presenting tables showing the aggregated responses of participants within the Pre-op. Interviews, and similarly with the Post-op interviews (see Tables 1 and 2, Appendix K and L). Thus members could validate that the information accurately reflected their recovery experiences. After saturation, sorting and diagramming helped to integrate the emerging theory (Charmaz, 2006).

Data Analysis

Figure 3 shows how the author used grounded theory's methodology of open coding (the initial phase, examining each line of data to define key points from the raw data, giving each a code name), followed by focused coding (Charmaz, 2006), which refers to grouping codes of similar content under a conceptual or theme heading defined in the literature as a substantive category (Glaser, 1978).

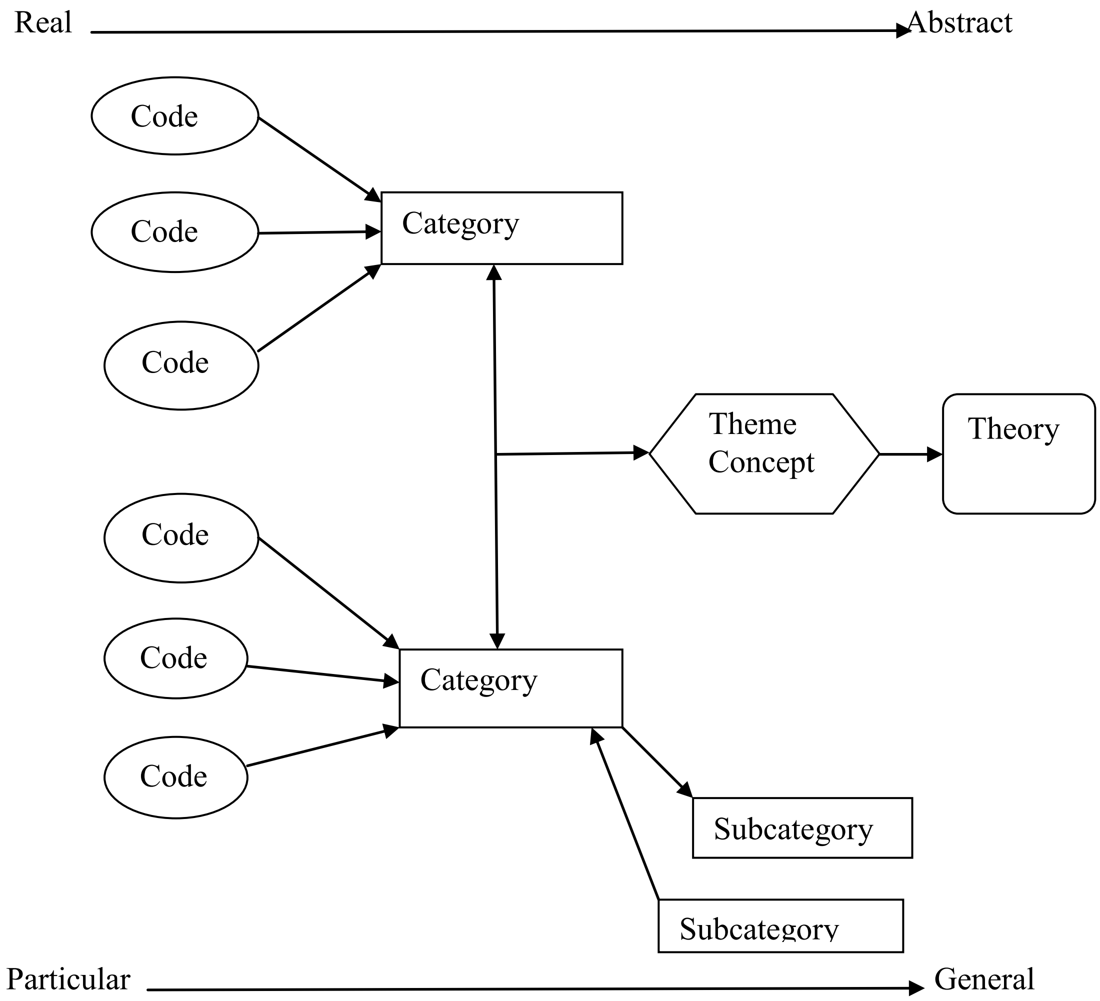

Figure 3. A Streamlined Codes-to-Theory Model for Qualitative Inquiry. Adapted from *The Coding Manual for Qualitative Researchers* (6th ed.), by J. Saldana, 2009, p. 12. Copyright 2009 by Sage. Reprinted with permission.

Sometimes, clusters of coded data deserved further refinement as subcategories. The next stage was to use theoretical coding whereby substantive categories were examined for relational connections in order to move the analysis in a theoretical direction providing hypotheses, which could be woven into an overall theory.

Various authors have suggested conceptual families (e.g., Strauss & Corbin, 1998, with their Conditional/Consequential Matrix; Glaser, 1978, with his series of 18 theoretical coding families), but this researcher preferred to remain open-minded, being keenly aware that prefocusing on such coding families may constrict her view and lead to “forcing data into old boxes” (Charmaz, 2006, p. 64). Even Glaser also warned against over reliance on strategy coding (Glaser, 1978, p. 76). This researcher considered referring to those resources if stymied after carefully examining the data first, coding, rereading, revising, reflecting, memoing, and allowing time for thinking and percolation of the data as recommended by Corbin (2008).

Chapter 4: Presentation of Findings

The results of the data analysis are presented here. The purpose of the research was to investigate why younger, active women select a first time hip replacement, and to examine their recovery experience, with a view to delineating a theory of recovery.

Characteristics of the Sample

Participants were recruited over a 16-month period. A total of 16 participants contacted the researcher by means of the research dedicated telephone number and were screened to determine whether they met the research study's inclusion criteria. Five were excluded for the following reasons: one for multiple comorbid health problems, one for inability to find a surgeon who would operate, one who had already had the hip replacement months earlier and had to have it removed because of infection, and two, including one of the male gender, who had received their hip replacements several years ago. Three other people who volunteered withdrew before the first interview specifying that they were too busy to do it, and for one of these it was a revision hip replacement anyway. Two of the five participants who were accepted heard of the research within two weeks of having had their surgery. Because of the scarcity of responses and the fact that their surgeries were very recent, they were included with retroactive interviews, one on her 8th day after surgery, and one on her 15th day after surgery.

Participant recruitment continued after the research interviews had begun, in the hopes of obtaining a larger sample. However, only one new opinion emerged from the added participants, a signal that the saturation point for grounded theory was practically achieved and an indication that the sample was adequate for the research questions. Any name used in these statistics is a pseudonym. Table 3, Appendix M summarizes in brief the background of the participants, and for convenience is presented here also (see Table 1 below).

Table 1

Chart Displaying Participants' Profiles

Participant	Age	Brief Biographical
Debbie	63	Married, 2 adult children, works as. Western Regional Manager of a Relocation Company. Works from home with 3 other people reporting to her. Sales, marketing and client presentation." Have to be mobile and present myself as useful". Work with younger people. Expressed a need to make a 2hr. plane flight for business 2 months after her surgery. Has sat with end of life patients as a companion.
Karen	57	Married, seventeen-year-old daughter. Participant has worked from home as caregiver for Downs Syndrome adults for twenty years. This will conclude shortly and she is presently studying online via a local college for a medical assistant certification. She has worked as an assistant in a Dermatologist's office part-time for some years
Vivian	60	Divorced, three adult children but no communication with them for twenty years. Was trained and worked as a teacher. Competitive figure skating coach, and Gold medalist in Japanese Mixed Curling Championship. Inspirational speaker and born again Christian involved in prayer healing ministry. Presently writing a book about her life.
Kate	55	Married, three adult sons. Works full time for a local engineering company as a senior administrator. Loves to volunteer for worthy causes e.g. judge for Rodeo Show Queen/Princesses. Canvassing for worthy causes e.g. Heart & Lung Association may be curtailed by limitation on walking. First grandchild recently born
Ronnie	58	Married. Mother of two young adult children. Lives on an acreage and teaches equestrian therapeutic riding. Initially Dale Carnegie trained. Private contractor for business coaching now.

An interesting observation is that all show evidence of altruism and service to the community. May be that has contributed to why they volunteered.

Various approaches were made to organize the data: (a) charting the questions and answers of all participants on a matrix and looking for commonalities, (b) examining the data for key words and phrases and deriving categories from these (see Appendix N), and (c) trying alternative models and then revamping them (see Appendix O). Finally, a conceptualization of the findings was achieved.

Conceptualization of Findings

In seeking to answer the research question, “Why do younger active women have a hip replacement and how do they experience it,” there emerged two interconnected patterns in this complex process. Pattern one looks at the overarching components that assist the healing journey, and pattern two retrieves the lived understanding of this experience. Figure 4 attempts to reflect this in the diagrammatical presentation below. The outer triangles represent pattern one, the arrows indicating their influence on pattern two, the inner triangle. The inner triangle is expanded later in this dissertation.

Pattern One

Three components emerged that influenced the healing process: (a) the character qualities of the patient, (b) the personal support system, and (c) the medical system. Within each of these, certain categories came to the fore. In keeping with grounded theory, this writer has opted to start with the raw material, participants’ voices, and develop from that, a summary comment.

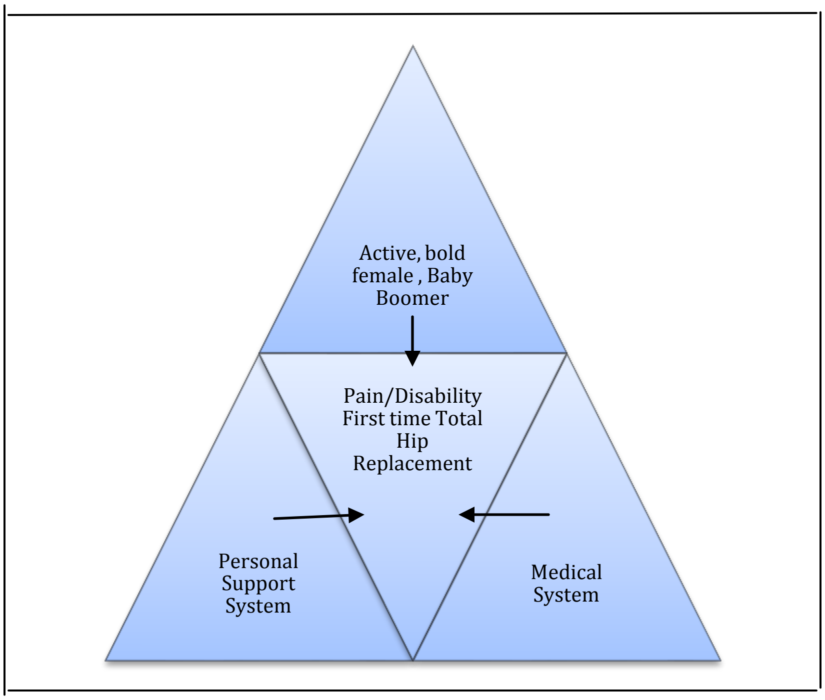

Figure 4. Conceptual Model of the Hip Replacement Experience. The central theme of the experience is impacted by three enveloping influences: The character of the participant, the personal support system available, and the medical system.

Character qualities of the patient.

Fortitude.

(Kate) “So I thought, the sooner I get this fixed the better off I’m going to be.”

(Debbie) “I have a very adventurous spirit . . . .I think I’m Spunky."

(Karen) “It’s hard to accept the whole concept of going into it willing.”

(Vivian) “For some reason, about September last year, it seemed to escalate, and I was going like [*sic*], ‘Boy,’ it couldn’t come fast enough, the surgery!"

(Kate) “I was looking really forward to the procedure."

(Ronnie) “I don’t just take it as a single solution.”

(Karen) “I’ve gone back to school and I’m doing an on-line course.”

(Vivian) “I asked them if I could do a couple of things that were never done yet by women in the workforce.”

(Ronnie) “When those negative or scary, fearful ideas start to creep in, I just don’t let them stay.”

(Debbie) “Mentally I just keep assuring myself that I’m strong.”

(Ronnie) “I quickly focused on the notion that my legs will come back to me, fighting the question, ‘What if they don’t?’”

(Ronnie “I’m keeping mentally positive. I don’t ever underestimate that.”

(Ronnie) “I am really a bit of a rebel in that way. I’m not willing to just accept that it’s happening. And [*sic*] so, that’s why I’m doing the stairs too, because I need to keep that strength and length in all my soft tissues: My muscles, my ligaments, my everything, so that *I can* have that even gait,’ cause [*sic*] without it, you’re going to favor that side.”

(Vivian) “Finally, my athletic determination kicked in and I just [sic], a week ago I think, I just decided I was going to take those stairs the way I’m supposed to, and I did it, but I felt very shaky.”

(Vivian) “I do believe that my psyching, my athletic psyching, came into play and helped a great deal.”

(Kate) “Short-term pain for long-term gain is the way I look at it.”

Assertiveness.

(Ronnie) "When they say, 'don't do this,' or 'do this,' I don't just nod, I want to understand the impact of the thing, and how it connects."

(Karen) "The Baby Boomers have a sense of entitlement and are impatient. They are used to pretty much getting what they want; demanding brats, expecting a lot! The next two decades are going to be interesting."

(Vivian) "I looked right at my specialist. I said, 'are you going to be doing the surgery? I don't want an intern doing it.' So, I won't ever know, unless you [sic] come right out and ask them. I want to see and trust."

(Vivian) "Had I had just a little bit more longer time, [*sic*] I would have gotten to the point when I was going to say, 'no I'm not leaving.'"

(Ronnie) "So I just wanted to be totally ready. So I just said to him, 'yer [sic] know, I find, [*sic*] I asked him the questions about the epidural and the risk because you always heard back, in the day, about paralysis using that epidural and, er, [*sic*] he assured me that, you know, the risk of it is negligible, um, [*sic*] and that it, he explained to me why, [*sic*] the epidural was more effective as an anesthetic, and it turned out to be absolutely true."

(Debbie) "Actually I have to travel to Niagara Falls in September, two months after my surgery."

(Karen) "As long as I can direct things I've some good friends who can help."

(Kate) "My dad was a doctor so medical stuff doesn't bother me."

(Ronnie) "If you have a problem with that I'll talk to my surgeon; and I said it as nice as I could but I wanted to smack her. She was very rude, and that wasn't the first thing."

Activeness.

(Debbie) "I plan to cross country ski next Fall."

(Debbie) "It's one of our life-sports that we do, that's scuba diving, cycling."

(Karen) "Exercise, I've found, has been one of my best friends."

(Karen) "Keeping those muscles strong on the treadmill, walking properly, has been an enormous help."

(Karen) "My fitness level has impacted this process to a higher degree than I thought."

(Vivian) "Previous to being immobile I was skating, rollerblading, swimming, riding horses."

(Vivian) "They have exercises that they give us . . . I did all those….I am finding my one hard exercise easier to do."

(Kate) "I was on the treadmill strengthening myself."

(Kate) "I want to be active and moving forward in my life."

(Ronnie) “A body in motion stays in motion.”

(Ronnie “I’ve been very physically active, all my life.”

(Ronnie) “Time for a walk down the hall. Let’s get those muscles back in action.”

Independence.

(Debbie) It’s been a week. I’ve already been out two times and feeling stronger but trying hard to be careful. Healing is not near done.”

(Debbie) “I worked all day, got very cold and realized I hadn’t eaten properly today and was very tired. *Regret decision to go back to work.*”

(Debbie) “The lack of fear; my thoughts about it are that you do need someone there more than I had…. not that I didn’t have good care and attention, but I’m independent. My husband would say, ’Do you need me to come?’, and I’d say, ‘No’. So I might not have fallen had he been there.”

(Debbie) “But the big challenge I think, is the dependency. I want to do my own hair, I wanna [*sic*] do my own make-up.”

(Karen) “It is difficult to accept help.”

(Karen) “The sick role is hard.”

(Karen) “ I think you’re back to listening to your body.”

(Karen) (Four weeks post-op.).”Sneaking around the house with no support…cruising like a new walker, concentrating on not limping.”

(Vivian) “It’s not easy going out with walkers or crutches in knee deep snow.”

(Vivian) “I went for Christmas dinner and only took one crutch for convenience only, which might not be good because it didn’t help with my posture problem. Lord I pray it improves.”

(Vivian) “My Phys. Ed. [*sic*] competitive background kicked in. It’s like ‘I’ve got to do this or else.’”

(Kate) “I do not like to rely on others."

(Kate) “You know yourself. You know when you feel more confident.”

(Kate) “The only thing that was difficult for me was being stuck here at home in the middle of December and being dependent on other people for a ride."

(Ronnie) “I’m an outdoors person and being housebound has been really tough.”

(Ronnie) “The other thing I do is - it just works for me - is I climb stairs as much as possible.” (In contrast to doctor’s recommendations)

Trusting.

(Debbie) “She made sure we had a system which was safe.”

(Debbie) “Okay, it’s happening, and you’re [*sic*], you just start rolling. It’s like a movie picture; you can’t stop-so you’re observing, but you lose your fear as well.”

(Debbie) “He did my thing and went on vacation.”

(Karen) “Am I really going to be better afterwards?”

(Karen) “Just trying to keep a positive attitude about everything.”

(Karen) “It’s having those resources and not being afraid to call.”

(Vivian) “The trusting that all’s going to go well was fundamental.”

(Kate) “I was looking forward to the surgery. I wasn’t scared.”

(Ronnie) “I know I’ve got a hip problem, and I’ve got to find someone who I trust and who has experience as well.”

(Ronnie) “I had a lot of confidence in my surgeon; I mean before I went in, and that’s huge.”

Fortitude relates to courage, the ability to face challenges and endure. It includes mental and emotional strength when facing fear. People with fortitude are resilient. Assertiveness connotes a person’s ability to confidently express his or her point of view without being aggressive. In a hospital situation, the ability to ‘stand up for oneself’ during the vulnerable period post surgery is a necessary skill. A habit of being active means that one will be conscientious about completing the follow-up exercises designed to help with the healing after a hip replacement. It also means that one is likely to be fitter going into the surgery. Independence can be a two-edged sword. Being independent means that one will be responsible for self, and prefers to be in control of one's own life. If support were a shortfall after major surgery, an independent type of person would still strive to care for him or herself and work hard at recovery (e.g., participant Vivian). However, being independent also means that one does not like to accept help from others or take advice if one does not agree. Hence, the independent person might put him or herself at risk by undertaking tasks before it is considered medically advisable (e.g., walking with one crutch instead of two, walking in icy conditions, going back to work too early, driving a car, or flying too early, and so on). The capability of trusting is one of being able to rely on the integrity of others. This is immensely important when one's safety is within the hands of another, such as a surgeon. As indicated in the comments above, some participants conducted research on surgeons before they selected a surgeon, and all reported feeling comfortable with their surgeon.

Personal support system.

Family.

(Debbie) "Communication with friends and family is very important as well."

(Debbie) "My daughter goes home soon. I will miss her support but soon will have to rely on other people."

(Debbie) "He didn't come into the house as soon as he got home. My crutches were on a different level and I couldn't get to him. Had [*sic*] to call a neighbor to get him to come into the house. I felt very helpless and frustrated."

(Karen) “I scared the heck [*sic*] out of my kid, because it was a red letter day! I said, ‘*I slept on my side last night!*’(Laughing) You know, like that was big, you know it was big for me!”

(Karen) “Well my daughter, who will step and fetch it for me, ha, ha, ha! It’s been really nice.”

(Vivian) “The day my oldest son and his partner and son drop in after nineteen years without a visit.”

(Vivian) “The visit went well with my son. Amen! I actually think my hip problem helped him empathize. I couldn’t resist sending everyone I knew my pictures of the four of us.”

(Kate) “My husband had to be there to help so I could get into the shower, and I could sit there, and stuff like that, and wash my hair and do everything. He had to help me in and out of the shower, shave my one leg, ha, ha, and shave my legs for me ‘cause [*sic*} I couldn’t bend down, and um, yer [*sic*] know, help me get dressed.”

(Kate) “I said, ‘husband, you have to take me to work.’ I was going out of my mind, sitting in this house.”

(Kate) “Remain patient with me. That’s the key, is remaining patient, ‘cause [*sic*] it’s like, it’s kind of like looking after baby again.”

(Ronnie) "A few more calls and more visiting with my husband [*sic*]. He fussed and got me everything he could. My legs were still quite numb but every extra inch of feeling was noted by both of us. I wished he could pull up a cot and sleep beside me. Soon enough he had to go home."

(Ronnie) "My partner in life, helping me, looking after my day to day [*sic*], and being there, you know, and being such a good sport about it. You know, not getting fed up or impatient with me, um [*sic*], and not overbearing either. That was a good thing too. He didn't hover over me, he just, let me, you know, make good decisions about what I could do."

(Ronnie) "I borrowed a bed from my Mom. She has a double split bed where you can elevate your legs and your head; and do you know what? [*sic*] That was so helpful again [*sic*], so helpful to me because sleeping was a challenge."

All but one participant had family members by her side. The members had various degrees of understanding for what the patient was experiencing. As can be seen by the comments above, the presence of a supportive family member was paramount. Not only that, but the empathy that family member could engender was also extremely important to the patient's wellbeing (e.g., driving over potholes on returning from the hospital is painful for someone who has just had a hip replacement, but it happened with one caregiver completely oblivious even though his wife reiterated her request for him not to do that).

Friends.

(Debbie)	“Circle of friends is so important pre- and post-surgery, as they give energy and positive thoughts.”
(Debbie)	“But without a circle of friends…I really think that helps pain relief psychologically, if you feel buoyed up.”
(Debbie)	“Friends came back to the house. I finally said I had to go to bed at 11:20pm.”
(Debbie)	“The roommate, I think, would make a big difference on [*sic*] your experience.”
(Karen)	“I’m curious because of course, often this happens in isolation.”
(Karen)	“Cathartic to talk [*sic*].”
(Vivian)	“Thank God people offer help.”
(Vivian)	“I was sick and tired of trying to find and get help, so I just handed the whole recovery help problem over to Him [i.e. God]. That’s when people came out of the complex and elsewhere to help and provide meals.”
(Kate)	“But people didn’t follow through. In all honesty, some people, ‘oh yah [*sic*], I’ll be there to pick you up, not a problem,’ and they wouldn’t show up. They wouldn’t ‘phone [*sic*]. So that was a very interesting eye-opener for me too.”

(Kate) "During the day, yer [*sic*] know, my Dad's cousin came. That was good, and my friend came, and a few others, but not, not [*sic*] a lot, and mind you the weather was really bad."

(Ronnie) "Chatted to the girls [nurses] at the front desk and collectively talked about ordering something for lunch from the restaurant across the street."

Patients' comments showed that both physical and psychological help was afforded through friends' involvement. Feeling loved and supported, having someone with whom to talk, but someone who also knew when to leave and let the patient rest, was very crucial. Without this support, feelings of loneliness and fear were accentuated (e.g., "I'm feeling now that I'm at four weeks, support is diminishing and it's normal and I want it to, but I'm feeling like…."; Debbie is hard pressed to define the emotion and deviates to describe specific issues she has been facing). Vivian specifies, "So I felt so alone."

Work environment.

(Debbie) "I don't need to work financially, but it's psychologically [*sic*] for me."

(Karen) "Work has been wonderful. So I can actually work from home…and because it's part time they will accommodate me for coming in for short periods of time. So I mean I'm really lucky that way."

(Vivian) "Shower time, only I will just clean instead cuz [*sic*] I need to go out to a Xmas [sic] function in hopes to talk to our MLA [sic] regarding Domestic [*sic*] abuse. So I pray I get somewhere with it."

(Kate) "Stopped by office [*si*c]. Feel better. Said 'hi' to some people."

(Kate) "Got back to work [*sic*]. I think *that* for me is the key. Getting up and getting going to as many normal activities as you can do without overdoing it, yer [*sic*] know, but making that effort."

(Ronnie) "I have er [*sic*] talked to some of my clients, and um [*si*c] I've had people come here for some meetings, and um [*si*c], I've talked … it just keeps your brain going. Kept my brain stimulated, made me feel like I had some purpose."

(Ronnie) "I do business coaching for a living, which ends up many times being personal coaching, ha, ha."

Without exception, all the participants wanted to get back to work as soon as possible. Reasons included companionship, the feeling of having purpose, and the claiming back of identity.

The medical system.

Surgeons.

(Debbie) "Your access to the surgeon is just one visit, and you get about five minutes with him."

(Debbie) "My foot has been hurting since day one in the hospital and I told the surgeon and he just [*sic*] said 'keep an eye on it' but it's been even painful to touch the skin. . . . They don't give you a lot of information actually about the surgery."

(Karen) "Of course the one thing that's really frustrating me is that a full blown bunionectomy is ruined and it's bothering me again. I wish the foot surgeon had picked up on it; actually he should have."

(Vivian) "I asked the Doctor [surgeon], because if I couldn't do all these things I don't know if I'd want to go through with it."

(Vivian) "And the same with my doctor [surgeon]. He treated me so well today. 'Cause [*sic*] I went in concerned and he wasn't gonna [*sic*] pay any attention to my questions, like so many do. And when he sat there and patiently listened, didn't even cut me off, like they want to do, I just thought, 'Wow!' Yes, so, oh man [*sic*], I feel like I have a new lease on life."

(Kate) "And the other thing, looking back too, as far as the surgery experience, I liked what my doctor [surgeon] did, because she puts a brace between your legs, the first night. Some other doctors do not."

(Kate) “She [surgeon] also does not give you a catheter. So you have to get up and go. They want you to up [*sic*] and going as soon as possible, so she doesn’t put a catheter in. So I think that, for me, I like that experience, compared to what other people had.”

(Ronnie) “I met up with an orthopedic surgeon about four years ago, who, after I’d had the MRIs to tell me that I had the labral tear, who [*sic*] was non caring, arrogant, I’ll just use that word, who said, ‘you’re gonna [*sic*] need a hip replacement in four to seven years. Come back and see me in four or five years’, and walked out of the office. And I looked and said, ‘Yeah [*sic*], I won’t be coming back.’ So that added a few more years till I finally met this fellow who I’m with now, and I’m really appreciative of his attention, his care, his expertise."

(Ronnie) "My doctor [surgeon] had a short visit and gave me his blessing to discuss the amount and frequency of morphine use with the nurses. I felt good that he would respect my ability to decide.”

(Ronnie) “You can go the doctor [surgeon] who has the best credentials of anyone in the city and if their bedside manner, if they don’t know how to talk to you, if they don’t know how to treat you, or give you respect, or worse, show disrespect, it doesn’t matter how intelligent they are. You don’t want to be with them.”

All the participants reported being happy with their surgeons, the only proviso being that they wished they could have more time and more information from them. Participants’ impressions of medical staff were colored by previous experiences, whether negative or positive. The patients in this research were treated in three different hospitals and experiences in some were better than experiences in others.

Nursing staff.

(Debbie) “The nursing staffs [*sic*] just were not attentive.”

(Debbie) “We tried everything, from being, you know, jolly, kind of being super up and friendly with the nurses and it didn’t seem to matter. They still slammed furniture around. . . . They gave *my* meds. [*sic*] to my roommate.”

(Debbie) “We had the nurses from hell.”

(Karen) “Well, it’s always good to have a slightly different perspective on it."

(Vivian) “I just felt like I was being ushered out, like the queen was coming in and like [*sic*], clear the room out fast.”

(Vivian) “One thing I didn’t like was, you buzz them and they didn’t come. So they said, ‘well you’ve got to buzz sooner. If you think you’re gonna [*sic*] need me in half an hour, buzz me now,’ and like [*sic*], ’I’m going to know?”

(Kate) “Some of the staff was [*sic*] a bit funny. Um [*sic*], I’ve had, yer [*sic*] know, a mixture of staff, and some were just downright lazy ass [*sic*], and, er [*sic*], they weren’t going to do anything to help me yer [*sic*] know."

(Ronnie) “It took thirty-four minutes to respond to my request for two pills.”

(Ronnie) “Of all the staff that [*sic*] was providing care; I had two nurses that must have had bad cereal for breakfast. All others, especially the nurses’ aides, were exceptional: Friendly, positive, desire to help, followed through, and made me feel like I was not a burden.”

(Ronnie) “No one had offered a shower so I asked if I could have one.”

Nursing care had the most negative comments from all participants but one, even though three different hospitals were used. Reports indicated variability in nursing *presence,* a term used in the literature to mean a nurse-patient relationship, which engenders the possibility of the nurse meeting the patient’s health needs (Miner-Williams, 2007). There were instances where patient health needs were not met because nurses lacked empathy or responsiveness (e.g., Debbie experienced a fall because of lack of supervision, Vivian asked for spiritual assistance three times, but received none, and Ronnie experienced pressure from a nurse to administer self injections regardless of expressing fear of needles and preferring pills instead).

Adjunct health professionals.

Case manager.

> (Ronnie) “Case manager [*sic*] has been responsive to my calls before and since surgery. She *always* calls back, *always* has answers or gets me connected to the resources I need. *Amazing, valued, professional, personable, competent, and responsive!* Is this concept of *case manager* a new concept, or have I just missed something in the past?”

Care Manager.

> (Debbie) “So he didn’t write anything down, so I don’t know what’s going to happen! Yer [*si*c] know, there were certain nurses that were outstanding and there were certain ones that were just really, really ignorant.”

Nursing attendants.

> (Debbie) “The nursing attendant tried to say that I had been standing, and the doctor said, corrected her right away [*sic*], and said, ‘no she was sitting.’ So they tried to make it look like I was standing and blame me. It was a just [*sic*] awful experience.”

Physiotherapists.

> (Vivian) “I thought the physiotherapist would be more demonstrative; demonstrate for me, ‘this is how you can

get out,' and all they did was say, 'come and get out of the bed, no, no, see if you can do it yourself.' Okay. I will try and do it myself but how do I do this?"

(Kate) "She's [physiotherapist] really nice and she gets you to do your exercises and shows me [*sic*] what I need to work on, and I can do everything. . . . she's very good at explaining to me exactly what muscles have to be worked so that you don't limp."

(Karen) "You'll go to a large physio. [*sic*] place and one physio. [*sic*] will be working on like [*sic*] three people at the same time, and they'll set you off with an exercise and you just keep doing it. [*Researcher: You may be doing it wrong*]. Exactly, and they're off with somebody else."

(Ronnie) "I'll go to physio [*si*c] as much as I feel I need to [*sic*]. I have a really good physiotherapist, and I believe in physio [*sic*]. I'll be doing physio [*sic*]."

The services of adjunct health professionals seemed dependent on the professional integrity of these people. The organizational structure of different hospitals also contributed to their efficiencies. The newest hospital had a well-planned approach for healthcare that drew ecstatic comment from at least one participant

> There was something different about this hospital experience than I've seen before, and I have that attitude about that whole hospital because there's [*sic*] been some really remarkable, hopeful and positive things that have happened through experiences there. I'm just so optimistic and positive about it. (Ronnie, 2014)

In summary, the overarching components as revealed in patient comments in pattern one, that assisted healing were (a) the character strengths of the patients, revealing their fortitude, assertiveness, activeness, independence, and capabilities of trusting; (b) the personal support system of their family, friends, and work environment, which were greater for some than others; and (c) the medical system, incorporating surgeons, nursing staff, and adjunct health professionals.

Pattern Two

This section examines the *how* of the hip replacement experience, that is, what is the participant's own experience and reality of living through it. Figure five is a graphic depiction of the participants' experiences.

Pain and loss.

Physical.

> (Debbie) “I had a pain in my hip.”
>
> (Karen) “I’d been experiencing pain at that point.”
>
> (Vivian) “For some reason, about September, last year it [the pain] just seemed to escalate.”
>
> (Kate) “It was very painful. . . .Continual degeneration of my hip.”
>
> (Ronnie) “Half a mile or a mile out, and it [the hip] starts to hurt, pinch, or screams at me and I’ve no way back, that’s a problem!”

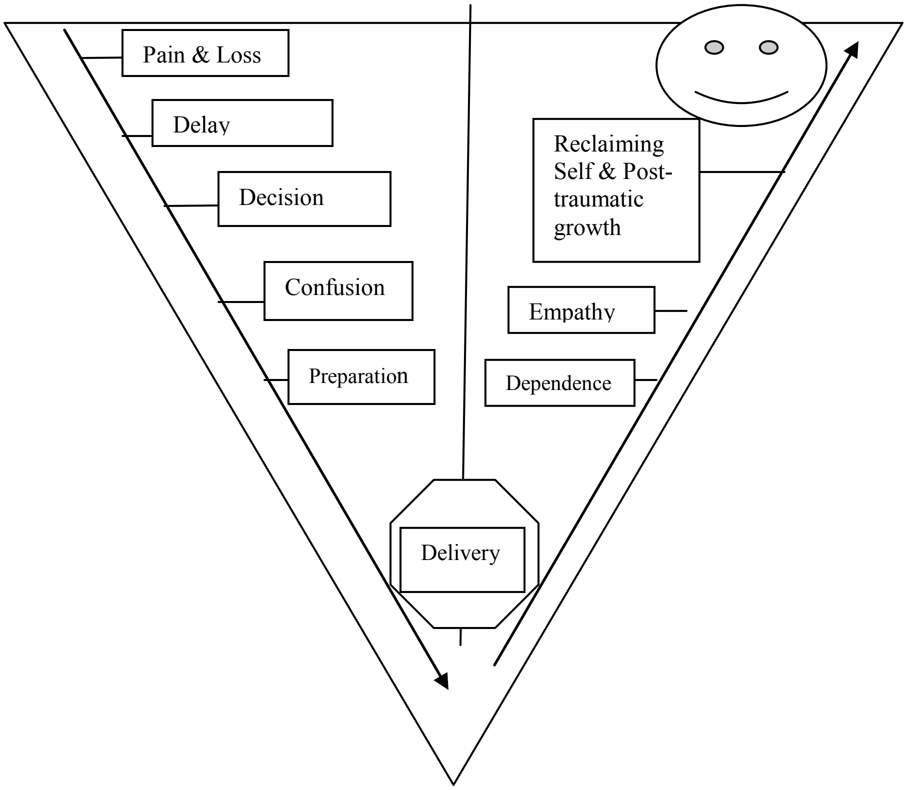

Figure 5. Pattern Two: Events the Participants Experience as They Go through the Process of a First Time Hip Replacement. They start off on a level playing field before pain and disability initiate them on a downward trend (left down arrow) funneling to delivery through the operation. Subsequent to the operation they begin an upward climb (right arrow) towards recovery.

***Mobility*.**

(Debbie) “Dragging my leg.. . . I’ve worn out my hip. It would have trouble carrying my weight.”

(Karen) “I was getting less flexibility and mobility. . . . If I go to the corner store I’m not sure if I can get back. ”

(Vivian) “I couldn’t stand or take the stairs any more. . . . I just about became pretty much immobile.”

(Kate) “I had to lift my leg with my hand. . . . I couldn’t walk sometimes by the end of the day.”

(Ronnie) “I was walking poorly. . . . I was just impaired too much.”

***Psychologically*.**

(Debbie) “My husband said I was cranky. . . . Going deeper and deeper and deeper into pain management and it fogs my brain.”

(Karen) “Hiking: It’s a physical & mental release. . . . Things were not working.”

(Vivian) "I like to be mobile and I don’t like it when I can’t be.”

(Kate) “You start compensating . . . I could not do the thing I used to enjoy doing.”

(Ronnie) “Sometimes that frustration spilled over into my personal relationships. . . . All my life, I’ve been a positive person, and my friends and my family tells

> [sic] me that, and I wouldn't have called myself that in the past few years. "

The reasons for the hip replacement were pain and loss and their influence on physical and emotional factors, as indicated above. The loss of the ability to do the things one considered part of one's life led to a decline in the self or personal identity.

Delay.

Alternatives.

> (Debbie) "A lot of trying alternative things as well. . . . I went for physio. [*sic*], tried acupuncture, massage therapy."
>
> (Karen) "I had been trying all sorts of other things. . . . We tried the injection into the hip joint. I call it WD 40."
>
> (Vivian) "I tried injections into the hip, massage, physio. [*sic*] and chiropractic. . . . I even wanted to go to the States to try something not done in Canada yet."
>
> (Kate) "I did have cortisone shots in my hip and back. . . . I had a massage."
>
> (Ronnie) "I tried prolotherapy. . . . So I've had all kinds of help from my chiropractor, my physiotherapist, and even massage therapists who have made me aware of things I wasn't aware of before."

***Postponement*.**

> (Vivian) "It [the surgery] got cancelled several times, three as a matter of fact, and therefore I was two years more going around with crutches and canes and walkers."

Frequently, the decision to have a hip replacement was deferred until pain and mobility left the participant concluding, as Karen put it, "I thought I guess, that's my only option." Ronnie's words expressed it well: "It . . .wasn't a designed choice." Once the decision was made, participants experienced eagerness to get on with it but also trepidation and uncertainty, but the more the pain continued, the more they were open to the inevitable: "Severe pain at night! If I had any doubts that cleared it up." (Karen).

Decision.

> (Debbie) "About three years ago I had a pain in my hip. . . . So I had two injections a little about a year apart, but the last one I had was not effective, so I had already - my doctor had already put me on the list for a new hip, my arthritis doctor, and they has [*sic*] called me once and at that time I was just going through some heart irregularity and I said I shouldn't go for it until I got my heart stuff sorted out. So I postponed it. So this time, after the last injection did not work, I called the Hip and Knee Clinic and they called me within two months,

which is really fast, but I had already been on the list and so [in eleven days] is the date."

(Karen) **"**I finally realized that things were not working. I went to my doctor, said 'this isn't working', and so we had X-rays done. She called me in a short period of time and said, 'you've got severe osteoarthritis in your right hip,' and she was the one that sort of guided me through." This was six years after the beginning of the problem."

(Vivian) "I was teaching until I couldn't stand or take the stairs any more. That was in '07 [*sic*], and my doctor and I thought this was going to get better but it turned out it wasn't. So she sent me to a specialist who suggested that I get a new hip, so that sent me on the road to do that. However it got cancelled several times, three as a matter of fact and therefore I was two years more going around with crutches and canes and walkers."

(Kate) "The hip pain really progressed after my hysterectomy; so I noticed that, because of course when you're not producing hormones any more it really affects your bones and things like that. I found like [*sic*] the pain increased like [sec] after a year or so, you know; a little bit more than a year after, yeah, [*sic*] two years."

(Ronnie) "I've had many falls in the last couple of years. . . my issue is that I, poof! [*sic*] I have to be extra cautious. It's no matter what I'm doing, and er [*sic*] it slows me down. It's frustrating and all those things. So, you do what you have to do (shrugging), and so, there I am. Now I'm there." (Five or six years since she first visited an orthopedic surgeon)

It is clear from the participants' conversations that the decision to have a hip replacement was not a rapid one. Pushed by pain and disability, troubled by bone loss and balance problems, and the realization, finally, that alternative treatments could no longer be successful, participants ruefully submitted to what appeared to them to be the inevitable. It took anywhere from two to six years to come to a point of acceptance.

Confusion.

Information Deficit.

(Debbie) "They don't give you a lot of information actually about the surgery. . . . I don't know if I'm going to have a general or a spinal. Apparently they decide right then and there and I'm uncomfortable with that."

(Karen) "If I had only known."

(Karen) “My first check up! Did [*sic*] not realize I am happily glued.”

(Vivian) “I get so frustrated because I’m in a position where I don’t know really what to expect.”

(Vivian) “I rely on the medical system to be guiding me along and after having my physiotherapist come the first time and show me that I have been doing three or four of my exercises, (and there’s only six of them), wrong, why didn’t they in the hospital go through them with me?”

(Ronnie) “I thanked the nurses but ‘no thanks’ to the toast. Wheat stiffens my joints. They had no fruit- nothing else. Too bad, so sad.”

Information inaccuracy.

(Karen) “By a doctor I was told it [hip injection to relieve pain] would be immediate relief; by a nurse it would take three weeks; I was told by somebody else it would take over a month to kick in [sic], so it was a very inexact sort of diagnosis as to how this was going to work."

(Vivian) “The other seminars [Pre-education] didn’t tell me, so I was thinking, 'Look can we all get on the same page here?' Each seminar seemed to say something different."

(Ronnie) "Nurse told me I'd be in hospital five days. Doctor corrected him."

Information overload.

(Vivian) "There was too much graphic detail. . . . I didn't want to go on line and check it out too much."

(Ronnie) "She said, 'I'd get out [of the hospital] as soon as I could; this is a germ pit here. You don't want to catch any infection.'"

Lack of information to patients was more apparent in the older hospitals. It raised anxiety. There also appeared to be a need to decide what information and how much depth of information should be given to patients. All the participants prepared questions to address to their doctors. However, it was generally two weeks after the surgery before they were able to speak with their surgeons and in some cases six weeks.

> That's why I want to spend a bit more time with the doctor too, is to say [*sic*], 'so what actually, show me, yer [*sic*] know, show me what you've put in there [inside her body], and I'll ask if there's anything down the road, like [*sic*], could I have a reaction to something in there? Can something change? (Ronnie, 2014)

Preparation.

Pre-education class.

(Debbie) "I've done the education class. Now I have to get equipment."

(Karen) "At the pre-op class I went to, there were [sic] certainly a woman there that . . . She was obviously there with her husband, younger than me, I’d put her in her forties, or somewhere there and it was interesting because I was watching her. She was obviously, just from her body language, just [sic] obviously she was having trouble with the whole thing.”

(Vivian) “I’ve had three pre-op. ed. [*sic*]. sessions: June in [another town], my doctor here The one here was too much and it was kind of scary. That made me uncomfortable.”

(Kate) “He [husband] came to the preadmission thing with me and stuff like that. . . . you go to the class that they give you, and you get all the stuff you need like your walker, your raised toilet, your crutches, whatever, your necessary food, you prepare your food, all your stuff you need before surgery. So everything’s ready at your fingertips. You know, all your clothes; everything has to be at a certain level, so you’re not bending down. Yer [*sic*] know, you just prepare for getting all that stuff done.”

(Ronnie) “They [hospital medical staff] educate you very

> well. . . . they were phenomenal, giving us a checklist, you know, and, er [*sic*], we had in the orientation, I don't know if this is normal, [*sic*] because [its] my first experience. . . .We spent an entire morning in an orientation, in a mini training. They had physiotherapists there. They showed us how to use the equipment. They had the case manager. There's a case manager, which, maybe that's normal, but to me that's [*sic*], I was blown away. This girl has been available. I call her. She's the case manager for the orthopedic surgeon, and I call her with questions, and she calls me back. What a concept, eh?"

Personal support. Please refer to previous notes on this topic under pattern one.

Nutrition.

> (Debbie) "Physically, I've been taking vitamins and herbal supplements."

> (Karen) "I had been talking to two physiotherapists when I went for my assessment, and I'd asked them if there was [sic] more people these days, younger people, getting hip replacements, and they both nodded sort of vigorously. . . . I said, 'Well, I'm

curious. Is it because we're active? Is it because of nutrition?'"

(Vivian) "Like herbs [sic], you're not supposed to drink herb tea. Green tea does something to your blood; I've forgotten what but you're not supposed to drink it. Licorice tea will raise your blood pressure."

(Kate) "You know, I've been eating better. . . . I joined weight-watchers. . . . I think one of the biggest healing things is really watching what you eat. So if you're eating too much sugar, it's terrible."

(Ronnie) "What I'm doing though is learning as well about eating, yer [sic] know, about eating habits. You grow up a certain way. You're taught to cook a certain way, and it just becomes, kind of a brainless exercise, and now I'm doing it with more thought-consciousness."

Participant comments about the pre-operation education classes were mostly positive. The notion of how much detail to give about the nature of the operation again came into play. It appeared to be an individual one. Debbie and Vivian did not want too much lurid detail and felt that they could watch a YouTube video about it if they so wished, while Kate, being a surgeon's daughter voiced complete lack of fear and knowing what questions to ask. Karen and Ronnie had done a lot of research and seemed very well informed and positive about their three-hour pre-hip operation educational class, which was offered as part of a comprehensive, conjoint, updated, medical plan. Apart from people and equipment support, participants were also mindful of nutrition and the newest hospital included this in its education component. Over half the participants were intent on losing weight before their operation, as a health measure, to be better fit for the operation.

Delivery.

Relief.

> (Debbie) “So I called my husband at 10:30am [immediately after her hip operation], and I guess he’d barely gotten home and yer [*sic*] know he said, ‘You’re kidding! Is this you, really?” Prior to her hip operation Debbie had made a farewell tour to all her family in case she did not survive."
>
> (Karen) “Finally [*sic*] noticed my knee doesn’t hurt anymore. It’s a good sign. . . . it [hip] must be healing as my finger nails have started growing.”
>
> (Vivian) "I’m so happy for today was the first time I felt nothing [pain] in my leg and it could bear my weight completely.”
>
> (Kate) “My hip has no pain . . . oh its unreal. It feels really good.”
>
> (Ronnie) "I have *alread*y [three weeks after surgery] less

discomfort than I had before the surgery, and I don’t mean just the bone on bone feeling, but even in my, the [*sic*] muscles.”

Dependence.

(Debbie) “Husband is feeling stressed about taking care of me. He is tired. . . . baby monitor [*sic*] in case husband doesn’t hear me.”

(Karen) “Being incapacitated is an emotional [*sic*] raw issue.”

(Vivian) “I know better than to come home alone, because I know I’ll do more than I should.”

(Kate) "The most difficult part for me was not having the mobility . . . I realized that I had to have that time to heal. . . .. The only thing that was difficult for me was being stuck here at home in the middle of December and being dependent on other people for a ride. . . . “I am grateful and I am not totally alone; it would be hard.”

(Ronnie) “It suddenly struck me how some people live frozen in this very state.” (Prior to spinal anesthesia diminishing)

Empathy.

> (Debbie) “So I think you need that, the technical person and then you need the circle of friends, and, and, and [*sic*] if you don’t have that I think it would be easy to get discouraged, um [*sic*].”
>
> (Karen) “What the hell [*sic*] would someone with a double [hip replacement] do? . . .I can’t imagine if it was someone with younger children, and told they have to be off work three months.”
>
> (Vivian) “I bet it’s because they [elderly women] have zip-all [*sic*] body strength, upper body strength! I lifted weights. I did pushups and stuff like that; back push-ups, front push-ups, so that my forearm, this arm, was going to be strong. This arm was going to be strong and boy [*sic*] did I need it. Do you know I got calluses on my knuckles from doing that get out of bed thing? Yeah and I thought that an eighty-five year old lady is not going to have the strength like that to get out of bed.”
>
> (Kate) “Well, I don’t know how they [patients] could go home without Home Health Care, or home [*sic*]. I don’t believe that the hospital would send

anybody home with a total hip replacement with absolutely nobody there to help them [*sic*]. You couldn't!" (One hospital did)

(Ronnie) "I couldn't budge a freckle on either leg. It suddenly struck me how some people live, frozen in this very state." (Before spinal anesthesia wore off)

More than one participant likened the whole experience of a hip replacement to having a baby, especially if it is a first-time experience. A person has been carrying something inside for several months. There is anticipation about this, but also trepidation. Patience is required, information about what to expect, and preparatory work, but one has to experience it to understand it. There is a crescendo toward the arrival time, as fear and pain gradually get worse. Finally, the operative day arrives. Tension is released as one is delivered from the burden. Recovery entails patience, allowing oneself to be cared for, somewhat like a baby. There is a reduction in independence for a while, which is a real challenge to the independent nature of these baby boomers.

Reclaiming self and posttraumatic growth. The structure of this dissertation only allowed recording one month of recovery for each participant, with the exception of the group meeting, which for some clients occurred several months after their surgery. Reclaiming self for these active women, who had previously engaged in various athletic activities, and who worked a job, would take more than one month, but there is evidence of the participants being on the road to recovery of the previous self-image. Debbie made her plane trip two and one half months after her operation, maintaining her work image;

Karen was back at work part time within five weeks post-operative,;Vivian was writing about praying for her clients six weeks after her surgery; Kate chortled to be visiting her work place three and one half weeks after her hip operation; and Ronnie was inviting clients to her house, so she could continue work with them prior to four weeks after her hip replacement, and she was also driving. Patients are advised they will need three months recovery time before flying, three to six weeks before driving, and often three months off work depending on the activity. All these ladies pushed the limits. A thank you letter is shown in Appendix Q.

Almost a year after her hip surgery, Vivian had concerns with her progress, and contacted the author to find out if Vivian's experiences were similar to the others. Hence, the author had opportunity to email the other participants and ask them of their progress. During this process, the author noticed that some participants had gone beyond reclaiming their previous sense of self, and had experienced what a body of literature describes as posttraumatic growth (Sawyer & Ayers, 2009; Taylor, 1983; Tedeschi & Calhoun, 1996). Tedeschi and Calhoun (1996) clarified that posttraumatic growth has to do with people "reconstructing or strengthening their perceptions of self, others, and the meaning of events" (p. 455) after a trauma, and that women tended to claim more benefits than men. The following participant responses do suggest expanding growth:

> I do feel different since my surgery and can only describe it as appreciation. Appreciation for what 'could' have been if I lived in times gone by (and had no surgery options) and appreciation for being blessed with an outcome that restored my quality of life. I'm living at a higher level of awareness; striving to maintain a conscious life of gratitude. With that I aim to be a contributor to others, pay it forward whenever possible and give thanks daily to any power that will receive it. (Ronnie, 2014, nine months after her hip replacement)
>
> I have regained more mobility with my new hip – so back to my old self

> physically with the exception that I need another hip on the right side. I have accepted that I have limitations now with a new hip no problem. I can't ride a horse like I used to nor downhill ski – not that I was doing that a lot anyway. I can't run like I used to either, but hey I don't need to really "run" anywhere and I can sure walk fast. This whole process is about attitude and expectations. I realize that as a daughter of surgeon that sometimes things just don't turn out quit [*sic*] as planned: this is one of the risks that you take when you opt for this type of surgery or any surgery for that matter. Doctors are not GODS and they cannot fix everything to perfection; albeit they try. My expectations were met with this surgery and my attitude is that I am grateful to have a new hip without the pain and I can walk even better without the pain; new pain in right hip though – but I am on the list. (Kate, 2014, 11 months after her hip replacement)

> Of course I did sense NEW levels/growth simply by knowing and discovering that doors previously closed to me due to lack of mobility before surgery; were now flung wide open again. Hence giving me a new lease on life in which case anything was accessible and within reach. Not only am I glad to get back to some things like horseback ridingI but I am actually going to see if I can try curling again. (Vivian, 2014, 12 months after her hip replacement)

> I recovered a lessor [*sic*] percentage of my physical confidence than I expected largely because of the limp. I had the additional pain of spinal stenosis and then the laminectomy and spinal fusion only 6 months after the hip. I value the better quality time I have left here on earth because of the replacement and encourage other people to have it done. I am less crabby and my husband appreciates that. I had no major revelations during this experience. (Debbie, 2014, 16 months after her hip replacement)

> I was initially so relieved to be out of pain that it was the sole focus. As I began regaining strength, I grew impatient with progress and wanted it to be the way I was about 10 years ago. This brought on more self-reflection about the aging process and the natural changes that occur. This is not to say one cannot be strong and healthy as you age but adjustments sometimes need to be made. I did not wish to think about it and carry on but that is not reality. The previous chronic pain made me far more sympathetic to others in constant pain. I would constantly remind myself that if this had happened even 50 years ago I would have had no recourse but to live in pain, [*sic*] become increasingly immobile. I have also become more 'gentle' with myself, redefining success. This meant inward markers of achievement and satisfaction versus comparing myself to those around me. This is not to say I have perfected this but, what the hell [*sic*], it's a start! (Karen, 2014, 12 months after her hip replacement)

In summary, we read of gratitude, thankfulness for restoration from disability, and expanded consciousness of the value of a pain-free life, and a wish to help others. We read of an acceptance of limitations with cheerfulness and acknowledgement of the realities of what is possible and what is not. We sense the elation of a sense of new-found freedom and a hope to accomplish what used to be, and what can be again. Additionally, there is a looking within and a sense of the importance and appreciation of the quality of lifetime left on this earth.

Chapter 5: Discussion

One participant broached the notion of increases in hip replacements and queried the reason. According to the voluntarily based Canadian Joint Replacement Registry (CJRR; 2008-2009), there were almost 24,253 hip replacements in Canada for the years 2006-2007, and 89.4% of these were primary procedures (p. 9). Hip replacements increased by 11% over the span of 2010-2011 (Canadian Institute for Health Information [CIHI] Public Summary, 2014) and for 2012-2013 the CJRR reported 47,137. This represented a 16.5% increase over five years for hip replacements. This dissertation study did not ascertain the reason for the increase, although the researcher did hypothesize several reasons in the introduction (e.g., an increase in obesity in the population at this time, greater awareness of the need for activity for health and therefore more wear on the joints, resulting in greater incidence of arthritis, the desire for perpetual youth, and so on). However, this group of participants was representative of the middle-aged, approaching retirement, group of baby boomers. It seemed appropriate, therefore, to research whether or not they had special characteristics, which might contribute to the increase in accessing hip replacements.

Perspectives from Research on Characteristics of Baby Boomers

Martin et al. (2009, 2010) examined health and functioning among baby boomers approaching 60 and were surprised to find that even though a lifetime of socioeconomic, public health, and medical provisions might have indicated an advantage to the baby boomers, the trend in mortality rates and poor to fair health, which had declined between 1982 and 2005, reversed from 1997 to 2006. Hence, the debate continues as to whether the Baby Boom cohort will fare better or worse than earlier cohorts in their old age health concerns (p. 369). One research participant labeled the nature of baby boomers as demanding. An article by Kane (2014) supports this, expounding on the positions of power these people hold (e.g., nearly 70% of law firm partners are boomers; para.1). With regard to this dissertation study participants, there were reported incidents of being able to authoritatively assert themselves when they wanted information, or they did not want to do something (e.g., Ronnie not wanting to give herself injections). In addition, Kane mentions how hard working baby boomers are, and how their professional positions define them. This dissertation confirms this, in that all of the participants wanted to get back to work as soon as possible, even in some cases jeopardizing their health in order to do so (e.g., Debbie). This is because their work seemed to give them identity and they had worked hard to get where they were.

Kane (2014) endorsed this researcher's other findings about the participant baby boomers. They are independent and self-reliant. Vivian had to be when she hit the snag of having no one at home to help her. Kane reiterated the findings about their beliefs that they can change the world (e.g., Vivian, 2014, had stated in her first interview that "Possibly [she] got the ball rolling for women to work out of the home"). Although this might sound grandiose, her work as a college professor, 35 years ago, when she had a baby to care for at home as well, and persuaded the administration that occasionally she might be able to work from home effectively, likely did lead to her assertion that "she got the ball rolling," locally. Kane added goal-orientation and competitiveness to the list. This was very clear with the participants of this research. Their goal was to regain their athletic activity if they could, and reclaim aspects of their lives that were extremely important to them (e.g., "If I couldn't do all these things I don't know if I'd want to go through with it"; Vivian, 2013); and "I'm expecting to return to normal: Riding, Tennis, Skiing; I mean those are all things that I enjoy doing, and that I used to do" (Ronnie, 2014). According to Kane (2014), Baby boomers welcome challenge and "strive to make a difference"(para. 5). Who could be better than baby boomers to take on the challenge of a hip replacement, and be willing to make a difference by volunteering to be part of a research project, which may help others? It very well could be that the nature of the baby boomer generation has contributed to an increase in hip replacements and only further research making comparisons between that group and other generations will clarify this connection. This research bore out the findings of Orbell et al. (2001) in that recovery is not merely based on medical phenomenon, but on other variables as well, such as self-efficacy and goal-driven behavior.

Perspectives on the Increase in Hip-Replacements

Although stressed, high-speed lives and inadequate nutrition were also previously hypothesized as possible contributing factors to the increase in hip replacements, an interesting observation that emerged out of this research was that, without exception, all the participants asserted that good nutrition was essential in helping the body recuperate. In particular, nutrition was part of the pre-education seminar at the most modern hospital, and as Ronnie said, she was now using a new way of eating and being able to realize a long-held dream of losing weight. On investigation, various studies (Barbul, Rettura, Levenson, & Seifer, 1983; Pierre et al., 2013; Stechmiller, Childress, & Cowan, 2005) have shown that metabolism speeds up following surgery, as the body works to heal and therefore, the body needs more protein and iron. Inadequate nutrition can delay healing, even the closing of incisions. The process is complex and deserves more study. A whole new field has arisen under the term *pharmaconutrition*.

The Role of Social Supports

The benefits of social facilitation of physiological systems were mentioned in the literature review. Therefore, the importance of both nursing presence and a personal support system cannot be underestimated. Participants in this research endorsed the importance of social support through statements such as “Roommate is ten years younger, but good company”; “I checked her face to see if it was my mom” (describing a nurse); “You feel loved and valued” (describing friends); “Everyone was very nice” (describing her hospital experience); “Remain patient with me; that’s the key” (describing a husband); “She’s wonderful” (describing the physiotherapist). Regardless of the latter positive comments, results from this study indicate that nursing presence is something that needs improving. The literature review touched on this factor. Further research continues to reflect that a therapeutic relationship decreases perioperative anxiety (Erci, Sezgin, & Kaçmaz, 2008).

The themes recounted by Perry, Hudson, and Ardis (2011): (a) a paternalistic medical model, (b) lack of a shared decision on departure date, (c) dependence on family to feel confident at home, and (d) unreliability about being assigned a rehabilitation placement, still held true for the hospitals utilized by some of the participants. One of the research participants was extremely distressed by the manner in which she was discharged from the hospital: “The nurse seemed to be very good and then the day that I was to be discharged, he seemed very cold and adamant that ‘Well, you’re officially checked out, so how’re you getting home?'” This patient faced being bundled out of the hospital in a peremptory way, had no one to help her at home, and although assured of a rehabilitation hospital, the arrangement fell through. She did complain to the care manager, but this was after the fact. In the mean time, this was traumatic for her.

Some factors that may contribute to what seem negative nurse behaviors within the locale of the participants of this research, include wider system issues such as how the population has gone from 400,000 in the mid-80s to 1.2 million with little or no expansion in healthcare resources in real terms. There has been increased demand on the system, an expanded aging population, increased occupancy rates, and deceased lengths of stay. All of these pressures impact health professionals.

Perspectives from the Post-operative Group Meeting

This brings the writer to review the perspectives provided by the post-operative group meeting conducted as part of this research. It proved to be a supportive experience for the participants as reflected in the following comments: “Perspective of the experience of others was interesting *and* informative”; “I enjoyed meeting other people and wish [*sic*] I had time to talk more about shared experiences”; “I actually enjoyed the get together and exchanging experiences”; “Having major surgery can be isolating and finding people that [*sic*] had similar concerns was helpful, even if it was retrospectively”; “Yes, I found it to be very helpful”; “Just seeing there were others like me in the same boat, same struggles and the same successes was encouraging”; “It was good to share and even share our physical scars”; “I had a great time. It was really nice to hear the other ‘Hippies’ experiences and to know that others had similar feelings and concerns”; “It was very positive, as is any group where people share similar experiences we can all relate and identify”; “The key is the identification of needing a hip, and the process of getting one and knowing you are not alone-that others share a similar story"; “Oh yeah [*sic*] I really liked to talk to others that went thru [*sic*] the same thing and the differences between us in particular”; and “I did *not* like how it varied so much between us also.”

These participant comments suggest that a post-surgery focus group meeting might well be a great idea to incorporate as part of the whole process of having a hip replacement. It would have two-fold benefits: (a) providing mutual support to the participants, and (b) creating a good opportunity for health personnel to acquire accurate feedback about the experience of patients. It could be part of a comprehensive treatment plan. This researcher believes that more would be gleaned from such a meeting than the present paper and pencil feedback sheet (see Appendix L).

One proviso concerns the issue of feedback that reveals that some people had a better experience than others. A participant reflected that “the tenor of the group is important and would need to be led by a facilitator.” The researcher believes that it should be a skilled, knowledgeable, and experienced facilitator. Bachkirova’s (2001) research using group process to explore the suggestion of lack of confidence as a psychological barrier in adult learning concluded that her “joined inquiry process” (p. 1; i.e., tutor and students together, lent itself to increased self-understanding and confidence; participants reported joy, meaningfulness, and intellectual stimulation, p. 13). With regard to one hip replacement research participant’s suggestion that a group meeting could be arranged prior to surgery, her consideration was that it “could go two ways: reinforce fears or encourage information gathering.” However, the pre-information education session at the hospital led by the case manager already seems to fulfill this function.

A Business Perspective on the Healthcare Process

As mentioned before, the newest hospital in this study had a comprehensive team-based approach to facilitating hip replacement patients. It received accolades from a participant, who happened to be a business consultant who researched her options for a surgeon, and was fortunate that he worked out of that hospital. Her comment was encouraging: "I'm blown away at how, er [*sic*] smooth it all seems to have gone:" The same participant mused "I was thinking for years, 'why can't the medical system treat patients more like customers' for the sake of care and quality and attention?" She added:

> The health system ***is*** a big business. So whether we want to call it that or not, there are some principals of business that apply, and I see them. I'm very optimistic about what they're doing there in that regard. (Ronnie, 2014)

She is referring to the hospital that managed her hip operation. What are these principles to which she is referring? This researcher asked her and also examined some business references to find the answer.

If the health system were to run based on successful business principles, it would "foster cooperation versus compliance, collaborative planning, decision making and corrective action versus autonomy and righteousness" (Ronnie, 2014). This patient's personal experiences of five years ago compared with now, color her comments. Her view is substantiated by Priest, Rachlis, and Cohen (2007), who noted that the two major changes required to better manage waitlists were: (a) to have physicians adapt to working in teams combining with others in their specialty, including healthcare workers, rather than working from an individual basis; and (b) having responsibility for waitlist management transferred to health authorities, which work with groups of surgeons, in preference to individual surgeons (p. 6). A systems-based, holistic approach, rather than a fragmented one proves to be the best approach (Committee on Quality of Health Care in America, Institute of Medicine, 2001; Rachlis, 2004). This researcher feels encouraged that, according to her personal experience (January 2011, and April 2014), and participant feedback in this dissertation, this systems-oriented approach has already been implemented in her own province of Canada. The corrective action part is still ongoing, but the rest of Canada is heralding the Alberta Hip and Knee Replacement Project “as a prime example of how relatively simple, common sense changes can solve seemingly intractable problems” (Rachlis, p. 25).

With regard to the overload on the health system, Martin, Goldstein, and Cialdini (2014) suggested that even small changes can tip the balance. They described the reluctance of patients to consult with less experienced doctors, and they upheld the benefits of these doctors, who are largely recent graduates from top medical schools with the most up-to-date skills and knowledge. Martin et al. recounted experiments in the United Kingdom (U.K.) that showed that interventions which promoted the credentials and skills of these new graduates (e.g., “I can get you in to see our new, highly qualified doctor who has just joined us from the university medical school,” Martin et al., 2014, p. 103), helped redress the demand on the U.K. medical system. Whether this would work in the surgical area is another matter. This writer definitely specified that she did not want an intern administering her spinal anesthesia, but an experienced anesthetist, and felt reassured to meet that person face-to-face just prior to surgery and relieved to find out that the anesthetist had had 20 years of successful experience.

Greater Reliance on Evidence-Based Care

Other business principles mentioned were respect for persons, and that all actions should be motivated by customers' needs. In order to know the needs, services should be based on a needs assessment. This is where up-to-date research comes in, including hearing the *voice,* of the *custome*r, as in the present research. Finally, in good business, one seeks measurable results and continuous improvement. Fourteen years ago, Wente, Seile, Waldemar, Uhi, and Büchler (as cited in Wente et al., 2003) published an article in German bemoaning their discovery that randomized, controlled trials were not being used on any large scale in surgical procedures, unlike in the case of medical therapies for surgical patients (p. 263). The latter was a second paper almost identical to the first one. In fact the authors found that only 3.4% of all publications in the leading surgical journals referred to randomized, controlled trials (RCT) for surgical processes. Such trials, naturally, would face problematic issues in application to humans, but the authors lauded developing RCTs, to provide an evidence-based approach to surgical work. Wente et al. (2003) praised the development of the Cochrane Collaboration, an international organization to help provide systematic reviews to ease the burden on busy doctors who need to keep up with the knowledge explosion. Scanning the on-line version of the *Canadian Journal of Surgery*, this writer discovered that there presently exists a program called Evidence Based Reviews in Surgery (EBRS), whose main objective is to assist practicing surgeons in their ability to critique clinical research articles. EBRS is sponsored by both the Canadian Association of General Surgeons (CAGS) and the American College of Surgeons (ACS). Although there is still room for improvement (Beer et al., 2009), it seems apparent that there has been increased effort to prepare surgeons to attain the gold standard of EBS (Urschel, Goldsmith, Tandan, & Miller, 2000).

Shortages of Services May Limit Consumer Selection of Quality Care

We are going to have a more informed, educated *custome*r than used to be the case, and in that instance, she/he will be more inclined to carry out research to find the best surgeon and the best hospital for treatment. As in business, the reputation for quality and service will precede the institution and determine the business it earns. This would be the ideal if demand did not outstrip supply. Unfortunately, in this Canadian Province it is not the case, and we still have long waiting lists for hip replacements. Are traditional physicians becoming overwhelmed by excessive caseloads, as more surgeons get into the carriage trade trend? This is an opportunity for further research. However, Priest et al. (2007) responded to the question: “Why not go private,” with these conclusions, based on the Canadian Health Services Research Foundation’s findings from peer-reviewed articles.

- Public sector wait times are longer when there is parallel for-profit health care delivery,
- Cream-skimming of easy-to-treat patients is common where there is parallel for-profit delivery,
- Care delivered in for-profit facilities is less safe, and
- For-profit care costs more. (pp. 12-13)

How do prospective patients select a surgeon, if in fact they have the opportunity, and the luxury of wait time that will not cause further deterioration of the hip? Greenwald’s cognitive response model (Kenrick, Neuberg, & Cialdini, 2009) shows that the power of persuasion lies in what the recipient of a message says to her/himself about the message, rather than the message itself. For example, Ronnie's self-talk after she heard her first surgeon's "come back in five years," was that he really did not care about her. She did not proceed with him even though he would be assumed to be an expert. Rather, she later heard good things about another surgeon from someone who had used him. Relevant to this are the brain-imaging studies conducted by Engelmann, Capra, Noussair, and Berns (2009), who showed that when people are unsure of themselves, they allow an authority's opinion to dominate all other factors. In Ronnie's view, someone who had had a successful hip replacement with a certain surgeon was someone whose opinion she could trust. In a way, the person was an "expert." In this writer's youth, one *never* questioned the doctor. He/she was the expert. In this day of enlightenment, people are more ready to question their doctor.

Patient Orientation and Support Services

The question of how much to tell prospective patients about the process they will go through is an interesting one. In the education system, the need for orientation of young children to their prospective next school by a visit ahead of time is commonly accepted, and research shows that orientation has helped mature students to transition to college (Scagnoli, 2001). Benefits have related to improved social interactions, increased involvement, an enhanced sense of belonging, and better retention. If an examinee can go and visit the room in which he/she is scheduled to take an examination before the test is due to be administered, more success will ensue because emotionally the person will feel less anxiety because he/she has gained some familiarity with the place and personnel (Baucom, 1994; Lungwitz et al., 2014; personal experience, 2000). Similarly, with venue familiarity and a pre-education class for a THR (Spalding, 2003). One research participant suggested that a tour prior to registration at her hospital would have been appreciated. Mater Misericordiae Health Services (2014) in Brisbane, Queensland, Australia, use volunteers to provide a variety of support services to their patients. Their website declares core "values of dignity, quality, mercy, care and commitment" (para. 1). The service is a legacy from the Sisters of Mercy, who founded the first mater hospital in 1906. Many hospitals around the world could learn from their model. Some hospitals in the United States already do pre-admission orientations (e.g., Arkansas Children's Hospital [ACH], 1999-2013). In this dissertation research, some participants wanted to know everything and others did not. A resolution for this dilemma might be to have a graded information package, accompanied by video access, in which patients could make their own decision on how much they wanted to be informed. Also, it seemed that the nurse case manager, if she/he were really conscientious, would be an ideal person to fulfill this informational role.

Past experience and knowledge contribute to a person's readiness and confidence for surgery. The research participant who was a doctor's daughter said she knew which questions to ask. This is important, and so an addition to the care package could be a series of questions to guide the patient as to which questions yield the information she/he would like to have. This notion is supported by Wojahn and Kaczkowski (2014), and the American Cancer Society (2014). Several of the research participants voiced that while talking with the interviewer, questions had emerged to which they did not know the answer and they intended to ask their surgeons at their next check up visit (e.g., had computer technology been used to place the joint, had their legs been measured and compared prior to the operation, and afterwards?). To find out if the interviewer had been an influence on this urge to ask more questions of the surgeon, this interviewer asked one of the participants who said she had questions an arm-length long: “Would you have had a list that long if you hadn’t actually spoken to me? Did I have any influence on that?” She replied, “No, you didn’t have any influence on that. Good point!” There could be other participants on whom the interviewer was an influence (e.g., the question, “Are your legs level?”). Participants may not have ever thought of this if the question had not been asked. Because part of grounded theory is allowing more information to accrue, and more questions to be asked based on what is emerging, this researcher does not feel that such a phenomenon invalidates the research.

Uneven Length of Legs

An issue of importance in hip replacements is the matter of getting the hips level and the legs of equal lengths after the surgery. As indicated in Table L2 (see Appendix L) no participant was aware of having their legs measured pre-and post surgery and no one had a vertical X-ray, which appears to be the only way to really ascertain if the hips are parallel. Florida medical malpractice lawyer, Jim Dodson (2014) confirmed that “research has shown that measurements in the absence of X-rays are not sufficiently accurate, although some physicians continue to rely on these alone” (para. 4). He also advised that other cautions such as taking an extra pelvic X-ray during the operation, to assist the surgeon in checking the accuracy of his/her measurements, and making adjustments accordingly, are also sometimes not performed. According to his research, a leg discrepancy of 1.5 cm or longer “is considered by many orthopedic hip experts to be an unacceptable complication caused by the surgeon’s negligence and may be grounds for a medical malpractice claim” (para. 2). Not only this, but leg lengthening of less than 1.5 cm can also lead to complications and a longer recovery time, and can be reasons for a malpractice suit. Wylde et al. (2009) reported that 30% of a group of 1,114 patients who had received primary hip replacements five to eight years previously, perceived a leg length difference and had poorer functional outcome as a result. This statistic is echoed by other researchers (e.g., Edeen, Sharkey, & Alexander, 1995; Konyves & Bannister, 2005)

Apart from hip surgery resulting in uneven legs for some, Kendall (2009), who studied the “Short Leg Syndrome phenomenon" using peer reviewed journals, found that there had been an escalation of hip replacements. She wondered if one reason for this might be unidentified uneven legs. Do certain activities result in arthritis affecting one hip more than another (e.g., pivoting on a certain foot in some sports, landing from jumps on a certain leg)? Are these new activities in the last century? How many people are born this way? Even a quick literature search that located a research article on hip replacement in dancers revealed that all unilateral osteoarthritis for this group was in the left hip (Buyls, Rietveld, Ourila, Emerton, & Bird, 2013). In view of Denslow, Chace, Gardner, and Banner's (1983) reported 66% of persons in the general population having a shorter *right* leg, it would be worth further research, both to find the answers to these questions, and to see if there was a connection between this anatomical discrepancy and the need for a hip replacement (i.e., have there been more right hip replacements or left hip replacements?).

If persons were measured accurately before, and after surgery, would there still be an apparent short leg because of pelvic obliquity dynamics brought about by months of walking with a hip girdle out of alignment as a result of arthritis? It also seems reasonable to assume that uneven hip alignment after a hip replacement could lead to *Short Leg Syndrome*, well named as it incorporates a complexity of factors. When weight-bearing is predominately on one leg the following symptoms may occur:

> Neurological preferences of right-sided motoric dominance and left-side vestibular dominances, scoliosis, initiated from a stuck atlantoccipital joint, to the sacral base or vice-versa, psoas syndrome, ankle dysfunctional adaptations, knee strictures, sleepy neurons on one side of the body, muscle spasms, postural deformity, lurching gait, temporomandibular problems. (Kendall, 2009)

There is certainly here a need for more research in this area, as it does seem a significant problem. Two of the participants (40%) affirmed an uneven leg length after their surgery. Wylde et al. (2009) acknowledged that a weakness in being able to study leg length discrepancy (LLD) after hip replacement surgery was a lack of "clinical or radiographic assessment for all patients who reported LLD, [meaning] that the etiology could not be determined in all cases" (para. 16). In addition, their postal survey neglected to ask patients which leg was longer or shorter, the operative one or the contralateral one. Frueh and Hozack (2005) acknowledged that it "remains a vexing problem to both patient and surgeon" (p. 127).

Reclaiming Self after Hip Replacement

As has been touched on previously, reclaiming self appeared to be the most important aspect of healing from a THR. The previous self could participate in sports and activities, was without pain before the onset of arthritis, and was of a more serene mind. Research in the area of illness and disability endorsed this concept (Charmaz Calkins, 1973; Leidy & Haase, 1999). As indicated previously, some participants learned to accept that they could not do all the things that they had done before (e.g., could not run, but they had appreciation for what they *could* do, “I can still walk fast” [Kate], and as Karen stated, it’s a matter of “redefining success”). They accepted reality and still valued themselves, reflecting inwards. So they could have satisfaction and happiness, even if some aspects of their previous lives had to be discounted.

Discounted is a term Charmaz (1973, p. 104) coined to refer to a person feeling discounted and also the discounting behavior of others toward disabled people. Similarly, members of the present research sample felt discounted when asking questions of the medical staff, “Will I be having a spinal or a general anesthetic”(Debbie, 2014)? Instead of a definitive response, she received what she termed a “patronizing answer” that she should not worry her head about it. “Did you measure my legs prior and post the hip replacement surgery” (Vivian, 2014)?” She did not get an answer and felt “huffed off.” The latter participant was 11 months post-surgery, but still reported an intermittent limp, and that she could only walk three quarters of a block before fatigue had her resting on a convenient bench. Walking through the mall was a slow process. This, for a previous national level skater, who still wanted to skate recreationally! Will she be taken seriously at the rink, as she tries to construct a favorable self-view in reclaiming her skillful coaching identity, or will she feel “discounted” by people offering to put her skates on for her?

This writer remembers having to ask total strangers on the street in a strange city to tie her shoelaces for her, as she could not safely bend down to do them up herself. She managed to laugh it off and make a joke, but there’s a distinct throwback to feeling like a child again. Also, a slight feeling of actually enjoying the nurturing, regaining some of the benefits of childhood! Time and hard work are required to reach the final stage of recovery from a THR, the stage of recovering areas of self that were “discounted” by disability and loss of function, and in addition, to reclaim one’s credibility as a person who can ask credible questions.

Frentz (2009) used the term *shape-shifting* in describing his recovery from a hip replacement. He was describing status shifts between the doctor-patient hierarchy, which he achieved by using humor, but this can equally be true for status changes that may occur between a disabled recovering hip replacee and members of the family or the public. All the participants in the study mentioned the feelings of vulnerability they went through at having to have personal needs taken care of by others. All of them queried whether or not this operation would be worth it because paramount to them was to be able to reclaim the self they knew, the avid walker, the cross-country skier, the equestrian, the curler, the gardener, and in the writer’s case, the grass-hockey player.

Frentz (2009) described in his ethnographic study his intense embarrassment at having to have his ex-student clean up his unavoidable toileting mess up. Mortified, he appreciated her empathic response and recognized in an "aha moment" that instead of the binary opposites, such as “cyborg/human, professor/student, old/young, man/woman, ill/healthy” (p. 838) mentality, we could see people as human beings managing an awkward moment, and that in doing so, we could be more concerned with humanity’s heart than the differences of status that the world labels. Frentz tells how “old, dependent and unmasculine” he felt, “just an injured, fragile, senior citizen who needed help” (p. 839). All participants in this research felt the same sort of fragility during their recovery. Ronnie would be enthralled with Frentz’s attempts to “skewer [his] own academic ego in reconfiguring [his] relations with the medical professionals who replaced [his] hip” (p.

841), only she would be looking for the reverse (i.e., the surgeon who could skewer his superiority in order to treat the patient as an equal).

Posttraumatic Growth

As presented in the discussion under Pattern Two, there was evidence of posttraumatic growth within participants, but more so when a longer time had elapsed since the surgery. In the aftermath of surgery, patients were just preoccupied with getting well, and also thankful for surviving the surgery. The exception to this was increased empathy for those who are permanently disabled, for example, those who have suffered spinal cord accidents and cannot feel their legs. As pain diminished and the participants experienced support and increased hope for regaining their previous active lives, they reflected more in the following months. When the opportunity presented itself, 9 to 16 months later, to report on any changes they felt in themselves, they recognized these changes. This is in keeping with Sears, Stanton, and Danoff-Burg's (2003) hypothesis that "more time to process a stressor facilitates posttraumatic growth" (p. 494), especially when there is an intensity of engagement initially with the stressor. In all cases of the hip recipients, there was cetainly intensity of engagement when approaching the operation, the fears sociated with it for most participants, and the pain mangement.

Ronnie talked of appreciation, and "pay[ing] it forward," and a greater spiritual conscience. Kate mentioned accepting her limitations, and that even if she could not run now, she could walk fast. Vivian had the feeling that she had a new lease on life, and the expressed belief that "anything was accessible and within reach." Debbie had more trials because of other comorbidities after her operation and expressed that she had "no major revelations," but did specify that she did "value better the quality time [she] had left here on this earth." Karen described becoming more "gentle" with herself, and "redefining success." Her ovservation was that this process "meant inward markers of achievement and satisfaction versus comparing [herself] to those around [her]." It would be good to touch base with these participants in another year's time and see if they agree with others that view the struggle with adversity "as a catalyst for personal growth and transformation" (Sear, Stanton, & Danoff-Burg, 2003, p. 487).

Limitations

The fact that this writer has had a THR within the last three years could have been a disadvantage. It could have been a limitation if she had let personal bias color her interpretation during the analysis of participants' interviews and favored presenting her own perception instead of that of the participants. A safeguard was her own awareness of this possibility, her own reflective journal and memos regarding her own process through this research, and her bracketing of previous experience when collecting data. This researcher was very mindful of her words and actions during the interviews, engendering a relationship of equity so as to avoid any problems of reactivity. Most of the primary interview times the researcher was predominantly a listener, simply using questions for clarification. As the project advanced, more questions arose when trying to arrive at the core category (see Definition of Terms section).

Another limitation included the time restraints of the study, which were occasioned by restricted time on finishing a dissertation. Recovery of a THR can take up to two years (G. Abelseth, personal communication, December 2011). This study only encapsulated the experiences of the first month or so. A more valuable research plan would be to increase the length (e.g., to interview participants at three months, six months, 12 month, 18 months, 24 months, and 36 months post-surgery), in order to capture changes in experience over time. Because it took an extended time to secure the participants, and because of their waiting times for their surgery, and the inclusion of a post-surgery group meeting, by the time of the meeting occurred, post-surgical time ranged from 8 months to 5 weeks. The differential in post-surgical recovery time between participants at the group meeting was a variable that could have affected their perspectives. Those whose surgery was more distanced had it in their capacity to reassure others in the recovery process, or disconcert them. The former was the norm though, not the latter.

Limited resources meant that only one researcher, the present writer, was used, whereas other paid personnel checking the writer's analysis would have increased the rigor of the study. The researcher considered co-opting peer reviewers who might volunteer their time, but the magnitude of the data precluded it. The relatively small number of participants escalated the chances of self-selection. This can lead to participant bias because those patients who are more motivated to manage their healthcare, or who are better educated and therefore see the importance of research, might be over-represented.

A qualitative study with small study participant size and lack of geographical variety can lead to a lack of transferability unless enough rich description avails the reader to judge how her/his own situation matches the research environment. Therefore, it was important to provide this, but still maintain a balance between providing detail and yet being able to use abstraction to arrive at a theoretical construction that fit the data and was relevant. Again, use of volunteer peer reviewers would have been very helpful in achieving this. In addition, it was important to detail the exact procedure used in the collection of data and its analysis in order that other researchers could replicate the study and compare findings if they so wished. Important to this was also a reflexive discussion of process (Hall & Callery, 2001).

Although numbers were few (five) in this grounded study, only one new idea came up in the final participant interview, and it was the ideas about running the health system like a business. A limitation also was that two of the participants had to be interviewed retroactively, early post-operation, rather than pre-operation because they only heard about the research after their operations and they were keen to be part of it and we had small numbers. Another limitation is that participants are confined to a localized area and therefore the results may not be generalized to areas outside of that. However, the literature search did incorporate areas worldwide and it seems likely that results could be more widely generalized. Similarly, there was a relatively narrow band of participants age-wise, the 40-70 age range, and gender wise, just women and by coincidence, just Caucasian. Again, results might not be able to be generalized to other age groups, genders or cultures.

Delimitations

The benefits of this study related to the design, which allowed the voices of participants to be heard via the use of in-depth open interviews, with sufficient time allowed for participants to fully explore their feelings and thoughts about recovering from a THR. This was a diversion from the norm, which, as has been previously mentioned, resides around evaluating patients' recovery through survey-type, scaling questions bounded by ceilings and generalities normally completed in the presence of medical facilities where patients may not feel free to be completely honest, but inclined toward pleasing the medical authority figures. See Appendix O for an example of an Alberta Health Services Patient Feedback Survey.

This study will fill a gap in the literature as it is directed at a younger set of patients than has normally been examined, the 40-70 year-old range, and those who are interested in staying active. This is particularly relevant as the boomer generation, who demand perpetual youth, reach retirement age. Findings may be helpful to the medical establishment.

As mentioned already, although the researcher's experience of a THR could have been viewed as a disadvantage, it was also an advantage in that it enabled her to have empathy and build rapport with her participants. In addition, Glasser (2000b), who labels everything as data, counsels researchers who have similar experience as their participants to complete field notes on themselves "as just more data to constantly compare" (para. 26), regarding the researcher as just another participant, adding to the number of incidents reported.

Benefits of the group meeting were that it enabled a sharing of knowledge and an encouragement to be proactively assertive in asking questions of health personnel. It gave participants more insight into what they could anticipate during their recovery, and the camaraderie experienced was uplifting to them and intervened in the isolation factor that most of them reported.

Although possible limitations in generalizability were listed under the limitations section, if we were to look at things from the perspective of Maslow's hierarchy of needs, an argument could be made that results could be generalized in so far as all humans are theorized to have the same motivational basic needs. Briefly, Maslow (1954, 1970; McLeod, 2007) theorized that when lower level needs (e.g., physiological, safety, belonging, esteem) are met, then higher needs could be achieved, namely self-actualization. When the surgical patients can again recognize themselves as the persons they used to be, one could assert that they have regained their identities; they are actually congruent with their idealized selves.

Conclusion

If one were to encapsulate a successful hip replacement experience in a single sentence it might read as follows: I declined down the path of physical disability, pain, and the grief of losing my sense of self, faced a fearful ordeal of uncertainty while allowing a defunct body part to be removed, and embraced by the support of family, friends, and health professionals. I survived to reclaim the old me, owning that in the process I recognized my own tenacity and strength. As previously mentioned, the process has parallels with the birth experience. The primary contributions are the nature and strength of the fetus, initially at one with the mother; the reduction in the physical activity capabiities of the mother as the pregnancy develops, the tiredness and fatigue as the pregnancy goes on, and the anticipation of the wait; the support of the environment of the womb and family; the pain experienced as part of the labor as the baby (which is like a foreign body) is ejected from the body; the relief when the operation is over and one finds oneself still alive; and the assistance of the medical system, both pre- and post-birth. The *why* of having the hip replacement is to resolve pain and disability, and the *how* has been described in the *conceptual* section. If there is one core to be chosen, it is the reclaiming of self. There were no exceptions to this core component. The substantive grounded theory that emerged was “Rebirth, regaining a level playing field.” The latter term not only indicates the idea of having equal opportunity with others again both physically and psychologically, it also signifies the importance of the active lifestyle to this group of women.

Recommendations

In summary, this research revealed a number of areas indicative of needing more exploration. In terms of care received, things have not altered from that reported in the literature search of this dissertation. Although the participants, in some cases, praised their hospital care, all of them found nursing presence missing in certain situations and some participants felt disparaged by health care providers. Therefore, there is a need for more education, particularly of nurses in this respect. In addition, there are persons with little home support who need a more extensive homecare by people with greater competence, preferably who are able to speak the language of the patient. This research showed that care was ill funded to meet demand. More government support is needed in this direction.

The researcher could find no evidence that increased attention was being paid to the topic of leg disparity. If there were, she suspects that we would not have hospital personnel looking puzzled at being asked the question about it or “huffing” people off, rather than responding. At least two participants in this study wondered whether it was a deliberate ploy to avoid legal ramifications. Measuring legs before and after hip replacement and taking vertical X-rays should be commonplace but apparently it is not (Dodson, 2014; Konyves & Bannister, 2005) McFadden (2014) stated that “studies show leg length inequalities are a preventable mistake that account for nearly five percent of all medical errors" (para. 5). Rhodes, Mansfield, Bishop, and Smith (1995) called into question the validity of prone leg length measurements compared with standing X-rays when investigating leg length discrepancies and advised that other methods needed to be developed and evaluated. Likewise, Hanada, Kirby, Mitchell, and Swuste (2001) found that there was greater reliability in using body-standing position for measurement.

Talis et al. (2008) shared how asymmetric leg loading after a unilateral THR can persist for an extensive time and create risks for development of osteoarthritis in the non-operated leg (p. 424). In addition, Swaminathan, Cartwright-Terry, Moorehead, Bowey, and Scott (2014) found that uneven leg loading likely led to early fatigue in standing situations and poorer outcomes for THR candidates. The least that could be expected from surgeons is a pre-operative discussion with their patients about the possibilities of a post-operative leg length discrepancy, and how to address it (Frueh & Hozack, 2005). Berry and Lieberman (2012) provide a comprehensive chapter on leg length inequality in the edited book *Surgery of the Hip*.

Positive feedback was received about advances in a collaborative approach between healthcare workers and departments. Alberta Hip and Knee Replacement Project was lauded for its comprehensive all-embracing team approach. One hospital was exceptional and reflected performance which appeared to be based on well-grounded business principles of human relations, as promoted by Dale Carnegie (1936/1981). A recommendation is that other hospitals seek direction from the more successful ones. Part of this provision is to more aptly supply information and keep communication channels open so that patients can find the answers swiftly to their questions. Quality case nurses assisting surgeons have been shown to be very competent in this area but we need more of that quality.

The post-surgery focus group proved a positive experience for participants who heartily endorsed the provision of more of these. Apart from dispensing information, the group provided a reduction in feelings of isolation and comfort for members to be able to share experiences with others who can truly relate and understand the experience a patient has gone through.

Lastly, it seems odd that there was not more support for research locally in the field by those who operate in orthopedics. It might be worthwhile to pursue this issue and try and discover why that is.

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Appendix A1

Research on Your Hip Replacement Experience

Are you an active woman between 40 to 70 years of age?

Are you about to have hip replacement surgery?

Would you participate in our study about your experiences?

What would you have to do?

1. **Participate in a 60 minute interview in your home before your surgery and one other interview about a month after your surgery**
2. **In the interval between you will be asked to keep a daily journal**
3. **You will be invited to take part in a group interview with other women who also had hip surgery**

What are the benefits of taking part?

Talking about your experience may help your healing process
You may be helping others who have the same treatment later
You will help health professionals better understand patient concerns

Your identity will remain completely confidential
Contact: Val Kendall at 403-278-7305 or email at valken@telus.net

Thank you for your consideration

This research has been approved by the Saybrook Institutional Review Board,
ID-13-S-VKendall

Appendix A2

Research on Your Hip Replacement Experience

Are you an active woman between 40 to 70 years of age?

Are you about to have hip replacement surgery?

Would you participate in our study about your experiences?

What would you have to do?

4. **Participate in a 60 minute interview in your home before your surgery and one other interview about a month after your surgery**
5. **In the interval between you will be asked to keep a daily journal**
6. **You will be invited to take part in a group interview with other women who also had hip surgery**

What are the benefits of taking part?

Talking about your experience may help your healing process
You may be helping others who have the same treatment later
You will help health professionals better understand patient concerns

Your identity will remain completely confidential
Contact: Val Kendall at 403-278-7305 or email at valken@telus.net

Thank you for your consideration

Dr. James A. Rankin NP PhD	Val Kendall PhD Candidate
Principal Investigator	Co-Investigator
Professor, Faculty of Nursing, University of Calgary	Faculty of Psychology, University of Saybrook, San Francisco,CA.

This research has received ethical approval from the University of Calgary's Conjoint Health Research Ethics Board ID REB14-0138 and from Saybrook Institutional Review Board ID-13-S-VKendall

Appendix B

Community Resources for Displaying Recruitment Notices

1. Private Chiropractic clinics
2. Private massage clinics/Spars/Wellness Centers
3. Private physiotherapists
4. Pain management centers
5. Naturopath facilities
6. Acupuncturists
7. Orthotic providers
8. Sports Facilities
9. Churches
10. Swimming pools
11. Calgary Red Cross
12. Age 55+ group residencies
13. Private Surgeons Offices
14. General medical practitioners, offices
15. Seniors Clubs/Centers
16. Grocery Stores (Co-op, Sobeys, Safeway)
17. Hardware Stores (e.g. Rona, Totem, Home Depot)
18. Rehabilitation Centers (e.g. Care West)
19. Home Care Appliance Providers.
20. Community Associations Notice Boards
21. Seniors Action Group
22. Life Transitions Association

Appendix C

Participant Selection Criteria

These questions will be asked of the prospective participant at the first introductory telephone call to ascertain if she meets the set criteria before accepting her for the research.

1. Is this your first replacement? Circle Yes No
2. What is your age?______________(must be between 40-65) DOB___________
3. Date allotted for THR if known ________________ _____
4. Presence of comorbid conditions?
   (a) Diabetes?____
   (b) Previous stroke?____How long ago?__________ (6 months clear?)
   (c) Heart disease or HBP?____
   (d) Bariatric surgery in the last 6 months?____
   (e) Seizures?____
   (f) Cancer?____How long ago?_____ (6 months clear?)_______
   (g) Depression within the last 6 months? ____
   (h) Anxiety disorder?____
   (i) Are you overweight?____By how much?________________________
   (j) Other significant health problems e.g. kidneys, respiratory, gastric, deep vein thrombosis, etc.?____

____

5. Have you an uneven leg length?____Which leg is longest, the hip to be operated on or the other?
   Operative side_____ Non-operative side_____
6. Do you consider yourself to be an active person, or used to be before your hip pain intervened? Yes No . If your hip prevents you now when did that occur_______________
7. Describe in what way you are/were active?

____

Researcher Accepted______________________.Declined_________________

Date:______________________________

Appendix D

Explanation of the Study

Purpose

This doctoral study is conducted as part of the final requirements for the Doctor of Philosophy (Ph.D.) in Psychology at Saybrook University, located in San Francisco, California. The primary purpose of this study is to explore how younger, active women (i.e. between the ages 40-65), recover from a total hip replacement (THR).

Procedures

After volunteers have been screened by telephone as to their suitability, received a verbal account of the planned procedures, and had an opportunity to ask clarifying questions, if they are still interested in participating, the researcher (Valerie Kendall) will arrange an interview time convenient to each one during the week before their scheduled surgery, and as close to the surgery as possible. The location will be at the volunteer's home unless she prefers to have it elsewhere, in which case it can be at the researcher's office. Before the interview begins the participant will be asked to read carefully through the written outline of the procedure and the informed consent form and ask any questions, to which the researcher will respond. If the volunteer is still willing to participate she will be asked to sign the consent form and we will commence the interview. Interviews will be videotaped. At the interview conclusion, another interview date and venue will be made with the participant for one month after her surgery, and the participant will receive a journal in which to write her observations, thoughts, feelings or drawings throughout the research period (1 month). Confirmation of the convenience of the second interview will be ascertained through a courtesy telephone call one week before the scheduled appointment, and all being well the second videotaped interview will be completed as scheduled. At that interview the participant will provide the researcher with the journal for use in the analysis. After the analysis of the data is well underway, a videotaped group interview will be scheduled at the researcher's office. Participants will be invited to attend in order to facilitate analysis by adding information or resolving ambiguities the researcher may have. The researcher will present her analysis and participants, who will be using previously self-selected pseudonyms for reasons of confidentiality, may provide insights about the emerging model from their perspectives. At that point journals will be returned to the participants. There will be no remuneration for this volunteer work. Videotapes will be stored in a locked cabinet to which only the researcher has access. They will be erased at research completion, which could be up to 5 years, as frequently researchers continue to use data in further research on topic with a view to publication. No identifying information will be revealed to anyone other than the researcher.

Discomforts and Risk

Your participation in this research could bring forth unpleasant memories and/or feelings due to your disclosure of your personal experiences of recovering from a total hip replacement (THR). Reactions may range from sadness to anger. In the event you encounter emotional discomfort, this researcher will provide a referral to a qualified counselor and finance 2 free counseling sessions. Participants may choose to discontinue at any time without consequence.

Benefits

Participants in this study will have an opportunity to share thoughts and feelings about their recovery from a THR. Information from this study may be published in scholarly journals in hopes of identifying what aspects or forms of support could improve the healing experience of younger, active women. A model of recovery from THR by younger, active Canadian women will be added to the empirical literature while safeguarding the identity of participants.

Time Required

Each of the individual interviews will take approximately an hour. The group interview may take up to 2 hours. Hence, a total of 3.5 hours will be required. Journal writing will be a daily experience, as decided by the participant during the first month of the recovery period.

Valerie Kendall

Appendix E

Informed Consent for Adults to Participate in Research

Purpose:

The purpose of this research is to discover the qualitative healing process of active women from 40-65 years old who undergo their first total hip replacement. This project is being conducted by Valerie E. M. Kendall, who is a graduate student of Saybrook University, as part of the dissertation requirement.

Principal Researcher:

Valerie E. M. Kendall, M.A., R.Psych.
200 Deerbow Circle S.E.
Calgary, AB. T2J 6J2
Canada
403 278 7305
valken@telus.net

Procedures

[1] This study involves a brief screening conversation by telephone, an individual pre- and one month post- hip surgery interview in your home, the keeping of a daily diary over this period, and a group interview at Catholic Family Services office, 250, 707 – 10Ave SW, Calgary, AB. T2R 0B3 on completion of analysis of all participants' interviews.

[2] Completion of these procedures will require approximately ten minutes for the telephone screening, one hour for each of the two individual interviews, and up to one and a half hours for the group interview, for a total time of approximately three hours 45 minutes. It is hard to determine when the final group interview will be able to be completed, as I cannot control the rate at which I may be successful in acquiring volunteer participants, or unexpected changes in their operation schedules, but I hope to conclude it within six months.

[3] The screening telephone conversation includes seven questions to determine volunteer suitability. The first interview will be the day before your operation or as close to it as possible and will have a semi-structured format, i.e. a set of 13 open questions used as a guide by the researcher, Valerie Kendall, to explore your feelings and thoughts about the upcoming operation. At this time you will also receive your journal to record your daily impressions of your healing process for the next month. The second interview will follow the same format as the first, but inquiring of your impressions of your recovery process. At this time I will collect in your journal. I will return it at our final group interview. The group interview will be at Catholic Family Services office, 250, 707 – 10 Ave SW, Calgary, AB. T2R 0B3. and will include approximately nine other recent recipients of a total hip replacement, who, with you, will share their feedback on my provided summary of my findings from analyzing the interviews and diaries, and add

any final reflections now that more time has elapsed since the hip surgery. Participants will use pseudonyms they select to protect their anonymity. Your wishes regarding any question you do not want to answer will be respected. With your permission, all interviews will be videotaped for ease of reviewing both non-verbal and verbal communication and the process of analysis. Videotapes will be erased on completion of the analyses

Possible Risks and Safeguards:

This study is designed to minimize as much as possible any potential physical, psychological, and social risks to you. Although very unlikely, there are always risks in research, which you are entitled to know in advance of giving your consent, as well as the safeguards to be taken by those who conduct the project to minimize the risks. Those risks include:

- during interviews, you may be reminded of positive or negative experiences that you may have had related to this surgery (see following pt. 1 for safeguards).
- loss of -confidentiality. This could occur if coincidentally you happen to know someone in the group interview. Group participants will be required to keep the confidentiality of all persons in the group, and sign a document to this effect (*Appendix H*)
- while attending the group interview, which is in a location away from your home, you could slip while walking to and from your car, or while entering the building. A family member or friend must accompany you to and from the meeting to ensure your safety, and there are no steps to climb.

I understand that:

[1] If I experience very disturbing negative emotions as a result of participation in any of the interviews Valerie Kendall will be available in the moment for support but will recommend that if I have health insurance coverage, I immediately contact my provider to attend. Failing this she will provide referrals and pay for up to two visits to a qualified mental health provider of my choice.

[2] My participation shall in no way have any bearing on the quality of my surgeon's care or deprive me of all services presently received in the protocols set up by *The Alberta Hip and Knee Clinic* (AHKC) in Calgary, Alberta.

[3] Although my identity shall be known to the Principal Researcher all identifying information shall be removed at the time of transcription of the videotape recordings.

[4] My responses to the questions will be pooled with others and all identifiers, such as names, addresses, employers, and related information that might be used to identify me will be deleted, and I will select my own pseudonym to use in the group interview.

[5] This informed consent form will be kept separate from the data I provide, in a locked file for five years, known only to the Principal Researcher after which it will be destroyed.

[6] The data collected in their raw and transcribed forms are to be kept anonymous, stored in a locked container accessible only to the Principal Researcher for five years, after which it shall be destroyed.

[7] Transcribed, anonymous data in the form of anonymous spreadsheets, anonymous response listings from all participants to each question on a confidential flash-drive, together with a back up copy, will be kept indefinitely for future research in a locked file cabinet.

[8] All the information I give will be kept confidential to the extent required by law. The information obtained from me will be examined in terms of group findings, and will be reported anonymously.

[9] There is to be no individual feedback regarding interpretations of my responses. Only general findings will be presented in a Summary Report of which I am entitled a copy, and my individual responses are to remain anonymous.

[10] None of the personal information I provide associated with my identity will be released to any other party without my explicit written permission.

[11] If quotes of my responses are used in the research report for the dissertation, as well as any and all future publications of these quotations, my identity shall remain anonymous, and at most, make use of a fictitious name.

[12] I have the right to refuse to answer any question asked of me.

[13] I have the right to refuse at any time to engage in any procedure requested of me.

[14] I have the right to withdraw from participation at any time for any reason without stating my reason.

[15] I have the right to participate without prejudice on the part of the Principal Researcher and other persons assisting the Principal Researcher.

[16] It is possible that the procedures may bring to my mind thoughts of an emotional nature that may upset me. In the unlikely event that I should experience emotional distress from my participation, the Principal Researcher present shall be available to me. She shall make every effort to minimize such an occurrence. However, should an upset occur and become sufficiently serious to warrant professional attention, as a condition of my participation in this study, I understand that a licensed mental health professional will be made available to me if I do not already have such a person. The Principal Researcher will refer me and pay reasonable costs up to the first two visits

[17] By my consent, I understand I am required to notify the Principal Researcher at the time of any serious emotional upset that may cause me to seek therapy and compensation for this upset.

[18] I will receive a copy of this signed consent form for my records.

Regarding any concern and serious upset, you may contact the Principal Researcher at: 403 278 7305. You may also contact the Research Supervisor of the project, Dr. Zonya Johnson at 1-925 254-2027 or email: zjohnson@saybrook.edu Should you have any concerns regarding the conduct and procedures of this research project that are not addressed to your satisfaction by the Principal Researcher and her Research Supervisor, you may report and discuss them with Dr. M. Willson Williams (SIRB@Saybrook.edu), the Director of the Saybrook Institutional Review Board.

Possible Benefits:

[1] I understand that my participation in this study may have possible benefits. I may obtain a greater personal awareness, knowledge, and understanding of the recovery from a total hip replacement, and gain relief from sharing my experience with others who have experienced the same procedure.

[2] Through future communications and possible applications of the findings of the research, indirectly my participation may bring future benefits to others who have the same treatment.

[3] My participation may enable the Principal Researcher and others working in the topic area to contribute to knowledge and theory of the way younger active women recover from a total hip replacement. Hence, personnel in the medical field such as nurses, physiotherapists, physicians, surgeons, and other carers, in many cases family members, may have a clearer idea of how to best assist patients through their recovery phase.

Summary Report:

Upon conclusion of this study, a summary report of the general findings will become available. If you would like a copy of the report, please check the box below and provide the address to which you would like it sent (your email or postal address):

☐ I would like to receive a copy of the Summary Report

Postal or Email Address:

____

____

Consent of Principal Researcher

I have explained the above procedures and conditions of this study, provided an opportunity for the research participant to ask questions, and have attempted to provide satisfactory answers to all questions that have been asked in the course of this explanation.

____

Principal Researcher Signature   Date

Valerie E. M. Kendall

Principal Researcher Name

Consent of the Participant

If you have any questions of the Principal Researcher at this point, please take this opportunity to have them answered before granting your consent. If you are ready to provide your consent, read the statement below, then sign, and print your name and date on the line below.

I have read the above information, have had an opportunity to ask questions about any and all aspects of this study, and give my voluntary consent to participate.

Participant Signature Date

Participant Name

Appendix F

Videotape Release Form

I,______________________________, agree to be videotaped as part of my participation in the study, *The Lived Experience of Younger, Active Women in Recovering from a THR*, conducted by Valerie Kendall. I understand that there will be two individual tapes made and one group interview tape. The videotapes will not have my name on them and will only use my chosen pseudonym and the date of the interview for identification purposes.

I understand that the videotapes and any transcription will be kept in a secure, locked location and then destroyed according to Saybrook Institutional Review Board guidelines (i.e., five years after completion of the study). Information collected as part of the study will be used in the compilation of a Dissertation as well as in other future publications and professional presentations prepared by the researcher. No part of the videotaped interview will be published, as the tapes are for the sole purpose of ensuring accuracy in the data analysis process.

I grant the Principal Researcher, Valerie Kendall, a doctoral student at Saybrook University, permission to videotape me during participation in the interviews. I understand that I will receive a copy of this signed consent form for my records.

Participant Signature Date

Participant Name

Participant Pseudonym for the Study Date

Principal Researcher Signature Date

Principal Researcher Name

Appendix G

Consent for Confidentiality in Group Interview Videotaping

I,______________________________, agree to keep confidential the identities of all other members of the group videotaped as part of my participation in the study, *The Lived Experience of Younger, Active Women in Recovering from a THR,* conducted by Valerie Kendall, a doctoral student at Saybrook University. Although not planned, I understand that by coincidence, it is possible that a person I just happen to have met before might be in the group e.g. we might have the same surgeon and have met in his/her office, or in the hospital. I promise that I will only refer to her by her pseudonym and I will be careful to protect her anonymity at all times, now and in the future. I understand that I will receive a copy of this signed consent form for my records.
I am aware that I can be held legally liable for any breach of this confidentiality agreement, and for any harm incurred by individuals if I disclose identifiable information.

____
Participant Signature Date

____
Participant Name

____
Participant Pseudonym for the Study Date

____
Principal Researcher Signature Date

____
Principal Researcher Name

Appendix H

Question Guide for Individual Interviews

Interview 1 (Pre-op.)

Thank you___________________________ for agreeing to this interview. If there is any question that you don't feel comfortable answering, please don't feel that you have to answer it. What we talk about will be confidential.

1. Tell me how you came to decide to have a hip replacement.
2. When did you first notice problems with your hip?
3. How was that affecting your life?
4. How are you expecting your life to be affected after the operation?
5. What do you know about hip replacements?
6. What are your thoughts and feelings about the procedure that's coming up?
7. How have you prepared for this?
8. Who, if anyone has influenced you in making this decision? Tell me about how he/she influenced you?
9. Could you tell me about the events that led up to you being here today?
10. What's been the most difficult part of this whole thing for you?
11. How is your balance? Can you tell me more?
12. Is there anything else you'd like me to know?
13. Have you any questions?

Thank you. I wish you all the best for your operation.

Interview 2 (Post-op)

Thank you___________________________ for agreeing to this interview. If there is any question that you don't feel comfortable answering, please don't feel that you have to answer it. What we talk about will be confidential.

1. How are you feeling today?
2. Now you can look back at the op., what are your thoughts and feelings about it?
3. What's been the most difficult part of this whole thing for you?
4. If there were something you'd like to change about this experience what would it be?
5. How have you aided yourself in your recovery? What sort of things have you done?
6. Is there someone who has been helpful in your recovery? If so what has he/she done that has been most helpful to you?
7. How is your balance? Can you tell me more?
8. Is there anything else you'd like me to know?
9. Have you any questions?

Thank you so much. I wish you all the best in your continued recovery.

Appendix I

Theoretical Group Interview Question Guide

Participants seated in a circle.
Thank you all so much for coming. I do appreciate your efforts. I realize it can be a challenge to get out. You've all selected pseudonyms to ensure your confidentiality, and maybe we can go round and introduce ourselves. I want to give you an overview of my analysis of the data you've supplied me and give you an opportunity to clarify things, correct me if you think I'm on the wrong track, or it's possible you may perceive things differently based on your background and experience, or time that has elapsed since your hip surgery. In constructing a theory of healing from THR I'd like to check if there are further meanings of this phenomenon or experience that you have now you've had more time to reflect. When you do speak please give your pseudonym name first (This will help in transcription of the tape later).

After giving participants opportunity to speak freely about their responses, the following open questions may be used if appropriate (adapted from Charmaz, 2006, p. 31).

1. Tell me about how your views may have changed since having the THR surgery.
2. How have you grown as a person since the THR? Tell me about your strengths that you discovered or developed through this period.
3. After having these experiences, what advice would you give to someone who has just been told they needed a hip replacement?
4. Is there anything that you might not have thought about before that has occurred to you during this interview?
5. Is there anything else that you think would help me understand better your healing experience?
6. How is your balance now?
7. What date did you have your surgery?
8. Have you any questions for me?

Thank you very much indeed for participating today.

Appendix J

Extra Questions that Emerged as the Researcher was Collecting Data

1. How long were you on painkillers before your hip oeration?
2. Which ones?
3. Main emotion leading up to your hip oeration e?
4. Did you use a walking aid of some sort prior to your hip the operation?
5. Did you notice any muscle wastage on the operative leg side prior to the operation? After the operation?
5. Did you ever have an X-ray standing vertically?
6. Did you get any discomfort in your knee or your ankle or foot on the operated side after your hip operation?

Appendix K

Table 1

Table 1

Participant Pre-Op. Interviews: Aggregate Summary of Responses

Question	Answer
Tell me how you came to decide to have a hip replace?	Participants had pain and reduced mobility.
When did you first notice problems with your hip?	Participants' problems with a hip ranged from 2- 6 years.
How was this affecting your life?	Had to take pain killers, experienced weight gain, and was unable to do engage in activities they enjoyed. Walking was limited.
How are you expecting your life to be affected after the operation?	Cessation of pain. Can resume previous activities, either the same or with adaptations.
What is your present Knowledge about hip replacements?	Most participants had researched it and were knowledgeable.
Thoughts & Feelings?	They wanted to get on with it due to the disability, but there were some fears to control, mainly regarding the spinal vs. regular anesthesia, or reports of others' infected joints. Psychological acceptance of the implant in the body was queried
How have you prepared?	Fitness emphasis: weight loss, exercises, physiotherapy, chiropractic, and massage. Organization for care, and work coverage. Mental preparation. Anticipatory goals.
Coping with anticipatory anxiety?	Cathartic talking, keeping busy, movies.
Who Influenced you towards this decision, & how?	Personal decision. Most knew people who'd had successful hip operations. In addition, participants felt encouraged by their doctors.
Events preluding?	Falls, cancellations, controlling other health concerns, timing of the operation.
What has been the most difficult?	Anticipating being dependent, controlling fearfulness, especially regarding making a choice between spinal or general anesthetic.
Balance	Even though all had a limp, most considered their balance good.
What would you like me to know?	About other body parts that had been influenced by the hip problem e.g. foot, knee, back.
Questions for me?	What was going to happen to this information?

Appendix L

Table 2

Table 2

Post.-Op. Participant Interviews: Aggregate Summary of Responses

Question	Answer
Feeling, day of post-op. interview?	Majority felt really well, but tired easily.
Looking back: Thoughts & feelings?	60% felt well supported, 40% felt they needed more support. Trust in the surgeon was pivotal to the recovery experience. Satisfaction of the hospital experience depended on the compassion of the nursing staff. It was variable between hospitals and individuals. Patients were happy if their needs, requests, opinions and questions were valued and answered. Fear was allied with reassurance from experts, and once a decision had been made about a pivotal question, spinal regional anesthetic with sedative injection, or general anesthetic, patients felt motivated to 'get on with it!' One compared it to a movie when you clap the 'Action!' and the film starts rolling. This decision tended to be made minutes before the surgery. Prior to that, trepidation and uncertainty tended to prevail in most participants. Dealing with pain and reduced mobility was the driving force that kept them headed for the surgery. As one participant quipped, 'Anticipation was 90% of the problem.' The newest hospital had a collaborative team approach acclaimed by the patients who experienced it: 'I checked her face to see if it was my mom.' Those not so fortunate in another hospital felt brushed aside by some personnel. Altruism surfaced as the participants felt for others who might not fair so fortunately as themselves, or who might have to live permanently disabled, or in isolation.
Most difficult?	Dependency. All participants were strong pro-active people, who detested having to revert back to almost baby status initially, having their personal needs serviced. One husband even utilized a baby monitor so he would know when his wife needed assistance. 60% discovered that 'friends' don't necessarily keep their word about helping. This was an eye-opener, and disappointing. Being house-bound was frustrating for these active women, most of whom, normally preferred the outdoors where they would have been walking, hiking, gardening, skiing, cycling, skating, horse-riding, etc. Cabin fever emerged.
Like to change	Earlier recognition and treatment. More access to the surgeon to satisfy questions. More compassionate nurses. Consistent information from some health providers, such as doctors, physiotherapists, and nurses. More stringent scanning of drug administration, interactions or allergies

Table 2 *Post.-Op. Interviews: Aggregate Summary of Responses (cont.)*

Question	Answer
Aided self?	These strong, determined women drew on the qualities that had helped them achieve success in sports: A competitive spirit, the ability to 'psych' themselves up for a challenging event, the determination to complete day- long hikes or three day cross country ski trips, the stamina to garden all day. They used mental techniques to control fear e.g. thought stopping when negative notions entered the mind, such as wondering if paralysis would set in after the spinal block, or wondering about the possibility of an infection arising. Prayer was a strong support for those with a spiritual life. All of the participants had experience in serving others in therapeutic roles e.g. counseling, mentoring, equestrian therapy, personal/business coaches, end of life companionship, care-giving for the mentally challenged. In addition, they had the psychological capacities to put anger aside when it seemed grouchy nurses were deliberately singling them out for passive aggression, realizing that healing required a peaceful heart. They consciously took responsibility for their own healing process. Another aspect covered was faithfully doing the prescribed exercises, attending to healthy nutrition, taking enough rest, *SLOWING DOWN* their normal pace, and using pain management and ice applications appropriately. Getting back to work quickly was considered a priority and a way to both socialize, and reduce the feeling of being isolated. It also served to maintain mental stimulation and recapture a portion of their identities as workers.
Someone who helped?	Family members, a circle of friends, neighbors, and an excellent case manager. The most appreciated character quality of such a person was patience with the participant, who was of a nature that normally would want to get things done fast. One patient stated that a helper, who was a critical thinker and could organize things well, was essential. Having friends visit in the early stages could be tiring, but an appreciated aspect was the feeling of being loved, which buoyed up the patient. Some were overwhelmed with the kindness of neighbors 'who came out of the woodwork' and supplied meals. Some had amenable bosses, who allowed them to return to work early on a part-time basis, and others were self-employed, so had some control over their work schedules.

Table 2 *Post.-Op. Interviews: Aggregate Summary of Responses (cont.)*

Question	Answer
Balance?	Most declared their balance was good. However there was inconsistent feedback about the concept of the use of a cane. Some participants maintained that continued use too long would make someone dependent on it, encourage a limp and train incorrect muscle firing. Others maintained that cane- use was mainly for balance, so a person could remain erect and that trying to dispense with it too soon would encourage a limp, as the person would tend to favor the weaker leg, resulting in poorer muscle mass. 50% had a limp (assessed by adding the writer too).
Like me to know?	Why is only one hip affected? Why are so many younger people now having hip replacements? Poor nutrition? Baby boomer's expectations for lifestyle? How is the damaged hip affecting other parts of the body e.g. bunions reoccurring after being surgically removed. Does repetitive physical activity, such as getting in a car, riding, playing a sport, contribute to hip problems?
Vertical X-ray?	No one was X-rayed while in the vertical position.
Legs measured?	40% noticed that the leg operated upon was thinner than the other. This was likely due to muscle wastage on account of the leg not being able to be used properly because of arthritis and pain in it prior to the operation. Participants were not always sure if their legs had been measured prior to surgery, as possibly this might have been done while they were unconscious. It is not clear if there were pre and post measurements of the length of the legs.
Place of operation? Duration of operation	Patients were serviced in three different hospitals. Duration of surgery ranged from 1.25 hours to 1.75 hours.
Operation computer directed?	Not known. One participant reported back when querying this with her surgeon that, "Most everything is guided by computers in one way or another-no robotic devices were used to 'conduct' the surgery
Milestones?	Not able to report at this stage

Appendix M

Table 3

Table 3

Chart Displaying Participants' Profiles

Participant	Age	Brief Biographical
Debbie	63	Married, 2 adult children, works as. Western Regional Manager of a Relocation Company. Works from home with 3 other people reporting to her. Sales, marketing and client presentation." Have to be mobile and present myself as useful". Work with younger people. Expressed a need to make a 2hr. plane flight for business 2 months after her surgery. Has sat with end of life patients as a companion.
Karen	57	Married, seventeen-year-old daughter. Participant has worked from home as caregiver for Downs Syndrome adults for twenty years. This will conclude shortly and she is presently studying online via a local college for a medical assistant certification. She has worked as an assistant in a Dermatologist's office part-time for some years
Vivian	60	Divorced, three adult children but no communication with them for twenty years. Was trained and worked as a teacher. Competitive figure skating coach, and Gold medalist in Japanese Mixed Curling Championship. Inspirational speaker and born again Christian involved in prayer healing ministry. Presently writing a book about her life.
Kate	55	Married, three adult sons. Works full time for a local engineering company as a senior administrator. Loves to volunteer for worthy causes e.g. judge for Rodeo Show Queen/Princesses. Canvassing for worthy causes e.g. Heart & Lung Association, may be curtailed by limitation on walking. First grandchild recently born
Ronnie	58	Married. Mother of two young adult children. Lives on an acreage and teaches equestrian therapeutic riding. Initially Dale Carnegie trained. Private contractor for business coaching now.

Appendix N

Table 4

Excerpt of Preliminary Table Classifying Data to Assist with Coding.
There were 58 of these pages.

Table 4

Preliminary Classification of data

Pre-Op. Participants	High Frequency Words, phrases and statements	Initial Tentative Codes or Categories that Emerged
P.[a]1, Pre-Op.	"I had a pain in my hip."	Pain
P.1, Pre-Op.	"Complaining about my hip."	Pain
P.1, Pre-Op.	"Dragging my leg."	Osteoarthritis
P.1, Pre-Op	"I've worn out my hip. It would have trouble carrying my weight."	Osteoarthritis
P.1, Pre-Op	"My husband said I was cranky."	Mood deterioration
P.1, Pre-Op	"I couldn't keep up."	Disability. Losing peer group.
P.1, Pre-Op	"It has just been a sad evolution of my lack of ability to do things."	Physical and mental erosion.
P.1, Pre-Op	"Going deeper and deeper and deeper into pain management and it fogs my brain."	Loss of self
P.1, Pre-Op	"I'm just too worried about my balance."	Fear for Safety.
P.1, Pre-Op	"Giving up part of your life which is your identity."	Loss of identity.
P.1, Pre-Op	"It was either suffer pain or wear old ladies shoes…and step back from life."	Loss of identity
P.2, Pre-Op.	"I was having trouble with that side."	Loss of mobility
P.2, Pre-Op	"I was getting less flexibility and mobility."	Confusion
P.2, Pre-Op	"I thought it was an IT band."	Confusion
P.2, Pre-Op	"Not even thinking it could potentially be a hip problem."	
P.2, Pre-Op	"Things were not working."	Disabling
P.2, Pre-Op	"You've got severe osteoarthritis in your right hip," (Doctor)	Pain
P.2, Pre-Op	"I'd been experiencing pain at that point."	Pain
P.2, Pre-Op	"It had deteriorated."	
P.2, Pre-Op	"If I go to the corner store I'm not sure if I can get back."	Loss of mobility
P.3, Pre-Op.	"I couldn't stand or take the stairs any more."	Loss of mobility
P.3, Pre-Op.	"I was limping, and I was using a cane."	Disability
P.3, Pre-Op.	"It just seemed to escalate."	Escalating Disability

[a] P =Participant

Appendix O

Table 5

Appendix O

Table 5

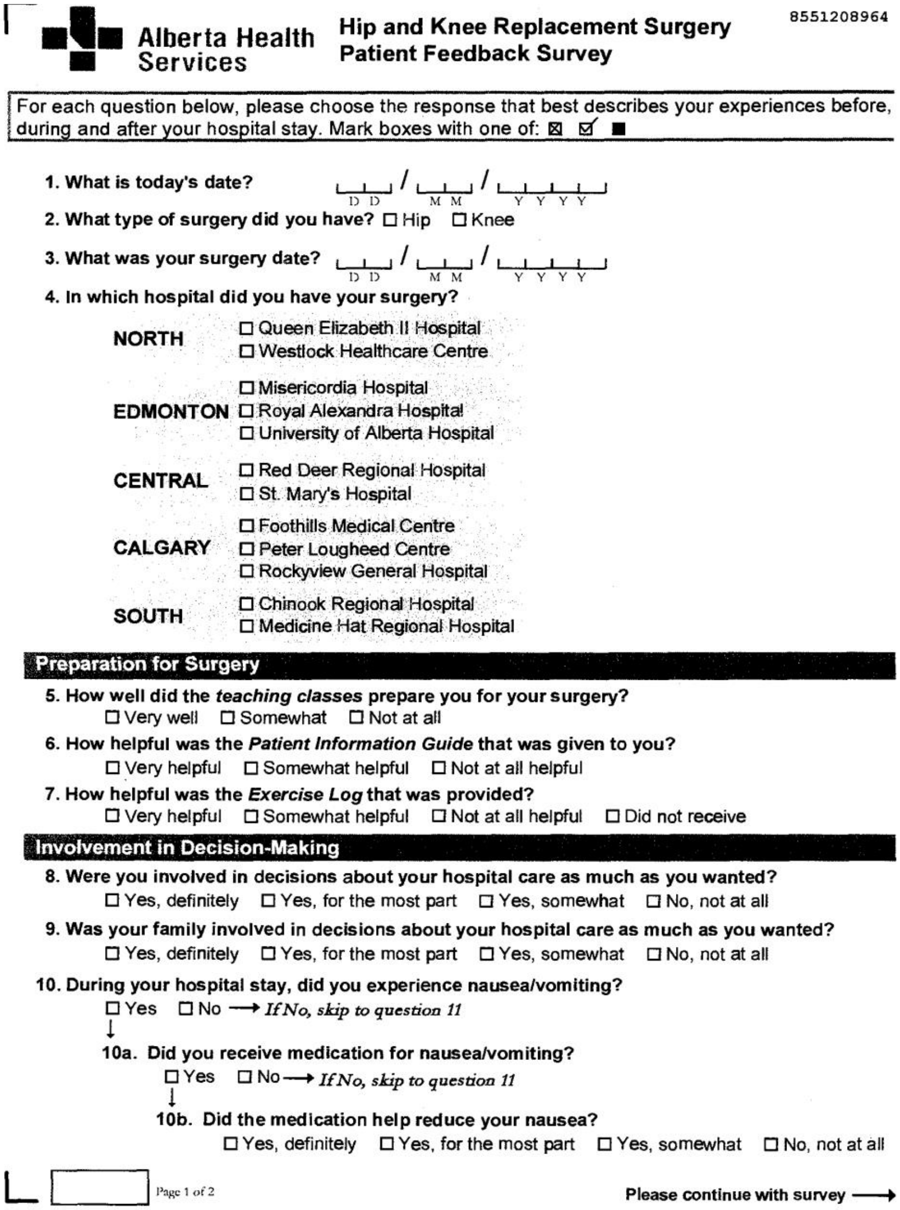
Categories to Themes and a Preliminary Model Attempted

Categories	Theme	Categories	Theme	Categories
Physical: Sub categories: Pain, Loss of mobility, Deformity, Body won't respond, Fatigue		**Physica**l: Sub categories: Alternatives: Prolotherapy Physiotherapy Chiropractic Massage Working out Other health needs: Dental treatment		**Physical**: Sub categories How do I look? Share the scar. Nail care. Exercises, Walk consciously, Imprint correct muscle firing, Avoid a limp.
Mental: Sub categories: Can't keep up, Left out, Not the real me. No longer an athlete. Congruity between internal image and external reality don't match. Financial loss		**Menta**l: Subcategories: Communication: Consulting- Friends, - Doctor, Pre-op Hospital Education Session, Reading, Internet Resources, Accumulating Knowledge, Organizing, Appointments, Keeping busy.		**Mental**: Sub categories: Accepting the implant Exactly what's in there? Accommodation *Must* get back to work *asap.* Cane use Pain management Financial cost
From__________	**> IDENTITY__to DISMANTLING_**		**DECISION**	**RECLAIMING > IDENTITY**
Spiritual: Sub categories: Prayers unanswered "Two more sleeps Lord, you've got to heal me."		**Spiritual**: Sub categories: Praying, Farewell Tour,		**Spiritual**: Sub categories: Thankfulness, Meditation, Receiving love Introspection
Emotional: Sub categories Grief, Anger, Isolation, Disappointment, Rebellion, Fear, Loss, Loved		**Emotional**: Sub categories: Trepidation, Anticipation, Distracting Self, Hesitation, Second Guessing, Uncertainty, Postponing, Resistance,		**Emotional**: Sub categories: Relief in survival, Frustration with the 'sick role', Disappointment: "Friends" don't keep their word, Ignored, Needing

Abandoned Bold	Frustration, Waiting patiently.	nurturance, Impatience, Claustrophobic. I’m not alone.

Appendix P

Sample of Evaluative Survey used in Alberta (reprinted with permission)



Alberta Health Services

Hip and Knee Replacement Surgery
Patient Feedback Survey

8551208964

For each question below, please choose the response that best describes your experiences before, during and after your hospital stay. Mark boxes with one of: ☒ ☑ ■

1. What is today's date? __ / __ / ____
D D M M Y Y Y Y

2. What type of surgery did you have? ☐ Hip ☐ Knee

3. What was your surgery date? __ / __ / ____
D D M M Y Y Y Y

4. In which hospital did you have your surgery?

NORTH	☐ Queen Elizabeth II Hospital ☐ Westlock Healthcare Centre
EDMONTON	☐ Misericordia Hospital ☐ Royal Alexandra Hospital ☐ University of Alberta Hospital
CENTRAL	☐ Red Deer Regional Hospital ☐ St. Mary's Hospital
CALGARY	☐ Foothills Medical Centre ☐ Peter Lougheed Centre ☐ Rockyview General Hospital
SOUTH	☐ Chinook Regional Hospital ☐ Medicine Hat Regional Hospital

Preparation for Surgery

5. How well did the *teaching classes* prepare you for your surgery?
☐ Very well ☐ Somewhat ☐ Not at all

6. How helpful was the *Patient Information Guide* that was given to you?
☐ Very helpful ☐ Somewhat helpful ☐ Not at all helpful

7. How helpful was the *Exercise Log* that was provided?
☐ Very helpful ☐ Somewhat helpful ☐ Not at all helpful ☐ Did not receive

Involvement in Decision-Making

8. Were you involved in decisions about your hospital care as much as you wanted?
☐ Yes, definitely ☐ Yes, for the most part ☐ Yes, somewhat ☐ No, not at all

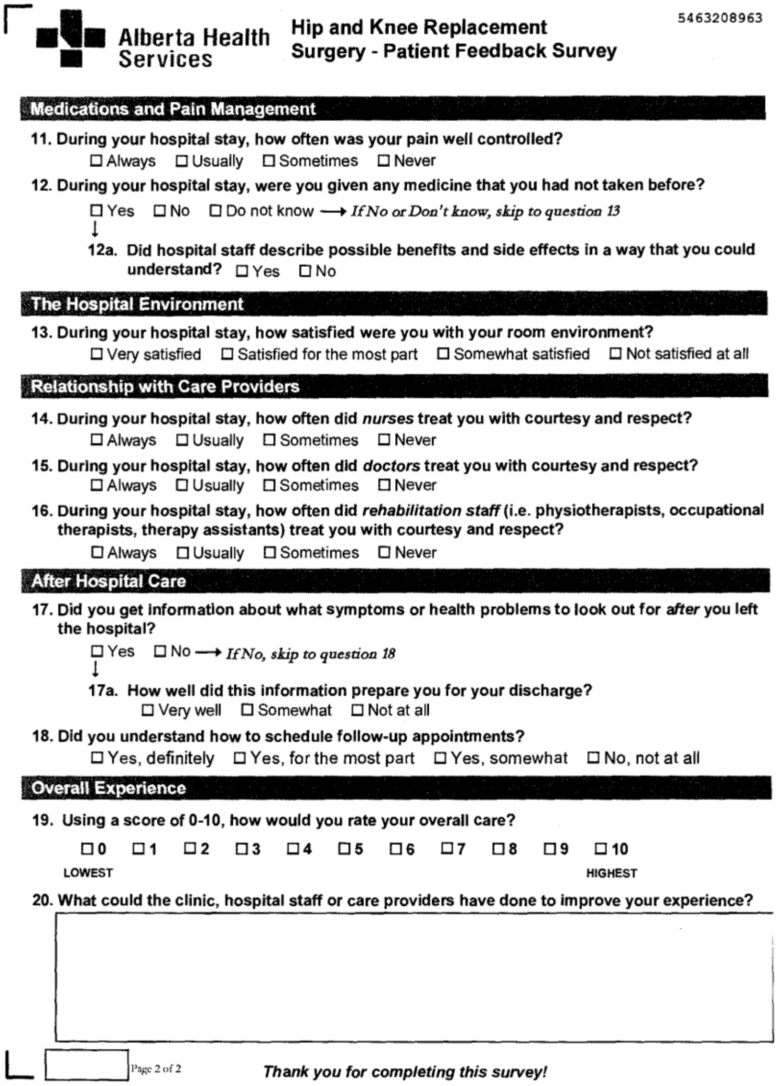
9. Was your family involved in decisions about your hospital care as much as you wanted?
☐ Yes, definitely ☐ Yes, for the most part ☐ Yes, somewhat ☐ No, not at all

10. During your hospital stay, did you experience nausea/vomiting?
☐ Yes ☐ No → *If No, skip to question 11*
↓
10a. Did you receive medication for nausea/vomiting?
☐ Yes ☐ No → *If No, skip to question 11*
↓
10b. Did the medication help reduce your nausea?
☐ Yes, definitely ☐ Yes, for the most part ☐ Yes, somewhat ☐ No, not at all

Page 1 of 2

Please continue with survey →

Sample of Evaluative Survey used in Alberta (continued)



Alberta Health Services

Hip and Knee Replacement Surgery - Patient Feedback Survey

5463208963

Medications and Pain Management

11. During your hospital stay, how often was your pain well controlled?
☐ Always ☐ Usually ☐ Sometimes ☐ Never

12. During your hospital stay, were you given any medicine that you had not taken before?
☐ Yes ☐ No ☐ Do not know ⟶ *If No or Don't know, skip to question 13*
↓
12a. Did hospital staff describe possible benefits and side effects in a way that you could understand? ☐ Yes ☐ No

The Hospital Environment

13. During your hospital stay, how satisfied were you with your room environment?
☐ Very satisfied ☐ Satisfied for the most part ☐ Somewhat satisfied ☐ Not satisfied at all

Relationship with Care Providers

14. During your hospital stay, how often did *nurses* treat you with courtesy and respect?
☐ Always ☐ Usually ☐ Sometimes ☐ Never

15. During your hospital stay, how often did *doctors* treat you with courtesy and respect?
☐ Always ☐ Usually ☐ Sometimes ☐ Never

16. During your hospital stay, how often did *rehabilitation staff* (i.e. physiotherapists, occupational therapists, therapy assistants) treat you with courtesy and respect?
☐ Always ☐ Usually ☐ Sometimes ☐ Never

After Hospital Care

17. Did you get information about what symptoms or health problems to look out for *after* you left the hospital?
☐ Yes ☐ No ⟶ *If No, skip to question 18*
↓
17a. How well did this information prepare you for your discharge?
☐ Very well ☐ Somewhat ☐ Not at all

18. Did you understand how to schedule follow-up appointments?
☐ Yes, definitely ☐ Yes, for the most part ☐ Yes, somewhat ☐ No, no at all

Overall Experience

19. Using a score of 0-10, how would you rate your overall care?
☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10
LOWEST HIGHEST

20. What could the clinic, hospital staff or care providers have done to improve your experience?

Page 2 of 2

Thank you for completing this survey!

Appendix Q

Letter of Thanks to Participants

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Valerie Kendall
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Calgary, AB.
T2R 1E7
Tel. 430 278 7305
Cell 403 650 8683
Date:

Participant's Address:

Dear ____________________,

I hope that you have gained some value from our interviews, and taking part in the research process. I want to say how appreciative Saybrook University and I are in your willing participation. I have enjoyed out interactions and if outcomes can assist others in having a more positive recovery from THR surgery, it will be wonderful.

If you have any further questions don't hesitate to call me and if I cannot answer them satisfactorily please feel free to call Dr. Johnson.

Again, without your help, none of this would have been possible. Thank you so much.

Yours sincerely,

Valerie Kendall, MA, R.Psych.