RECONCILING RESISTANCE: WOMEN’S POSTNATAL PHYSICAL ACTIVITY

DECISION-MAKING

by

Sarah Liva

MSN, The University of British Columbia, 2011

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF

THE REQUIREMENTS FOR THE DEGREE OF

DOCTOR OF PHILOSOPHY

in

THE FACULTY OF GRADUATE AND POSTDOCTORAL STUDIES

(Nursing)

THE UNIVERSITY OF BRITISH COLUMBIA

(Vancouver)

December 2017

© Sarah Liva, 2017
Abstract

**Background:** Nearly half of women have reported reducing their physical activity below recommended levels during the postpartum period and evidence suggests these reductions are sustained beyond the postnatal year. The modestly effective interventions to increase postnatal physical activity may indicate a lack of understanding about how women make postnatal physical activity choices. **Research Question:** What are women’s decision-making processes about physical activity in the postnatal period? **Methods:** I used a qualitative grounded theory methodology to develop a core category and interrelated categories explaining women’s physical activity decision-making processes during the postpartum period. Thirty women within a year of childbirth, were recruited using flyers and social media, and interviewed after they completed 3-day diaries. I open-coded the data to identify a core category, and then selectively coded, and theoretically coded to articulate relationships between the core category and other categories using constant comparative analysis. **Findings:** The core category, reconciling resistance, comprised three processes: gauging, engaging, and adjusting, and explained how women resolved their main concern in making physical activity decisions to minimize discord between their physical activity desires and actual physical activity patterns. Participants experienced personal embodiment, relational, environmental and physical activity centrality resistance that they reconciled through gauging the risks and accessibility of choosing their desired activities and deciding whether they regarded the activities as essential for them postnatally. The women engaged to either push through, hold back, or hold still on pursuing their desired activities and adjusted their choices of strategies in response to their experiences of engaging. Only the women who constructed their physical activities as supporting their own and others’ needs and experienced limited personal embodiment resistance (e.g., fatigue, injury) pushed through. Most women held back or held still by redefining the types of activity that they believed could support their own and others’ needs. **Implications:** Providing mothers with anticipatory guidance and education about safely returning to physical activity is an important strategy for health care providers to support postnatal physical
activity. Increasing knowledge about physical activity choices in the context of women’s need satisfaction could support strategies that are acceptable to women within the postpartum period.
Lay Summary

This study explored new mothers’ physical activity decision-making to understand why nearly half of new mothers have reported reducing their physical activity to below recommended levels and healthcare interventions to promote their activity have demonstrated mixed effectiveness. Thirty mothers with babies under one year old completed activity diaries and were interviewed. Most women held back from pursuing their desired physical activities because of resistance (beliefs) that made those activities seem non-essential, too risky, or non-accessible in the postnatal context. Only women who believed physical activity was necessary to meet their own needs, could contribute to others’ needs, and who experienced limited personal embodiment resistance (e.g., fatigue, birth recovery) pursued their desired activities. New mothers need support and education to engage in physical activity in the context of personal embodiment resistance. Research exploring relationships between activity choices and new mother’s need satisfaction could support the development of more effective healthcare strategies.
Preface

While I received advice and support from my committee, I was responsible for conducting all parts of this research study, including: recruitment, obtaining consent, interviews, storing data, analysis, and writing-up.

A transcriptionist transcribed 14 of the interviews.

Ethical approval was obtained by the University of British Columbia Behavioural Research Ethics Board: ID number H14-01688.
# Table of Contents

Abstract ................................................................................................................................. ii

Lay Summary ........................................................................................................................ iv

Preface ........................................................................................................................................ v

Table of Contents ................................................................................................................ vi

List of Tables ........................................................................................................................ xiii

List of Figures ........................................................................................................................ xiv

List of Abbreviations and Conventions ............................................................................... xv

Acknowledgements ............................................................................................................. xvi

Dedication ............................................................................................................................. xviii

Chapter 1: Introduction ........................................................................................................ 1

  Background ........................................................................................................................... 1

  Research Problem ................................................................................................................... 2

    Lack of clarity around effective strategies to promote physical activity .......................... 2

    Importance of seeking women's perspectives on decision-making within the postnatal period ... 5

    Postnatal physical activity literature .............................................................................. 7

  Purpose, Definitions, and Significance ............................................................................... 8

  Summary and Thesis Organization ...................................................................................... 9

Chapter 2: Literature Review .................................................................................................. 11

  Introduction .......................................................................................................................... 11
Use of The Literature ................................................................. 11
General Physical Activity Literature and Critique ............................................. 12
  Ecological physical activity research ............................................................. 17
  Intrapersonal factors ....................................................................................... 18
  Interpersonal influences: social and media influences ....................................... 19
  Policy and environmental influences ............................................................... 21
Description of Postnatal Physical Activity Literature .......................................... 23
Postpartum Physical Activity Research Areas and Critique ..................................... 23
  Barrier/facilitator research .............................................................................. 23
  Feminist and gendered perspectives ............................................................... 26
Physical Activity Literature Summary ................................................................. 29
Physical Activity and Decision-Making ............................................................... 29
  The influence of habit ..................................................................................... 30
  Emotions and decision-making ...................................................................... 32
Eccles’ Expectancy-Value Decision-Making Framework ......................................... 33
Chapter Summary ............................................................................................. 35

Chapter 3: Theoretical Perspectives and Methodology ....................................... 37
Symbolic Interactionism ..................................................................................... 37
  The object ........................................................................................................ 38
  Symbols, the act, and symbolic interactionism .................................................. 39
  Emergence of the act ....................................................................................... 40
  Mind .................................................................................................................. 41
  Self .................................................................................................................... 42
  Society ............................................................................................................. 43
  Application of symbolic interactionism to the study .......................................... 44
Symbolic Interactionism Critique ......................................................................... 46
## Data Analysis

Data management ................................................................................................................................. 87
Coding ..................................................................................................................................................... 87
Open coding ............................................................................................................................................. 88
Development of main concern and core category .................................................................................... 90
Memos and theoretical integration ........................................................................................................... 99

## Rigour

Reciprocity .................................................................................................................................................. 102
Power ........................................................................................................................................................... 105
Reflexivity and Power ................................................................................................................................. 105
Reflexivity .................................................................................................................................................... 105
Power .......................................................................................................................................................... 110
Reciprocity ................................................................................................................................................. 111

## Summary

Gauging ....................................................................................................................................................... 112

### Chapter 5: Reconciling Resistance

Introduction .................................................................................................................................................. 113
Demographics ............................................................................................................................................. 113
Main Concern ............................................................................................................................................. 115
Reconciling Resistance ............................................................................................................................... 117
Gauging ....................................................................................................................................................... 124
Gauging essentiality ................................................................................................................................... 124
Gauging risk ............................................................................................................................................... 130
Gauging relational risk ............................................................................................................................... 131
Risk to infant needs and family harmony: Choices around independent activity ...................................... 131
Risk to infant needs and family harmony: Choices around time of day and scheduled activities ............ 134
Gauging personal risk ................................................................................................................................ 136
Emotional risk: Choices around levels of emotional investment ............................................................... 137
Comparing and Contrasting the Theory with the Extant Literature ........................................ 194

Resistance .................................................................................................................................. 196

Implications of intersecting resistance ...................................................................................... 200

Multiple goal pursuit .................................................................................................................. 204

Gauging ....................................................................................................................................... 206

Physical activity centrality resistance ......................................................................................... 207

Personal embodiment resistance ................................................................................................. 211

Relational resistance .................................................................................................................. 216

Environmental resistance .......................................................................................................... 219

Engaging strategies ..................................................................................................................... 222

Adjusting and shifting strategies ............................................................................................... 225

Summary ..................................................................................................................................... 228

Study Implications ..................................................................................................................... 229

General postnatal physical activity provider support ................................................................. 229

Centrality-specific postnatal physical activity considerations ................................................... 233

Education and health service implications ................................................................................ 235

Research implications ................................................................................................................ 238

Limitations ................................................................................................................................... 243

Conclusion ................................................................................................................................... 244

References ...................................................................................................................................</references_text> <xref>Appendix A: Recruitment Flyer A</xref> ................................................................. 282

<xref>Appendix B: Edited Recruitment Flyer</xref> ................................................................. 283

<xref>Appendix C: Consent</xref> ............................................................................................... 284

<xref>Appendix D: Information letter</xref> ............................................................................... 286

<xref>Appendix E: Diary Template</xref> ................................................................................... 287
Appendix F: Demographic Questionnaire ................................................................. 288
Appendix G: Women's Summary .............................................................................. 289
Appendix H: Transcription Confidentiality Agreement ............................................. 297
Appendix I: Initial Interview Guide ........................................................................ 299
Appendix J: Interview Guide Iterations Second and Third ..................................... 301
Appendix K: Initial Theory Diagram ....................................................................... 307
Appendix L: Sample Field Note ............................................................................. 308
Appendix M: Calibrating Resistance Memo ............................................................ 310
Appendix N: Early Memo for Calibrating Resistance, Ground Rules ..................... 317
Appendix O: Revised Diagram .................................................................................. 333
Appendix P: Example of an Early Memo ................................................................. 334
Appendix Q: Example of Early Diagram .................................................................. 337
List of Tables

Table 1: Characteristics as a Percentage of the Sample ................................................................. 114
List of Figures

Figure 1: Reconciling Resistance ........................................................................................................ 118
Figure 2: Adjusting .............................................................................................................................. 121
Figure 3: Shifting Strategies and Unreconciled Resistance .................................................................. 123
List of Abbreviations and Conventions

… A word or a few words within sentence omitted
.... Omissions between two or more original sentences
[e.g.] Addition of word or phrase to increase clarity to the reader
P Participant
I Interviewer
Acknowledgements

This study would not have been possible without the women who so graciously offered their time to participate. I thank all the women who were willing to carve space and invite me into their world to share their perspectives and stories and teach me about the complex intersecting personal, social, structural, and relational spaces that affect physical activity during the postnatal year. I thank the women for their feedback on theoretical ideas and their perspectives to help improve the fittingness of the theory with their experiences.

This has been an eventful journey and I am indebted to countless experiences and people who have reframed my perspectives, lifted, pushed, pulled, and walked with me along the way. I extend my deepest gratitude that I was blessed to have such an extraordinary supervisor, Dr. Wendy Hall. Thank you Wendy for being five steps ahead of me and looking out for me in the fullest sense of this phrase by helping me not only with scholarly related opportunities but through being responsive to my emotional and learning needs. I thank you for steadfast commitment to quality and integrity that has been instilled in me to my core and your unwavering ability to model excellence in every realm of mentoring and supervision. I am thankful for all the seeds you’ve sown and some that I take delight in recognizing starting to grow and your influence; surely, I will have many more experiences than I have already where I recognize the impact you’ve had on my leadership, research, teaching, and mentorship capacity. Most importantly, thank you for your kind heart and caring not just about this process but for me as a person on this journey.

I extend a sincere thank you to committee members, Professors Tanya Berry and John Oliffe, for your time and commitment to reading such lengthy working copies and patience and flexibility with timing. Thank you to John for your ability to find the threads that needed to be pulled to condense and bring the dissertation up, particularly in Chapters 5 and 6. Thank you to Tanya for helping me to re-work my thinking about the resistance concept, re-situate my discussion, and refine my literature review. I thank you both for your insights and
perspectives that have pushed, broadened, and enriched my thinking.

I am very grateful for funding throughout my program, particularly through the University of British Columbia and Canadian Institute of Health Research’s (CIHR) Transdisciplinary Understanding and Training on Research – Primary Health Care (TUTOR-PHC) and Better Days Better Nights Programs. I am also grateful to have been a part of the Canadian Obesity Network’s Summer School in 2015, which along with the CIHR programs provided me with mentorship experiences, research connections, and support to build my research capacity.

I cannot do due diligence in the space provided to extend adequate thank yous to my family and friends who provided endless childcare hours and multi-dimensional support during this process, though every extension of support helped me take another step forward. Most importantly, I thank my beautiful husband Aaron who has been my foundation; thank you for your theoretical insights, deep-seated resilience, and for being brave enough to find gold in the trenches with me. And finally, I thank my children Ethan, Kalen, and Brayden for grounding and teaching me that letting the balls drop is more important than keeping them up; Brayden you will never know the support you provided during our 2:46 PM after-school chats.
For my grandfather
Chapter 1: Introduction

Background

The World Health Organization (2009) lists physical inactivity as the 4th highest risk factor for global mortality, and the primary cause of a quarter of breast and colon cancer (21-25%), diabetes (27%), and heart disease (30%) worldwide. Adults, including women within a year of childbirth (i.e., postnatal\(^1\)), are encouraged to engage in 150 minutes of moderate-vigorous activity per week to support weight maintenance and reduce risk of obesity and complex chronic diseases (World Health Organization (WHO), 2010).

Childbearing women represent a significant population in Canada; in 2012/2013, nearly 400,000 women gave birth (Statistics Canada, 2013). Recent Canadian estimates based on accelerometry (motion sensor physical activity measures) suggested only 14% of women in their childbearing years achieve sufficient weekly moderate-vigorous activity (Colley et al., 2011; Human Resources and Skills Development Canada, 2013).

Childbearing can negatively affect physical activity levels and increase long-term obesity and related disease risk (Adamo, Langlois, Brett, & Colley, 2012; Larson-Meyer, 2002; McIntyre & Rhodes, 2009; Rooney, Shauberger, & Mathiason, 2005). A longitudinal study found childbearing women who did not return to pre-pregnant weight by 6 months were at increased risk for obesity and chronic disease 15 years following childbirth, although this relationship was moderated by physical activity at six months postpartum (Rooney et al., 2005). Bellows-Riecken and Rhodes’ (2008) systematic review suggested women with children are less physically active than women without children and men. Women with infants may be particularly at risk for physical inactivity; an American study based on accelerometry suggested only 3% of their postnatal sample were meeting physical activity recommendations (Evenson, Herring & Wen, 2012). In another multiethnic American postnatal sample, based on self-report, 65% were not meeting recommendations and 43% reported

---

\(^1\) Postnatal refers to women within 12 months of giving birth.
reducing their physical activity following childbirth (Albright, Maddock, & Nigg, 2006). People tend to overestimate their levels of physical activity when self-reporting because it is difficult to recall physical activity accurately; difficulty recalling suggests the possibility that higher proportions of women reduced their physical activity and were not meeting recommendations (Ainsworth, 2010).

**Research Problem**

In North America and Europe, the postnatal period presents a unique opportunity for health care providers to support physical activity because women have frequent visits to public health nurses and their primary care providers in the first year after birth (Kinnunun et al., 2007; National Institutes of Health, 2008; Public Health Agency of Canada, 2013). Research suggests most women do not receive any physical activity advice from health care providers within the year following childbirth (Ferrari & Siega-Riz, 2010), which may be related to providers’ lack of knowledge and/or beliefs they do not have sufficient ability or time to counsel women about physical activity (Parker, Steyn, Levitt, & Lombard, 2011). There is a lack of research about women’s decision-making processes around physical activity in the postnatal period, whereby women assess and judge, in the context of other competing decisions, whether and how much they will engage in physical activity (Eccles & Wigfield, 2002; Reisberg, 2006). Knowledge about women’s postnatal physical activity decision-making processes can inform health care providers about the feasibility of existing interventions to promote physical activity. Our lack of understanding about how women make decisions about engaging in physical activity in the year following childbirth prevents effective endeavours to assist women with targeted interventions.

**Lack of clarity around effective strategies to promote physical activity.**

There has been a modest amount of physical activity intervention research both with general and postpartum populations. In the general physical activity literature, researchers have critiqued the multifaceted nature of physical activity interventions (i.e., more than one strategy, such as education, counseling, and
exercise classes) because they limit understanding about which intervention components contribute to effectiveness (Conn, Hafdahl, & Mehr, 2011). In Conn and colleagues’ meta-analysis of 99,011 healthy adults, moderator analysis revealed behavioural-type interventions (e.g., goal-setting), face-to-face delivery models (e.g., counseling), and targeting individuals were more effective intervention strategies than cognitive strategies, mediated delivery (e.g., telephone), and community targets, respectively. Those findings are not definitive; because of the multifaceted nature of the interventions, the authors had to group intervention strategies generally to perform their meta-analysis (Conn et al., 2011). Other meta-analyses and narrative reviews are similarly vague; while individual face-to-face behavioural strategies may be effective, exactly what types of behavioural interventions are effective is still unclear (Davies, Spence, Vandelanotte, Caperchione, & Mummery, 2012; Dishman & Buckworth, 1996; Heath et al., 2012). Although, in general, the quantity of physical activity intervention studies is significantly greater in adult physical activity literature than in the postnatal literature, no existing studies have developed understandings about which intervention components support long-term increases in physical activity (Rhodes & Nigg, 2011).

Types of interventions that best support women’s postnatal physical activity remain poorly understood, largely because foundational insights to women’s decision-making are lacking. A small number of studies have tested postnatal physical activity interventions for women but results have been mixed and researchers have generally reported low attendance (Hartman, Hosper, & Stronks, 2010). While authors of small pilot studies\(^2\) and studies sampling clinically depressed populations have reported that their postpartum physical activity

\(^2\) Here I refer to intervention studies tested exclusively in postnatal populations and those testing for changes in physical activity rates (frequency, intensity, and duration). There are other physical activity intervention studies conducted with mothers of young children < 5 and studies that do not include post-test physical activity levels I have not included here (Aittasalo, Pasanen, Fogelholm, Kinnunen, Ojala, & Luoto, 2008; Armstrong & Edwards, 2004; Clarke, Freeland-Graves, Klohe-Lehman, Milani, Nuss, & Laffrey, 2012; Fahrenwald, Atwood, Walker, Johnson, & Berg, 2004; Leermakers, Anglin, & Wing, 1998; McIntyre, Peacock, Miller, Koh, & Marshall, 2012; Miller, Trost, and Brown, 2002).
interventions of 2 to 12 weeks duration have small-large effect sizes (Albright, Maddock, & Nigg, 2009; Albright et al., 2012; Cramp & Brawley, 2009; Da Costa et al., 2009; Daley, Winter, Grimmett, McGuinness, McManus, & MacArthur, 2008; Lewis, Martinson, Sherwood & Avery, 2011; McCrory, Nommsen-Rivers, Mole, Lonnerdal, & Dewey, 1999), larger studies testing interventions between 6 to 12 months in length have found their interventions to have no effect on physical activity (Kinnunen et al., 2007; Ostbye et al., 2009; Taveras et al., 2011). Such results suggest short-term intervention effects are not sustained. Similarly, physical activity interventions in the general adult literature have been associated with positive short-term increases in physical activity; only limited studies have found a sustained increased in physical activity beyond a year post-intervention (Silva et al., 2011).

The lack of positive findings resulting from interventions and low attendance may be explained by these studies failing to adequately take into account how the postpartum context affects women’s decision-making about physical activity. For example, Ostbye and colleagues (2009) used interventions commonly used in the general population (e.g., goal-setting, group-based classes, and printed self-help material), but those interventions did not result in a significant difference in rates of physical activity between control and intervention groups at 10 months postpartum. Women living in the postpartum period have reported different barriers to physical activity than women without children, suggesting that different intervention strategies may be needed to help women engage in physical activity in the postpartum period (Collins, Marshall, & Miller, 2007; Taveras & Plotkinoff, 2008). Andajani-Sutjahjo, Ball, Warren, Inglis, and Crawford (2004) surveyed 462 women aged 18-32 and reported lack of motivation (74%), lack of time (58%) and cost of exercise (51%) were women’s most commonly reported physical activity barriers. When Evenson, Aytur, and Borodulin (2009) surveyed women within a year of childbirth (N = 530) they found different barriers; rather than motivation and cost, women reported their most common barriers were lack of time (47%), lack of childcare (26%), and fatigue (12%). Other authors have reported these same exercise barriers, as well as lack of social support, as the most
common problems for women during the postpartum period (Groth & Davids, 2005; Miller & Brown, 2005). Women within a year of childbirth appear to have more concerns with fatigue, childcare, and support than women without children when trying to engage in physical activity.

**Importance of seeking women’s perspectives on decision-making within the postnatal period.**

Notwithstanding differences in women’s perceived barriers during the postnatal year, most postnatal barrier research has been survey-based; thus, there is limited understanding about what reported barriers mean to women living in the postnatal context. Symons-Downs and Hausenblas (2004), in a study surveying women about postnatal exercise barriers, interpreted the barrier ‘lack of time’ as related to poor time management skills and suggested time management counseling as a way to increase physical activity. However, Tavares and Plotkinoff (2008) suggested, from their Canadian qualitative study of full-time employed women, that women with children lacked time because they felt pressured to uphold gendered social norms around motherhood and employment by being present at all their children’s extracurricular activities and working unpaid hours. Varying interpretations about reasons for women’s lack of time emphasize the importance of seeking the perspectives of women who are living within the postnatal context about their decision-making to help account for these meanings; we cannot develop effective interventions without understanding women’s underlying reasons for engaging or not engaging in physical activity during the postpartum period.

Furthermore, knowledge about women’s perspectives of physical activity decision-making during the postnatal period might augment existing physical activity literature that examines correlates, moderators, and mediators of physical activity behaviour by contextualizing how women understand these factors as interrelated and important for their decision-making (Rhodes & Dickau, 2013; Schuz, Ziegelmann, Wolff, Warner, Schwarzer, & Romer, 2012). Ecological physical activity research has illuminated the complexity of factors influencing physical activity decision-making by demonstrating significant relationships between personal (e.g., demographic), psychosocial (e.g., cognitions), policy, and environmental factors and behaviour patterns
(Burton et al., 2005; Sallis et al., 2006). However, moderation and mediation studies that have explored interrelationships between these factors and physical activity behaviour have produced mixed findings that have not provided clear understanding about how these factors interrelate in decision-making (e.g., Rhodes & Dickau, 2013; Rhodes & Pfaeffli, 2010; Schuz et al., 2012). In the postpartum context, perceptions of more control over time, available social support, and access to childcare, and perceptions of decreased fatigue seem important in women’s physical activity decision-making because they have been identified as physical activity enablers and associated with continued physical activity in parenthood (McIntyre & Rhodes, 2009). Studies seeking women’s perspectives about associations among such factors and their relationships with broader influences, such as environment, sociocultural norms, and life experiences with physical activity, will support understandings about the postnatal context influences on physical activity decision-making and identification of ways to support women’s physical activity during the postpartum period.

The symbolic interactionist view of human behaviour as variable also points to the importance of developing understandings about women’s physical activity decision-making processes that precede behaviour (Blumer, 1969). Behaviour can be considered an end product of a decision (Evans, 2008), with physical activity behaviour reflecting decisions around physical activity. Physical activity literature has consistently reported that behaviour is difficult to predict; for example, a recent meta-analysis suggested physical activity intention (considered a strong predictor of behaviour) only related to physical activity approximately 50% of the time (Rhodes & de Bruijn, 2013). That finding suggests that it might be useful to explore how people make decisions around physical activity and why they believe their intentions are not always enacted.

Decision-making theories, such as Eccles’ expectancy-value theory (1991), have suggested the importance of considering peoples’ expectancies and values beyond those around physical activity (e.g., around motherhood), while taking into account the influence of personal, social, and societal contextual factors, as
specified in ecological physical activity models on decision-making. Exploring women’s perspectives about physical activity decision-making in the context of other values and expectations might help illuminate the complexity of physical activity decision-making so that health care professionals can consider tailored ways to support women’s physical activity engagement during the postpartum period.

**Postnatal physical activity literature.**

Currently, research about postnatal physical activity decision-making is limited and may not reflect the complexity of the postnatal population. Feminist work seeking women’s perspectives around physical activity decision-making during the postpartum period has been limited to examining mothers with young children (< 5 years) and presented a narrow view because it largely linked decision-making around physical activity to gender socialization and gendered social norms around motherhood (e.g., Thompsson, 1999). Such a narrow approach is inconsistent with ecological models suggesting consideration of a breadth of factors relevant in decision-making (Dworkin & Wachs, 2009; Sallis et al., 2006). Moreover, women living in the postnatal period may have more diverse processes of decision-making around physical activity than women with older children (i.e., < 5 years old) because they make decisions in a different context; women during the first year post birth are less likely to be working (i.e., on maternity leave) and more likely to be coping with infant sleep and breastfeeding concerns (Hunter, Rychnovsky, & Yount, 2009; Sadeh, Luedtke & Wiegand, 2009).

Physical activity feminist literature has approached motherhood from the standpoint of women’s inactivity (e.g., Miller & Brown, 2005). Lewis and Ridge (2005) suggested, from their qualitative study of 40 Australian mothers, that motherhood creates opportunities for reconstructing meanings around physical activity. The postnatal period, despite its challenges, may be an important time for women to change or regain past physical activity patterns but it is important to understand how women make physical activity decisions in order to consider how to promote physical activity in this population.
**Purpose, Definitions, and Significance**

The postpartum period is defined as the first 12 months after birth; postnatal and postpartum are synonymous terms. The purpose of this research was to explore women’s decision-making processes around physical activity within the postnatal period and generate a grounded theory to explain their decision-making. The theoretical perspective guiding the study is symbolic interactionism, which posits that people constantly interpret and act on the basis of meanings objects have for them (Blumer, 1969; Mead, 1934). Grounded theory fits this perspective because it explains conditions that create variability in decision-making and supports understanding of decisional processes (Charmaz, 2006).

The primary research question was: What are women’s decision-making processes about physical activity in the postnatal period? Physical activity was defined as any bodily movement involving energy expenditure above resting, which includes any activity listed on the Ainsworth compendium of activities, and leisure time physical activity (Ainsworth et al., 2011; WHO, 2010). Processes are defined as lines or ways of thinking, in this case, about the engagement in physical activity (Reisberg, 2006).

Decision-making is defined as involving a subjective assessment of the available options for behaviour and judgment about an appropriate line of behaviour (Reisberg, 2006). Decision-making is not a wholly reasoned and controlled process, whereby people consciously weigh options about the costs and benefits of engaging in particular behaviours, because automatic thoughts (e.g., habitual ways of thinking about physical activity) and emotions also influence the decisions people make (Evans, 2008; Reisberg, 2006). Because behaviour is ongoing, decision-making is dynamic (Evans, 2008; Reisberg, 2006). Daily decision-making involves the intersection of conscious (e.g., short-term conscious planning, within the day, within the half hour) and automatic thought processes (e.g., emotions) (Evans, 2008; Wood & Neal, 2007). I am interested in

---

3Resting is defined in terms of 1 metabolic unit or 1 unit of expenditure of energy (Warbuton, 2010).
conscious decision-making processes in the postnatal period from daily to longer term (over the postnatal year), but not moment-to-moment decision-making (e.g., spontaneous, deciding to increase the pace of a run) because women might not access the cognitive processes influencing spontaneous decision-making (Evans, 2008). I intended to explore the decision-making factors women perceive and can consciously reflect on as influencing their decision-making.

The study was intended to increase understanding about how women comprehend complex personal, social, policy, and environmental factors as interrelated in their decision-making. It explores how women make decisions about physical activity during the postpartum period in the context of other competing demands. By examining the meanings women associate with personal, social, policy, and environmental factors and emotions and habits in physical activity decision-making and their relationships, this study potentially contributed to nuanced understandings about how women make decisions around physical activity during the postpartum period that may inform the development of tailored interventions that account for women’s perspectives.

Summary and Thesis Organization

In this chapter, I have provided background information, described the research problem and its significance, the research question, and study purpose. I have highlighted potential study contributions towards understanding postnatal physical activity decision-making. In Chapter 2, I critically review the general and postnatal physical activity literature. In Chapter 3, I provide an overview of symbolic interactionism and grounded theory methodology. In Chapter 4, I describe the methods used to conduct the study, including: ethical considerations, recruitment, data collection, theoretical sampling, analysis, and rigour. Chapter 5 provides a description of the sample, an overview of the core category, and detailed descriptions of the related categories that explain how women make physical activity decisions during the postpartum period. In Chapter 6, I discuss the findings in relation to the existing literature and implications of this research for health care
providers and the health care system. I conclude by describing the implications arising from the study findings.
Chapter 2: Literature Review

Introduction

In this chapter, I present a critical analysis and synthesis of general and postnatal physical activity literature. I begin the chapter by interrogating the use of a literature review in the context of a grounded theory study.

Use of the Literature.

The purpose of this study is to generate a grounded theory; however, there is debate around the use of literature with this approach. Glaser (1978), one of the founders of grounded theory, argued against conducting a literature review prior to data collection because he believed that reading literature could introduce preconceived ideas that would bias the researcher’s theory development. Other authors have argued that it is ethically imperative to situate the research problem in the context of current literature and provide justification for the study through the use of a literature review (McGhee, Marland, & Atkinson, 2007; Walls, Parahoo, & Fleming, 2010). Moreover, they argued that it is unlikely a researcher would be unfamiliar with the literature in his/her field. I take the perspective that a broad literature review is necessary to position the contribution of my research and enhance my theoretical sensitivity, which enriches the researcher’s ability to handle the data theoretically (Glaser & Holton, 2004).

Given the narrow base of the postnatal physical activity decision-making literature, this review incorporates general physical activity literature, as well as decision-making research. I used a range of databases: PsycINFO (1880-present), Web of Science (1900-present), Pub Med (1946-present), Sport Discus (1949-present), and Sociological Abstracts (1952-present) and searched, with no search restrictions, using combinations of keyword and/or MeSH heading terms including: decision-making, judgment, grounded theory, postpartum, postnatal, physical activity, exercise, mother*, barrier*, and behavi*or.
The following review is organized around the general and postnatal physical activity literature. I discuss the limitations of general physical activity literature and critique postnatal physical activity literature around two main areas of inquiry: barrier/facilitation studies and feminist/gendered research. My discussion of decision-making asserts the utility of exploring emotions and goals around physical activity decisions. I conclude by applying my critical analysis of the literature towards a potentially useful approach to develop knowledge about women’s postnatal physical activity decision-making that incorporates ecological physical activity and expectancy-value perspectives.

**General Physical Activity Literature and Critique**

The general physical activity literature has had a strong emphasis on using social cognition and behavioural theories to explain patterns of physical activity and hypothesize/test strategies to influence change in physical activity behaviour, based on findings that a wide range of cognitions⁴ (e.g., self-efficacy, outcome expectations) are associated with physical activity behaviour (Bauman et al., 2012; Heinrich, Maddock, & Bauman, 2011; Mack, Sabiston, McDonough, Wilson, & Paskevich, 2011; Pan et al., 2009; Plotkinoff, Costigan, Karunamuni, & Lubans, 2013; Rhodes & Nigg, 2011). Beyond cognitions, many demographic and environmental factors have been associated with physical activity (e.g., Bauman et al., 2012). For example, Bauman and colleagues (2012) comprehensively reviewed physical activity literature around correlates of physical activity and found that a breadth of variables across individual and social domains have been associated with physical activity behaviour. Specifically, increased age, poorer health status, and increased body weight correlated with decreased physical activity, while heightened self-efficacy, income, perception of social support, and behavioural intention related to increased physical activity. In the Canadian context, these findings were largely supported by Pan and colleagues (2009). They sampled 2,854 Canadian women and found that

---

⁴ Cognition is the overarching term for mental activities involving how people process knowledge (acquire, store, transform, use); cognitions are a product of cognitive processing (Matlin, 2002).
increased education, income, behavioural intention, and self-efficacy, and lower perceived barrier scores predicted higher physical activity levels. Additionally, theory-based intervention studies aimed at enhancing the level of cognitions that support physical activity motivation (e.g., self-efficacy) had varying degrees of success at increasing physical activity levels in participants (e.g., Cramp & Brawley, 2006; Hardeman, Kinmouth, Michie, & Sutton, 2011).

Unfortunately, the success of socio-cognitive and correlational research to explain factors important for physical activity decision-making and behaviour has been limited; correlations between predictors and physical activity are low to moderate on average and the amount of physical activity variance accounted for by socio-cognitive constructs is approximated as fluctuating between 30 and 50% (Plotkinoff et al., 2013; Rhodes & Nigg, 2011). Recent research suggests that only 50% of people who indicate behavioural intention to exercise actually follow through with their intention (de Bruijn & Rhodes, 2013). There are strategies (i.e., creation of implementation intentions or planning around when and where the activity will be performed) that have improved the strength of the relationship between intention and behaviour (Gollwitzer & Sheeran, 2006); however, Belange-Gravel, Godin and Amireault’s (2013) meta-analysis suggested that the effect of these strategies is limited in the domain of physical activity. While socio-cognitive theories and demographic predictors have helped develop theoretical understandings about cognitions and demographic characteristics relevant to physical activity decision-making there remains a gap in explaining decision-making processes that lead to physical inactivity or activity.

Mielewczyk and Willig (2007) identified a limitation of socio-cognitive research as the underlying assumption that health behaviours exist as a distinct entity when, in reality, health behaviours are part of a web of other behaviours that are enacted differently across contexts. For example, cognitive constructs, such as self-efficacy, may not consistently predict behaviour because self-efficacy is not stable in different contexts. A
person quitting smoking may be able to abstain when by his or herself, but at a social event (where smoking might be associated with socializing), self-efficacy to abstain from smoking decreases (Mielewczyk & Willig, 2007). Likewise, an individual’s level of physical activity behavioural intention may vary; in a research setting, a person may have high level of intention to exercise, but across other situations, intentions may decrease. Such differences suggest that research is needed to explore peoples’ differing behaviours and how they might affect decisions around physical activity.

As an extension to this thinking, socio-cognitive health behaviour research has been critiqued as reducing the complexity of health behaviour decision-making by only examining relationships between variables and the behaviour of interest (Mielewycyk & Willig, 2007). Decision-making around physical activity occurs in the context of other behavioural decisions (Mielewycyk & Willig, 2007) but there remains limited understanding about how other behaviours affect cognitions and intersect with physical activity decision-making. For example, one finding of a systematic review of physical activity intention-behaviour relationship moderators was that behavioural intention stability increased the relationship strength between intention and behaviour and that intention instability largely accounted for the inability of people to translate intentions into behaviour (Rhodes & Dickau, 2013). While this interpretation explains intention stability’s influence on physical activity decision-making it does not explain the other competing daily demands (e.g., coping with fatigue) that affect intention stability. To understand decision-making around physical activity it is important to consider interrelationships between cognitions across a range of behaviours that women use.

Authors have critiqued the socio-cognitive health behaviour literature for not adequately explaining why particular variables are related to health behaviour given the contexts of peoples’ lives (Frolich & Poland, 2007; Mielewycyk & Willig, 2007; Shim, 2002). In the context of physical activity socio-cognitive models explain that variables are related to or mediate physical activity but they do not sufficiently explain how living in
particular social contexts and circumstances (e.g., having a high or low income) influence physical activity decisions and perceptions about physical activity (Frolich & Poland, 2007). For example, Schuz and colleagues (2012) found that the socioeconomic status of participants’ neighbourhoods moderated the relationship between health attitudes and physical activity. They interpreted their findings in relation to social cognitive theory by suggesting that increased physical activity opportunities and role models in more affluent neighbourhoods positively influenced peoples’ ability to translate physical activity attitudes into behaviour. While their interpretation offers some suggestions about facilitators that might have positively affected physical activity decision-making it provides a limited account about how the social context of affluence might also influence the breadth of general cognitions (e.g., values and goals), which intersect in physical activity decision-making (i.e., in how valuable physical activity is perceived to be given that social context) (Eccles & Wigfield, 2002; Mielewycyk & Willig, 2007).

Some authors have argued that measurement error across various theoretical constructs and physical activity outcomes partially accounted for limitations in explaining physical activity, although, improvement in measurement might only partially aid in explaining decision-making processes (Brug et al., 2005; Collins et al., 2007; Rhodes & Nigg, 2011). For example, behavioural intention is usually measured by asking participants 1-3 questions about their physical activity intention (e.g., intention in the next month, or next 7 days) (Ajzen & Cote, 2008). Rhodes and Horne (2013) argued that this form of measurement does not take into account how other competing goals and intentions might influence physical activity and suggested replacing the measurement of intention with behavioural resolve. Behavioural resolve measures whether participants would: make exercise a priority; exercise even if they had other demands on their time; and exercise even if they were tired (Rhodes & Horne, 2013). Nevertheless, while measuring behavioural resolve might enhance the explanation of physical activity behaviour patterns, it does not explain what other priorities are, what demands
time, or what makes individuals tired. Thus, improvements in the measurement of socio-cognitive constructs might not extend explanations of the processes of physical activity decision-making because the measurements do not adequately explain the contexts in which people make decisions.

Mielewczyk and Willig (2007) suggested that research is needed to explore contexts of decision-making and, more importantly, what behaviours mean to people so that we can develop more effective health behaviour interventions. Following their line of reasoning it is important to extend explorations beyond physical activity cognitions and demographics, as measured by self-report surveys, and their relationships to behaviour. Researchers need to learn about how people understand their cognitions, and how they operate in different contexts and in the context of other decisions. By understanding meanings and context, researchers can consider how cognitions vary in different contexts and how women understand physical activity in relation to other decisions. Furthermore, researchers can begin to identify ‘when’ and in what situations beliefs relate to behaviour. Only then can they develop effective interventions that work with peoples’ beliefs.

Using qualitative research approaches can augment existing physical activity literature by developing understanding about contexts of decision-making and personal meanings around physical activity. For example, exploring with women how the context of the postpartum period affects their goals and values and how those goals/values intersect with physical activity decision-making can illuminate how inactive women explain their inactivity. Unfortunately, qualitative research has been limited by being undertaken with particular groups in the context of physical activity decision-making. Weed (2010) and others (Holt & Tamminen, 2010; 2011) have systematically reviewed major exercise science and psychology journals. Most grounded theories from those reviews were about elite athletes and their sports (\(N = 11\)); none addressed women’s physical activity decision-making during the postnatal period.
Ecological physical activity research.

There has been a shift toward consideration of ecological theoretical models in understanding engagement in physical activity. Ecologically-guided research has advanced findings from socio-cognitive research (Sallis et al., 2006) because it has explicitly recognized effects of contextual influences on physical activity decision-making, beyond personal factors (i.e., demographic characteristics and physical activity constructs), that include interpersonal, environmental, and policy contexts. The ecological approach has guided physical activity researchers to explore these influences and their relationships to physical activity (Sallis, Owen, & Fisher, 2008). For example, ecologically-guided physical activity research would explore relationships between built environment (e.g., the presence of walkways) and policies around land-use and physical activity decision-making (Sallis et al., 2008). Key to socio-ecological understanding is the presence of interrelationships between all factors that influence women’s decisions about physical activity behaviour (Sallis et al., 2008).

Despite showing promise in considering broader contextual influences ecological research has usually been based on developing understanding about relationships between multilevel factors and physical activity, and not on personal meanings and decision-making processes around physical activity (Frolich & Poland, 2007; Shim, 2002). On the other hand, ecological research can provide a useful framework for researchers to consider personal, social, policy, and environmental factors in decision-making. In the following section, I provide brief definitions of personal, social, policy, and environmental influences using Sallis and colleagues’ (2006, 2008) descriptions, explain how research has explored these areas in relation to physical activity, and speculate about effects of these influences on women’s decisions about physical activity within the postpartum period. The purpose of this section is to explain my thinking about the types of factors that might be relevant for postnatal physical activity decision-making and to highlight a range of possible influences on physical activity decision-making rather than to provide an exhaustive explanation of all research in these areas.
**Intrapersonal factors.**

Sallis and colleagues (2006) collectively referred to demographic, biological, and socio-cognitive factors as intrapersonal influences (herein referred to as personal influences) on physical activity. The influence of personal influences on physical activity behaviour has received the most attention in general physical activity literature (e.g., psychology and sport science research). It has generally been accepted that individuals’ previous accomplishments in sports/physical activity predicted more favourable cognitions to physical activity engagement (e.g., increased self-efficacy and behavioural intentions) (Bandura, 1997; Mack et al., 2011). From a demographic standpoint increased income has been positively associated with physical activity, and age has been inversely associated with physical activity, while increased numbers of children and lower ages of children have predicted lower levels of physical activity (Adamo et al., 2012; Bauman et al., 2012; Pereira et al., 2007; Withall, Jago, & Fox, 2011).

From a biological and psychological stance women’s previous experiences with physical activity might also affect how they make decisions about physical activity during the postnatal period. A life course perspective has increasingly been used to guide health and sport science research (Braveman & Barclay, 2009; Dixon, Warner, & Bruening, 2008; Hertzman & Power, 2006). Traditionally, life course perspectives have been concerned with biological exposures to risk (e.g., low birth weight) and their relationships to health but these perspectives have been expanded to incorporate the intersection of social context with the development of cognitions, health, and behaviour across the life span (Braveman & Barclay, 2009; Giele & Elder, 1998).

Life course perspectives have suggested that experiences have a cumulative effect on peoples’ beliefs and decision-making around health behaviours. For example, in an Australian qualitative study, a life course perspective expanded understanding about why low-income women in their sample had low levels of physical activity (Ball, Salmon, Giles-Cortia, & Crawford, 2006). Women with moderate to high incomes typically
recalled physical activity as enjoyable and related to team sports as children but women with lower incomes described physical activity as being more negative, having usually been associated with walking for transportation purposes. Different meanings associated with physical activity for low and high-income women related to both current and previous experiences. Although women’s current contexts of having low, moderate, and high income can affect decisions about physical activity (Frisby & Millar, 2002) negative early associations with physical activity might also be influential. It might be important when considering postnatal physical activity decision-making to examine not only women’s current context but also their past experiences with physical activity.

**Interpersonal influences: social and media influences.**

Sallis and colleagues (2006) described interpersonal influences on physical activity decision-making behaviour as situated in the sociocultural environment. In brief, interpersonal influences on decision-making about physical activity are those occurring in relation to interactions among people, and so have included, but were not limited to, the influence of culture, peer networks, family structure and support, and social norms (Sallis et al., 2006). Although Sallis and colleagues positioned media in the ‘environment’ portion of their model media could also be considered an interpersonal influence because social interaction has influenced how people interpret media sources (e.g., magazines, newspapers, social media, television) (Dworkin & Wachs, 2009).

Peoples’ beliefs and understandings around physical activity are influenced by socialization processes, which are lifelong processes of knowledge, value, and goal acquisition occurring through interactions with other people and groups (Stockard, 1999). Socialization processes have influenced how people think, act, and interpret their own and others’ actions because people have learned socially acceptable ways of behaving and thinking through interactions. Role socialization has described how people come to understand their roles (e.g.,
mother, friend) through interactions with others; it is the process by which people can acquire similar beliefs as others in these roles concerning behaviours and role expectations (Stockard, 1999).

Gender socialization processes might have influenced women’s perceptions about physical activity. From childhood, women might have had stronger inclinations to view physical activity as more negative and related to weight and appearance than men. Vertinsky (1998) argued that girls have been socialized to understand appearance and attractiveness as highly important and have learned to associate undertaking physical activity with increasing attractiveness and reducing weight. Spencer, Rehman, and Kirk’s (2015) scoping review about gender norms and physical activity in adolescent girls found that girls had complex relationships with physical activity because they enjoyed physical activity but also experienced pressure to be perceived as both feminine and athletic in their physical activity engagement. Consideration of women’s perceptions about how they have been socialized about physical activity could enhance understandings about how women make decisions around physical activity in the postnatal period.

Media is how information is communicated (e.g., newspapers, computer, magazines, and advertisements) to a wide range of people; media might also have influenced women’s beliefs about physical activity and affected their decision-making (McGannon & Spence, 2012; Pankratow, Berry, & McHugh, 2013). Because the body of literature about the influence of media on beliefs is extensive I limit my discussion to how media has been related to goals around physical activity for women.

Media may have reinforced the main goals of physical activity to weight loss and achieving an ideal feminine body, rather than achieving health and well-being. Dworkin and Wachs (2009) argued that, in general, advertising has positioned the ideal female body as one that is toned and slim. Likewise, magazines or images of women in the postpartum period have tended to emphasize the need to return to pre-pregnancy body weight (Dworkin & Wachs, 2009; Fox, Hefferson, & Nicolson, 2009). Moreover, Dworkin and Wachs argued that pregnancy magazines position the return to pre-pregnant body as a responsibility of women to achieve
feminine ideals of a controlled body. Because exercising to reach health goals may be more intrinsically motivating than exercising to achieve weight loss or an ideal feminine body, the tendency for media to have emphasized women’s weight loss in terms of attractiveness over health might have negatively influenced women’s decisions about physical activity within the postnatal period if they believed such goals were not within their reach (Segar, Eccles, & Richardson, 2011). Women’s perceptions of media messages might illuminate how women develop goals and expectations around physical activity in the postnatal period.

**Policy and environmental influences.**

In the ‘policy environment’ Sallis and colleagues (2008) included policies that have influenced recreation and transit service delivery, the accessibility of recreation services, school, and health care, and land development. They used policy to explain influences on physical activity because they argued that policy structures the delivery, quantity, and type of recreation programs, and number and structure of indoor and outdoor facilities (Sallis et al., 2008). Concerning health care and the school systems they argued that policy has influenced programs related to physical activity and education provided to health care providers and educators (Sallis et al., 2008). They situated policy as influencing where recreation facilities are located, when programs are delivered, the cost of programming, and the existence of transit and road systems to access programs or facilities (Sallis et al., 2008). All of the factors they have attributed to emanating from policy decisions could influence women’s decisions about engaging in physical activity.

Cureton and Frisby (2011) conducted a Canadian study with 20 recreational staff from diverse recreation facilities exploring leisure access policy implementation. The leisure access policy ensured that citizens below the Canadian low-income cut-off line could access a facility at reduced cost or free. Cureton and Frisby found that residents had to provide a number of documents to “prove poverty,” which staff reported
could be a deterrent to their decisions to attend (p. 12). Revenue-generating recreation programs were highly advertised while free programs were not because it was assumed participants would find out about them from their social workers. In these examples, the presence of a leisure access policy that complicated physical activity access or absence of policies supporting accessible transport to leisure activities (e.g., a shuttle that picked women up) influenced women’s perceptions of barriers to physical activity. Exploring women’s experiences with recreation services and leisure programming might help to explain how policies around recreation and leisure enter into physical activity decision-making.

Policy and environmental effects on physical activity have been linked because policy has influenced how land is used. Sallis and colleagues (2006) generally characterized environmental factors that could affect physical activity as the presence of walkways, traffic volume, aesthetics, parks, trails, facilities, neighbourhood safety (i.e., the presence of crime), transit, transportation systems, weather, air quality, and topography. Research has suggested that the built environment (i.e., increased presence of aesthetically pleasing facilities and trails compared to traffic congestion and roadways) might influence individuals’ perceptions of facilitators to exercise while increased perceptions of crime and poor weather have been associated with barriers to physical activity (e.g., Wolff & Fitzhugh, 2011). Although environmental factors are intuitively attractive to explain women’s physical activity decision-making during the postnatal period Evenson and colleagues (2009) found that only 25 of 530 American women, surveyed at 1 year post birth, reported environmental factors (i.e., poor weather, lack of facilities) as barriers in their decisions to engage in physical activity; that finding has been supported by general physical activity literature (Duncan, Spence, & Mummery, 2005; Pan et al., 2009). In contrast, in the preceding study, 426 of 530 women reported personal or social factors as barriers in their decisions to exercise (Evenson et al., 2009). In addition to environmental influences on physical activity decision-making it may be salient to examine interpersonal and intrapersonal factors.
**Description of Postnatal Physical Activity Literature**

The postnatal physical activity literature has centred on how interpersonal and intrapersonal factors affect physical activity behaviour. Most postnatal physical activity research is intervention or survey-based and has tested the effects of a physical activity intervention or explored barriers to and facilitators of postnatal physical activity (e.g., Evenson et al., 2009). I identified a small body of qualitative articles that explored mothers’ beliefs around physical activity. None of those studies exclusively sampled women within a year of childbirth (Collins et al., 2007; Hamilton & White, 2010a; Lewis & Ridge, 2005; McGannon & Schinke, 2013; Miller & Brown, 2005; Tavares & Oken, 2008; Thomsson, 1999).

**Postpartum Physical Activity Research Areas and Critique**

The postpartum physical activity literature has explored postnatal physical activity barriers/facilitators and women’s beliefs about postnatal physical activity behaviour. Collectively the literature provides some insight about how women with young children view physical activity and their beliefs about physical activity barriers/facilitators but it does not describe processes involved in physical activity decision-making. This is particularly the case for women who have been physically active during the postpartum period.

**Barrier/facilitator research.**

Physical activity barrier/facilitator research that has informed postnatal physical activity interventions has typically consisted of cross-sectional survey-based studies. In a large postnatal barrier/facilitator survey Evenson and colleagues (2009) recruited 530 American women who were < 20 weeks gestation and measured their beliefs about physical activity barriers and facilitators via surveys at 3 and 12 months postpartum. The women’s most commonly reported barriers to exercise at 3 and 12 months postpartum were lack of time (47% and 51%, respectively), issues with childcare (26% and 22%), and fatigue (12% and 13%), while their most commonly reported facilitators were partner support (16% and 10%), desire to feel better (14% and 9%), and...
social support (11% and 11%). Lack of time and childcare, and fatigue have also operated as major barriers, and social support has been an important facilitator of physical activity in reports of smaller studies of postpartum barriers/facilitators (Doran & Davis, 2011; Groth & David 2008; Symons-Downs & Hausenblas, 2004).

Although prior research has been helpful to understand women’s beliefs about barriers to physical activity it has not explained complex decision-making processes that have influencing their physical activity behaviours. Studies such as Evenson et al.’s (2009) and others (Doran & Davis, 2011; Groth & David, 2008; Symonds-Downs & Hausenblas, 2004) have provided descriptions of barriers but have not examined the relationships between barriers and facilitators in women’s decision-making.

Hamilton and White (2010a) identified 5 major themes and 30 subthemes from their qualitative study of Australian parents’ perceptions about physical activity. They found that parents described a range of decisional factors that motivated (e.g., to model behaviour for their children, support a happy upbringing for their children) or demotivated (e.g., perceptions they could make up for lost activity later, guilt when exercising, and the need to attend to domestic duties) their physical activity engagement. Because the themes were not integrated it was difficult to understand how the different decisional factors were related in parents’ processes of physical activity decision-making. Qualitative strategies that facilitate integration of themes, such as grounded theory, can be used to account for multiple factors affecting physical activity decision-making (Charmaz, 2006; Glaser, 1978).

What barriers/facilitators mean to women, in the context of their lives, is not fully understood. The barrier labelled ‘fatigue’ (e.g., Evenson et al., 2009) could carry diverse meanings for different women. Fatigue might have represented emotional fatigue, physical fatigue, and perceived fatigue from efforts to organize and plan physical activity, or a combination of these meanings; those meanings may differentially affect women’s decision-making processes around physical activity engagement.
Meanings of other barriers/facilitators have received more research attention in parents with older children but further research in the postpartum period that considers interrelationships between these barriers/facilitators would be valuable. Hamilton and White (2010b) explored the meanings that Australian parents of children aged 8 months-21 years associated with social support for physical activity. Parents described types of support across five domains (instrumental (i.e., tangible support, watching children while parents exercised), informational, emotional, reciprocal, and autonomy support) that helped facilitate physical activity. While Hamilton and White highlighted the complexity of social support in relation to supporting physical activity they did not explain how other barriers/facilitators intersected with parents’ decision-making around physical activity or how perceptions of social support beyond exercise (i.e., general perceptions of their relationships with others) influenced parents’ physical activity decisions.

It is important to explore how women understand physical activity and related barriers/facilitators in order to explain influences on their decisions around physical activity. Reported barriers may reflect women’s views about physical activity and the value they place on it rather than an actual lack of time, fatigue, or unavailable childcare. Watson, Milat, Thomas, and Currie (2005) tested an exercise intervention where mothers walked in a group setting with their infants (childcare was not a barrier) but they reported a 20% attendance rate. Studies about leisure-time activity for women within a year of childbirth suggested that women spend on average 2 hours per day on social media websites and text messaging and that this social interaction improves maternal mood (Taveras et al., 2010). Other studies have suggested that women within a year of childbirth watch approximately 2 hours of television per day (Oken, Taveras, Popoola, Rich-Edwards, & Gillman, 2007). Mothers may have viewed such activities as important to improve their moods or to maintain social relationships with friends/partners but may not have attributed such benefits to physical activity.
Feminist and gendered perspectives.

A small body of qualitative research, guided mostly by feminist perspectives and conducted primarily in Australia, has examined the contexts in which women with young children make physical activity decisions (Appleby & Fisher, 2009; Choi, Henshaw, Baker, & Tree, 2005; Hamilton & White, 2010a; Hamilton & White, 2010b; Lewis & Ridge, 2005; McGannon & Schinke, 2013; Miller & Brown, 2005; Thomsson, 1999). This literature has collectively linked women’s inactivity to gender socialization processes. A number of authors have argued that the ‘ethic of care’ and ‘supermom’ discourses have helped to explain why women have found it challenging to decide to undertake physical activity when they have children.

Because women feel morally compelled to care for others at the expense of themselves (i.e., adopt an ethic of care) women have appeared to feel a lack of entitlement to seek leisure pursuits, such as physical activity (Choi et al., 2005; Lewis & Ridge, 2005; McGannon & Schinke, 2013; Miller & Brown, 2005). From a feminist perspective, the lack of entitlement to leisure has arisen from the differences in social norms around domestic responsibilities and leisure between men and women (Thomsson, 1999). For example, McGannon and Schinke (2013) conducted a discourse analysis of a Canadian couple’s interactions around physical activity; the partner explained that his wife needed to exercise during her work lunch hour to keep time for child care and domestic responsibilities (e.g., laundry) because he was not responsible for helping with childcare or domestic responsibilities so that his wife could exercise outside of work. Miller and Brown (2005) interviewed 12 women with young children; some women viewed finding time for physical activity as an additional responsibility, after their childcare and domestic responsibilities. The women described little reprieve because their

---

5 Discourses are ways of thinking that people take up either verbally, in media or print used in everyday social life (Malpas & Wake, 2006). Discourses represent the available and acceptable language people have given their particular context and environment and shape what people can say as well as the knowledge they can generate (Malpas & Wake, 2006).
husbands/partners were often at work or at leisure (e.g., socializing). For those women, a “double standard” existed, whereby their partners’ leisure time was justified but theirs was not (p. 413).

The influence of the ethic of care should be considered within the good mother and supermom discourses. Choi and colleagues (2005) argued that a prevailing ‘supermom’ ideology, the idea that motherhood is natural and fulfilling, has negatively influenced how new mothers interpret postnatal experiences and their behaviour. In their qualitative study of 24 Australian mothers, they found women were mostly disappointed with their postnatal experiences. Most of the women believed they should have been able to cope with their infants and domestic responsibilities; when they found themselves struggling they perceived themselves as not meeting the expectations of motherhood. Rather than asking for help, the women in their study tried to hide their struggles so as not to appear inadequate in terms of sacrificing themselves to care for others. In the context of physical activity decision-making, it is possible some mothers might feel they are not meeting expectations of motherhood if they have to ask others for help (i.e., watching their children or helping with domestic responsibilities) so that they can be physically active.

Lewis and Ridge (2005) interviewed 40 Australian mothers about physical activity and highlighted the effects of the good mother and supermom discourses in creating challenges for mothers to be physically active; they argued that these discourses partly explained what the barrier ‘lack of time’ might mean to mothers. Some women in their study explained they were not physically active because their children’s needs came before their own (i.e., they took up the good mother discourse). Women used the supermom discourse to explain that they believed they should be able to handle their multiple responsibilities (e.g., taking children to sports, putting children to bed, and cleaning). The adoption of the supermom and good mother discourses appeared to reduce the value that the women had placed on physical activity. Lewis and Ridge argued that some mothers positioned physical activity as a non-priority in the context of their other responsibilities; in combination with the ethic of
care ideology the supermom and good mother discourses might have influenced women to put needs of others and domestic responsibilities before their own needs in their decision-making.

While the feminist and gendered qualitative literature highlights sociocultural influences on physical activity decisions authors have bound physical activity decisions to gender and gendered norms (McGannon & Schinke, 2012; Miller & Brown, 2005; Thompssen, 1999) and presented broad societal change about social beliefs about motherhood and the role of a mother as ways to change women’s activity patterns (Lewis & Ridge, 2005; McGannon & Schinke, 2012; Miller & Brown, 2005). Social constructionist gender theorists’ have problematized these types of interpretations by arguing against set constructions of gender and sex roles (i.e., the role of mother) and the over-simplification of relationships between gender and health behaviours (Courtenay, 2000; Kimmel, 1986). Similarly to gender, there are a plurality of ways women take up and construct motherhood because motherhood is enacted in diverse social contexts of daily living, which has further informed ways of thinking about motherhood (Courtenay, 2000). Thus, constructions about gendered ways of thinking in relation to motherhood (i.e., supermom discourse) cannot singularly account for decision-making around health because complex intersections of sociocultural, personal, and structural contexts have influenced women’s perceptions about health and health behaviour, such as physical activity (Courtenay, 2000).

A striking bias in the feminist and gendered research literature is its emphasis on reasons for inactivity; only three studies explored women’s beliefs about the processes of being physically active and only one did not sample elite athletes (Appleby & Fisher, 2009; Lewis & Ridge, 2005; Palmer & Leberman, 2009). Albright and colleagues (2006) found variation in women’s patterns of physical activity pre and postnatally; 26% were active before and after birth and 13% became active post-birth. Their findings emphasized the importance of understanding not only reasons women are inactive during the postpartum period but also reasons they give for deciding to be active. Lewis and Ridge (2005) found that active women in their study justified their activity as something that made them better mothers and partners; they argued that there is opportunity for mothers to
contest the ethic of care and supermom discourses by reframing physical activity as something contributing to family wellbeing. Appleby and Fisher (2009) interviewed 10 elite athletes (marathon-runners) about their return to physical activity postnatally and described women who believed returning to running involved a difficult renegotiation of identity. Their findings are similar to those of Palmer and Leberman (2009) who explored nine elite athletes’ perceptions of returning to physical activity post-birth. A greater emphasis on physical activity engagement could support understanding about how women make decisions to take up or maintain physical activity postnatally.

**Physical Activity Literature Summary**

My analysis about general and postnatal physical activity literature has revealed its lack of emphasis on processes of decision-making. Authors have criticized lack of attention to women’s meanings around physical activity, contexts in which decisions are made, and explanation of relationships between factors/facilitators/barriers to physical activity (Frolich & Poland, 2007; Mielewczyk & Willig, 2007; Shim, 2002). The focus has been on traits/circumstances of individuals who are more physically active and how cognitions related to behaviour rather than the process of choices people made around physical activity and the contexts in which they made those choices.

**Physical Activity and Decision-Making**

While the physical activity literature has generally been positioned as explaining behaviour patterns it also indirectly identifies factors that might be relevant in postnatal physical activity decision-making processes. In the context of the general physical activity literature, cognitive, personal, and environmental factors that are associated with physical activity behaviour might be considered decisional factors. Physical activity cognitions may affect the level of motivation people have to be physically active and the personal value they associate with
engagement in physical activity (Mack et al., 2011). Demographic factors (i.e., level of income) may be related to social contexts that influence cognitions that people have about physical activity (Mielewycyk & Willig, 2007).

Physical activity researchers have advocated for further integration of cognitive decision-making perspectives into socio-cognitive models, which include perspectives about the importance of emotions and habits (Ekkekakis, Hargreaves, & Parfitt, 2013; Rhodes & Nigg, 2011). In the following section, I critically analyze the implications of habit and emotion research in relation to physical activity decision-making and conclude by considering one framework that might be applicable to understanding postnatal physical activity decision-making.

**The influence of habit.**

There has been mixed support for the concept of physical activity (or inactivity) as a habitual behaviour. It is believed that habits (i.e., repeated behaviours) form when individuals have repeated experiences with behavioural decisions (such as exercising) and receive positive feedback reinforcing the decision (Aarts Paulussen, & Schaalma, 1997). When people encounter contextual cues related to the activity (e.g., seeing a gym bag in relation to exercising) cognitions might automatically activate that reinforce or initiate habitual behaviour (Wood & Neal, 2007). Gardner, de Bruijn, and Lally’s (2011) meta-analysis found that the correlation between physical activity habit strength and physical activity behaviour was .44 over 7 studies. When authors have included other variables that might influence decision-making in the prediction of physical activity, the influence of physical activity habit strength is decreased. Rhodes, de Bruijn, and Matheson (2010) tested the influence of habit and the theory of planned behaviour variables on physical activity and found that habit strength only accounted for 7% of variance in behaviour, which was similar to Verplanken and

---

6 The habit strength tool measured automaticity of physical activity behaviour, participant’s identity with physical activity, and frequency of physical activity (Gardner, de Bruijn, & Lally, 2011).
Melkevik’s (2008) findings. Nonetheless, studies have supported the relevance of considering habits in physical activity decision-making.

Habit research brings to the forefront the importance of goals and expectations in decision-making. Wood and Neal (2007) argued, in their theoretical article about goal-habit relationships, that habits represent traces of the initial goals that formed the behaviour. For example, a person’s habit of taking walks may have been initiated related to health goals. Wood and Neal broadened conceptualizations about goals because they argued that goals need not be oriented to the longer term; driving to work or getting the newspaper could be legitimate goals in the context of daily living. Moreover, behaviours performed to achieve goals have not been consistently viewed as positive; sitting on the couch (i.e., being sedentary) or smoking a cigarette could achieve the goal of relaxation (Wood & Neal, 2007). Wood and Neal also suggested that habits have functioned to deliver the “cached value” or the expectations that people perceive with the performance of the behaviour (p. 847). Habitual television viewing or walking might function to deliver an expected ‘cached value’ of relaxation. Habits might be initiated by goals but sustained, in part, because people have held expectations about what performance of the habitual behaviour will deliver.

Exploring peoples’ habits, expectations, and goals in relation to physical activity and their day-to-day lives might be highly relevant in the context of understanding peoples’ decision-making. Wood and Neal (2007) contended that people may not be able to holistically explain their habitual behaviour but by reflecting on habits they can readily infer goals and expectations that support their habits and their personal dispositions (e.g., I am an active person). Likewise, Verplanken and Melkevik (2008) argued that people have consciously assessed their habits as evidenced by their ability to complete habit questionnaires. Regardless of activity levels, asking people to reflect on their day-to-day habitual behaviour in relation to underlying goals and expectations might be useful to develop understanding about factors influencing decisions around physical activity.
Emotions and decision-making.

Cognitive psychology perspectives have highlighted the relevance of emotion in decision-making. Emotion research has emphasized values and expectations and the cyclical and cumulative nature of decision-making. Emotions are states of mind that form in response to a stimulus; they can have various effects on the body, including physiological (e.g., increased heart rate), cognitive (e.g., priming the brain to process information in particular ways), physical (e.g., facial expressions), and behavioural (e.g., people have acted in ways to change their emotional state) (Winkielman, Knutson, Paulus, & Trujillo, 2007). Researchers have argued that decision-making cannot occur without the influence of emotions (van Woerkom, 2010).

Paulus and Yu (2012) provided a useful model about the cumulative nature of decision-making and how emotions impact that process, which is consistent with other emotion-behaviour theorists’ views (Baumeister, Vohs, DeWall, & Zhang, 2007). Paulus and Yu indicated that people assess their options, assign value to each option, and decide how to act to make decisions; following the action (behaviour) people evaluate and process the outcome of their behaviour for use in future decisions. They suggested that emotions are intertwined with each of these steps. Paulus and Yu explained that peoples’ perceptions and valuing of their options have been based, in part, on their emotional responses to particular options. That is, a person’s emotional response to an option affected the weighted value of that option. The emotional response is closely connected to expectations of the outcome of that activity; expectations have been informed by previous experiences and the current context (Paulus & Yu, 2012). They claimed that peoples’ processing and evaluation of the outcomes of their behaviour affected their emotional responses in their next experience involving that decision. For example, a person’s negative experience with jogging (e.g., experiencing an injury as a result of jogging) gets processed and information about that experience might manifest in the future as a negative emotional reaction to jogging. Of course, the actual decision to go for a jog is influenced by multiple factors, but knowledge of the negative
jogging experience has the potential to affect the decisional balance towards jogging or not. A model that has emphasized how previous experiences influenced future decision-making is consistent with the life course perspective and highlights the cumulative nature of decision-making (Braveman & Barclay, 2009).

Expressed perceptions about physical activity-related emotions might explain how expectations relate to physical activity decisions. An important consideration has been people misattributing their feelings to situations when they are actually linked to their internal emotional state (Baumeister et al., 2007; Laird & Lacasse, 2014). For example, a woman may feel guilty about leaving her children to go exercise but attributes her negative emotions to exercising itself even though she enjoys the actual experience of exercising. This point highlights the importance of exploring other influences in decision-making beyond actual experiences with physical activity.

**Eccles’ Expectancy-Value Decision-Making Framework**

In consideration of the literature reviewed, one framework that could increase the sensitivity of researchers to factors influencing women’s physical activity decision-making during the postpartum period is Eccles and Wigfields’ (2002) expectancy-value decision framework because it links ideas about barriers, socio-ecological factors, role socialization, expectations, and goals. The framework has been applied to explain children’s decision-making around physical activity (Chiang, Bird & Molin, 2011), relationships between sport and gender, and decisions related to women’s education and career choices (Eccles & Harold, 1991; Eccles, Wigfield, & Byrnes, 2003; Eccles, 2008; 2009; Wigfield & Eccles, 2000). The framework has integrated concepts, such as expectations, values, goals, and personal, social, and policy/environmental influences on physical activity by acknowledging them as factors that influence physical activity decision-making. Other socio-cognitive theoretical frameworks could be considered decision-making models but they have had limitations in their abilities to incorporate the relevant factors discussed in this literature review and to account for decision-making in the context of other competing decisions (Mack et al., 2011). Because of the complexity
of Eccles and Wigfields’ expectancy-value framework and their extensive consideration of decision-making as cumulative across the lifespan and in the context of other competing decisions the framework could sensitize researchers to many elements of women’s physical activity decisional factors during the postpartum period (Eccles & Wigfield, 2002; Eccles, 2009).

The expectancy-value framework has posited that people have positioned their values against their expectations for success in particular activities to determine whether or not they would engage in that activity (Wigfield & Eccles, 2000). For physical activity, the framework has suggested that expectations are informed by past experiences, self-belief of physical activity ability, and beliefs about the difficulty of physical activity (Wigfield & Eccles, 2000). Moreover, the value of physical activity is informed by a person’s long and short-term goals (i.e., how useful is physical activity to achieve his/her long and short-term goals), a person’s identity beliefs (i.e., does the person believe being a physically active person is important and consonant with who he/she believes him/herself to be), and the negative consequences of engagement (i.e., cost) (Wigfield & Eccles, 2000). Developers of the framework argued that the more strongly a person values an activity, the more likely he/she will persevere to engage in the activity regardless of her/his expectations for success (Eccles, Wigfield, & Schiefele, 1998). The framework has extended our thinking about habits to the exploration of goals in relation to behaviour.

The framework has brought together many factors influencing physical activity because it has accounted for how expectations and values are layered and contextual and being influenced by culture, gender, socialization, personal memories, and particular situations. It has theoretically incorporated media, gender, and cultural socialization, as well as interaction with others in the immediate environment, as influences on beliefs about physical activity ability and value (Segar et al., 2011). For example, a partner’s beliefs about the value of
physical activity could influence a woman’s decision-making by affecting her beliefs about whether engaging in physical activity was valuable.

The expectancy-value framework has also positioned decisions about physical activity in the context of other competing values (Eccles & Wigfield, 2002). Women may value behaviours because they are important for their long and short-term goals and self-identity, including behaviours around being a ‘good’ mother, partner/spouse, friend, employee, and family member. The framework has supported the view that behaviours required to successfully meet a woman’s expectations of fulfilling those roles may compete with her desire to be physically active. For example, women who are living in the postpartum period have reported experiencing fatigue from engaging in the activities they believe are necessary to be a good mother and employee (e.g., working long hours, dropping children off at activities, making dinner, cleaning the house, and putting children to bed) (Taveras & Oken, 2008). For those women, meeting what they hold as role expectations for mothers might have been more valuable than getting sufficient physical activity because such behaviours are met with more social approval. Thus, the expectancy value framework has the potential to sensitize a researcher to explore not only women’s expectations and experiences with physical activity but also women’s values across a range of roles and activities and how their values relate to decisions about physical activity.

**Chapter Summary**

Despite inactivity being related to increased risk of chronic disease and obesity research has suggested that women decrease physical activity following childbirth and do not return to pre-pregnancy levels (Bellows-Riecken & Rhodes, 2008). Researchers’ interventions to increase women’s postnatal physical activity have often been ineffective (Hartman et al., 2010). Postnatal physical activity research has explored women’s beliefs about reasons for inactivity and how gender socialization affects physical activity decision-making; however, it
has provided limited accounts of the contexts in which women make decisions about physical activity and the meanings women ascribe to physical activity during the postpartum period.

Physical activity research has focused on using factors related to physical activity to explain physical activity behaviour. I argue that studies attempting to explain physical activity behaviour can be extended by undertaking qualitative research to explore women’s processes of decision-making while attending to varying contexts potentially affecting women’s beliefs about physical activity. Approaching exploration of women’s physical activity decision-making when the researcher is sensitized by an expectancy-value framework offers promise for explaining women’s decision-making about physical activity in the postnatal period.

In this chapter, I have critically reviewed the general/postnatal physical activity, habit, and emotion literature and situated the current study in the context of this research. In the next chapter, I critically review symbolic interactionism, the theoretical perspective underpinning the current study. I describe the strengths and limitations of grounded theory and explain my ontological and epistemological positioning, and theoretical and methodological considerations.
Chapter 3: Theoretical Perspectives and Methodology

Research methods should flow from the underlying epistemology/ontology, theoretical perspectives, and methodological positions from which the researcher is operating. Epistemology is concerned with the nature of knowledge, primarily, who can provide it, how to generate it, and the meaning of the knowledge generated (Harding, 1987). While researchers tend to conflate methodology with theoretical perspectives, I consider a theoretical perspective as a philosophical stance about the nature of the operation of the world, while I consider methodology to be a theory about how research should be conducted, given the guiding theoretical perspectives embedded in a particular epistemological stance (Crotty, 1998; Schreiber, 2001). The term method is reserved for the literal research techniques (e.g., surveys, interviews) (Crotty, 1998). The theoretical perspective informing this study was symbolic interactionism, while the guiding methodology was grounded theory. In the following sections, I describe symbolic interactionism, discuss critiques of symbolic interactionism in the context of developing knowledge about physical activity decision-making, and position myself in terms of the various traditions of grounded theory (i.e., Charmaz, 2006; Glaser, 1978; Strauss & Corbin, 1998). I conclude with a summary of my epistemological assumptions and ontological position given my theoretical perspectives and methodology.

Symbolic Interactionism

In this section, I describe the general perspective of symbolic interactionism, its critiques, and the direction that this theoretical perspective provided for this study. Symbolic interactionism was a particularly valuable theoretical perspective in the context of developing a theory about women’s physical activity decision-making during the postpartum period because it emphasizes the influence of context on decision-making and that peoples’ decisions are based on perceptions about what those decisions will mean for them (Blumer, 1969). Such a perspective fits with my definition of physical activity decisions as subjectively justified and influenced
by personal meanings and multiple contextual factors (Reisberg, 2006). Symbolic interactionism is usually credited to philosopher George Herbert Mead and his student, sociologist Herbert George Blumer. Mead (1934) used several key concepts in his thinking: object, act, symbol, mind, self, and society; key to Mead’s thinking is the view that these concepts emerge through social interaction and are dependent on social interaction. He was deeply concerned about how people make meaning, their behaviours, communication, consciousness, the development of self and mind, and how meanings inform behaviour.

The object.

Symbolic interactionism suggests that what people can know depends on their interactions with others. Mead (1934) considered objects as essentially any ‘thing’ (p.71) that people can act towards. Blumer (1969) more precisely explained objects as anything that someone could make reference to, whether it is physical (i.e., a house), social (i.e., a teacher), or something abstract, such as “moral principles, philosophical doctrines, or ideas, such as justice, exploitation, or compassion” (p. 11). Essential to a symbolic interactionist perspective is the position that individuals can only learn what objects are through interaction with others (Blumer, 1969).

Meanings emerge from interaction. For example, a person can only know what an exercise personal trainer is because he/she has interacted with others and learned what a personal trainer is and associated meanings attached to the object personal trainer.

Because objects are socially constructed Mead (1934) argued that objects can vary in their meaning for different people and in different situations. For example, for a competitive athlete, physical activity may be associated with prestige and his or her career, whereas for a person who swims recreationally it could be associated with enjoyment or relaxation. Meaning might also vary by context; for the athlete in a competition situation physical activity may carry different meanings than it does when the athlete is going for a recreational run.
The meanings a person has toward an object are important because they influence peoples’ decision-making and how they act toward the object. Blumer (1969) argued that peoples’ behaviours towards objects are guided by the meanings those objects have for them. For example, rather than do an indoor physical activity (e.g., yoga) that she enjoys, a mother might nap when her infant is napping because she believes it will give her energy but physical activity will not. In that context, her association of physical activity with inducing fatigue affects her decision to be physically active.

Symbols, the act, and symbolic interactionism.

The term symbol in symbolic interactionism relates to the commonality in understanding between people that arises through social interaction; symbols are how people represent ideas in thought and how they communicate them to others (Mead, 1934). Mead explained that humans think in symbols; a person’s representation of an object (i.e., a car) in thought is a symbol, something that represents that idea. Likewise, he argued that people communicate ideas to others using symbols, by using words, body language, etc. to represent collections of ideas. Symbols become significant when they invoke a response in the person using it as well as the person they are directed towards because there is shared meaning about the symbols; however, symbols are not significant if the person does not understand the intention of the other (Mead, 1934). For example, if a person did not understand a fitness instructor’s hand cue used to encourage the person to move in a particular direction, the cue would be non-symbolic. There is a lack of mutual understanding of what that cue represents and so the individual does not respond accordingly.

Blumer (1969) argued that people engage in an ongoing process of interpretation of their own and others’ actions to make meanings that influence decision-making and behaviour. He suggested that these processes of interpretation occurred during acts, originally conceptualized by Mead (1934). Mead called an act between two people a social act, comprised of symbolic and non-symbolic gestures, and interpretation. Mead
defined a gesture\textsuperscript{7} as something a person does that makes the other respond (e.g., raise her voice, move towards the person) and symbolic gestures, as those having the function of indicating what the other person should do (e.g., using a hand motion to indicate the person should sit), what the gesturer is planning to do, and what is happening. Mead explained that the social act occurs as follows: a person gestures to another; the other interprets that gesture and responds with another gesture, and so on. Blumer likened Mead’s description of processes to fitting lines of action during the social act; a person interprets a gesture and acts according to his/her interpretation of what is going on in the situation, whether or not his/her interpretation was accurate. Thus, Blumer explained that personal interpretations substantially influence decision-making and subsequent behaviour.

Blumer (1969) also stipulated that a social act was not only between two people, but could also be between organizations or social groups. He indicated that the interpretation at that level involved group discussion to develop a line of action. For example, in a business merger, the parties involved would interpret their own and the other party’s behaviour to discern how to act. Crucially, each party’s interpretation of his/her own behaviour and that of others is influenced by some set of common understandings about appropriate lines of action in that particular situation. Notwithstanding commonality in understanding about appropriate ‘merger’ norms, Blumer argued that social action was not constrained to these normed patterns of behaviour.

**Emergence of the act.**

Blumer (1969) and Mead (1934) were careful to avoid suggesting that the meanings people attach to certain objects necessarily direct behaviour because they viewed behaviour (the act) as variable and emergent; they believed behavioural decisions depended on a particular situation. For example, in an interaction between

\textsuperscript{7} The gesture was a novel concept Mead (1934) developed from philosopher William Wundt that helped address the standstill of parallelism existing in psychology/sociology at the time, which Mead described as the ontological problem of an object and a person’s interpretation, but nothing that binds the person’s interpretation to the object.
two people during a job interview, each would person bring his/her behavioural tendencies and understandings but how those influence the interaction is unpredictable. If a person who normally associates interviews with stress is interviewed by a manager who turns out to be an old friend the interviewee may be more outgoing and at ease during that particular interaction because he/she interprets the manager as friendlier or more likely to give him/her the job. Likewise, a manager normally stern during interviews might be less so because he/she is interviewing an old friend. Hence, the behaviours of both the interviewee and manager emerge during the interview based on their interpretations of the situation.

Not only does behaviour emerge during interaction but also meanings people attribute to a situation arise from the situation itself (Mead, 1934). How a person understands and makes meaning of a situation depends on what they believed happened in that situation. For example, how a track and field athlete interprets a loss in competition depends on any number of things: the reaction and interaction with her/his coach, family, and other competitors following the loss; what happened in the weeks leading up to the competition; what happened on that particular morning; and whether he/she had injuries, etc. If his/her coach believed that there was something unfair about the race, this view could influence the athlete’s construction about how valid the loss was; the athlete may construct the meaning of the loss as not related to lack of skill per se but the unfairness of the race. Hence, the athlete’s construction of the loss emerged from the situation itself, not simply because of how the athlete was preconditioned to understand it. The athlete’s construction of the situation represents a new object that will influence the athlete’s decision-making around competition in the future; this reflects a final important point about the act; through the act and use of symbols new objects are created (Mead, 1934).

Mind.

The notion of emergence is important to the symbolic interactionist perspective in general, and can be found in Mead’s (1934) thinking about the mind, self, and society. Mead argued that a person’s mind only
exists in relation to others because a person can only think about those significant symbols that he/she has internalized through interaction. For example, a person can only feel sad about a competition loss because of internalized social meaning about what a loss represents. Rather than signifying people as incapable of unique thought Mead contended that unique combinations of social experiences allowed individuals to generate unique thought. Thus, he positioned human thinking as constrained by social interaction but also enabled by the diversity of social interactions.

Mead (1934) depicted humans as rational, thinking animals but also acknowledged the role of the unconscious in behaviour, albeit somewhat abstractly. Blumer (1969) downplayed the role of the unconscious in human behaviour; although he acknowledged that people could behave habitually, he also constructed humans as rational actors that intentionally selected lines of action. Mead argued that reflexiveness, or the ability of humans to rationally analyze their behaviour and experiences, is what set humans apart from other animals and the primary condition that made mind possible. However, Mead also regarded the mind as implicitly producing and testing lines of action to determine how to act, with action being possible without the actor (person) being conscious of it. For him, the unconscious central nervous system was a part of the act because it provided information about past experiences in the present. Unfortunately, Mead did not clearly explicate how he understood human behaviour as both rationally and implicitly guided. It may be that he assumed people sometimes reflected and determined lines of action thoughtfully and, at other times, decision-making around behaviour was guided more implicitly, which is consistent with decision-making models that individuals incorporate both implicit and conscious reasoning during decision-making (Evans, 2008).

Self.

For Mead (1934) and Blumer (1969) the self was co-dependent with the mind and continually developing through social experience. Mead described the self as an object to itself; he believed that people
could consider themselves and act toward themselves (i.e., people can reflect on their own behaviour and decide to change their behaviour in future). Mead also explained that people could never experience themselves directly rather he believed that it was through taking the standpoint of others (or groups of others) that people experienced themselves. For Mead, a person would interpret and understand his/her behavioural decision and self given how she/he understood others would interpret it. For example, a mother might experience feeling guilty when exercising because she believed others might view her as selfishly taking time to exercise. Thus, Mead and Blumer’s perspectives about the co-dependence of thinking and interpretation in relation to others emphasized the importance of social interaction in developing perceptions.

Mead (1934) also distinguished between the ‘I’ and the ‘me’; two concepts that highlighted the emergent nature of the mind and self. The ‘me,’ he explained, represented the organized self, the self an individual has become through interaction with themselves and others. The ‘I’ represented the in-the-moment act of the individual in response to others and the self. The ‘I’, as such, was not accessible to the individual because the ‘I’ is always in a state of becoming the ‘me’ that one can reflect on (Mead, 1934). The notion of the ‘I’ always integrating into the ‘me’ highlights the perspective of symbolic interactionism that reality for individuals is not fixed; the self (me) is not fixed, but changing through interaction (Blumer, 1969).

Society.

The perspective, about self as an emerging process, extends into Mead (1934) and Blumer’s (1969) conception of society. Society, for Mead and Blumer, was composed of ongoing interaction between groups and individuals. Structures, such as social norms, social roles, culture, and institutional organizations, were viewed as having an influence on ways of thinking and behaviour but, rather than acting as determinants of behaviour, they were merely acting as frameworks for behavior (Blumer, 1969). Structures were not denied in a symbolic interactionist perspective; both Blumer and Mead agreed that structure influenced patterns of thinking and
behaviour but Blumer argued that humans interacted with each other rather than interacting with structure. Critical to their view was that humans were seen as actors constantly dealing with the situations they were in rather than behaving and thinking as though they were preconditioned.

Their viewpoints contrasted with the traditional structuralist view of society, which presupposed society was composed of static structures that shaped thinking and determined behaviour (Blumer, 1969). Blumer (1969) argued that the greatest problem with the structuralist view was that it ignored the role of the self as a reflective being who could choose his/her own behaviour (and to that end acknowledged Mead’s (1934) explication of self as his most important intellectual contribution). Thus, Blumer argued that people have agency to change existing patterns of behaviour with themselves and with others.

The appearance of stability in society, Blumer (1969) explained, was due to common understandings between people within and between groups. He argued that, while a person might engage in interpreting his/her particular situation, often there is mutual understanding between groups and individuals (developed from a history of interactions) that helps guide interpretations and action with relative ease. However, for any number of situations (e.g., novel situations) mutual understanding may not be present and new lines of action are constructed that change these patterns; his statements suggest that behaviours or patterns of decision-making are not necessarily predictable (Blumer, 1969).

**Application of symbolic interactionism to the study.**

Examining the alignment of Blumer’s (1969) perspectives with current critiques of physical activity research reveals the exceptional fit of symbolic interactionism as a guiding theoretical perspective for this study. There has been a lack of empirical investigation about how women understand and make physical activity decisions. The emphasis of the theoretical framework of symbolic interactionism on meaning making and the
importance it places on social interaction guided me to explore how the women understood physical activity and their physical activity decision-making in relation to others.

Another critique of the physical activity literature is the assumption that physical activity behaviour exists as a static entity; in contrast, physical activity behaviour can be unpredictable and is likely influenced by the context in which the person makes the decision (Mielewycyk & Willig, 2007). Mead’s (1934) major contribution was that behaviour is not necessarily predictable; that concept was further developed by Blumer (1969) who suggested that people constantly engage in thinking about their current situations and decide how to act given their understanding of their situations. These perspectives supported my research assumption that understanding context is important. The symbolic interactionist perspective guided me towards understanding the context of decision-making for postnatal physical activity behaviour and how varying contexts related to variation in the women’s beliefs and values about physical activity behaviour.

Blumer (1969) also argued against reality being fixed and the predominant methodology of ‘sociological determinism,’ used during his time. He defined sociological determinism as the idea social interaction was a medium for pre-conditioned attitudes, roles, norms, values, etc.\(^8\) to be played out in a predictable pattern. Given my guidance by symbolic interactionism I was cautious about presuming that particular structures influenced behaviour because I assumed that behaviour is emergent and based on participants’ interpretations of their situations. The emphasis on emergence and social processes in symbolic interactionism enhanced my sensitivity to processes of decision-making around physical activity behaviour.

Because Mead (1934) believed that the act involved both a conscious and unconscious element, and the unconscious element was informed by previous experiences his thinking is consonant in some ways with current thinking around decision-making. However, neither Blumer (1969) nor Mead commented on peoples’

\(^8\)By structure, I refer to that which can have an effect on our cognitions and behaviour (Akram, 2012; Elder-Vass, 2007). Structure can be social, relational, institutional, or embodied (Elder-Vass, 2008).
ability to access their unconscious in explaining their behaviour; therefore, it is not possible to make assumptions about their understandings of unconscious access. Based on decision-making literature I assumed there were limitations to peoples’ abilities to access their unconscious to reflect on their decisions (Greenwald & Banaji, 1995; Greenwald et al., 2009).

Blumer’s (1969) major contribution to the symbolic interactionist perspective (beyond creating the term itself) was an explanation of how to apply Mead’s (1934; 1938) philosophical position towards research. His position concerned the need for synchrony between epistemological/ontological assumptions and research methodology. Because he believed people acted on the basis of the meanings things had for them he also believed that the primary task of the researcher was to seek understanding of participants’ perspectives (i.e., understand how they understood their actions and the meanings they attributed to them) to develop theories. Blumer viewed the participant as the expert knower rather than the researcher. He argued for an exploratory approach to research, whereby lines of inquiry changed and evolved as the researcher began to understand the participants’ perspectives. He encouraged use of a broad number of research strategies, including interviews, observation, diaries, letters, public records, and focus groups. Importantly, he argued against the use of predetermined scientific protocols (e.g., using hypotheses, and statistical analyses) because he viewed these approaches as failing to develop adequate knowledge about the meanings and contexts of the participants under study. In answering the research question I posed, I took Blumer’s recommendations into account by using grounded theory methodology, which emphasizes an exploratory approach.

Symbolic Interactionism Critique

Criticism about symbolic interactionism has varied over time but has primarily focused on symbolic interactionism’s astructural bias, lack of attention to power, and subjective ontology (Fine, 1993). Investigators defending symbolic interactionism have argued that many critiques may not accurately represent symbolic
interactionism but rely instead on how it has been interpreted by individuals (Dennis & Martin, 2005; Maines, 2001; Snow, 2001). While it is important to consider these critiques, it is also important to examine their legitimacy in relation to the works of Mead (1934) and Blumer (1969) and pragmatism, a philosophical perspective underpinning of symbolic interactionism.

A recurring critique involves the view that symbolic interactionism aligns with subjectivist ontology, which posits the existence of multiple realities based on different individuals’ perceptions (Crotty, 1998). Burbank and Martins (2010) contended that symbolic interactionism held an objective relativist stance; reality was relative to the person interpreting it. Critics have suggested that the emphasis of symbolic interactionism on understanding peoples’ subjective experiences and their interpretations conflicts with legitimate knowledge and theory development about human behaviour (i.e., if the knowledge sought is subjective it is difficult to apply it objectively to theory development) (Burbank & Martins, 2010; Fine, 1993).

Critiques of symbolic interactionism that emphasize its subjectivism appear problematic. Mead (1934) obviously aligned with social constructionism. Social constructionism is a philosophical stance that represents knowledge as created and passed on through social interaction and claims that people can only interpret their world based on understanding derived socially (Crotty, 1998). Reality is neither objective nor subjective but it is constructed through interaction; there is a reality but it is a reality that is only viewed through socially derived understandings (Crotty, 1998). Mead clearly did not think reality was subjective because he wrote: “one individual has one experience and another has another experience, and both are stated in terms of their biographies; but there is in addition that which is common to the experience of all” (p. 33). Mead’s perspective indicated that, while he thought people had their own interpretations of their situations, the nature of self as a social being that emerged through social interaction reinforced people’s experiences of commonality in interpretation. In other words, a person’s reality was bound to others, rather than existing independently.
The weight of the subjectivist critique has lessened as critical and post-structural perspectives have become more commonly accepted theoretical perspectives used to guide inquiry; in those perspectives, knowledge is accepted as partial. For example, critical perspectives generally hold reality can never be known because knowledge is always value-laden, contextual, perspectival, and historical (Kincheloe & McLaren, 2005). People’s knowledge is acquired given their experiences, which makes particular knowledge available to them (Kincheloe & McLaren, 2005). The purpose of critical inquiry is not to determine an objective reality but to understand participants’ reality in the best possible ways so as to develop meaningful strategies to address inequities and power imbalances (Kincheloe & McLaren, 2005). Similarly, the purpose of symbolic interaction is not to develop objective knowledge but to understand the perspectives and the behaviour patterns of those under study to develop useful theories about their beliefs and behaviour (Blumer, 1969).

More recently, symbolic interactionism has been viewed as in opposition to critical perspectives; hence a major critique has concerned its astructural bias and lack of attention to how power shapes behaviour because structure and power are major tenets of critical inquiry (Bilton, 2002; Fine, 1993). Those critiques about symbolic interactionism have also been extended to grounded theory methodology, which is often guided by symbolic interactionism (Milliken & Schreiber, 2001).

In the nursing literature, critical inquiry⁹ is proposed to diverge from symbolic interactionism in terms of its purposes, goals, and concepts of interest; that divergence is argued to reveal the weaknesses of symbolic interactionism (Burbank & Martins, 2010; Martins & Burbank, 2011; Sundin & Fahy, 2008). In brief, critically guided health research is concerned with exposing how societal structures (e.g., political, social, and economic), ideology (taken-for-granted assumptions that structure everyday life), power, and intersecting social locations (e.g., culture, gender) shape and/or perpetuate health inequities to consider necessary changes to equalize

---

⁹Critical inquiry includes, but is not limited to the broad streams of research, such as feminist, masculinity, critical social theory, post-structural, post-modern, and post-colonial (e.g., Reimer-Kirkham et al., 2009).
inequities (Kinchloe & McLaren, 2005; Lyons & Chamberlain, 2006, Martins & Burbank, 2011). Critical perspectives typically assume that people’s behaviour is constrained by structures and power and focus on the need for societal level changes (i.e., macro-focused) (Kincheloe & McLaren, 2005).

With its emphasis on individual meaning-making, interpretation, and concepts, such as the self and mind, symbolic interactionism has been positioned as individually focused, and criticized as downplaying or even ignoring the effects of structure and power on behaviour (Bilton et al., 2002; Burbank & Martins, 2010; Dennis & Martin, 2005; Fine, 1993; Snow, 2001; Stryker, 1980; Sundin & Fahy, 2008). Fine (1993) argued that there are limits to peoples’ agency because actions have consequences; people do not have free will to act and behave according to their interpretation as suggested by proponents of symbolic interactionism. Others have indicated that Blumer’s (1969) insistence that institutional structures do not determine behaviour results in symbolic interactionist researchers having limited understanding of the effects of structure on behaviour (Bilton et al., 2002). Moreover, symbolic interactionism has been criticized because the goals and purposes are not clearly delineated beyond an understanding of people’s perspectives and the development of theory (Bilton et al., 2002). Thus, from a critical inquiry perspective, the claim is that symbolic interactionist research is limited; it may lead to understanding about peoples’ behaviour but it will do nothing to change existing structures and power imbalances that lead to health inequities (Sundin & Fahy, 2008).

Response to the astructural bias critique.

Some authors have suggested that the astructural bias criticisms lodged against symbolic interactionism reflect a limited portrayal of the perspective. Snow (2001) argued that the oft-quoted assumptions of Blumer (1969) (i.e., meaning is learned through interaction, people interpret situations and act according their interpretation) have been taken up as representing the perspective when, in actuality, symbolic interactionism encompasses much more content than these assumptions; it includes an emphasis on structure. Both Blumer and
Mead (1934) argued against structure as a behavioural determinant rather than denying its influence on behaviour; thus, symbolic interactionist researchers have accepted the influence of structures (e.g., social norms, policies, and economic context) and ideology on behaviour.

Using the symbolic interactionist perspective; however, requires the researcher to avoid preconceptions about which structures and ideologies might be influencing behaviour; those assumptions narrow what the researcher can understand. For example, physical activity research guided by a postcolonial critical perspective, which is a complex perspective, but involves consideration of intersecting oppressions, such as race and class, for example, is likely to find these to be the relevant influences in physical activity decision-making (Reimer-Kirkham, Baumbusch, Schultz, & Anderson, 2009, p. 353). Nonetheless, symbolic interactionist researchers are expected to be aware of a range of possibly relevant influences on behaviour, including structural factors.

**Response to the power and agency critique.**

Dennis and Martin (2005) argued that using symbolic interactionism as a theoretical approach reveals power relationships; they objected to the reification of power by critical traditions as a distinct ‘entity’ that influences behaviour. Drawing on Foucauldian depictions of power as omnipresent, they suggested that studying social interaction between groups and individuals is as likely to uncover power relationships and constraints on behaviour as macro-sociological approaches. Using research examples of deviant behaviour and alcohol and marijuana use, they described how symbolic interactionist work has revealed processes by which laws and legislation are “established, enforced, challenged, or broken” and explained the work of people enforcing or reacting to those laws and legislation (Dennis & Martin, 2005, p.198). Furthermore, the work that they described has illuminated the complexity of the term ‘deviance’; they found that understanding of the term varies among social groups who construct their own interpretations of behaviour considered deviant. They
argued that symbolic interactionist work explicitly explains how power is created, enacted, contested, and reproduced through social interaction.

By using this theoretical framework, I anticipate that my work about women’s physical activity decision-making will develop my understanding about power and agency through women explaining their beliefs about constraints affecting their decisions about physical activity. These constraints might extend into social, political, and environmental contexts that would reveal how power affects women’s agency beyond interpersonal interaction.

**Pragmatism and the goal of symbolic interactionist work.**

Dennis and Martin (2005) also claimed that power and structure have limited bearing on work guided by symbolic interactionism given its pragmatist underpinnings. Authors often refer to a pragmatist-symbolic interactionism link but they have rarely clearly delineated how this philosophy grounds the symbolic interactionist perspective (Denzin, 1994; Martins & Burbank, 2011). Pragmatism, a philosophy believed to have informed Mead’s thinking, is typically associated with the 20th century philosophers John Dewey, William James, Charles Pierce (Scheffler, 1975), and more recently and prominently, Richard Rorty (1999).

The primary interest of pragmatists is the practical significance of theories and concepts (James, 1907). Specifically, they are interested in whether theories and concepts help in understanding ways people deal with and manage problems (James, 1907; Kallen, 1954). Pragmatists see theories and science as tools to help solve problems, not as means to help develop a truer understanding of reality (James, 1907; Kallen, 1954; Rorty, 1999). Truth is not seen as something that exists per se; rather ideas are true insofar as they work to help solve problems (James, 1907; Rorty, 1999). When a truth no longer works, it is discarded (James, 1907; Rorty, 1999).
To that end, for pragmatists, concepts such as structure and power are judged by their utility, rather than their validity as real structures that affect behaviour (Dennis & Martin, 2005). Pragmatists also dispense with theoretical dualisms, such as structure-agency and macro-micro because what is relevant to pragmatists is not the application of predetermined dualisms about structure or agency but how relevant those views are to people in real-world situations (Dennis & Martin, 2005; Rorty, 1999). Power dynamics, viewed by people as constraints or facilitators, may be highly relevant to decision-making about physical activity but their degree of importance is only understood through engagement with people about their physical activity decision-making; they are only as important as they are to the people dealing with their situations. Thus, pragmatism encourages a critical stance of engagement with commonly accepted theories and terms to consider their relevance (Doane & Varcoe, 2009). In essence, it grounds the researcher to participants’ real-world interpretation and situations rather than allowing for theorizing out of context about the nature of participants’ experiences by researchers (Dennis & Martin, 2005).

Pragmatist thinking is evident in symbolic interactionism and relieves the burden of the criticism that symbolic interactionist work does nothing to change underlying structures and power. Symbolic interactionists seek to understand how participants in their real-world situations act in their situations so that interactionists learn and develop ways with participants to solve their problems (Blumer, 1969). Furthermore, in the context of physical activity decision-making, symbolic interactionist work would not simply be focused on development of individual level interventions (e.g., counseling); participants’ understandings may also reveal structural and power concerns that influence their behaviour (e.g., lack of funds for transportation access to fitness facilities).

**Introduction to Grounded Theory**

I used grounded theory methodology to guide data collection and analysis. Grounded theory is a relatively new methodology. Explicitly credited to Barney Glaser and Anselm Strauss; it has undergone
significant shifts in methodological thinking since its emergence in the 1960s (Charmaz, 2006; Bryant & Charmaz, 2007a). In the process of conducting their (now iconic) sociological work about the death and dying, Glaser and Strauss (1967) developed grounded theory as a novel qualitative methodological approach to understand peoples’ experiences and explain behaviour.

In brief, grounded theory involves identifying a core category that helps to explain the most variation in participants’ behaviour (Glaser, 1978). Unique to the method was constant comparative analysis, which involved using participants’ language and understandings to build codes that were then continuously compared to each other to develop more abstract codes and concepts to create a core category (Glaser, 1978). The resulting theory that developed from this process included a set of interrelated categories that helped explain how participants manage their main concern (Glaser & Holton, 2004). Participants’ main concern can be likened to participants’ primary goal or ‘prime mover’ that, in this case, drives physical activity decision-making (Glaser, 2004, Getting Started, para.1). For example, Hjamhult and Lomborg (2012) conducted a grounded theory study with new Swedish mothers (6-12 postnatal weeks) to explore how they managed newborn care. They described mothers’ main concern as preserving control and integrity; the core category was prioritizing newborn care. Prioritizing newborn care helped them manage the concern of preserving control and integrity while the categories, developing competence, changing focus in relationships, and stretching to the critical level represented interrelated strategies mothers performed to prioritize infant care.

Bryant and Charmaz (2007b) described how the research environment of positivism in the 1960s and 1970s (characterized by a belief in truth and science as a means to develop objective knowledge about the world) accounted for many of the initial procedures of grounded theory. Glaser and Strauss (1967) provided a qualitative method that, in many ways, mirrored quantitative research approaches (Walker & Myrick, 2006). Charmaz (2006) argued that grounded theory emphasized rigour and a systematic data collection approach to
approximate quantitative procedures. Glaser and Strauss’ method of using constant comparison during data analysis was considered by researchers as a way to decrease the researcher’s influence on theory development (i.e., reduce bias) and generate a theory as close to participants’ perspectives as possible (Bryant & Charmaz 2007b; Charmaz, 2000). Incorporating elements of the positivist research environment was necessary for the grounded theory methodology to gain traction and legitimacy in that era (Bryant & Charmaz, 2007b).

Grounded theory was distinguished from quantitative approaches that involved constructing, testing, and verifying hypotheses because Glaser and Strauss (1967) emphasized its inductive nature (Bryant & Charmaz, 2007b; Walker & Myrick, 2006). Glaser and Strauss (1967) argued that the grounded theorist researcher does not enter the study with preconceived hypotheses and sampling strategies; the theory is constructed using participants’ perspectives to develop generalizations about their behaviour. More recently, it has been argued by several authors (Bryant & Charmaz, 2007b; Richardson & Kramer, 2006) that grounded theory more accurately uses an abductive reasoning approach (specifically, Strauss’s later grounded theory approach); although, neither Glaser nor Strauss used the term, Glaser (1992; 2012) consistently referred to grounded theory as inductive, and others have argued against the association of grounded theory with abduction (Reichartz, 2007). Notwithstanding the debates, grounded theory avoids primarily testing hypotheses derived from pre-existing theories (i.e., an initial deductive approach) as the means to develop knowledge.

Abduction is an integrated inductive and deductive approach to reasoning first introduced by pragmatist Charles Peirce. It involves inductively generating novel ideas and then testing those ideas deductively (Peirce, 1957).

Actually, Glaser (1978) mentioned that deductive reasoning is used in grounded theory in the service of inductive logic. He explained the researcher uses deductive reasoning to consider where to sample next and hypothesize about the developing theory; however, he emphasized this is driven by the inductively derived codes. Rather than starting with a preconceived framework and hypotheses, the framework is built from the data, so Glaser considers the approach inductive rather than deductive.
Grounded theory’s alignment with symbolic interactionism.

The theoretical perspective of symbolic interactionism is almost always positioned as underlying grounded theory methodology likely because grounded theory is a logical extension of symbolic interactionist epistemology. One of Blumer’s (1969) main theses was that researchers should be explicit about and align their epistemological perspectives with their research methodologies. He argued that a study undergirded by symbolic interactionism would best fit with an exploratory research methodological approach. Grounded theorists do not adhere to a prescribed framework of inquiry and dispense with preconceived explanatory frameworks and a priori hypotheses (Glaser, 1978). In a grounded theory approach, the types of data, the nature of the sample, and the questions asked of the data are left open and become a product of the research process itself, arising from the researcher’s ongoing analysis of the data and theorizing about the types of data required to build the grounded theory (Glaser, 1978). Hence, grounded theory methodology emphasizes a quality of emergence, much like Blumer (1969) and Mead’s (1934) perspectives about the emergent nature of human action, mind, and society.

Symbolic interactionism’s assertions that people interpret their situations and construct meaning align with grounded theory’s goal to develop a theory that explains how people understand their situations (Milliken & Schrieber, 2001). Milliken and Schrieber (2001) argued that the constant comparative method, which ensures that the researcher integrates the perspectives of participants in his/her construction of the theory, is an extension of Blumer’s (1969) perspective about researchers learning the meanings people attach to their behaviours through exploration and personal interviews. The core category developed in grounded theory is based on an assumption of commonality of meanings between participants that fits with Mead’s (1934) perspective of commonality of experiences. Symbolic interactionism is a fitting theoretical perspective for grounded theory methodology.
**Sensitizing concepts.**

Blumer (1969) also introduced the idea of sensitizing concepts in his critique of sociological theory, which is consistent with grounded theory methodology\(^\text{12}\). He argued that the approach of arbitrarily hypothesizing/testing using abstract concepts was problematic because the concept definitions were predetermined and might not fit a particular research context. While he believed, as did Glaser and Strauss (1967), that researchers entered their research studies with prior knowledge of particular concepts (i.e., social norms, attitudes) he considered their definitions ‘fuzzy’ and open to change. In other words, he suggested that while researchers might be aware of particular concepts they should not search for them but wait to integrate them in a study when they were discussed by participants and seemed relevant.

Thus, sensitizing concepts represent only ideas that a researcher has about factors that may influence the research area under study. Their use is consistent with Charmaz’s (2006) grounded theory approach (that I use to guide this study). She contended that researchers enter a research study with disciplinary sets of knowledge and awareness of different concepts that might influence the research area. She suggested that researchers identify sensitizing concepts to enhance theoretical sensitivity, defined as the ability of the researcher to draw abstract connections between codes to develop a theory about how participants resolve their main concern. Glaser (1978) also supported the use of sensitizing concepts to enhance theoretical sensitivity but he recommended they be used after the researcher had decided on the core category rather than at the outset of the study. Glaser’s (1992) position has been criticized as embracing a naïve perspective by suggesting that researchers can avoid being sensitized to concepts before they start their research (MacDonald & Schrieber, 2001). My review of the literature sensitized me to how personal, social, policy, and environmental factors

---

\(^{12}\) Concepts are socially constructed collections of ideas that in some cases are theory components (e.g. self-efficacy in relation to social cognitive theory) (Rodgers & Knafl, 2000).
might influence women’s decision-making. In chapter 4, I explicitly describe how these concepts sensitized me during my data collection and analysis.

Navigating a Grounded Theory Methodological Course and Epistemological/Ontological Stance

Despite the fit between symbolic interactionism and grounded theory, there has been divergence in grounded theory protocols and the development of the methodology since its inception, which made it necessary for me to navigate a course for the procedures used and to articulate the epistemological/ontological perspective that underpinned my grounded theory approach. In the next section, I describe the divergence in grounded theory approaches and the shifting location of grounded theory and explain my epistemological/ontological position, the approach I used, and associated methodological/theoretical considerations.

Divergence in grounded theory approaches.

A commonly discussed issue in grounded theory is the schism between Glaser and Strauss in the 1990s that centred on data analysis (Charmaz, 2006; Schreiber, 2001). Corbin and Strauss (1990a; 1990b) introduced new and complex coding methods that Glaser (1992) viewed as forcing grounded theory, and antithetical to grounded theory methodology. Specifically, they introduced the axial coding technique, another step in the coding process that followed the first step of open coding and emphasized deconstructing the data and testing hypotheses to verify categories and their relationships (Corbin & Strauss, 1990b). Axial coding emphasized how context and conditions changed relationships between categories (groups of related codes) and the consequences of participants’ actions (Corbin & Strauss; 1990a; 1990b). Corbin and Strauss also introduced a conditional matrix diagram that incorporated consideration of structural conditions, such as economics, cultural values, political trends, and history, to explain relationships between categories (Corbin & Strauss, 1990a; 1990b).
Researchers have mixed opinions on the value of Corbin and Strauss (1990a) coding methods because they have argued that coding has been demystified but that researchers may force the data (MacDonald, 2001; Charmaz, 2006). Glaser’s (1992) claim that Corbin and Strauss’s emphasis on data verification (checking ideas for their plausibility in the data), axial coding, and the conditional matrix actually compromised grounded theory development is convincing. Glaser (1992) insisted that constant comparative analysis, whereby the researcher constantly compared ideas (i.e., codes) in the data to each other, naturally allowed for them to be verified as opposed to forcing particular codes into the theory. Others have suggested that, if the researcher only used ideas from the data, there was no need to go back and test whether they were accurate (Walker & Myrick, 2006).

Corbin and Strauss’s (1990b) more explicit concern with structure, contexts, conditions, and consequences of actions are important; however, such concerns might be addressed in grounded theory by using these as sensitizing concepts. Corbin and Strauss’s (1990a; 1990b) approach addresses some of the criticism about grounded theory’s astructural bias by forcing researchers to consider the complexity of behaviour and how structures might be influencing participants’ beliefs and behaviour. On the other hand, even those who agree that, in principle, structures should be explored have argued against using the conditional matrix and/or axial coding because they view those approaches as unwieldy (Charmaz, 2000; 2006; MacDonald, 2001).

Glaser’s (1978) approach did not ignore analysis about how contexts and consequences affect behaviour; he explicitly encouraged such analyses when developing the core category and articulating its relationships with other categories. Rather than deciding to analyze the data via Corbin and Strauss’s approach, grounded theory researchers might effectively consider using social, economic, cultural, and environmental contexts as sensitizing concepts or ideas that they are attuned to listen for or analyze (Kushner & Morrow, 2003), which is the approach I used for this study. Since the major differences between Corbin and Strauss’s
and Glaser’s grounded theory approaches are in coding strategies I largely adhered to Glaser’s (1992) grounded theory approach (as well as that of Charmaz, 2006).

**The shifting location of grounded theory.**

Despite authors’ depictions of grounded theory as strictly positivist (Bryant & Charmaz, 2007b; Charmaz, 2006; MacDonald, 2001), Glaser seemed to align more with a post-positivist epistemology. Post-positivists believe in the existence of reality but realize researchers’ methods are always flawed and truth is never obtainable (Lincoln & Guba, 2000). Using methods to enhance objectivity is important; however, post-positivists regard all scientific knowledge as representing flawed versions of truth (Lincoln & Guba, 2000). Glaser’s (1978) language about grounded theory’s role to uncover “what’s actually happening in the data” (p.57), and find a theory that “rings true,” coupled with his suggestion researchers can remove bias and get “closer to objectivity” (p.8) seemed to suggest Glaser believed in obtainable truth. Moreover, Glaser’s language around emergence and discovery of theory suggested he viewed a real theory as existing out there that was accessible (Bryant & Charmaz, 2007b). At the same time, Glaser (1978; 2012) has noted that a grounded theory is endlessly modifiable; it is not an accurate depiction of the substantive area per se or verifiable but it is a plausible depiction. Specifically, he has stated the theory is not intended as “proof;” categories are just grounded in the data “not proven, they are only suggested” (1978, p.135). Notwithstanding Glaser’s mixed messages and his epistemological position not fitting squarely with post-positivism, the suggestion Glaser was a strict positivist is misleading.

It would be difficult to claim Glaser as a social constructionist. In a more recent article, Glaser (2012) explicitly argued against the social construction of knowledge, stating researchers have little impact on theory development; they simply ask neutral questions and allow the participants to speak. He suggested that any construction on the part of the theorist is simply bias that can be recognized and acknowledged in analysis.
Furthermore, he insisted that sampling and theory construction is driven by the data rather than the researcher’s biases and positions. Glaser’s strict position, which denies researchers’ influences on the research process, seems untenable. It is widely acknowledged in current social scientific literature that researchers affect the research process in ways that cannot completely be avoided, thus reflexivity, defined as the continual assessment of and reflection on the researcher’s influence during the research process, is a necessary component of undertaking qualitative research (Charmaz, 2006).

Although grounded theory initially was aligned with a positivist/post-positivist stance, its application has broadened. In the last 20 years, authors have argued for the integration of grounded theory methodology with diverse theoretical and philosophical perspectives, such as feminism, critical theory, and postmodernism (Kushner & Morrow, 2003; MacDonald & Schrieber, 2001; Wuest & Merritt-Gray, 2001). Authors’ major criticisms, which parallel critiques about symbolic interactionism, suggested that Glaser’s grounded theory approach neither considered how power and structure influenced behaviour nor provided ethical guidance to conduct research. Wuest and Merritt-Gray (2001) argued that a feminist grounded theory approach allowed for a more ethically-derived and relevant theory because the feminist perspective encourages increased sensitivity to how factors, such as gender, social class, and age, affect behaviour and the researcher’s influence on the process of knowledge generation. Kushner and Morrow (2003) suggested that adding a critical theoretical perspective to feminist grounded theory helps researchers develop theories that can create meaningful social change because they will attend to less explicit behavioural influences (i.e., power, structure, and ideology).

While these authors have thoughtfully articulated the limitations of grounded theory I argue that adherence to a pre-specified approach could be limiting. For example, in Wuest’s (2001) feminist grounded theory about women’s caring she directed scant attention to effects of women’s relationships with others on their beliefs about caring but emphasized effects of structures and resource availability. In her study rationale
she stated that she wanted to develop a theory to consider higher-level (i.e., policy) changes to improve women’s caring experiences. Her aim arguably skewed her interests towards understanding the types of programming, policy, or structural changes that could/should take place to improve women’s caring experiences to the detriment of understanding how immediate social context and relationships influenced women’s experiences. Preconceived lenses or foci of analysis may limit understanding about the many layers of influence that affect peoples’ decision-making.

Charmaz (2000; 2006) has introduced a more generic open-ended approach to grounded theory analysis, which she has called constructivist grounded theory. The major thrust of this approach is that grounded theory methodology is amenable to change; she emphasized the co-construction of knowledge, the researcher’s influence on the research product, and ethical concerns about the conduct of inquiry. Thus, her approach has been flexible, addressed Glaser’s limitations, and avoided using predetermined lenses by which to guide analysis, such as power, oppression, emancipation, structure, and gender.

My grounded theory location.

The epistemological location of grounded theory has bearing on how grounded theory is evaluated, conducted, and interpreted; given the variations in grounded theory application, it is important for researchers to be explicit about their approaches. Briefly, I regard my social constructionist view of knowledge construction as consistent with symbolic interactionism, and largely consistent with Charmaz’s (2006) epistemology/ontology, which I will describe briefly.

Charmaz (2006) argued that all knowledge is perspectival and partial because knowledge is a product of co-creation between the researcher and the participants; objectivity is neither desirable nor attainable. She viewed the goal of the grounded theory researcher as trying to advance the most plausible and useful grounded
theory, not a true objective theory. Charmaz has described how researchers and participants have values and particular perspectives that shape what knowledge can be generated and viewed knowledge as shaped by particular contexts and power relationships. She has claimed a moderate position about reality; viewing reality as socially constructed through interaction and between realism (true reality) and postmodernism (idealism or no reality) (Charmaz, 2006; Bryant & Charmaz, 2007b).

While I generally agree with Charmaz’s (2006) epistemological/ontological position I consider her perspective closer to social constructionism than constructivism. Charmaz (2000; 2006) has claimed that she is a constructivist grounded theorist but she seems to have conflated the two philosophical perspectives of constructivism and social constructionism under the heading of constructivism. The difference between constructivism and constructionism is primarily about differences in views of reality; a constructivist believes in multiple realities while constructionists believe in a reality that is both relative and real (Crotty, 1998). That is, reality exists, but only as it is socially constructed. Social constructionists make an explicit claim that people share common understandings while constructivists claim knowledge is relative and local (Blumer 1969; Lincoln & Guba, 2000; Mead 1934). Charmaz (2006) has consistently stated that she disagrees with a relativist view of knowledge and has described constructivist grounded theory as the perspective whereby data and analyses are social constructions. Such claims are more consistent with constructionism than constructivism.

My epistemological/ontological position is grounded in Crotty (1998), Blumer (1969), and Mead (1934). Crotty cited only three epistemological perspectives (objectivism, social constructionism, and subjectivism) and excluded constructivism. For Crotty, social constructionism naturally aligned with the theoretical perspective

---

13 Which actually Glaser also supported (2004).

14 This is contrary to Lincoln & Guba (2000) who excluded constructionism, but included constructivism. Their position on constructivism is contradictory; they claimed reality is multiple, yet also asserted some knowledge is commonly shared between people; a social constructionist view avoids this issue because it assumes knowledge
of symbolic interactionism because it is based on the understanding of socially constructed meanings that emerge from interactions. He reserved the epistemology of subjectivism for postmodern research perspectives.

My perspective incorporates elements of Charmaz’s (2006) description but I do not subscribe to multiple realities. Given my symbolic interactionist perspective, I view reality as linked to meanings developed in social interactions (Blumer, 1969; Crotty, 1998; Mead, 1934). My view of reality is bound to the commonly understood socially constructed language that exists. I consider that, through processes of social interaction, some knowledge is common between people (Crotty, 1998; Mead, 1934).

I also view the assumption that knowledge is historically bound, partial, contextual, and value-laden as consistent with social constructionism. My knowledge is partial; by engaging with others, I can develop an understanding of their perspectives (Blumer, 1969). I agree; however, that it is only through socially constructed understandings we can communicate each other’s perspectives (Mead, 1934). My knowledge is value-laden; I hold particular beliefs and values that shape how I understand others and myself (Mead, 1934). It is also historically bound and contextual; knowledge I have about a particular situation emerges from the situation itself and my previous experiences (Mead, 1934; Blumer, 1969).

_Theoretical and methodological considerations for my proposed approach._

Although Charmaz’s (2000; 2006) articulation of her epistemological/ontological position could be refined, she has advanced grounded theory methodology by providing methods to analyze texts in grounded theory and articulating how a belief in the co-construction of knowledge shapes the grounded theory research process and interpretation. She also has increased the accessibility of Glaser’s grounded theory method by expanding explanations about coding processes. Charmaz (2006) has been influenced by Glaser because she is shared, while also acknowledging people can have unique perspectives (Mead, 1934).
follows his methodological steps with little variation but she interprets the resulting work differently than Glaser. Thus, I navigated both perspectives in the conduct and interpretation of this study.

Both Charmaz (2006) and Glaser (1978) distinguished a grounded theory from general qualitative work because it is beyond thematic description. My findings must represent my interpretation of women’s decision-making about physical activity within the postpartum period organized as a set of integrated relationships around a core category that explains how women try to manage their main concern (Glaser, 1978). Charmaz argued that the term ‘grounded theory’ connoted a positivistic view whereby a theory predicts behaviour. Rather than view the grounded theory product as a predictive model I view the theory as a way to explain behaviour.

A constructionist view of knowledge places me in a position where I consider my findings as having some applicability to women living in the postpartum period as a group. My view of the findings concurs with Blumer’s (1969) view about how to generate knowledge from a symbolic interactionist perspective; he suggested that the researcher explore the perspectives of those under study to develop understanding about their meanings and perspectives.

**Additional rigour and ethical considerations.**

As suggested by Charmaz (2006), to produce a plausible theory about women’s decision-making, I needed to consider my influence on the research process, how the research process affects the knowledge generated, and how the participants contribute to the theory. I took a reflexive stance. Reflexivity acknowledges the researcher’s influence on the research process by recognizing knowledge as co-constructed and a combined product of the researcher’s beliefs, participants’ perspectives, and the research process (Mruck & Mey, 2007).

Reflexivity needs to be considered at all stages of the research process (Mruck & Mey, 2007). Initially, it was important to reflect on my assumptions and rationale for conducting the study. As a mother who
exercises regularly, I assumed that, while it is difficult to obtain sufficient physical activity, it is possible if one values physical activity. I recognized that merely locating my assumptions and position did not remove my biases because my assumptions and knowledge still influenced who I sampled, the questions asked, my analysis, and how I presented my results (Mruck & Mey, 2007). Therefore, I constantly reflected on how my position as a researcher with a unique social location was influencing the research process (Harding, 1987).

I view qualitative research as a relational process; hence, it was also imperative that I took steps to reduce power differentials between myself and the participant, and to enhance relationality and reciprocity. While reducing power and enhancing relationality and reciprocity are considered ethical principles associated with feminist research, I view them as a logical extension of my belief in the co-construction of knowledge and grounded in current research ethics board criteria (Hesse-Biber, 2006). Researchers can be in a position of considerable power during interviews and over participants’ information; therefore, it is important for them to be sensitive to the effect of the research process on participants and respectful of participants’ information and their willingness to provide it (Hesse-Biber, 2006). This includes finding balance between making space for participants to freely provide the information they want and the researcher asking questions relevant to the developing theory, providing participants with the opportunity to refuse to answer questions, and responding according to participants’ reactions during interviews (e.g., stop asking questions making participants uncomfortable) (Wuest & Merritt-Gray, 2001). It could also include following through with a planned interview, even when the researcher feels no further interviews are needed (Wuest & Merritt-Gray, 2001).

The concept of relationality reflects that, in an interview context, the information a participant provides is connected to the relationship between the researcher and participant (Thayer-Bacon, 2009). Researchers can enhance trust with participants by authentically demonstrating caring and empathy and by responding openly and honestly to participants’ questions directed at them, which can facilitate more meaningful and honest responses from participants (Hall & Callery, 2001). Such honest and meaningful responses are important in the
context of my pragmatist perspective that suggests that research should generate knowledge that can be usefully applied for the benefit of participants (Rorty, 1999).

Reciprocity reflects the view that a participant’s information should not be taken; rather, the information should be meaningfully used and something should be given back to the participant (Harrison, MacGibbon, & Morton, 2001). There is no assurance a participant will gain something meaningful or positive from participating in research; however, a researcher can take measures such as inviting the participant’s feedback, conducting more than one interview, involving the participants in the analysis, and offering a summary of the findings to facilitate reciprocity (Wuest & Merritt Gray, 2001).

**Chapter Summary**

In this chapter I have described my theoretical perspective and methodological approach. My study was guided by symbolic interactionism, which directed me to an exploratory research approach and understanding meanings and perspectives of women around decision-making about physical activity during the postnatal period. While symbolic interactionism has been critiqued for its astructural bias and lack of attention to power I have argued a symbolic interactionist perspective addresses power relationships, albeit obliquely, by exploring individuals’ perspectives on constraints and facilitators in decision-making. Moreover, my sensitizing concepts that were drawn from physical activity literature took into account personal, social, policy, and environmental factors and sensitized me to structural influences. Beyond structural factors, I was sensitized to how emotions and expectancies and values across a range of decisions influence physical activity behaviour.

My symbolic interactionist perspective aligns with social constructionism and my belief that knowledge is socially constructed and reality is both relative and real. While there are multiple approaches to grounded theory inquiry, I have argued against Corbin and Strauss’s (1990a; 1990b) overly complex methods that can force grounded theory and used Charmaz’s (2006) grounded theory approach, which largely aligns with my social constructionist stance. Charmaz’s approach also adheres to most of Glaser’s grounded theory
methodology but adds the notion of co-construction of knowledge. Incorporating Charmaz’s recommendations made it imperative for me to incorporate reflexivity into the research.

In the next chapter I detail the methods used to conduct the research study, including: ethical considerations, approaches to sampling, data collecting, analysis, theoretical integration, rigour, and the study sample and limitations.
Chapter 4: Methods

Introduction

In this chapter, I state my research question, define terms, explain the study design and ethical considerations, and describe the procedures that I used for data collection, sampling, data analysis, theoretical integration, and rigour.

Study Design and Research Questions

This study was qualitative, using grounded theory methodology. The aim of this study was to develop a theory that integrates relationships around a core category to explain women’s physical activity decision-making processes during the postnatal period. The research question was: What are women’s decision-making processes about physical activity in the postnatal period? To explore decision-making I used participant diaries, individual interviews, and document analysis. Grounded theorists presuppose that participants have a main concern in a phenomenon of interest that is the primary mover driving their actions (Glaser & Holton, 2004). A grounded theory helps explain decision-making processes by explaining the main concern and how participants’ try to resolve it through their actions (Charmaz, 2006). I used the data to develop a theory in the form of a core category, with related subcategories, that helps to explain how participants tried to resolve their main concern, which was to minimize discord between their physical activity desires and actual physical activity patterns.

Definition of terms.

In the next section I describe how I defined research question terms, although the women themselves defined physical activity in various ways.
Physical activity: Any bodily movement involving energy expenditure above resting, which includes any activity listed on the Ainsworth compendium of activities and leisure time physical activity (Ainsworth et al., 2011; WHO, 2010).

Postnatal: The period from 0-12 months post-birth.

Decision-making: A subjective assessment of the available options for behaviour and judgment about an appropriate line of behaviour (Reisberg, 2006). Decision-making involves both automatic and conscious cognitive processing (Reisberg, 2006). Postnatal decision-making incorporates daily and longer-term decisions in the context of the postnatal year.

Processes: Lines or ways of thinking, in this case, about the engagement in physical activity (Reisberg, 2006).

Ethical Considerations

I received ethical approval for this study through the Behavioural Research Ethics Board (BREB) at UBC in May 2014 to recruit participants through flyers posted in public venues (e.g., coffee shops, libraries) and online. In October 2014, I received ethical approval for an addendum to edit the recruitment flyer (recruitment flyers: Appendix A and, revised, Appendix B) and expand the venues through which I could recruit participants to include magazines, newspapers, and centres with family programming (e.g., West Coast family centres).

Most interested participants contacted me by email; in a few cases women phoned me. I responded to women’s emails by providing a brief synopsis of the study and the time involved and attaching the consent and information letters (Appendix C and D, respectively). I asked that they read the materials and contact me if they were still interested in participating in the study. For women who contacted me by phone, I discussed the study with them, sent all information via email, and asked them to re-contact me if still interested.
I met with the women twice at a place of their choosing. The initial meeting with participants occurred 3-7 days before the interview to review/sign the consent, explain the diaries (Appendix E), and give a coffee card as a thank you for participating. The women were informed they were not under obligation to complete the interview after our initial meeting.

I interviewed participants at the second meeting and took steps to reduce power differences. Before the interview I aimed to increase the participant’s comfort by sharing my general background as a nurse and giving an overview of what to expect during the interview. I reminded the women that they could stop their interviews at any time, refuse to answer any questions, or change the subject. Participants were also reminded that they could request any information they shared during the interview to be omitted from their transcribed interviews and that they had the option not to withhold their diaries for analysis.

I was attentive and responsive to the participants’ receptiveness and engagement in the interviews. For example, I ended one interview when a participant claimed she was comfortable continuing the interview after receiving multiple text messages from her family but her body language suggested increasing disengagement from my questions. The interview content about physical activity decision-making could raise participants’ personal concerns; in three interviews women became visibly upset when discussing frustrations about weight gain and limited finances. I validated and empathized with their concerns and debriefed participants after the interview; I also offered them links and phone numbers to connect with resources. I sent follow-up emails to these participants, thanking them for sharing their story and providing appropriate links to health services and phone numbers should they experience distress following the interview about the information discussed. Many of the participants wanted to debrief after the interview to understand how their story about postnatal physical activity ‘fit’ with others and whether their story was relevant. I encouraged the mothers by explaining how
many of the aspects they described were similar to other mothers’ depictions and how their particular story helped me further understand aspects of postnatal physical activity decision-making.

All but two participants gave me their diaries following the interview (one had forgotten to bring the diary and one did not complete the diary). None of the women requested that anything be omitted from their transcripts. The women completed the demographic questionnaire following the interview (Appendix F). I gave the participants the option of receiving the study results. All participants asked for the study results and the chance to review the theory. They were all given a brief summary of the study findings in January 2016 and invited to comment (Appendix G).

A transcriptionist completed 14 of the interview transcriptions while I completed the other 16. The transcriptionist signed a confidentiality agreement (Appendix H) and confidentiality was maintained by files that were exchanged with the transcriptionist being encrypted and password protected. Participants’ names were changed into numbers and identifying information (such as names, cities, or locations) was altered on the transcripts.

Data were stored on my personal password protected computer and the paper copies of the physical activity diaries and demographic data, along with the digital recorders were kept in a locked research cabinet in my home office (when not in use). The data will be kept for up to five years for the possibility of a secondary analysis in a secured office at UBC; participants were informed about arrangements for data storage at the time of consent.

**Sampling**

In the section on sampling I describe inclusion and exclusion criteria, recruitment, and sampling approaches.
**Inclusion and exclusion criteria.**

Healthy mothers between 2.5-12 months postpartum\(^{15}\) were eligible to participate, regardless of parity (i.e., the number of children they have) and mode of delivery (cesarean, assisted, vaginal). Because some conditions could be associated with different decision-making processes about physical activity than those of the general population I intended to exclude mothers with chronic conditions that might affect their daily physical activity decision-making (e.g., postnatal depression, multiple sclerosis, paraplegia, cystic fibrosis, type 1 diabetes) and mothers with severe birth complications requiring extended hospital length of stay, (e.g., a hysterectomy or sepsis). None of the participants who contacted me had been diagnosed with these types of conditions or experienced severe birth complications. Two participants had been treated for depression in the past, either in the postpartum period of one of their older children \((n=1)\), or generally \((n=1)\), and one participant indicated receiving ongoing treatment for chronic depression but these women indicated they did not have diagnoses of postpartum depression at the time of the interview.

While I intended to exclude participants with infants who were still in hospital due to complications, those whose infants had severe conditions (e.g., congenital heart defect), or those whose infants had developmental delays none of the participants who contacted me had infants with those conditions. I received an ethical amendment to include women with infants who were born aged 34-36 weeks and who were healthy at the time of interview. I also included women who had a healthy birth of multiples (e.g., twins) and those experiencing common postnatal concerns (e.g., breastfeeding issues).

**Approaches to sampling.**

Grounded theory sampling begins by purposefully sampling participants believed to have relevant information to the field under study (Adolph, Hall, & Kruchten, 2011); thus, I started by sampling

\(^{15}\) To account for the fact that women having a cesarean will not be significantly physically active until at least 6 weeks post-birth.
women within the postnatal period who met the recruitment criteria. At the end of each interview, I used snowball sampling (Polit & Beck, 2008) by asking participants to pass on information about the study to other women they knew who might be interested. Two women participated after learning about the study from another participant.

There were two rounds of recruitment: September-December 2014 and July-September 2015. I recruited participants from the Lower Mainland, with the majority of participants recruited from the Greater Valley Regional District Tri-Cities area (Coquitlam, Port Coquitlam, and Port Moody). In 2014 and 2015 I posted flyers in all of the coffee shops and libraries within the Tri-Cities, as well as in three physician offices and five Churches (either online or on the community board) in these areas. Online, my flyers were posted on Pre/Postnatal fitness websites and Urban Baby Magazine Facebook® pages. In print, my flyer was posted in the Urban Baby Magazine.

As I coded, analyzed, and developed categories I began theoretical sampling wherein I sampled women based on my perceptions of their contribution of incidents to the developing theory (Glaser, 1978; 2004). Participants are sampled theoretically to obtain knowledge to help develop the theory; specifically, they provide incidents that might help refine categories and theoretical relationships (Adolph, Hall, & Kruchten, 2011; Charmaz, 2006). For example, after my first round of recruitment, I found none of participants had used childcare at recreation or fitness centres and only one had allowed other friends and family to provide childcare so that she could engage in physical activity without her baby. I wondered whether women who used childcare held different perspectives about motherhood and physical activity. My awareness that some women used fitness centre childcare or received childcare from others to attend fitness centre programming assisted my theoretical sampling because I re-posted my flyer at fitness centres and online Facebook® pages of fitness centres where childcare was offered to locate women with potentially different perspectives. After posting these
flyers I recruited seven participants who either used fitness centre childcare or received childcare from family and friends to engage in activity without their babies. The use of theoretical sampling helped develop my theoretical coding; for example, the women I recruited who used childcare so that they could engage in physical activity without their children regarded physical activity as central to their lives and I was able to learn more about the perspectives of women indicating higher physical activity centrality. Previously, I had primarily interviewed participants who indicated that they regarded physical activity as more peripheral to their lives.

**Data Collection Sources and Strategies**

Glaser (1978) indicated that grounded theory can be informed through multiple sources of data. Interviews are a primary data collection strategy in grounded theory, although other data sources are also important, such as observation, field notes, and documents (Glaser, 1978). Glaser (2004) actually considered all as data, meaning anything could be considered data if it helped develop the theory. Therefore, data can be derived from many sources, such as media, online documents, or diaries.

Charmaz (2006) distinguished between extant data (i.e., data obtained from sources the participant was not involved in making, such as a magazine article or policy document) and elicited data (i.e., data obtained from participants in the form of surveys, diaries, or interview data). Using multiple forms of elicited data can enhance the researcher’s grasp of participants’ beliefs and understandings, while analyzing extant data can help sensitize researchers to how structural conditions, power relationships, and sociocultural media messages might affect participants’ beliefs (Charmaz, 2006). In this study, I used both elicited data (diaries and interviews) and extant data (textual documents).

**Participant diaries.**

Participant diary data can be considered a form of elicited data to help develop the theory (Charmaz, 2006). Before each interview, I gave each woman a three-day diary. I created a physical activity diary for them
to fill in on an hourly basis to describe their general activity. Because I was particularly interested in the contexts for and complexity of decision-making I also provided a ‘context’ column for participants to add their thoughts, emotions, or environmental considerations (e.g., noise levels) beside the activity column. Along with the blank diary pages, I included a face sheet with a diary template and mock diary entries to provide the participants with a general idea about how they could choose to fill in their diaries. However, I did not provide specifications about what I wanted the participants to include in the context columns, which was consistent with my goal to understand participant’s activities in relation to contextual factors that they believed were salient for them.

I explained to participants that they could fill in as much or as little of the diary as they wanted and were able to provide. I emphasized that the diaries were not just for listing physical activity and they could include all forms of daily activity.

I used the diaries to start our conversations in the interviews. They were valuable for gaining a deeper appreciation of the contexts of the participants’ lives. I typically said little as the women talked about the context of their diaries; most women either talked about some of the thoughts they had when they were completing their diaries or described each day, for a few minutes to up to 20 minutes during the interviews. Most took 7-8 minutes to describe their diaries.

Having the participants write about their activities while describing concurrent contexts was helpful because context comments prompted women to elaborate (e.g., in the activity column, a woman would write ‘prepared for birthday party’, but in the context column, she might write, ‘was very tired and frustrated about having people over’). Women also talked about their contexts in terms of difficulties they had with social support and having to ‘perform’ perfect motherhood.
Our discussion of the diaries identified concerns for the mothers that I could explore later in the conversation. For example, one participant repeatedly talked about her lack of sleep when talking about her diary entries. When I explored this further, she described how sleep-seeking throughout the day shaped her overall daily structure. Having the participant highlight the importance of sleep when describing her diary helped my understanding about the effects of her efforts to achieve sleep on her decision-making around physical activity.

The three-day diary facilitated conversations about participants’ typical physical activity patterns and whether they felt the diary was a fair representation of their activities. Reviewing the diaries helped me understand what the women perceived as physical activity because they discussed their physical activity in relation to instances in their diaries. By highlighting instances of physical activity the diaries also facilitated conversations with the women about their physical activity decision-making processes and experiences with physical activity (e.g., what women felt contributed to their ability to be physically active in that instance, as well as their emotions, and satisfaction associated with the activity).

**Interviews.**

Because discussion around physical activity could also include discussion about sensitive issues, such as diet and weight, I interviewed participants individually (Gray, Williamson, Karp, & Dalphin, 2007). Interviews ranged in length from 45 to 90 minutes. I conducted many interviews ($n = 10$) outside the participants’ homes, e.g., at coffee shops ($n = 7$), a park ($n = 1$), and libraries ($n = 2$), while 20 were conducted at their homes. At most interviews ($n = 26$), the participant’s children were present and, for some, children’s siblings ($n = 3$) or women’s partners ($n = 5$) were also present or in the home. Norlyk, Haahr and Hall (2015) highlighted possible ethical and methodological concerns with conducting interviews when partners are present, since participants may defer to or tailor their responses in the presence of their partner. However, these concerns at the time of my interviews were of lower risk as three of the five partners were not in the same room as the participants and were
occupied doing other tasks (e.g., child care and work). The two partners who came into the room and participated in the conversation did so only briefly (e.g., <5 minutes). The partners’ contributions to the interview might have enhanced the data collected as one partner elaborated on the participant's discussion about lack of childcare, which prompted further discussion about environmental resistance. The other partner engaged in a short conversation with the participant about social norms of motherhood and then left to care for the couple’s infant. Interviews were audiotaped with a digital recorder and transcribed. Fourteen of the transcripts were prepared professionally through a transcription company; I transcribed the remaining 16 interviews. I checked the audiotapes against the transcription company’s transcripts and corrected them as necessary.

I followed a naturalized transcription approach, incorporating information about: paraverbal language (i.e., intonation, pacing – e.g., silences and pauses), errors of speech, ‘ums, ahs’, and information about background noise and context (Davidson, 2009). The hired transcriptionist was also instructed to transcribe as the participants spoke (i.e., including ‘ums’, ‘ahhs’, pauses, and silences) and context (i.e., the participant was interrupted by infant, information about background noise).

When I conducted interviews with children present it influenced the interview flow and duration. Interviews were stopped at least once and some up to twelve times when mothers had to care for their infants or their siblings; most of the time there were 2-3 stoppages during an interview. I used mothers’ engagement in the questioning and body language (e.g., frustrated, tired, and having difficulty thinking) and my questions about whether mothers were able to continue as children’s needs became more explicit to suggest interview closure. That evidence helped me to determine the appropriateness of continuing interview questions. Due to mothers’ needs to focus on my questions and attend to their child(ren) the interviews mostly ended between 55 minutes and 1 hour, at which point the mothers were often either breastfeeding or walking their babies as they talked, (i.e., using some measure to soothe their babies). Interviews were generally fairly relaxed with women indicating that they were fine to continue when asked about their comfort levels. The participants were also
flexible about starting and stopping the interviews as needed. Mothers I interviewed without their children \((n=4)\) indicated they had a specific amount of time that they could commit to the interview, usually one hour to one and a half hours; these interviews were actually less relaxing in nature because we had to keep track of the time and the mothers often received text messages or phone calls during the interviews.

Because the goal of grounded theory is to understand the participants’ main concern and how they resolved it (Glaser & Holton, 2004) I was particularly attuned to participants’ discussions about their concerns around physical activity, how they managed them, and how their behaviours and perceptions changed over time. In particular, I listened for language indicating possible conflict or challenging situations, such as ‘frustrating, but, should be, difficult,’ goal orientated language, such as ‘I want,’ and positive language, such as ‘opportunity and role modeling’ to develop understanding about the women’s main concerns and decision-making. I also listened for language that indicated change over time, such as ‘before, but now, used to, different.’ I was sensitive to women’s perceptions of their feelings in regard to physical-activity decision-making. Importantly, as guided by my symbolic interactionist perspective, I listened for how participants’ created lines of action in relation to their understandings about their situations (Mead, 1934). My commitment to co-construction of knowledge heightened my awareness about interview context, para-verbal behaviour (such as voice inflection and volume), and non-verbal behaviour (such as hesitancies and silences) (DeVault & Gross, 2007; Hesse-Biber, 2006).

Although I generated interview questions in the form of an interview guide for the purposes of highlighting my thinking about possible areas of inquiry (Appendix I) I kept the interviews broad and aimed at understanding the participants’ experiences of physical activity and the meanings they attached to them. Despite bringing the interview guide, I typically did not look at or use it during my interviews. The open-ended nature of my interviews aligned with both Glaser and Holton’s (2004) and Charmaz’s (2006) recommendations that the researcher should simply let the participants explain their experiences in the beginning.
Having participants initiate the interview by describing their diaries created opportunities for them to lead conversations and discuss their daily decision-making contexts and decrease the power differences between us. Participants’ descriptions of their diaries, in addition to my sensitizing concepts, helped guide interview flow and questions. After participants had described their diaries I asked them about their thoughts regarding physical activity when writing the diary and their general physical activity perceptions. I also asked general questions about how they defined physical activity; physical activity changes since having their children; their ideal physical activity patterns; and what they felt affected their engagement in physical activity.

To increase my depth of understanding about participant’s perspectives, I asked participants to elaborate, (e.g., ‘I’m wondering if you could tell me more about why you think it would be weird to let your friends watch your daughter?’). I noticed that, after a few interviews, from reading the transcripts and my reflexive journaling I was moving too quickly between ideas and missing opportunities to summarize and check-in with what I thought I was hearing, (e.g., ‘I’m hearing that it sounds as though sleep was really important for you, but that it has improved recently?’). I started to incorporate these types of summary statements during my interviews, which usually led to more in-depth conversation about the women’s perspectives and decision-making.

I developed several interview guides in response to shifts in my foci during the interviews. I developed two iterations of the interview guides (see Appendix J). These foci evolved as I undertook my analysis and developed the concepts.

As I conducted more interviews I sought to elaborate and further develop categories. I would sometimes preface my questions with other women’s experiences that indicated specific categories I was interested in developing. I would ask whether these perspectives fit for the individual I was currently interviewing (e.g., ‘Some women have talked about a process of increasing physical fitness, does that resonate with you?’). I also listened for variations in how women were describing their experiences and prefaced questions with the range
of perspectives women had highlighted to enhance my ability to compare and contrast incidents with their perspectives (e.g., ‘Some women have described that they dislike attending postnatal mother-baby fitness groups, while others have explained that they enjoy them. How do you see these groups?’).

To enhance the breadth of my category development, I was particularly attuned to novel or unexpected perspectives, or perspectives that contrasted with those of other women; when this occurred I sought elaboration and context. For example, a participant who had repeatedly described that she ‘ought’ to be doing more activity presented a contradictory opinion that her physical activity level was pretty ‘ideal’ (P18). I wondered how she could both be dissatisfied with her activity but also claim it as ideal so I asked how she saw it as ideal.

In the later interviews, I used diagrams at the end of the interviews to communicate about the developing theory and asked for women’s feedback to further develop relationships between the categories and the core category (Appendix K). Women asked questions about the diagram, including seeking further clarification. They were invited to write on the diagrams, although most women did not do so.

**Field notes.**

My symbolic interactionist stance positioned me to view people, including myself, as engaging in ongoing processes of interpretation of their own and others’ actions to make meaning and influence behaviour (Blumer, 1969). Therefore, it was important for me to use field notes to help me to reflect on the ‘act’ of each interview and consider how my questions or demeanor might have shaped or limited what the participants discussed and how my interpretations of the participants’ comments shaped my behaviour and questioning. Some authors have suggested writing brief notes during interviews (Montgomery & Bailey, 2007) but I felt that disrupted interview flow and hindered my engagement with participants so my field notes were written immediately following interviews.

My field notes captured contextual factors that were not necessarily apparent from the audiotapes; they
were my observational accounts or impressions of the interview (Montgomery & Bailey, 2007). Montgomery and Bailey’s (2007) modified field note guidelines directed my field note taking. My field notes included my beliefs about what was going on during the interview and my observations of non-verbal behaviour. In my field notes I was primarily concerned with describing the context of the interview, how it unfolded, the participants’ behaviours, and my interpretations. Specifically, I typically commented on and reflected about my demeanor and about how my day/recent events might have shaped my thinking going into the interview and the questions I asked, as well as the participants’ engagement/demeanors, the babies’ demeanors, and events happening during the interview (e.g., phone calls). Sometimes my field notes prompted further reflection on my initial impressions of the interviews so I would write follow-up notes (see Appendix L for sample field note).

**Theoretical sensitivity.**

During data collection and analysis my theoretical sensitivity, i.e., my ability to make connections and meaning in the data and to draw abstract connections to develop the theory (Glaser, 2004), was enhanced by being sensitized to possible theoretical concepts or factors that influenced decision-making. These factors were highlighted in the literature review: personal, interpersonal (social), environmental, and policy factors, barriers/facilitators, expectancies, values, habit, and emotions. Given the pragmatist underpinnings of symbolic interactionism, deliberately seeking to understand power relationships is considered problematic by some authors (Dennis & Martin, 2005); however, during interviews I was attentive to the constraints and facilitators that participants perceived as influencing their physical activity decisions to increase my sensitivity about how women navigate power relationships to be physically active. For example, women often spoke about a common constraint being lack of time. Because I was sensitized by the literature that lack of time is commonly reported and thus possibly a relevant constraint to explore in developing my theory I would ask for elaboration if women discussed this. I used a variety of approaches (i.e., how the women understood
lack of time, the importance of this constraint in their decision-making, and how it related and compared to other constraining factors they might have already discussed). In this way, I aligned my exploration of women’s constraints and facilitators with a symbolic interactionist and pragmatist stance by seeking to learn about the importance and relevance of these elements (e.g., lack of time) in their decision-making (Blumer, 1969; Rorty, 1999).

During interviews and coding I was sensitive to how women’s descriptions of personal, interpersonal, and environmental factors were influenced by the values and expectations that women held about motherhood, family, and themselves. I was also sensitive to emotional labels the women used, such as guilt, frustration, and ‘feeling good’, and how they positioned these labels as operating to limit or expand their perceptions about opportunities for physical activity. My sensitivity to these factors supported my theory development because I considered the relationships between women’s barriers/facilitators, personal, interpersonal, environmental, and policy factors and women’s emotions, values, and expectations. In other words, being sensitized to a breadth of concepts and carefully listening to the importance and relevance of them helped me to increase the reach and sophistication of my theory development about participants’ physical activity decision-making.

I listened carefully and sought elaboration only as some of the concepts emerged in the interviews to avoid looking for evidence of sensitizing concepts directly (Glaser, 1978). The resistance and centrality concepts that became part of the theory were not identified in the literature; I developed them in response to women’s descriptions of their physical activity, day-to-day lives, environments, and perceptions of the physical and emotional work of motherhood.

My theoretical development was also enhanced through the use of documents, which sensitized me to some of the messages women encountered about the postnatal period, motherhood, and physical activity (Charmaz, 2006). Charmaz described treating documents as means to help understand the research area under study; she also provided guidance about document analysis in relation to sampling documents and asking
questions of them. My symbolic interactionist stance prompted me to think about the ways in which women could interpret the messages and how they might contribute to their physical activity decision-making (Blumer, 1969).

My symbolic interactionist perspective guided my thinking about how meanings influencing women’s postnatal physical activity decisions are constructed through their social interaction and interpretation of objects (Mead, 1934), such as media documents. Although the documents I reviewed do not feature explicitly in the findings, from a symbolic interactionist perspective, it was important for me to explore the extant grey literature to have sensitivity about the broader context of women’s decision-making during the postpartum period and awareness of some of the messages available to women through print and online. The documents contributed to my theoretical sensitivity and development of a theory that was relevant and fit by supporting my understanding of “what is actually happening” in the context of postpartum physical activity decision-making (Glaser, 1978, p. 57). For example, the women who related their difficulty of gauging physical risk to a lack of health provider education fit with hospital pamphlets that I reviewed which omitted information about returning to physical activity.

I initially searched for documents that I viewed as providing the most relevant data for my topic. Where available, I obtained written hospital discharge information concerning physical activity, pamphlets from health care providers and public health nursing offices about health promotion and physical activity, comments in popular parenting magazines (i.e., Today’s Parent), and newspaper clippings from the Vancouver Sun and The Province. Throughout the year of data collection, summer 2014-2015, I searched common online parenting/health agency websites, including, but not limited to: Parenting, Today’s Parent, the Public Health Agency of Canada, Perinatal Services British Columbia, and Health Canada, and photocopied/downloaded relevant articles.

During data collection, some women talked about meet-up and Facebook® groups in their communities;
I became a member of local Tri-Cities (Port Moody, Coquitlam, and Port Coquitlam) online parenting Facebook® groups (‘Crunchy Mommas’ and ‘Ministry of Momsters’) and received post notifications from these groups. Women used terms (e.g., ‘sanctamommies’ - women who are ‘sanctimonious’ in sharing their motherhood perspectives), referred to particular media, such as the ‘What’s your excuse?’ campaign (http://www.mariakang.com/), and mentioned particular community websites, such as the recreation centre online programming guide, Fit4Two®, and stroller fitness. In response I searched these terms and sites, and, when available, downloaded program information and schedules (e.g., recreation/fitness centre online programming schedules within my primary recruitment area).

Women sometimes referenced research studies, books, media campaigns, motherhood ‘stereotypes’, and perceptions about motherhood media messages indirectly or in direct relation to physical activity during the interviews. For example, women talked about how the media promoted a return to their pre-pregnancy body weight, because celebrities, such as Kim Kardashian and Princess Kate, were scrutinized about their postnatal weight. The women described media-based maternal stereotypes they had encountered, such as ‘sanctamommies’, the ‘lazy mom’, ‘super-fit mom’, ‘1950s mom’, ‘goody-bag and Pinterest’ moms. Women referenced research suggesting the importance of outdoor and unstructured play for infant cognitive development and maternity books, such as “Expecting Better” by Oster (2014).

Charmaz (2014) explained that extant data collected during the data collection process can act to “provide evidence for hunches” and “spark new ideas” that enhance theoretical development and sensitivity (p. 51). My comparisons between the documents women referenced and the Facebook® posts I reviewed during the study helped to support some of my hypotheses and to lead me in new directions, enhancing theoretical development. For example, I searched local programming documents (e.g., recreation centre guides) women had referred to and compared these to the interviews. These comparisons helped develop my environmental
resistance categories and ‘confirm hunches’ I had about relationships between women’s views of program availability and the centrality of physical activity. Women indicating physical activity was less important to them positioned programs as less available than women who indicated higher centrality.

The documents and terms that the women referenced in the interviews sparked new ideas about how women positioned themselves in relation to physical activity as a part of their sense of self (identity). For example, I had been sensitized to motherhood stereotypes, from reading the literature and document collection, but some of the women’s points represented new ideas and sources of information for me, such as the ‘Expecting Better’ book, goody-bag moms, and sanctamommies. I searched those terms to find documents that I could code and compare with participants’ descriptions. The documents were helpful for developing motherhood and personal embodiment resistance categories; the women often cited and rejected the messages postpartum media portrayed. Because some women opposed motherhood stereotypes, I was able to access their personal perspectives about motherhood and their effects on physical activity decisions.

Data Analysis

Data analysis of field notes, interview transcripts, documents, and diary data started following my first interview and continued concurrently throughout the data collection process (Charmaz, 2006; Glaser, 1978). Specifically, analysis and progressive development of the theory occurred in tandem with recruitment and sampling. I was guided by Charmaz’s (2006) overall analytic approach but also used Glaser’s texts (1978, 1992) as guides to grounded theory data analysis and theory generation. Charmaz encouraged the use of Glaser’s (1978) methodological steps and principles of grounded theory including: theoretical sampling, coding processes, constant comparison, concurrent data collection and analysis, sensitizing concepts, theoretical sorting and integration, and memoing. She also considered it critical to acknowledge the role of the researcher in the process. Glaser’s (1978, 1992) methodological approaches helped me focus my analysis on participants’ data
but I acknowledge, as per Charmaz’s approach, that the findings represent knowledge derived as a product of the research process, and were influenced by my values and perspectives, as well as those of the participants.

**Data management.**

Charmaz and Belgrave (2012) cautioned against using data analysis software to assist with coding. Grounded theory development, they argued, is a process not readily amenable to the automatic coding features in these systems because it involves personal reflection beyond the capabilities of a software system (e.g., about interrelationships between the categories). Taking these caveats into account I did not use a data analysis software program. The transcripts were re-visited and coded more than once for different purposes. Initially, I printed transcripts and hand-wrote codes in the margins of my transcripts. I had several sets of binders with the transcripts coded at different stages. Field notes were written in Microsoft Word documents, while I used a combination of hand-written and Word documents for my memos and reflective journaling. I used a whiteboard, LucidChart™, and draw.io™ to create diagrams displaying theoretical relationships. I organized my data on my computer using folders to partition different parts of my analysis and organized my memos and interview guides by date to help me track my development of theoretical ideas.

**Coding.**

Coding is the process of generating labels to represent ideas in the data (Charmaz, 2006). My data analysis involved two coding phases, substantive coding (which included open and selective coding) and theoretical coding (Glaser, 1978), although the phases were not exactly linear, as theoretical coding occurred throughout the analysis, after I had developed substantive codes and began theorizing their relationships. I wrote memos throughout my coding process; these are ideas I had during fieldwork or analysis regarding the codes and categories, category relationships, the nature of the core category, and sampling strategies (Montgomery & Bailey, 2007). I frequently stopped my coding to write memos (see Appendix M and N). I also
embedded analytical memos and reflective journals into the field notes (see Appendix L), as the interviews often brought up salient points for the developing theory. The field notes were helpful when analyzing the transcripts as they triggered my memory of each interview. In essence they ‘took me back’ to the interview and augmented my ability to assess the degree to which my questioning or the environment may have influenced participant responses.

**Open coding.**

Analysis of transcripts, field notes, diaries, and documents began with open line-by-line coding (i.e., reading each line and considering whether a code could capture the essence of that line). I developed codes from the participants’ words (Charmaz, 2006; Glaser, 1978, 2004). I constantly asked three main questions during the open-coding process: “What is the data a study of? ...What category does this indicate?... (and) What is actually happening in the data?” (Glaser, 1978, p. 57). I used those questions to sensitize myself to relationships between categories and incidents. I was particularly interested during open coding to code incidents; incidents represented events or actions participants described (e.g., going for a walk, and feeling energized from activity) (Charmaz, 2006). Codes were developed from incidents representing similar ideas. For example, when I was coding interviews 3 and 6, participant 3 described going walking because her babies enjoyed it, while participant 6 described going walking because it soothed her baby. These incidents were coded ‘meeting infant needs through activity’.

As I coded incidents, I compared them, by looking for patterns, similarities, and differences, to develop categories that accounted for those incidents (Charmaz, 2006). For example, the women provided incidents of environmental factors that affected their activity; I compared these incidents to each other to develop my environmental resistance categories: resources, scheduling, and the physical environment.
I compared incidents across the participants and the sources of data. For example, I compared diaries to each other and diaries to the interviews. I was looking for patterns but also searching for differences between the diaries and the interviews. I asked questions of the data and hypothesized reasons for discrepancies, frequently stopping to write or add to memos. For example, one participant had written repeatedly about fatigue in her diary but in the interview claimed overall that her sleep was much ‘better’ than when she had been working night shifts. Because she had stated in the interview that she preferred working to the postpartum period I reviewed my field notes and the transcript to hypothesize that she was trying to mask her feelings of distress at giving up work by emphasizing positive postnatal elements. Discrepancies and similarities across the sources of data helped me develop understanding about the meanings the women attributed to aspects of physical activity decision-making, such as fatigue, which helped me understand their behaviours and refine the properties of the categories.

I compared properties of categories and relationships between categories with incidents to refine the categories (Charmaz, 2006). There were shifts in the category names and category structure during this ongoing process. I had categories subsuming other categories during analysis with aspects of these subsumed categories becoming properties of larger categories. For example, the category ‘dependence avoidance ground rules’, was based on codes ‘trusting others’ ‘being responsible’ ‘acting morally’ ‘preserving relationships’ ‘doing it myself,’ which crossed the developing personal and relational resistance categories (personal, motherhood, and relational perspectives). Thus, I moved codes into these categories: motherhood perspectives (‘trusting others’ ‘being responsible’), relational perspectives (‘acting morally’ ‘preserving relationships’), personal (‘doing it myself’, which I actually moved into the ‘knowing myself’ property of personal perspectives).

I further compared incidents and codes to categories to test their fit in the category. For example, I had developed the code, ‘taking care of myself” based on incidents such as “taking care of myself to take care of
others” and “I’m actually the kind of person who realizes okay I gotta take care of myself”. As the categories developed, it was difficult to discern whether ‘taking care of myself’ fit into the ‘motherhood perspectives’ or ‘personal perspectives’ category. Through the comparative process and revisiting the ‘taking care of myself’ codes, I realized there were two different aspects of ‘taking care of myself’: ‘prioritizing self’ and ‘self-care perspectives’. ‘Prioritizing self’ was specifically a ‘motherhood perspective’ while ‘self-care perspectives’ were the beliefs women had about personal self-care, regardless of motherhood, so I refitted these codes to the respective categories.

Through the constant comparative process I developed numerous hypotheses about relationships between categories and codes that I further explored in the data and interviews. For example, there were differences in perceptions among participants about physical activity programming even from participants living in the same geographic area (e.g., different participants living in the same town thought there was more or less program availability and information). Those differences led me to develop hypotheses from the data that physical activity perspectives might account for such differences. I tested these hypotheses in interviews by asking women their perceptions around local programming and availability and physical activity perspectives. I questioned how women accepted limiting their physical activity despite such a positive regard for it. Exploration of relationships between categories in the interviews and data helped towards my understanding of the core category. I coded the data openly as long as possible to develop and refine the categories (Glaser, 1978).

**Development of main concern and core category.**

Glaser (1978) explained that the core category emerges ‘eventually!’ after ‘much coding and analysis’, even though the researcher may still hold the core category as tentative at that point (p. 95). His comments fit with my experience because I could not fully explain the core category until between interviews 20-21. Once I
had established my core category, I moved from open coding to selectively coding the data around the core category (Glaser, 1978). Selectively coding requires the researcher to code only for categories and their properties that relate to the core category (Glaser, 1978). Charmaz (2006) changed Glaser’s wording of selective coding to “focused” coding; however, the two phases are somewhat similar (p. 57) because categories are coded to develop their properties. Charmaz did not indicate that focused coding began when the core category was revealed, as Glaser did with selective coding; she emphasized that it began when “strong analytical directions” were established (p. 57).

I followed Glaser’s (1978) selective coding approach to code categories as they related to the core category because it enabled me to focus the direction of my developing theory. Because selective coding of the substantive codes develops the properties of the core category (Glaser, 1978) I only coded data that related to reconciling resistance. I compared the resistance categories to determine which aspects fit in each category and to develop the properties and boundaries of the categories. I developed 22 substantive codes around resistance, strategies, and adjusting; as I compared categories, I reduced the substantive codes to 16. Taking my direction from the core category for selective coding helped me refine the main sources of resistance and elements of physical activity centrality resistance, which further developed and refined my core category.

I engaged with a number of tentative core categories. Despite my strong inclinations about the core category by interview 13 I refined the core category through 3 stages from: ‘weaving a path of least resistance’ to ‘calibrating resistance’ and finally, ‘reconciling resistance’. Refinement of the main problem and core category was developed through meetings with my supervisor as I shared my memos, theory diagrams, and discussed the main problem and core category.

After interview 7, I regarded the main problem that women were trying to resolve as satisfying their needs without compromising meeting their infants’ needs (later, others’ needs). I asked explicitly about
women’s perceptions of others’ needs, their own needs, how needs could be met, how needs may have changed over time, and needs in relation to their perceptions about physical activity. Women were trying to meet their needs through their physical activity choices without compromising meeting their infants’ needs. The physical activity choices women seemed most satisfied with were those where both they and their infants benefitted. For example, some women preferred mom-baby Aquafit® because it energized them but also stimulated the babies. A woman who played soccer regarded her baby as benefitting from her not being ‘just a mom’ and having one-on-one time with her partner, which she indicated that she believed was good for father-child bonding.

I refined the main problem several times to ‘continuing to meet their needs through activity without compromising others’, ‘minimizing discord between physical activity centrality-based-desires and actual physical activity patterns, given their resources and family structure’ and finally, ‘minimizing discord between physical activity desires and patterns’.

I recognized similarities and differences between women in terms of their preferred activities, when they would engage with them, and when they would not. Because I noticed that women were trying to synchronize their perceptions about themselves as mothers, partners, and women I thought the core category might be ‘weaving a path of least resistance’, in their decision-making. I thought that captured making decisions that met both their own and others’ needs. As part of selective coding, I used ‘ground rules’ to denote the actions that women would be willing or not willing to do to achieve activity (e.g., allow their infants to be watched by a family member). The women had self-presentation and environmental ground rules that interfaced with physical activity ground rules; they seemed to be weaving these together to make decisions that were least resistant to them.

After 13 interviews I began to incorporate discussion about my theory development into the interview. Women continued to discuss their diaries and their personal experiences but I asked women additional questions about their environments and how finding a path of least resistance when making physical activity decision-
making helped them to meet their own and their infants’ needs. In the final part of the interview, I explained my theory with a diagram (Appendix K) and asked participants to comment or to relate how it fit or did not fit with their experiences.

I found that ‘weaving a path of least resistance’ category did not fully fit as a core variable because it denoted limited agency of action in decision-making and it did not allude to the constant process of reconciling resistance (beliefs) that was occurring for women. It did not fully account for the choices women made. I learned that the ground rule category was not a good fit for the data. While women said the ground rules concept was valid (one participant called it a decisional ‘line in the sand’ about what she would and would not be able to do around physical activity), some women commented that the rules were not fixed and had changed over the course of the year. Those perspectives supported my thinking that ground rules were better positioned as resistance because resistance can vary. Women consistently described a range of similar decision-making aspects that affected their physical activity experiences, although the importance of these decisional aspects varied.

The progressive iterations of main problem and core category developed together. It was not until the physical activity centrality concept was developed between interview 20-21, through conversations with my supervisor and memoing, that I was able to fully explain the main problem and core category. Women commented about the positioning of the physical activity ground rules on the diagram and the processes of changing the ‘ground rules’; I began to think that women’s perceptions about physical activity were important drivers of changes in ‘ground rules’. Through discussions with my supervisor I was able to link physical activity perspectives with meeting women’s needs; physical activity perspectives were important drivers because when women associated physical activity with meeting their needs they were more motivated to achieve it. I reframed
the main problem women were trying to resolve as how to continue to meet their needs through physical activity without compromising others’ needs, given their resources and family structure. When women resolved this concern they had decided upon course of action around physical activity engagement where they were able to meet their own needs through physical activity at a level acceptable to them, within the bounds of their resources and family structure, and not at the expense of meeting other’s needs. I reduced the length of the main concern to increase parsimony, since I recognized the concepts of resources, family structure, and need satisfaction were embedded within the main concern to minimize discord between desires and patterns. To minimize discord between physical activity desires and patterns the women had to take into account their own needs, others, resources, and family structure in their choices.

I revised my diagram (Appendix O) and from interview 23-30 introduced the theory to participants by talking about physical activity centrality, making choices based on the importance of physical activity for need satisfaction, and comfort zones. Compared to the previous diagram, this diagram was simplified. I found using the diagram was helpful for women to connect with the notion of resistance and calibrating and I could explain the theory more dynamically. I introduced the idea that resistance interacted with physical activity centrality and the strategies other women had used to calibrate (later reconcile) their resistance. I shifted the core category to one of calibrating resistance. I initially used the term calibrating to denote that women were trying to come to physical activity decisions where internal feelings of resistance were minimized because they were not significantly compromising meeting their own and others’ needs through their physical activity decisions. Calibrating resistance was later renamed reconciling resistance because reconciling captured the way that women tried to manage resistance by actively dealing with the resistance and amending or resolving it.

Glaser (1978) explained many principles that help researchers identify a core category; some of these being that it, is ‘central’, ‘reoccurs frequently’, and ‘it relates meaningfully and easily with other categories’ (p.
95-96). Reconciling resistance explained the physical activity choices women were making and their satisfaction with those choices, e.g., actively seeking increased activity, synchronizing activities with children, or waiting until children were older to increase physical activity. I recognized reconciling resistance as the core category because it tied major categories together and explained how centrality, resistance, and strategies of engaging worked to allow the women to feel comfortable with their physical activity decisions.

Glaser (1978) also suggested that a basic social process could be identified that is differentiated from a core category because it indicates a social psychological process that occurs over time with at least two phases. I considered my core category a process core category because women gauged what types of physical activities would not compromise meeting other’s needs but would still allow them to meet their needs and then engaged with others and the environment, using particular strategies, and followed engaging with adjusting their gauging based their experiences.

Throughout the coding process, I also coded theoretically. Theoretical codes conceptualize how substantive codes relate to one another by identifying hypotheses (Charmaz, 2006; Glaser, 1978), reduce the categories used to explain the theory (i.e., create a parsimonious theory), and account for the most variation in the data with the fewest number of categories (Glaser, 2004). Glaser (1978) provided a framework of 18 coding families about the types of codes that might emerge or be fitted to other codes. I used theoretical codes from Glaser’s suggested families, such as the context and conditions family (conditions of resistance and centrality, and consequences of using various strategies), degree family (e.g., degree of centrality), and conceptual ordering (high, moderate, low centrality).

As I analyzed and theoretically coded the data I recognized that positioning physical activity centrality as an independent ‘driver’ of decision-making apart from resistance did not fit because the women’s expressions of personal, relational, and environmental resistance were reflections of their beliefs about themselves, their relationships, and environments, much like women’s expressions of how physical activity
supported their needs (physical activity centrality) were also beliefs. The women’s centrality reflected their beliefs about the degree to which different forms of physical activity could meet their needs. Positioning physical activity, personal, relational, and environmental beliefs together in the category of resistance allowed the developing theory to become more parsimonious and fitting, as women reconciled their various beliefs simultaneously.

Throughout theoretical coding, I explained how reconciling resistance allowed women to resolve their main concern and make physical activity decisions that minimized discord between their physical activity centrality desires and their actual physical activity patterns. I looked for points of tension between physical activity beliefs and other sources of resistance and how varying beliefs about activity, the environment, themselves, and their relationships affected women’s gauging. For example, I coded for situations where women might encounter tension (i.e., when they wanted to be physically active independently, but perceived having a ‘high needs’ baby who could not be left with others) and how the women reconciled resistance. I explained how they gauged their risk and accessibility of particular physical activity choices and how particular strategies emerged from gauging and helped the women to resolve their main problem. I coded for the consequences of reconciling resistance for women’s need satisfaction and their perceptions about meeting others’ needs, as well as the consequences of unreconciled resistance, and how women adjusted based on their experiences.

The participant’s diaries helped me theoretically code relationships between the women’s various beliefs and how they reconciled resistance. In the context columns, the diaries often highlighted women’s perceptions about their the levels of their partners’ support, babies’ sleep patterns or difficulty with sleep, and motherhood (e.g., feeling frustrated, tired, or accomplished) that were only sometimes explicitly discussed in interviews. The context comments explained the conditions under which women would pursue different forms of physical activity.
activity. For example, a woman with many positive physical activity associations described her baby being fussy due to teething in her diary. To manage the fussiness she described using walking to calm her baby. Other women, with fewer positive physical activity associations, wrote about similar ‘fussy’ baby days in their diaries but they did not describe using physical activity as a strategy. Under more positive conditions (e.g., on a well-rested day or a day when a partner was home and able to help) I noticed differences in women’s activity choices in relation to physical activity centrality. By examining the women’s perceptions in the diaries in relation to the particular context of that day (e.g., a tiring day because of poor sleep the night before or an exciting day because of company) and actions women choose, I was able to hypothesize theoretical relationships between physical activity, personal, relational, and environmental beliefs, and physical activity choices.

Representations of emotion in the diary text along with additional contextual comments helped me integrate theoretical relationships and ideas about centrality categories (e.g., what needs physical activity was or was not meeting and to what degree) in relation to generalized need satisfaction (e.g., how women were meeting their needs, if not through activity). For example, for some women socializing with friends seemed important, as evidenced by women putting a ‘smiley face’ or exclamation points beside visits with friends or when on Facebook® but not when doing physical activity. Conversely, a woman indicating high physical activity centrality put a ‘frown face’ when the gym daycare was closed suggesting the importance of independent physical activity for her. These women had reconciled resistance by using different strategies of engagement; examining how needs were being met, apart from activity through the diaries and interviews, advanced my understanding about the importance of need satisfaction in relation to making different physical activity choices.

Charmaz (2006) and Glaser (1978) encouraged extensive literature reviews to develop understanding of relevant theoretical codes (i.e., theoretical concepts from other theories) that might help with theory
development. I reviewed literature about social cognitive theories because concepts (e.g., self-efficacy and outcome expectations) were relevant to how participants were positioning physical activity and gauging risk and accessibility. I found many of these theories did not sufficiently position physical activity decision-making within the broader context of generalized decision-making. Specifically, they helped explain how different perceptions might motivate physical activity decisions and behaviour but not how individuals situated their physical activity behaviour in the context of other behaviours. Because I regarded the women’s efforts to position their physical activity decisions within the contexts of their relationships and their ideas about motherhood as central I avoided some existing theories because of their lack of contribution to relevant theoretical codes.

The idea that women with stronger positive physical activity associations (centrality) would be more likely to pursue their desired activities led me to revisit and explore self-determination theory (Ryan & Deci, 2008), which explains human motivation and action, essentially, how humans work and are driven towards action. This theory provided insights about autonomy, relatedness, and competence as they related to human function and helped in my development of the physical activity centrality concept, theoretical relationships between resistance strategies, and women’s motivations for using strategies. Exploring eudaemonia, a theoretical concept embedded into self-determination theory helped me label an aspect of physical activity centrality. Ryff and Singer (2006) explained that eudaemonia relates to conceptualizations of human flourishing and living a ‘rich’ life and includes ideas about human mastery and purpose (p. 13). I titled the women’s expressed needs for competence, confidence, accomplishment, and purpose ‘eudaemonic’ needs because it helped me reduce the number of centrality properties and link those needs together.

16 The phrase and philosophy of eudaemonic living originated with Aristotle (trans. 2011), though authors such as Ryff and Stringer (2006) and Ryan, Huta, and Deci (2008) have re-interpreted and conceptualized eudaemonia based on his writings.
I had not considered physical activity as a solely ‘leisure based’ activity and neglected literature about leisure and constraints. The developing resistance categories led me to research about hierarchical leisure constraints theory (Crawford, Jackson, & Godbey, 1991); it posits that people negotiate personal, relational, and structural constraints sequentially to achieve leisure activities. This theory helped me build insights into the interrelationships between resistance, the women’s strategies for engaging, and their adjustments based on their experiences.

I explored Carol Gilligan’s (1982) work about women’s moral development because there seemed to be moral tension around acting autonomously (making decisions for self and others) and considering how acting autonomously would affect others. Her work helped me understand the women’s main concern, and explore the depth of the meaning of resistance and the ways women positioned physical activity in their decision-making based on their perceptions of themselves and their relationships.

**Memos and theoretical integration.**

Using memos was essential throughout my coding and theory development. Memos either fit into the category of process memos or analytic memos (Bryant & Charmaz, 2007c). Process memos captured my research decisions, ideas about sampling and recruitment, reasons for changes to my interview guide, and rationale for omitting particular theory elements or relabeling concepts, and ceasing recruitment (Bryant & Charmaz, 2007c). They were much shorter in duration than analytic memos; typically, they comprised a series of bullet points. My analytic memos were generally much longer than process memos; these memos referred to ongoing thoughts about categories (e.g., their properties), their relationships, and theory development (Adolph, Hall, & Kruchten, 2011). In actuality, often the two types of memos were not written independently but together, as I coded or reflected on the interviews. Because analytic memos helped me develop my thinking
about the theory and elements of it that were missing and unclear, I found that writing process memos about next directions for my research were important following writing my analytic memos.

I kept track of feedback from participants in my process memos about the study and asked participants at the end of the interviews how the interview and study involvement compared with their expectations. Several women commented that my recruitment flyer gave the impression the study involved more time commitment than it actually did and encouraged participation of ‘fit’ mothers, which led to me altering my flyer and subsequently recruiting a broader range of participants with different levels of physical activity centrality.

During initial coding I used notebooks to handwrite my memos. As I identified similar incidents from different participant interviews during my analysis I ceased using my notebook and began to create Word® documents to write my memos. Early memos were short (around two to three pages or less) and typically were a series of questions and ideas for further exploration (Appendix P).

I also created multiple, running memos (i.e., a memo I added to after each interview about particular categories) and independent memos (i.e., memos that captured particular ideas across all participants), with titles such as: the decisional environment; the nature of time for women during the postpartum period; activity choices women are drawn to and why; views of self and past history as related to exercise; and satisfaction experienced with exercise. I added to these memos as I continued to code.

My later memos were much longer (e.g., 35 pages single spaced) (Appendix M and N). Over time, I found it easier to keep long running memos with new dates marking where I worked on my analysis day-to-day. As I developed more properties of categories, I entered the dates so that I could track my thinking. Integrating my theory required me to return to my notebooks because I was trying to build connections and mind maps; those activities did not fit with word processing programs. I used several notebooks. In total I wrote approximately 200 pages of hand-written memos and diagrams prior to sorting and writing my findings, in addition to my 30 Word® documents.
I created multiple diagrams during my memoing; they included titles such as: “trajectory of postnatal physical activity based on prenatal physical activity, threshold diagram of barriers to physical activity (Appendix R), degree of freedom in decision-making based upon different activities, and ground rules concepts”. I produced multiple diagrammatic iterations of my theory, physical activity centrality, and the decision-making context. These visual representations augmented my ability to communicate my thinking to my supervisor. Sharing the diagrams with her was important to help clarify and refine my thinking because she would ask how the concepts interrelated and worked together. For example, sharing the diagrams was particularly helpful towards the development of the physical activity centrality concept, its relationship to physical activity desires, and the intentionality with which women pursued different forms of physical activity experiences.

The diagrams helped me visualize and integrate my theory because I could imagine different situations and test their fit with different participants. The diagrams also helped me communicate my theory to participants effectively so I could elicit valuable feedback to modify them. Participants highlighted inconsistencies in the way I described my theory and the way it was diagrammed and raised concerns about how physical activity centrality related to the ‘amount’ of physical activity being visually presented. Participants’ feedback helped me raise the conceptual level and integrate my theory because women asked about how resistance (then ground rules) changed and how that was a part of my model; I realized I had been simply describing the state of physical activity decision-making and not the effect of these decisions. In other words, I was missing the processes women were undergoing around gauging, engaging, and adjusting and how aspects of the theory worked.
I also wrote memos in the final phases of the grounded theory development: the sorting and theoretical integration of the theory (Charmaz, 2006; Glaser, 1978). Sorting involved revisiting memos and determining where and how the memos fit as they related to the core category (Glaser & Holton, 2004). As I worked towards theoretically integrating my theory, per Glaser (1978) and Charmaz’s (2006) suggestions, I printed out my memos. I also renamed my memos to highlight the ideas they conveyed and theory elements they discussed.

Glaser (1978) described sorting as guided by analytic rules that enable the construction of a theory; he provided some guidelines, but emphasized that analytic rules change as the theory develops. I sorted memos as they related to the core category to focus my theory; as suggested by Glaser, other concepts that did not relate to the core category were not included during this part of analysis. For example, I had written notes about relationships between participant’s diary data style and interview style, but these related more to the methodology of using diary data to capture perceptions rather than the theory itself, so they were excluded. I also excluded the category ‘perceiving time,’ which was about how women understood time day-to-day in the postnatal period because it did not relate to how they reconciled resistance.

My sorting process occurred throughout writing about my findings. I began by sorting the memos based on the categories to ensure I described the categories and their properties fully. I sorted based on reconciling resistance and the theoretical codes linking reconciliation with different sources of resistance. I also looked for conditions and contexts that varied relationships between theoretical codes by sorting different manifestations of resistance. I sorted based on the women’s strategies, the types of activity women sought, and how they made choices to pursue different forms of activity.

As I refined and integrated the theory I tested its applicability with the participants and added memos. I also asked myself whether the theory explained their decision-making and reviewed my data and memos when relationships between the categories were unclear. My careful analysis helped me move my theory beyond
thematic description towards conceptualization, specifically how the concepts within the theory related and worked (Charmaz, 2006; Glaser, 1978).

I continued with data collection and analysis until the incidents became redundant, i.e., they were not contributing meaningfully to my theory development because the properties of the created categories did not change by adding incidents (Charmaz, 2006; Glaser, 1978). I found that even novel incidents could be folded into existing categories. For example, in interview 26, the participant indicated believing it was risky for her to go cycling with her son in the city because she was concerned about falling off her bike. This was a novel incident; no other participants talked about risk and cycling, but the incident fit within the personal embodiment resistance category property of ‘physical risk’ because she was concerned about the risk to herself.

Toward the end of engaging in new interviews all of the interview data provided incidents that fit within the existing categories and their properties; the data were not adding to my theoretical development of reconciling resistance. I ended data collection at 30 interviews. Finishing data collection does not indicate that the theory is complete. Glaser (1978) argued that the purpose of grounded theory is to explain how concepts operate rather than merely define them, which allows any theory to be always open to modification as further fieldwork could generate new ideas.

**Rigour**

Glaser (1978, 1992) described five main criteria to judge grounded theory rigour: fit, work, relevance, modifiability, and parsimony. He explained that fit was concerned with how well the categories are worked into the developing theory. Work is judged by how well a theory can explain and provide understanding about participants’ management of their major concern and the research area in question, in this case, women’s physical activity decision-making during the postpartum period. He defined relevance as how effectively the theory represents participants’ understanding; he argued that imposing theories and concepts on the data could compromise the relevance of the theory. Glaser described modifiability as the ability of the theory to
accommodate new ideas and categories. Parsimony reflected the notion of balance between developing a small number of concepts and creating a working theory that can explain maximal variation accounted for by the categories and the core category (Glaser, 1978, 1992, 2004). These criteria are based on Glaser’s (1978, 1992, 2004) view that attending to the rigour of grounded theory contributes to the development of a credible theory grounded in the perspectives of participants.

My processes of grounded theory analysis enhanced the relevance and fit of the developing theory because I began by coding participants’ words line-by-line before moving toward more abstract conceptualizations. I did not use a pre-determined framework for my analysis but drew from sensitizing concepts. I considered my influence on the research process by attention to reflexivity, which enhanced the relevance of my work (Charmaz, 2006). My theoretical symbolic interactionism orientation increased theory relevance because it led me to focus on how participants acted in relation to the meanings physical activity had for them and constructed their choices (Blumer, 1969). Relevance was also enhanced by my pictorial presentation of the developing theory with participants (numbers 14-30) directly during the interviews and obtaining their feedback about how I had conceptualized physical activity decision-making. Women raised questions about the diagrams and how the theory worked but mostly they agreed with the strategies I described and the sources of resistance. They indicated that my theory was relevant to them.

Memos were crucial to support a theory that met Glaser’s (1978) criteria for rigour because the memoing process enabled me to develop the theory beyond thematic description of participants’ experiences into a more abstract conceptualization. Process memos acted as an audit trail of my research activity, which helped me to articulate my line of reasoning about the theory development (Montgomery & Bailey, 2007).
Using the constant comparative approach was fundamental to creating a theory that worked, fit, and was relevant (Glaser, 1965, 1978). Because the constant comparative method involved continuous cross-checking of participants’ data throughout the process, the core category I developed is grounded in participants’ words and ideas, enhancing its relevance (Glaser, 1978). Constant comparison also enabled me to consider similarities/differences, otherwise stated as consistency between indicators, concepts, categories, and theoretical relationships, as I developed my theory; it contributed to a theory that fit and worked with the women’s perspectives (Glaser, 1978). Theoretical sampling and memoing enhanced the fit of the categories because they supported testing and exploring emerging ideas. For example, as I interviewed women indicating high physical centrality and wrote memos about centrality, I realized the ‘self-presentation’ perspectives I had initially positioned as personal perspectives represented two conceptual aspects, the elements of which were better positioned within physical activity centrality and personal embodiment resistance.

My consideration of the context of women’s daily decision-making through the diaries and memos helped me develop a theory that was relevant to a first postnatal year that was complex and changing. I constantly assessed whether my core category worked in the context of the women’s dynamic environments when I was engaged in coding and memoing. My constant comparison led to changes in my conceptualizations around ‘ground rules,’ which were too inflexible.

As I integrated the theoretical relationships around the core category, my goal was to create a theory that used the fewest concepts possible but that was modifiable and had the maximal scope and range to explain how conditions and contexts varied these relationships (Glaser, 1978). As I compared and contrasted categories around the core variable I reduced the number of codes needed to explain how women reconciled resistance from 22 to 16. The theory covers a wide range of variability in women’s physical activity decision-making, by explaining how environmental and personal resistance interface with varying levels of physical activity.
centrality. While 16 is higher than Glaser’s (1978) suggested 10-15 codes for a substantive theory, these codes were necessary to explain relationships between different sources of resistance and activity decisions.

By theoretically sampling women with a wide range of positive and negative associations with physical activity (i.e., from overwhelmingly positive to neutral or overwhelmingly negative) and who experienced resistance at higher/lower levels (e.g., high resistance about the importance of engaging in physical activity to support functioning) I have created a theory that incorporates categories that work for a variety of women living in the postpartum context. The broad range of sources of resistance integrated into the theory allows for the theory to be modifiable because individuals with different experiences of resistance have the potential to be worked into the theory.

**Reflexivity and Power**

Given my symbolic interactionist perspective and beliefs in the co-construction of knowledge and qualitative research as a relational process it was important that I was reflexive and was attentive to power. In this final section, I discuss my reflexivity throughout the research process and how power was addressed during the study.

**Reflexivity.**

I understood reflexivity as defined by Berger (2015): “the process of a continual internal dialogue and critical self-evaluation of researcher’s positionality, as well as active acknowledgement and explicit recognition that this position may affect the research process and outcome” (p. 220). I maintained reflexivity through ongoing conversations with my supervisor who was aware of my values associated with physical activity. Because my theoretical perspective supports the view that the researcher and the participant co-construct meaning, I kept a reflexive journal to help me consider my influence on the research process, as well as alert me to how my assumptions are “operationalized” in the interview, my sampling, and my theory development, so
that I could try to reduce their impact (Hall & Callery, 2001, p. 264). I incorporated reflexive journaling into my interview field notes and memos and hand-written journal entries. After interviews I wrote journal notes that reflected on my interview questioning and how my perspectives might have affected the data.

My reflexive journaling was helpful in illuminating how I was pacing my interviews and asking questions, essentially the presence I brought to the interview and how this could detract from relationality. To be consistent with the grounded theory approach to understand women’s perceptions about physical activity it was important that I provided opportunities for the women to tell their stories. I assumed that I was consistently open to women’s stories and not deliberately influencing the direction of the conversation during interviews. In some of my earlier interviews keeping the reflexive journal allowed me to see where sometimes I might have been impatient as women talked at length about issues that seemed to me to be tangential to physical activity; in these cases, sometimes I brought the interview questions back to physical activity but away from the issue that was salient for the participant to discuss. The identification of my impatience during my initial interviews and efforts to keep ‘on track’ with the topic of physical activity was important for my theory development. I later appreciated the importance of the ideas that the women raised. Through these seemingly tangential discussions the women highlighted their perspectives about themselves, others, and motherhood, and the types of activities and goals most central to them, which enhanced my understanding about the relationships between degrees of centrality, other sources of resistance, and reconciling. As a result of noticing my impatience, I was able to allow more space for women to discuss their daily experiences as my interviews progressed, which allowed for the development of ideas about motherhood responsibilities and self-care that became relevant to my theory.

According to Berger (2015), I occupied both an insider and outsider role in relation to the participants in this study (both of which he associated with different benefits and pitfalls). Because of my own experiences of independent postnatal physical activity (activity without my infant), I was an ‘insider’ with the women who
indicated they had high physical activity centrality and reconciled resistance by choosing to pursue independent activity. I was an outsider with the women who indicated they had low to moderate physical activity centrality and reconciled to use the strategies of holding back and holding still on pursuing their desired activities.

Occupying an insider role can support improved rapport during interviews and a greater understanding of participants’ nuanced meanings leading to rich findings because the participants and the researcher have shared understanding (Berger, 2015); however, there is risk of the researcher blurring his/her experiences with those of the participants and missing opportunities for exploration because the researcher assumes shared understanding.

My reflexive diary helped draw attention to the effects of my insider status in the interviews. I sometimes made assumptions about the meanings behind women’s comments. For example, one of my early participants described feeling atrophied without activity, which is something I also feel because physical activity helps me feel functional and able to engage in my daily work. In the moment I did not ask further about what atrophy meant to her because I made an assumption it was similar to my perspective. Later in the interview, she discussed physical activity and feelings of atrophy in relation with feeling accomplished and productive as a new mother, which I might otherwise have missed. Recognizing my assumptions through my reflexive diary prompted me in future interviews to explore concepts and ideas the participants were sharing that I might have otherwise assumed I understood.

I was acutely aware of how my insider role might impact theory development. My reflexive diary helped in theory development because I questioned how I was conceptualizing centrality and whether my strong positive associations with physical activity were unduly influencing it. This led me to seek confirmation about my centrality conceptualization, through revisiting the data to support my description of centrality and its properties, to ensure the concept was fitting with the data from all participants.
I was in an outsider role when I interviewed women who indicated low centrality because these women did not hold physical activity as strongly central to their lives. The ‘outsider’ researcher is at risk of missing nuanced meaning and areas of salient exploration because of lack of shared understanding (Berger, 2015). On the other hand, lack of familiarity with participants’ experiences can lead to original and unique findings because the researcher is not steeped in shared participant understandings that can limit questioning (Berger, 2015).

Being both an insider and an outsider might have been advantageous to the theory development because it forced my interrogation of the data to understand how women indicating low centrality reconciled resistance and made physical activity choices. With my positive perspectives towards physical activity it was difficult for me to appreciate and understand how women might not enjoy physical activity. I explored, with participants indicating low centrality, their reasons for reconciling resistance and deciding not to pursue activity. Early on, it occurred to me, through memoing and journaling, that the women indicating low centrality did not need physical activity in their lives for their need satisfaction. This realization ultimately advanced my theoretical sensitivity and improved my ability to develop the centrality concept and understand the core category as reconciling resistance as I questioned their needs and how they met them.

I considered the impact of the transcription process on my theory development. Davidson (2009) highlighted that transcription can be unduly influenced by the researcher’s perspectives when transcriptionists are selective in what is included or excluded from the transcript. She also distinguished between naturalized and denaturalized transcription, a naturalized approach being transcribing the flow of conversations as the participants and interviewers speak them, rather than fitting their speech into correct syntax (e.g., correct period placement, sentence structure) to increase the ease of reading the transcript. To capture the flow of the conversation and reduce selectivity about what I included in the transcript I used a naturalized transcription
approach (Davidson, 2009). Transcribing this way was helpful to enhance authenticity and my reflexivity; by incorporating the pauses and intonations and background context in both my questioning and participants’ responses in the transcript I was better able to explore how my questions might have affected participants’ responses and also when participants were more confident or hesitant in their thinking. For example, the naturalized transcriptions, in combination with my reflexive journal and field notes, were important when I analyzed my early interviews with women indicating low centrality. Although I had written field notes about discomfort arising from my questioning during the interviews, this discomfort was confirmed when reading their transcripts; my questions were more indirect and contained a number of ‘ums’ ‘ahs’ ‘like’ and hesitancies when trying to discern how they positioned physical activity in relation to other activities. This stemmed from my concern of inadvertently conveying a sense of judgment because, in essence, I felt I was asking the women to admit they did not value physical activity over other activities, which, for me, created vulnerability for them to feel judged or negative about their choices. I noticed the participants were equally hesitant in their responses when I questioned this way. This recognition about my forms of questioning helped me to reframe, think through, and reposition these questions for future interviews. In later interviews I was more confident and able to normalize different choices effectively, which led to more in-depth responses from participants.

When reviewing the transcripts I noticed that the women indicating higher centrality spoke with confidence about their physical activity decisions because the strong centrality of physical activity in their lives justified the ways they reconciled to pursue activity. They would talk at length and give elaborate reasoning for their choices, whereas the women indicating more moderate levels of centrality seemed more conflicted about their choices; the women indicating more moderate levels of centrality also gave elaborate reasoning for why they held back but their interviews were punctuated by more pauses, sighs, and fragmented reasoning about
their physical activity choices. These observations from the transcripts helped to develop my sensitivity about relationships between beliefs about physical activity and the strategies to which women reconciled.

**Power.**

Power is an ethical issue but also one of rigour because power differentials between the researcher and participants compromise the quality of data collection. During interviews, there is inherent potential for power imbalance because the researcher implicitly or explicitly sets the interview tone and expectations of the participant (Anyan, 2013). Because I recognized the co-construction of knowledge I recognized that the way I set the tone and conducted myself during the interview might influence the participant’s comfort with sharing their story.

I recognized my potential to exert power over the participants to control the information they shared and how they shared it through my body language, the questions I asked, and the way I set expectations of how they shared their stories and their diaries. At the beginning of each interview, I tried to mitigate the power differential between the participant and myself by briefly sharing my background as a nurse (Oakley, 1980). I briefed participants in advance of the interview to provide some expectations about how the interview would unfold (i.e., I would request that they discuss their diaries, and then I would ask some general, and then more specific questions, to develop understanding about how their experiences compared to those of other women) and to orient them and increase their comfort with the interview process. During the interview, women were in control of their diaries. I did not request to see a diary prior to the interview and only viewed it if the participant showed it to me when she was discussing it. I did not set guidelines about what the participants shared from their diaries; I invited the participants to share whatever they thought was important. By having the participants begin the interview with their diary discussion I tried to let them set the tone and be in control of the direction of the interview through what they choose to share.
My ability to work towards reducing my power in the interview was aided by my nursing background and therapeutic communication skills that encouraged participants’ expression of feelings and thoughts. I listened actively, with a relaxed, open, and attentive posture, provided empathy, and validated participants’ concerns. This approach helped women take control over what they wanted to share, in part, because I was receptive to participants’ emotional reactions to my questioning and responded accordingly (e.g., changing the question direction if the participant seemed to withdraw or be uncomfortable with my question).

My attention to power and the ways it could be used negatively in the interview, as well as my attention to reflexivity, enhanced the rigour of this study by allowing space for the participants to share their stories, which contributed to more valuable data collection (Hesse-Biber, 2006; Nicolson, 2003). For example, my reflexive journaling, which helped me recognize my early inclinations towards steering the interview towards my topic allowed me to adjust my interview approach so the participants could share their rich experiences of motherhood that were important in understanding their physical activity decision-making.

**Reciprocity.**

An approach to reducing power differentials in qualitative research is to provide opportunities to give back to participants, a process labeled reciprocity (Polit & Beck, 2010). I tried to enhance reciprocity in several ways. It was evident from several interviews that some women felt self-conscious about sharing their stories. They asked me direct questions about how their stories compared to others and if they were ‘normal’; some participants indicated they were unsure about whether their perspectives would be helpful. To reassure participants and enhance reciprocity, at the end of all interviews, I thanked women for their participation and explained the value of their particular story towards understanding how women make physical activity decisions within the postpartum period and how their participation contributed longer-term towards understanding how to improve postnatal physical activity services and support.
The women were also given a summary of the study findings in January 2016 and encouraged to give feedback. Three of the women provided me with feedback. Given their experiences around other mothers and in their professions (i.e., physiotherapy), two women raised questions about what might not be covered by the theory (urinary incontinence and postpartum depression). Two of the women expressed their sentiments about feeling grateful for having had a venue to be able to share their story as a part of the study.

Summary

In this chapter I have described the research methods I used to explore women’s postnatal decision-making and the processes of engaging with postnatal physical activity. The study design uses a qualitative grounded theory approach articulated by Glaser (1978) and that incorporated the assumptions and methods of Charmaz (2006). After ethical approval was obtained, I interviewed women and augmented interview data with document analysis and diary data from participants. The diary data helped expand my understanding about the context in which physical activity decisions were made and how women reconciled resistance under particular conditions of resistance, while the documents sensitized me about how women might construct meanings around physical activity and motherhood. I used constant comparative analysis and coding strategies, as defined by Glaser and Charmaz, to develop a rigorous theory about women’s physical activity decision-making during the postpartum period. The theory I developed explains how participants manage their main concern, ‘to minimize discord between their physical activity desires and actual patterns’ and sets of interrelated categories that delineate effects of varying conditions and contexts on participants’ management of their concern through reconciling resistance. In the next chapter, I describe my findings about how women living in the postpartum period managed their core concern when making physical activity decisions.
Chapter 5: Reconciling Resistance

Introduction

In this chapter I provide an explanation of the core category, reconciling resistance, and its interrelated categories. Reconciling resistance explains how women living in the postpartum period resolved their main concern in making physical activity decisions to minimize discord between their physical activity desires and actual physical activity patterns.

I begin with a description of the study sample. In the remainder of the chapter I explain the core category, reconciling resistance. I provide a brief overview introducing the main concern and the processes of reconciling resistance: gauging, engaging, and adjusting (the three phases of the social-psychological process). I then provide detailed explanation of the three phases, explain the conditions that influence gauging, particularly, conditions of physical activity centrality, and how outcomes from engaging affect the process of gauging through adjusting. Specifically, I explain how participants gauged essentiality, risk, and accessibility of their desired activities and how their gauges positioned the engaging strategy (pushing through, holding back, and holding still) they used to achieve physical activity. I explain how the women retained but adjusted their strategies (1. by pushing further and scaling back; 2. by loosening and tightening limits; and 3. by gaining momentum and disengaging) in response to their experiences of engaging. I conclude with a discussion of retaining and shifting strategies, unreconciled resistance, and a summary.

Demographics

The sample consisted of 30 women, with infants aged 2.5 months-12 months; the average age was 6.3 months. The average maternal age was 33.6 years; range 26-43. As shown in Table 1, most participants were married and/or had university degrees. Half of the women had one child and/or a combined family income of more than $100,000. More than half of the participants self-identified as Caucasian. The women reported a
range of occupations. All but five women were on maternity leave at the time of the interviews; three of these women were working for pay occasionally from home, one was working for pay on-call, and one mother indicated that her primary occupation (unpaid) was caring for her children at home.

Table 1

Characteristics as a Percentage of the Sample

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Valid % (no.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relationship status</td>
<td></td>
</tr>
<tr>
<td>Living with partner</td>
<td>97% (29)</td>
</tr>
<tr>
<td>Single</td>
<td>3% (1)</td>
</tr>
<tr>
<td>Number of children at home</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>50% (15)</td>
</tr>
<tr>
<td>2</td>
<td>30% (9)</td>
</tr>
<tr>
<td>3</td>
<td>20% (6)</td>
</tr>
<tr>
<td>Education</td>
<td></td>
</tr>
<tr>
<td>University degree</td>
<td>83% (25)</td>
</tr>
<tr>
<td>Some college</td>
<td>10% (3)</td>
</tr>
<tr>
<td>High school</td>
<td>7% (2)</td>
</tr>
<tr>
<td>Income (combined family)(^a)</td>
<td></td>
</tr>
<tr>
<td>$&gt;100,000</td>
<td>57% (16)</td>
</tr>
<tr>
<td>$80,000-$100,000</td>
<td>18% (5)</td>
</tr>
<tr>
<td>$60,000-$80,000</td>
<td>14% (4)</td>
</tr>
<tr>
<td>$20,000-$40,000</td>
<td>11% (3)</td>
</tr>
<tr>
<td>Ethnicity(^ab)</td>
<td></td>
</tr>
<tr>
<td>Caucasian and/or white</td>
<td>61% (17)</td>
</tr>
<tr>
<td>Other (European or Iranian or Korean or Chinese)</td>
<td>21% (6)</td>
</tr>
<tr>
<td>Mixed or biracial</td>
<td>7% (2)</td>
</tr>
<tr>
<td>Canadian</td>
<td>11% (3)</td>
</tr>
<tr>
<td>Occupation</td>
<td></td>
</tr>
<tr>
<td>White collar</td>
<td>57% (17)</td>
</tr>
<tr>
<td>Blue collar</td>
<td>30% (9)</td>
</tr>
<tr>
<td>Student</td>
<td>10% (3)</td>
</tr>
<tr>
<td>Unpaid work at home</td>
<td>3% (1)</td>
</tr>
</tbody>
</table>

\(^a\) Two women did not answer. \(^b\) Women’s self-identified ethnicity.
Main Concern

The women’s main concern in postnatal physical activity decision-making was minimizing the discord between their physical activity desires and their physical activity patterns. All the women indicated holding desired or preferred physical activity patterns: “For me…yoga, pilates, or a boot camp couple times a week…a mountain bike ride….So, I would have more intense activity that I would do without kids…more intensity and variety…that would be my ideal (5). Achieving their ideal physical activity desires was important to the women because they believed to different extents (physical activity centrality) that their level of engagement in physical activity contributed to their feelings of emotional and physical health, connection, competence, purpose, accomplishment, and sense of self.

The nature of the main concern manifested differently for the women because their physical activity desires varied based on their beliefs about how central physical activity was to their lives. In other words, their desires seemed to arise from the degree to which the women believed that physical activity supported their emotional and physical, social (i.e. connection), eudaemonistic (competence, purpose, and accomplishment), and sense of self needs. Women with high centrality had come to the conclusion that physical activity was essential for meeting their needs; they desired immersive physical activities at moderate to high intensity, where they could “go out and really sweat” (6) and allow the “mental part to take over” (30), because they attributed these activities to affirming how they defined themselves and supporting their emotional and physical and relationship needs, and their needs to feel competent, purposeful, and accomplished. Women who discerned that physical activity was important but less central described meeting their needs more broadly through other activities (e.g., hobbies, socializing) that did not involve physical activity; they were also less attached to specific forms of physical activities. Women who regarded physical activity as minimally contributing to their need satisfaction (i.e., having low centrality) all indicated that engaging in at least one form of physical activity that they enjoyed supported their emotional and physical needs: “I like water. Really, I like water. I—I feel happy and relaxed in water. Hm.
Um, I like, um, especially swimming” (3). Women indicating low centrality did not generally desire moderate to highly intense and immersive physical activities because they did not regard such activities as contributing to their sense of competence.

The postpartum transition affected women’s physical activity decision-making because women described reevaluating their beliefs about physical activity, motherhood, partnerships, family, and environment and how those elements fitted together. Beliefs about physical activity (physical activity centrality), personal embodiment, relationships (motherhood, partnerships, family, friends), and the environment served as sources of resistance in women’s physical activity decision-making because they influenced women’s movement towards particular physical activity choices. For example, a woman explained the resistance she experienced about attending mother-baby fitness groups:

I would probably prefer to…do a boot camp myself, rather than with the moms and the baby kind of thing, just because you see all the other babies have not settled…it would be nice for the social side, but with fitness…if I’m going to do it, I’m going to do it properly (29).

Beliefs are conceptualized as resistance because, like electrical resistors that act to direct the way current in an electrical circuit runs, the women’s beliefs not only influenced how they gauged which physical activity decisions were acceptable for them but also affected their strategies for achieving physical activity (engaging) and how they changed their strategies (adjusting).

In addition to physical activity centrality other forms of resistance were personal embodiment, relationships, and environment. Personal embodiment captured women’s beliefs about their ‘inner’ experience of the postpartum period (e.g., fatigue, embarrassment, and injury). Relationships included women’s beliefs about what was acceptable behaviour for them towards their infants, partners, family, and friends. Environment incorporated women’s beliefs about how they could engage with their environments to accomplish physical
activity. The women’s beliefs did not always align to support their movement towards their desired activities. For example, women who enjoyed exercising at the gym (physical activity belief) but wanted their infants to “get something out of” their physical activity (relational belief) experienced a level of tension about the appropriate physical activity choice:

Yeah, well, like, I enjoy the gym…all I really need to have my own gym at home is—like, we’ve already got the free weights….And in a little bit of time we could afford to buy a treadmill and I’m done…. [but] it wouldn’t be for the both of us. It would just be him [her son] sitting and watching me work out (9).

The women had to manage their beliefs to discern the appropriate line of action that minimized discord between their physical activity desires and actual physical activity patterns.

**Reconciling Resistance**

Reconciling resistance is the core category that explains how women repositioned their physical activity desires during the postpartum period through the processes of gauging, engaging, and adjusting to try to harmonize their physical activity desires and actual physical activity patterns (see Figure 1).
Discord between physical activity desires and actual physical activity patterns was minimized for the women when they had concluded that their physical activity choices fit with their resources and family contexts and adequately supported their own and others' needs. In gauging, the women took into account their physical activity centrality, personal embodiment, relational, and environmental beliefs (all sources of resistance) to gauge how essential, accessible, and personally and relationally risky their desired activities were (see Figure 1). Gauging tentatively helped the women to discern the forms of physical activity (e.g., types of activity, place of activity) they were comfortable pursuing in the postnatal context. By gauging their physical activity desires in terms of essentiality, risk, and access, the women reconsidered the attractiveness of achieving their desired or preferred activities in their postnatal contexts. When the women gauged their preferred physical activities as
risky, inaccessible, or not essential for supporting their own and others’ needs, they reconsidered the physical activities they were willing to pursue:

I would love to be able to go to the gym, but I don’t have anyone to watch her…And I’m like, well, I can’t—I can’t get to it [mother-baby Pilates class], so I’m not going to—like I just—it went right off the table because I’m just not interested in taking public transportation all over the place to look for classes and things like that. It’s just not going to happen….So now, like, that’s kind of off the table and I find that walking is my big exercise (2).

Gauging was the first phase in trying to harmonize participants’ physical activity desires and patterns by helping them identify physical activities they desired to pursue and thought that they were likely to achieve in their postnatal contexts.

The women moved from gauging into engaging strategies to make their decisions happen (see Figure 1). Women tried to push through, hold back, or hold still on pursuing their desired physical activities. Women who were pushing through had gauged the pursuit of their desired or preferred activities as appropriate in the postnatal context because they were gauged as low-risk, essential, and accessible. Women who pushed through engaged with others, adjusted schedules, and were flexible so they could achieve desired physical activities. Because they gauged their desired and idealized physical activities and patterns as inaccessible, risky, and non-essential, women who were holding back or holding still were willing to put pursuing desired activities on hold until these physical activities seemed more appropriate for them:

She [her daughter] doesn’t take a bottle so I’m can’t hand her to anybody else…I couldn’t say, just go for a swim, so swim, we have a pool, I can’t just go for a swim….when you have kids you just change your priorities a little bit, and it’s like, well I can’t, I can’t go to the pool and swim everyday….at some point, they’ll [her children] be able to swim and then we can all go swimming together and I’m really looking forward to taking them (17).

Women who were holding back only pursued the forms of physical activity they had gauged as appropriate given their postpartum circumstances. When women held back they placed limits around the types of physical activities they were comfortable pursuing and framed their desired or preferred activities as possible
in the future. Women who were holding still gauged physical activity as high-risk, low access, and low essentiability; they regarded pursuit of any of their physical activities, beyond those intrinsic to carrying out postpartum activities, as undesirable and inappropriate in their current contexts. Holding still involved pursuing physical activities the women had decided were essential for their infant’s needs (e.g., going for a walk to soothe their baby) and supporting their relationships (e.g., going for a family hike).

The women’s sources of resistance were affected by how they experienced engaging and shifted when their personal and relational risk, essentiability, and access did not align with the women’s expectations of engaging (e.g., when they experienced more enjoyment from an activity or greater difficulty accessing an activity than anticipated). In response, the women described adjusting how they were engaging to reconcile their shifting resistance (see Figure 1). The women adjusted by re-aligning their engagement actions to fit within their perceived resources, family context, and their own and others’ need satisfaction. A woman described her recognition that improvements in her sleep allowed her more opportunities for self-care so she felt less emotional risk taking her children for outdoors activity. She adjusted her actions by trying to incorporate more hikes and walks with her children:

So, having that—being able to have more time to do that, like, to invest in that self-care has been—has allowed me to kind of challenge those barriers of, like, okay, yes I can do this. Let’s go try this. What do we have to lose? We pack up and we go home (19).

The women adjusted their engaging by using a third phase of the process (see Figure 2). When the women experienced their elements of their physical activity engagement (e.g., enjoyment, negotiating for childcare) as more accessible, essential, and lower risk than anticipated, they adjusted their engagement strategies by pushing further, loosening limits, and gaining momentum. Conversely, when physical activity was less accessible and essential and riskier than anticipated, they adjusted their engagement strategies by scaling back, tightening limits, and disengaging.
After women adjusted, they re-gauged levels of risk, access, and essentiality to discern the continued appropriateness of their engagement strategy. Most of the women continued to gauge their general strategy of engagement as appropriate for them and retained their strategy. Some women gauged a need to shift their strategy (see Figure 3). Women who were pushing through shifted their strategies to holding back when persistent negative experiences (e.g., difficulty finding childcare, embarrassing fitness experiences) led them to

**Figure 2: Adjusting.**
believe that scaling back was not aligning their experiences of risk, access, and essentiality with their actions (reconciling resistance) (see Figure 3). Women who were pushing through shifted their strategies to holding still after cumulative negative experiences (e.g., injury, unable to leave their child with others). The women who shifted strategies from pushing through to holding still were unsettled; for them, the disparities between their sources of resistance and their desired and actual physical activity patterns were too difficult to reconcile. Because they could not discern a satisfactory line of action that allowed them to continue to support their needs through physical activity they described being unable to reconcile resistance to achieve their desired physical activity (see Figure 3).
I have described the main concern and provided a general theoretical overview. In the following section, I explain how the women gauged essentiality, personal and relational risk, and accessibility for different forms of physical activity (e.g. type, intensity), and the conditions that affected gauging and how gauging positioned women’s strategy of engaging.
**Gauging**

The women used gauging to align their beliefs with the forms of physical activity they would pursue. Gauging was a dynamic process where participants estimated the risk, access, and essentiality of pursuing their desired activities. The primary outcome of gauging was participants’ decisions about the forms of activity they were willing to pursue in their postnatal contexts. Gauging seemed to be more challenging at times for women indicating moderate centrality because these women described their associations between physical activity and centrality facets as less unilaterally strong (e.g., they might associate physical activity with supporting social and health needs but not eudaemonic or sense of self needs). Women indicating lower or higher centrality depicted stronger associations with the ability of physical activity to either support or not support their needs across the spectrum of centrality properties. Their identification of stronger positive or negative associations supported their gauges of risk, essentiality, and accessibility, which led to clearer choices. As such, women indicating moderate centrality more often depicted their physical activity decisions by describing the beliefs that supported them rather than their cumulative choices. Postnatal physical activity took many forms, including: physical activity types (e.g., running), times (e.g., daytime, scheduled), amount (e.g., frequencies, intensities), locations, and group arrangements. In response to their gauging, the women either engaged by pursuing their activities in the forms they wanted, held back on pursuing some forms of physical activity, or decided not to pursue any form of preferred activity in the foreseeable future.

**Gauging essentiality.**

Participants only regarded activities as essential in the postnatal period when they had concluded the physical activities best met their own needs and infants’ and families’ needs and they anticipated negative consequences for themselves and others if they failed to engage in them. In general, the women described gauging some forms of physical activity as more essential postnatally because these physical activities supported their own needs and their infants’ needs for care. All of the participants, regardless of centrality,
gauged activities intrinsic to motherhood, such as walks with infants, as essential because walks supported infant and maternal need satisfaction. For the infant, the walks were entertaining, calming, and helped with sleep, and for the women, walks allowed them to run errands and provided them with moments of emotional well-being. “Once we’re out of the house [and going for a walk] I can like just have my own thoughts and she looks around. You know, because when I’m at home it’s like constant entertaining. So it’s just some time for myself to go for a walk” (6).

Most of the women were on maternity leave. Some participants indicated that they did not have their work and work communities to support their eudaemonic or social need satisfaction and fewer friends available during the day with whom they could socialize; they experienced social isolation and an increased desire for group-based physical activities (e.g., a mom-baby yoga class). Eudaemonically, many of the women depicted gauging physical activities, such as walking or fitness classes, as essential to them in the postnatal period because they believed they helped to occupy time and achieve a sense of purpose and accomplishment:

So getting out for me involves walking, whether it’s going to get, even just going to the grocery store or just getting out for something to do….just to feel like you’re doing something, because otherwise I would hate to just be sitting on the couch all day or just sitting around the house. Like, it just – you don’t feel like your day was as full if you don’t get some kind of activity (2).

Participants indicated that their beliefs about the possibility of meeting their needs and how to meet them shifted postnatally. All of the women, regardless of centrality, had concluded they had to compromise to some degree on meeting their needs so that they could provide adequate infant care. Some women indicated that they gauged their desired activities as nonessential and opted to decentralize physical activity as a means of achieving their need satisfaction. They depicted strong motherhood beliefs about the importance of meeting their infant’s needs based on sacrificing and compromising some of their own need satisfaction:

I’m definitely not as fit (laughs) as I’m used to being, it would be nice to get back there at some point and I don’t know, it might not be for a few years. And I’ve kind of accepted that ….wait til they’re in school and I can focus on myself a little again, so I just feel like, I’m just less of a priority in my own life right now (27).
The women who described themselves as viewing physical activity as least central gauged physical activities they perceived as meeting other’s needs, such as supporting infant care (e.g., taking walks because they soothed their baby) or building connection and relationships (e.g., family walks), as essential. Participants depicted the activities as essential, even if they did not enjoy the activities, because these women had concluded that group family activities supported their relationships, family harmony, and their abilities to provide infant care. One woman said: “My husband’s into the going for walks, going for hikes type of thing. I’m really not but he loves that…So, one of the activities we do as a family is go hiking. I don’t really like it but I like being together and I go because my husband loves it” (7).

Moderate to high centrality women gauged the pursuit of more synchronized physical activities (activities the women engaged in with their baby, e.g., mother-baby fitness classes), beyond the physical activities that they considered as supporting infant care and relationships, as essential postnatally. These women represented synchronized activities as a compromise to a certain extent because synchronized activities prevented them from fully engaging in physical activity. A participant described choosing to engage occasionally in compromised activities and going for family swims, rather than swimming by herself: “We also try to find activities that are also beneficial to the kids, um, so it’s kind of like, a bit of a compromise, like, you know, would I go and splash around by myself [at the pool], probably not” (25).

The women indicating moderate centrality gauged the pursuit of independent physical activity (activity without their baby) as not essential postnatally. Those women described accepting synchronized activities as being sufficient for their physical activity, in part, because they experienced relational resistance about need satisfaction and physical activity resistance. They described synchronized activities as supporting a level of need satisfaction for themselves and serving as opportunities to role model active family values to their children. The following woman, with moderate centrality, gauged synchronized physical activity as
essential because it benefitted her family and her own need satisfaction. She redefined her need satisfaction postnatally to include the importance of role modeling physical activity for her children, and her belief that synchronized physical activity provided her with positive emotional benefits. She avoided pursuing more ideal desired activities because she had decided that synchronized activity was satisfactory for her own and others’ need satisfaction:

I think I’m more satisfied with less um and I you know now if I can get out for you know a little short bike ride that’s just as good as a really long one. To me because it’s, it’s that ride, right ya whereas before you might really want the longer ride one or it didn’t feel like enough …so if anything… I actually get more…if I go for a ride…I just appreciate it more, um, and I look forward to, forward to sharing that with my kids (5).

Sometimes, participants who indicated moderate-high centrality described their experiences of meeting their emotional and eudaemonic needs primarily through motherhood, which supported their beliefs that independent physical activity was not essential postnatally. The following woman, with moderate physical activity centrality, described being satisfied without independent activity because she experienced a sense of purpose and support for emotional needs through caring for her daughter:

I think it’s just that, you know, when she’s happy, like, the world is a great place. You know, her laugh, her smile, it just—it makes me so happy. Like, it doesn’t matter that right now I’ve had, like, the craziest day. I am so tired. We’ve been up since 4:00, you know….So I feel like to go and just put her somewhere [childcare] solely for me [to do physical activity]…I would really struggle with it….I’m still in that space where I want to be doing everything that’s best for her. She kind of comes first at the moment (8).

The women all regarded the postnatal period as inherently physical because they had to carry and soothe their infants and transport infant supplies (e.g., stroller and car seat). Some participants depicted the physicality of motherhood as reducing their need for previously desired activities in the postnatal context because they viewed motherhood physical activities, such as childcare or housework, as supporting their
needs. A participant explained how she considered new activities, apart from her desired ones, as physical activity and supporting her health and eudaemonic needs:

So I scrubbed the whole shower out and scrubbed the tub and everything. So I’m like, that’s physical, that’s some—feels like you’re using your body then…But I do enclose now…you know, vacuuming, things that kind of get your heart rate going a little bit more…I mean, when I was working I wouldn’t go, oh, I didn’t go to the gym today so I’m going to clean the—clean the tub, like, that kind of thing. Whereas now I can’t go to the gym….Part of it is you’re in the house and so it’s like, what can you do around to feel like you’ve done something?….Whereas before I was kind of like, whatever, we’ll clean when we have time to clean, and who cares. But now it’s like—you feel like you’ve done something (2).

Women with moderate centrality depicted variation in their gauges of the essentiality of strength training or high intensity physical activity. Some women who depicted low-moderate centrality described gauging certain activities, such as strength training and physiotherapy exercises, as more essential postnatally because they supported their abilities to physically care for their infants:

I have a bad back…—I have a lot of physio I’m supposed to be doing, and I do a Pilates class normally, like with the—with the baby. And I—that’s kind of dropped off in the last week, and my back’s been really hurting. So I—that night actually got to do my physio exercises for the first time in, like, probably a month. And that was really, really needed….But like, I need to do that, to just—to be able to basically function, like to be able to pick up my baby because I did throw my back out when he was probably about five months old, where I was, like, literally, like, flat on my back on a bed, like, could hardly pick him up. And so I really need to be able to maintain that to—you know, to be providing the basic needs for my children (10).

Others did not regard physical activity as essential to maintaining their body weight or increasing their strength; they had concluded that they were being sufficiently active through their mothering activities and were satisfied with their bodies’ abilities and their weight: “I had the option to do boot camp, but I didn’t do it, [I] don’t need to be stronger right now” (14);

And even in—this might be partly to do with breastfeeding, but like, weight loss has not been an issue for me, like, post-baby. And I think that’s part of it, because I have two kids and I spread it around like crazy and carry twenty pounds with you constantly (10).

Compared to the women who described low centrality, regular engagement in physical activity, beyond that of motherhood, was essential for some participants who claimed moderate centrality because they had
decided that regular physical activity was an important part of their identity and lifestyle:

For me, activity is, like, super important... I had to lose weight. And so doing Zumba was a big part of that. So I became—almost seven days a week, I did Zumba... Um, so when he was born, I was like, great, I can get back in. So, all—we walk every day... That activity had to be a part of my life. Like, that—to me, it’s, it’s, part of my lifestyle now is doing stuff (11).

The women who described themselves as having moderate physical activity centrality focused on the benefits of physical activity for their families to justify their reduction in independent physical activities. They expressed more and varied beliefs about the importance of their infants’ early exposure to physical activity for their infants’ cognitive development and about physical activity as a means to teach and instill family values, and cultivate a positive appreciation for physical activity:

And, so one of the motivations now... it’s, like, he needs to go outside because he needs to know that this is what we do. That, like, we’re a family that spends time outdoors. And so that’s part of the motivation now, is making sure that he goes on hikes and he’ll go snowshoeing and—you know, when we go to [a mountain], I’ll strap him on my backpack and we’ll go snowshoeing together. And hopefully he’ll be into it, and you’d think that if he spends enough time in it, it’ll just become second nature (9).

The women indicating higher centrality were more likely to gauge independent postnatal physical activity experiences, beyond synchronized activity, as essential to them because of their beliefs about motherhood and the importance of activity for meeting their needs. In other words, because they concluded independent activity would contribute to their own need satisfaction, they decided that they would be better able to support others’ need satisfaction and care for their children, increase family harmony, and improve infant development by engaging in independent physical activity. They regarded independent activity as essential and acceptable to them because they only saw positive outcomes for themselves, their infants, and their partners as a result. One participant explained the importance of going for a run for her own functioning:

I’m gonna be a better, I’m going to be a better mother because I, because I’ve done this for myself [went for a run], and um, there were a few times, where, you know, my husband was driving me crazy, my mom was driving me crazy, and I’m like, ahhhh... and I would go for a run (28).

The women indicating higher centrality depicted independent activity as benefitting their partners
indirectly (i.e., when activity engagement resulted in the mother’s improved mood), and directly, because leaving their partners to provide childcare supported their infants’ relationships with their partners:

I think it’s nice for her to spend just some time with her dad [while I do physical activity] and I don’t want to have to spend every hour with her. Because she, you know, she needs to know that I am going to leave for a day at a time or an hour at a time even (6).

Two women with high centrality also maintained that being apart from their infants for physical activity was beneficial for their infants because it supported them to develop more flexible temperaments and provided them with new experiences:

I’m happy to hand her around and pass her off...so that I can have my independence in the future...and I think that, like, I have one friend who’s really, really struggled. Her child only sleeps on her chest, she’s 15 months old, screams through the night...they’ve just given up...they can really pinpoint, oh we didn’t hand her around often enough, but you hear, you know, you start passing you baby around, they get used to being in other arms (28).

I love my kids but I want them to be with other people, and sometimes, I know sometimes when they go to child minding [at the recreation centre] they’ll have like, they’ll have different experiences (25).

The women who indicated higher levels of centrality believed that their independent activity could model self-care for their children. Although participants across differing levels of centrality referred to the importance of self-care in helping to sustain their ability to care for their infants (e.g., eating healthy, getting sleep, taking a shower, and having time to themselves) the women who believed that participating in independent activity was important for self-care emphasized ‘fitting’ physical activity into their lives:

I want my daughter to see me being physically active. I want her to see me accomplishing these things. So I had planned to do a 10K already this year, I realized that’s just not going to happen, but I do want at some point want her to be at the finish line or something like that and see me cross it. That’s not something I really got to see my parents do, and I think it made—it made it a little bit harder for my sister and I to figure out how to fit a healthy amount of physical activity into our lives (16).

Gauging risk.

Participants described personal and relational risk arising from pursuing different forms of activity as part of their gauges about essential activities. Whereas gauging essentiality involved positioning the benefits
and need for the pursuit of particular forms of physical activity, gauging relational and personal risk involved positioning the level of risk involved for others and themselves from pursuing their desired physical activities. The women indicated that they could position certain activities as essential because they felt that those activities carried low risk to themselves or others and they were attracted to those activities.

In the context of risk, participants’ varying beliefs about physical activity, personal embodiment, and their relationships affected whether they pursued activities at different times, in different locations and formats, and at different levels of physical intensity, duration, and planning. In this section I specify how women gauged their relational and personal risk of pursuing different forms of physical activity.

**Gauging relational risk.**

In gauging relational risk, participants reconciled relational resistance with their physical activity resistance by gauging the risk of pursuing their desired activity patterns for their babies and other relationships. It is considered relational because it involved direct consideration of the effects of their physical activity choices on the people with whom they were in relationships. They gauged when they would be active and who would be involved in their physical activity. Gauging relational risk solidified gauges of physical activity essentiality because the women described an inverse relationship between essentiality and risk. Participants linked activities they gauged as highly relationally risky to low importance in the postnatal period.

**Risk to infant needs and family harmony: Choices around independent activity.**

All of the women described the pursuit of independent activity as incurring a level of relational risk because independent activity likely involved scheduling around their infants’ and others’ schedules, and increased risk because it involved incorporating others to provide care when leaving their children. The women described their resistance about childcare centres, separation anxiety, and others’ competence to care for their infants as affecting their choices about independent activity. Participants chose not to use childcare for activity when they had concluded they were not ready to be away from their infants or when they regarded childcare
centres as places of risk because infants could potentially get sick or receive insufficient attention and
stimulation. Compared to childcare centre providers, some women discerned that partners, friends, and family
members were more appropriate if they regarded those offering care as capable to care for their babies and
household tasks in their absence. Women described avoiding independent activities when they were not
confident in others’ abilities to ‘stand in’ for them.

Many women who indicated a low-moderate level of centrality described gauging high relational risk
with independent activity, in part, because they perceived resistance about others’ childcare abilities,
adequacy of recreational centre child care, being apart from their infants, and their infants’ abilities to cope
without them. In essence, when thinking about independent physical activity, they described experiencing
strong relational resistance; they believed they were central to meeting their children’s needs; “I’m the best
one to meet her needs” (5). In particular, some women who were breastfeeding indicated that they believed
that breastfeeding precluded being away from their infants long enough for independent activity to occur or
to plan/engage in scheduled activities:

And yeah, so he doesn’t take a bottle, which is, like, a big—it’s a big fight every time. So there’s no
point, like, thinking he’s going to be happy when I go off to the gym. He’s probably going to be, like,
screaming his—we’re trying to shove a bottle in his mouth [indiscernible], yeah (9).

So I can’t just like hand her over to my husband and disappear for an hour, cause if she gets hungry or
something, then, he has no way to feed her (17).

The women who had concluded that being separate from their infants risked their infants’ emotional
and physical health were not willing to engage in independent activity until they felt it was less risky for
their infants. This woman reconciled resistance by gauging independent activity as risky until her daughter
was older and less “vulnerable”:

So just—I feel a bit—by weirded out, I just mean, like, just sort of this baby that I’ve been nurturing and
caring for and devoting all—everything to, and just being like, “Here you go lady, or gentleman, that I
don’t know. See ya. I’ll be over here doing this exercise”….It’ll just have to wait until…I don’t know.
It’ll have to wait (2).
Avoiding independent activity involved more complexity for participants than only their concerns about being separated from their infants. Childcare provision from family members and friends was described as a commodity. The women avoided asking others to care for their children while they were active if they regarded their requests as placing unfair responsibility on other people:

I feel like it’s my job right now, I feel like it’s my obligation and I don’t feel comfortable giving that obligation to someone else just so I can do something for me, even though I know it’s healthy… when I still feel like it’s my cross to bear (22).

She’s decided to stop taking bottles. So I’m kind of tied to her in that sense. Like, I can’t just ask somebody for an hour exercise class, like, I mean, I’m sure I could – if I fed her right before I went [to the gym], she would be fine. But yeah, I think it’s mostly just a not wanting to burden other people (2).

All of the women, regardless of their physical activity centrality levels, described wanting to use childcare sparingly and only for important or necessary activities because they had decided there was potential relational risk from consistently asking others to care for their babies without offering reciprocity:

[My partner] and I talked about how much we would like to go back, get back into rock climbing, um, but the challenge is like, you don’t always want to pawn off on parents or family because we really appreciate them coming here and helping us and we don’t want to lose [that]…[We have] my husband’s sister who lives just down the road [for childcare], but that tends to be for activities like, oh we have to go to a friend’s opera debut, um, (laughs), um, and so it’s like, it’s not necessarily an activity that we plan but we’ve been invited to (25).

Participants indicating low-moderate centrality had more difficulty asking others to care for their infants so that they could engage in physical activity. They did not regard independent activity as possible because, for them, physical activity was not essential enough to negotiate with others for childcare:

I feel a little bad when I get them [her daughters] to babysit for things like that…And I think if I asked them to babysit so I can go work out, I’d feel guilty about that. Yeah. I feel guilty towards my daughters for making them babysit while I’m doing something fun or something that, in my mind, I think, it’s not an essential thing, it’s an extra thing (7).

When the women believed that engaging in independent physical activities was unfair to others or that it would induce guilt they gauged high relational risk. They used synchronized (with infants) and
outdoor activities not requiring help from others to avoid potential relational consequences:

So the only option if I would go [to the gym] would be in the evening when my husband is not working and my older daughter is at home, but then I would feel guilty cause they just came, they have to rest and I’m doing something wrong. Now it’s my time [during the day]. I don’t really need to ask anyone (1).

The women who indicated low-moderate centrality were less likely than women indicating higher centrality to regard independent activity as fair, given their partners’ physical activity opportunities. A woman decided that independent physical activity would have to wait, in part, because she felt it was unfair for her to achieve independent activity but not her partner: “So he’s [my husband’s] working and he’d also love a bike ride right?” (5).

Women indicating higher centrality described experiencing relational resistance about negotiating with others for independent activity and potential risk to infant’s needs but they gauged a lower collective risk from pursuing desired activities because physical activity was so important to them. They described the importance of physical activity as offsetting relational risk. They were willing to take the risk, even if it meant a level of uncertainty in their infants’ need satisfaction: “I’m gone for an hour [for a run], it’s not like, she’s fed, she’s changed. I’ve left the house. I mean I guess if she cries for an hour, it’s not ideal, but it’s not, she’s not in danger, you know” (28).

Risk to infant needs and family harmony: Choices around time of day and scheduled activities.

The women avoided pursuing desired physical activities at certain times of the day when they experienced relational resistance; at those times they regarded the activities as too disruptive to their infants’ and families’ schedules and having the potential to upset their family harmony. Many of the women indicating low-moderate centrality held the perspective that the evening was a time to do household tasks and connect with their partners, and that morning and bedtime routines were ideal times to connect with their infants. They depicted engaging in physical activities in the morning and evenings as “missing out” (9) on opportunities to
build relationships and carrying too high a relational risk. They avoided pursuing their desired physical
activities outside of daytime hours:

I don’t want to go out every single night to do this [activity at the gym]. I want to spend time with my
husband. That’s, you know, fostering those relationships, too …Because my husband, he comes
usually about 6:00 in the evenings, and I’m kind of the cook of the family…so quite often I would just
hand her over and make up the dinner, and then we’ll eat dinner. And by that time, I’m putting her
into bed. And, you know, by the time I get her down, it’s usually about 8:00 or so, and so it’s kind of
too late to get to any [physical activity]…Like, obviously if it’s anything after 6:00 at night, it’s not
going to happen, right?…If it’s anything too early in the morning, again, not going to happen because
she’ll either have been up since 4:00 and needing a nap, or she’ll just be getting up and we’re trying to
get our day organized (8).

Participants indicating more moderate centrality described physical activity as not central enough to risk
losing opportunities for connection with family members or negative relational outcomes from negotiating
household task arrangements in the morning or evening. The women claiming higher centrality did not express
the same beliefs about the importance of putting a priority on infant care and household tasks in the mornings
and evenings rather than physical activity (although they did value the evenings as time to connect with their
partners). They held the perspective that morning and evening times were opportune for their physical activity.
Those participants described gauging lower relational risk for activity at all times of the day and being willing
to engage in activity whenever it was possible: “Like, luckily this yoga class that I go to is a late class on Monday
nights, it’s from eight to nine so during bedtime. So, I sneak out while he does bedtime” (20).

All the women described scheduled activities (e.g., mother-baby swimming classes) as carrying an
inherent level of relational risk because attending these activities at specific times often required them to
adjust their own and others’ schedules (e.g., infant’s older sibling, partner, and infant feeding and sleeping
patterns). Participants indicating moderate centrality gauged varying relational risk in pursuing scheduled
activities depending on how comfortable they were with modifying others’ schedules. The women indicating
low centrality gauged high personal risk (risks to themselves) of pursuing activities beyond motherhood (e.g.,
group fitness classes) and ruled out them out. Some women who claimed moderate centrality described
gauging moderate risk of accessing scheduled programming and choosing to engage only in activities that coincided with infant feeding and sleeping patterns; they experienced resistance about shifting their infants’ schedules and discerned that adjusting them risked their infants’ need satisfaction: “It’s nice to be able to be flexible. Kind of work around his schedule. Also, around his benefit, because if he’s, if he doesn’t get his nap and he’s cranky…it’s not necessarily the best thing for him” (18).

Some participants, who also indicated a moderate level of centrality, described gauging low risk and choosing to engage in scheduled activities (such as stroller fit) when they had experienced the activities as supporting their ability to meet their infant’s needs (e.g., breastfeed or soothe):

So if you need to feed - nurse in the middle of class it’s up to you, changing, do whatever you want….Ya, if he’s crying you can just go attend your baby’s needs and the same as spinning class well on bikes. But if the baby’s crying you can go off and our instructor just give us different type of exercise…with our baby, while holding our baby (1).

The women indicating a higher level of centrality experienced some resistance about pursuing schedule-based activity but they seemed to interpret the resistance differently and gauge lower relational risk because they had concluded that the potential reward to themselves and their families from engaging in those activities superseded concerns about relational risk. They chose to pursue scheduled activities and were willing to be flexible with scheduling to attend a variety of activities because they put a higher priority on physical activity.

A mother indicating high centrality engaged in runs, team-based activities, and “mommy and me” classes:

But mommy and me allow me to fit it in, especially when my partner is away travelling, that’s my only option….So going for a run for a half-an-hour, that’s easy, and just you know, try to fit that in with my partner’s work schedule and try to sneak it in (30).

**Gauging personal risk.**

Personal risk involved gauging the emotional, physical, and social risks of pursuing the women’s desired activities. Physical activities were gauged as personally risky when the women believed that pursuing them put them at risk of judgment or embarrassment or would extend them beyond their physical and emotional capacity
to care for their infants and maintain their relationships. Women described their personal embodiment of the postpartum period, in terms of their beliefs about their fatigue, energy, physical fitness, injury, and comfort being with other mothers as important sources of resistance. These beliefs affected how the participants gauged the environments in which they were comfortable engaging, how soon they would engage in the activities, how physically intense and long their physical activity would be, and the degree of planning and organization they judged as reasonable and possible to expend to access activity.

*Emotional risk: Choices around levels of emotional investment.*

Participants linked their beliefs about their emotional states, energy levels, and the benefits of different forms of activity to their gauges of emotional risk of pursuing different forms of physical activity and how much emotional involvement in physical activity they could accept. Participants assessed how much energy they needed to perform daily tasks taking into account their fatigue and emotional states to gauge whether the work and planning involved to achieve their desired activities risked overwhelming them emotionally and compromising their abilities to care for their children. Engaging in independent activity and physical activity programming at recreation centres or outdoor settings at specific times involved the most work and planning because the women had to take into account their infants’ feeding and sleeping schedules and, for independent activity, find childcare. The activities that the participants gauged as too emotionally risky were ruled out. In the earliest part of their postpartum experiences the women decided that pursuing most forms of physical activity was too emotionally risky because they were trying to navigate how to meet their infants’ basic feeding, sleeping, and hygiene needs. A mother, with moderate centrality, recalled her early postpartum experiences and the importance of attending to other activities before taking on any form of physical activity:

But in terms of, like, other—even getting them [her children] out for, like, okay, let’s go for an hour-long walk. That took me a while because other things just needed to be done first. I either needed to sleep so that I would not be crazy on four hours of sleep, or eat something, or those sorts of things. It had to be done—kind of the basics had to be done first before I could kind of take on that other piece of it (19).
Participants expressing a high level of centrality indicated that they gauged walking as carrying low emotional risk almost immediately because they held the perspective that walking would support their recoveries and return to fitness, and increase their emotional well-being rather than detracting from it. Some women described going out for walks within a day or few days following birth. The following woman, who indicated a high level of centrality, started with short walks early postnatally to support her return to fitness and feelings of emotional stability:

So for me, activity is one of those things and it is I guess a good mental break. Like one of the things I really like about exercise is just, your brain goes blank and so it’s just you and the nothingness in your brain…you know in the first little while you’re just trying to get used to everything, the biggest part for me would have been just having that break, time to myself…I still remember the first time that I walked to the park…that just felt like such a success to me…whohoo, I’ve made it…sort of in the early stages (30).

Generally, participants who indicated a higher level of centrality described initially choosing to avoid activities that involved more planning and organization to achieve, such as group fitness classes or hiking, because they feared that they would take too much energy and overwhelm them; they gradually ruled in those activities anywhere from a few weeks to four to five months postnatally. The following mother recounts when she felt ready to pursue returning to yoga:

I didn’t have the, like, I didn’t have the motivation to go and put in that energy…And if I had downtime then I wanted to stay home and sleep [laughs]…But yeah, around the five-month mark when things started stabilizing more, he started sleeping a bit better and I had more energy essentially, then I got to sleep better. And that’s when I’m like, okay I really should, you know, go and do stuff (20).

The women indicating a moderate level of physical activity centrality described a similar pattern of gauging emotional risk around pursuing more involved activities by four to five months postpartum. Some women indicating moderate to high centrality chose not to engage in independent forms of activity once they
were ready for more involved activities because they had decided independent activity posed risks to their relationships or infants’ health and safety:

I know at the rec centre they do have child-minding services… I know I would be right there and everything but—maybe I’ll try it once in the winter just to see if I can do a class without her, um, try it out. But I do feel a little bit weird about leaving her with strangers. And I worry about, like, if, you know, in more of a setting like that with, um, other kids being sick and stuff like that… But, like, they shove everything in their mouths and stuff like that. And she’s still so little (2).

The women with a moderate to high level of centrality gauged expending energy and effort to achieve different forms of activity beyond those of motherhood as low risk; although they indicated that those types of physical activities involved more commitment and planning: “I look stuff up on YouTube and I’ll do exercises at home if it’s rainy and I can’t go out” (2); “like, even if it’s a rainy day, you know, put on our duck shoes and I’ll strap him on my back” (9), they anticipated experiencing emotional well-being from engaging in the physical activities and other benefits: “There are other babies, he has a great time, I get a good workout and it’s kind of a social thing as well, so you kind of get all kinds of bang for the buck” (30).

In contrast, participants describing the lowest levels of centrality indicated that they gauged forms of physical activity, beyond walking and family activities, as overwhelming and higher risk throughout the postnatal period because they viewed the physical activities as involving significant work and did not see any inherent emotional benefits from them:

Like, I do have some, like exercises on DVD, like, I have the Insanity Workout and I have some Yoga videos and things like that. I’ve done a little bit here and there, but in order for me to do it I have to, I have, it kind of becomes a big production. I have to change my clothes. I’ve got to get on my shoes. And then I don’t want to do that this week—I don’t want to do that today. Yeah I’d rather just sit and watch TV. I’d rather just sit (7).

The women who indicated low centrality were comfortable with avoiding the planning and work of physical activities beyond motherhood because they considered those activities as less rewarding than other activities that supported their emotional stability. Even though the following mother indicated that she believed physical activity supported her feelings of well-being she explained that she chose other activities
because it was easier than “making an effort” (24) to pursue physical activities beyond the ones intrinsic to motherhood:

When it [the time] arises and also when those times appear [to do physical activity], those other competing interests, like do nothing, or have a nap with the baby, or go walk to the coffee shop and have that Americano (laughs)...maybe it’s just easier to do that and it seems like it yields the same immediate results (24).

Participants described personal and environmental resistance, in the form of strains and scheduling constraints, as affecting their gauges of emotional risk. The women indicating higher centrality most often gauged the additional work of achieving physical activities, beyond motherhood, as less emotionally risky; however, they described emotional strains, such as breastfeeding difficulties, infant illness, growth spurts, increased lack of sleep, or relational challenges, which could enhance their negative perceptions about the work of accessing physical activity. They indicated that, under those conditions, pursuing certain activities would be detrimental rather than beneficial to their mental health and functioning. A woman with a high level of centrality described her overwhelming initial experience with independent activity as raising her gauge of emotional risk and dissuading her from future attempts:

I tried that in the early days and I came back from a run literally just from here to like um, [location] pool and back, so I was gone like maybe ½ hour and I stopped at [location] and did some stretching and I literally felt exhilarated, I was so happy, kind of sunset, it was beautiful and I was just like, oh my god, this is like the best day ever. But then I got home. And he’s [her son] crabby, I now have to shower, all in the span of, I’ve only got 40 minutes left to do it, cause then he’s gonna freak out and need to go to sleep on me...[My husband] was like, why don’t you do that once a week, and I was like, I can’t, I can’t, everything gets undone, that stress comes immediately back when I come through the door and realize, now I have to shower and get everything ready to be able to sit and hold the baby(22).

Physical risk: Choices around levels of activity intensity and duration.

Participants linked their beliefs about their physical fitness, injury, and pain, the physicality of motherhood and fatigue to their gauges of physical risk and the level of activity intensity and duration they chose. The women gauged activities as low physical risk to themselves when they sensed they had the fitness
to perform the activity. They avoided frequent, lengthy, and moderate to high-intensity activities (e.g., running, and mother-infant spinning classes) when they regarded those activities as putting them at too high a risk of injury, pain, and fatigue. Participants would not compromise their emotional and physical well-being as well as their ability to physically provide care for their infants.

The women described their gauges of physical and emotional risk as similar. In general, in the early postpartum period, the participants gauged higher intensity physical activities beyond motherhood as physically risky. The women indicating higher centrality described gauging low physical risks for low intensity physical activities, such as walks, earlier than women of lower centrality. They also gauged low risk for moderate intensity activities of longer duration (e.g., mom-baby classes, hiking) within a couple of months, and low risk for higher intensity activities (that were independent or team-based) by 4-5 months postpartum or sooner (e.g., by 6-8 weeks). Participants with higher levels of physical activity centrality described gauging activities as less physically risky earlier because they were highly motivated to participate in physical activity and more confident about the benefits of engaging in the activities and their abilities to perform them. Even when they gauged a possible increased risk of injury or inadequate physical fitness for moderate to high intensity activities, they took the risk because they enjoyed those types of activities and expected the higher intensity activities to support their health and eudaemonic needs:

There’s part of me that, the reason that I want to be in better shape is so that I don’t aggravate my back kind of thing…it would be really disastrous if I injured my back and that I wouldn’t be able to do the kind of parenting I wanted to do. But at the same time when I wanna go play hard, I just, you know, the mental part takes over. I want the mental release of playing good and maybe harder than my body’s ready for (30).

The women indicated that gauging physical risk involved considering whether their beliefs about the physicality of motherhood affected their desires to pursue moderate-intensity level physical activities. The participants depicted caring for a young infant as involving significant physical work, such as carrying their
babies and handling infant equipment (e.g., stroller and car seat). Women at all centrality levels described being surprised at the physical aspects of motherhood and recognized infant care as a source of physical activity:

Especially because I’m a baby wearer, I wear him on my back or on my front a lot, and because I’m by myself most of the day, that really makes a difference. So, I’m wearing like a 23, 24 pound weight on my back as I’m moving about the house doing my chores, vacuuming, or doing the laundry, whatever it may be. So, I’m like, “Hey, that’s resistance training” (20).

Most participants described motherhood as being physically challenging, beyond daytime infant care activities, because they experienced inadequate sleep and performed infant care while fatigued. Some women linked their increased fatigue and a need to provide more hands-on infant care to a shift in the strength of their beliefs that moderate-high intensity activity would support their needs. They gauged more physical risk from pursuing more intense activities when they experienced more demands from the physicality of motherhood and fatigue. Their gauges were particularly apparent when infants had challenging temperaments, sleeping difficulties, or growth spurts:

But then she went through quite the growth spurt and put on quite a lot of weight very, very quickly…I was like, oh my gosh, I’m so exhausted, I’m so tired from holding her and lifting her and moving her. And, of course, by that point you’ve done, what, three to four months of, like, very little sleep and whatever. So I guess it sort of hits you. So it definitely comes in waves (8).

Participants who indicated a higher level of centrality less frequently interpreted fatigue and the physicality of motherhood as relevant sources of resistance in their decision-making because their resistance arose from their belief that engaging in physical activity could combat their fatigue and increase their energy. Some women, with moderate-high centrality, linked the combination of fatigue and physicality of motherhood to their concerns about additional or moderate-high intensity physical activities lowering their energy and physical abilities to care for their children. They chose activities of less frequency, lower intensity, and shorter duration because they had decided they were less physically risky and more likely to preserve their energy to care for their infants. A woman who indicated a moderate level of centrality said: “Most of the stuff that I do
now is kind of lower intensity, like, easier, shorter hikes, which don’t really totally wear me out” (18).

Participants described experiencing resistance about their bodies’ abilities as they recovered from birth and gauging whether they were fit enough to perform their desired physical activities or risked injury/exacerbation of injury from engaging in them. Their postpartum fitness levels were reduced compared to pre-pregnancy, which the women attributed to a reduction in their physical activity during pregnancy and recovery from birth: “I know the general rules of healing [from her cesarean birth] so I was like, 7 weeks I tried to jog that first time and I was like…I felt like I’d never run in my life” (27).

Concern about fitness ability was more explicitly discussed and described as relevant for women who depicted moderate to high levels of centrality because they wanted to engage in physical activities beyond those required to carry out mothering activities. Many women indicating moderate to high centrality described choosing to attempt their desired activities because of their physical activity beliefs about the importance of the activities, even when they were uncertain about their physical recovery from birth, whether they risked injury, and their physical abilities to perform the activities. They linked their uncertainty in their gauge of physical risk to their lack of knowledge about how to safely increase the duration and intensity of physical activity post-birth:

Cause yeah, at six weeks, my, you know, OB said, ‘Yeah, you’re good to go. Everything looks fine.’ But you know, my stitches looking fine does not mean that I’m actually—Yeah. Like, how does that relate to the rest of my body being able to undertake any sort of physical activity? So, yeah… I was just like, oh, I’ll just run—you know, like, I’ll just—I can walk a hundred miles. No. Walking around the block and I was exhausted (11).

You kind of ask the doctors ‘so when can I kind of get up and start doing things’ and it was all like, ‘when you feel that it’s right for you’… I was kind of nervous going for that first walk afterwards because I’m kind of like, is the stitches, you know, what are going to be the consequences of this?…if anything, it was only positive, like it made me feel so much better, it helped…definitely, like next time….I would start earlier (29).
A few participants related their uncertainty about physical risk to gauging some activities (e.g., high intensity or abdominal exercises) as carrying too much risk and avoiding them completely. The following woman indicated that she had moderate centrality. She cancelled her gym membership, in part, because she was concerned about the safety of participating in group fitness classes, given her abdominal separation (diastasis recti): “My abdominals separated, and so physio told me not to do, like, sit-ups and stuff….Which is a big part of a lot of the classes that I was doing….I’ll just do other things….[when] I found out about the abdominal thing…I was worried I was going to do damage by exercising” (14).

Most of the women described experiencing resistance in the form of injury and related pain and new physical considerations (e.g., heavy breasts). Those sources of resistance increased their physical risk of engaging in their desired activities (i.e., because high intensity activity now caused breast pain). Some pain was described as ongoing (e.g., knee, back, hip injuries) but several women reported experiencing pain related to birth (perineal tears, episiotomy, cesarean incision, diastasis recti, and hip and pelvic pain) or the postpartum period (back and shoulder pain from lifting infants and hernias). Participants described their pain and injuries as limiting the range and duration of activities that they gauged they could do and affecting their decisions about pursuing either higher intensity activities or activities of longer duration. A woman, who indicated a low level of centrality, enjoyed going for walks with her family but reconciled to reduce the length and duration of her walks due to pelvic pain that did not resolve until 2-3 months postpartum:

It actually continued for probably 2-3 months postpartum and so I’d go for a walk all excited and then ahh, my pelvis is still, really in pain, or like making weird clicking sounds whatever, just took a while, so that was surprising….but ya, think it definitely, ah, kind of dissuaded me from doing as much as I probably would have wanted to in terms of enjoyment and to have that aspect of getting out, but then getting out I was like, oh, my hips are aching, ya, my everything, so, that definitely I’d say for the first for the first 3 months were, kind of impacted by that (24).

Participants indicating moderate to high centrality more often described experiencing long-standing injury and pain unrelated to their births; however, they did not describe injury and pain as precluding them
from activity because they regarded physical activity as so important. Those women gauged that it was important to avoid higher intensity activities that aggravated pain and injury but to continue with other forms of activity they gauged as less physically risky. A woman with high centrality described temporarily reducing her activity intensity due to a knee injury although she intended to return to activities once her knee improved: “Like I was doing a lot of classes with her. But I injured my knee in soccer two weeks ago so that’s why we’re not doing too much active….I’ve just kind of been going on walks and I’d like to be doing a lot more activities, but I just need to let my knee get better” (6).

The women linked their beliefs about fatigue, reduced physical fitness, and injury to gauging a higher physical risk of increasing physical activity intensity, duration, and frequency. In these situations, participants had decided that the pursuit of longer duration and high intensity activity was risky and likely to negatively affect themselves and their abilities to care for their infants. They held back on their activity intensity and duration. For example, the following woman, who indicated high centrality, had run marathons pre-pregnancy but explained the effects of postnatal bodily resistance on her gauge of physical risk. She described resistance about her physical fitness, the physicality of motherhood, and birth-related hip and back pain as raising her physical risk:

“Let’s go for a walk, let’s get the fresh air.” You know? And I needed it, but it turns out, you know, a block and back was, like, totally what I could handle. Even that was a bit—could be a bit much, you know? So it was really learning to check in with my body and realizing that how I could push it was different now, because I wasn’t just pushing it for me, I had to save energy to look after [her daughter], so if I totally exhausted myself or I injured myself, well…So I really haven’t gotten back into the running yet too much, you know, half hour here or there, because my body’s still not completely ready for it, my hips are still causing me quite a lot of issue, my lower back is still causing me a lot of issue. So lower impact is really important….I’m still not ready to engage in those activities…that will bring me back more tired. You know, it’s one thing, oh, I go and get a little massage or whatever and I come back rested and refreshed, it’s another thing if I go and I do a 20-kilometre training run and I come back and I’m, like, well, I’m done for the day, guys (16).
**Group-based risk: Choices around physical activity milieu.**

Because the women described the postpartum period as challenging they sought to engage in physical activity in milieus or social environments they believed contributed to their perceptions of comfort, competence, and well-being. The women described physical activity environments as exposing them to different forms of visibility around their fitness, infants’ development, and mothering practices. Women gauged group-based risk by assessing the degree to which they believed being active in various environments would contribute to perceptions of awkwardness, judgement, and embarrassment, thereby detracting from perceptions of competence and well-being.

Participants described resistance about physical activity competence and their personalities as affecting their gauges of comfort in different physical activity milieus. Participants gauged increased personal risk in group-based fitness environments when they believed they were not competent to perform the fitness activity or they were not outgoing and comfortable in group situations:

> I just, find social situations like, a little bit of work, which is okay, but I should be in the right head space I guess, um, ya and I just, just fitness in general. I’m already kind of feeling awkward, then meeting a whole bunch of new people is just, um, ya. I could see if they had like, if I knew some of the people that were going or something, that would help…I think that the idea of it’s great [mother baby fitness classes], I just um, ya, it’s just, to me it’s like, the last thing I wanna do. I just, I just…I guess, just because of not wanting to be like way behind, ah, everybody and also like having to meet a bunch of new people. I know that that’s really important for a lot of people, like getting, like getting out there socially, but, for me I’d need something calming to talk about (23).

Even when they believed they were competent to perform the activities, the women gauged more personal risk in situations where they were uncomfortable with others observing them exercise. They indicated that they ruled out mother-infant or group-based physical activities, instead choosing more private outdoors, home-based, or independent activities. The following woman indicated a moderate level of centrality and explained why she did not engage in group-based activity:

> I don’t know, I guess it’s just people watching you, I don’t like, I’ve always been sort of a private, apart
from hiking, which isn’t really private, but it’s not like there’s anybody with you the whole time, watching you…I don’t like people watching what I’m doing (18).

Participants who indicated low centrality, in particular, regarded group fitness situations as high risk because they perceived they had limited ability to perform the physical activities, which they found personally threatening:

I couldn’t go running anymore, I’ve gained a lot of weight over the last 6 years and with swimming I still feel. I still feel agile in the water. Swimming still feels easy to me so, I don’t feel so, oh. I can’t even touch my toes kind of thing. I would feel if I went to yoga, I would feel so inadequate (laughs), doing all these things I couldn’t do (17).

The women who indicated moderate-strong centrality generally gauged low risk in group fitness situations because they described being more comfortable in them; many women preferred them so they could socialize. Women with a high level of centrality described extensive motivation for activity, which helped to buffer any fears of judgment or social comparison. Having been active in group settings for a longer time desensitized them to feeling judged:

Like, I’ve probably been going to gyms in sort of official kinds of exercisey things since I was a teenager….it’s interesting because I used to feel very uncomfortable at sort of regular gyms…So I used to feel really weird there…And now I think I feel more comfortable because I’ve been going to gyms long enough that I also care less…I guess I’m maybe comparing a little bit less to other people and what they look like at a gym and things like that (15).

Other participants who indicated moderate-high centrality described changes in their gauging of personal risk in group fitness situations because they believed their fitness levels had decreased. Even if they had previously enjoyed group-based physical activities, the women identifying reduced fitness levels described experiencing resistance from fear of embarrassing themselves in group-based activity because they would be unable to physically keep up. The following woman explained how her beliefs about her reduced strength made her hesitant to return to cycling and skiing with her friends who she identified as high level skiers: “I think the people I ride with are at such as high stance level that I don’t like slowing people down…I will be hesitant to ski with people that I used to ski with because I will worry about slowing them down” (5).
The women expressed different levels of comfort in mother-infant physical activity groups because of resistance about other mothers. Some participants perceived that physical activity environments, such as mother-baby stroller groups, posed low personal risk when they felt those environments were safe and supportive. For example, the following mother described her stroller class as being supportive, like the running group she attended pre-pregnancy:

So I’ve started going to actually a stroller class at the mall, 45 minutes, and it’s just—I don’t know, it’s just more camaraderie, more sort of just relaxed, humorous vibe….And the feeling with that [pre-pregnancy] running group [I attended], which was really neat, was more, “You can do it, this is cool. Look at us”….And then finding that same kind of feeling with the stroller class is—we’re pushing ourselves, but it’s a good time, there’s a social aspect to it as well (16).

Women often made decisions to avoid other mothers after negative experiences of feeling judged in mother-infant groups about their motherhood competence, infants’ development, body weight, or positions on motherhood. Those experiences led them to gauge high personal risk in mother-infant group based environments:

You know, like, it’s, like, a judging environment. And so, like, I mentioned that he’s a good sleeper and the girl—you know, we’re going for a hike, she’s, like, “Oh, that’ll change. And it’s, like, why can’t you just let it be that he’s a good sleeper?...Like, just because your baby didn’t sleep, doesn’t mean that my baby won’t sleep….I went to a mom group and they were, like, “Oh, have you lost the baby weight yet?”…I was like, I’ll lose it at some point in time, but it was, like, everything’s a competition….Yeah, in those groups, like, they can’t just let you have anything. They have something to say about—even your successes. ‘It’s not going to be that great for long’ (9).

Conversely, the women feeling comforted by being with other mothers who had similar experiences gauged group-based activities as lower risk and ruled them in. Mothers’ physical concerns, such as reduced fitness, birth-related pain, heavy breasts, and leaking breast milk, were common so some women described feeling safer returning to physical activity in mother-baby based fitness environments. The following woman,
who felt her fitness had reduced and was worried about leaking breast milk, explains why she gauged a higher risk of embarrassment in co-ed group-fitness situations:

Now, when I’m in something where there’s other moms, for example, not a big deal [leaking breast milk]. If anything, we’re going to have a big laugh about it, you know. And someone will come up with some fantastic solution that their grandmother did somewhere down the line. Whereas if I’m in a class of, you know, just—even men and women, for example, or if I’m at the gym and something like that happened, I would find that really—I think that would probably put me off going for quite some time (8).

Gauging accessibility.

The participants gauged the accessibility of the forms of activities they desired to pursue. They depicted gauging accessibility as reconciling their gauges of risk and essentiality with environmental and physical activity resistance. Environmental and physical activity resistance affected where the women were prepared to be active (e.g., outdoors activity or recreation centre programming). Physical activity resistance also affected the women’s degree of willingness to engage with the environment and perceptions about the availability of information to access the environment and programming. The women described their informational, tangible (e.g., money, car), and childcare resources, the physical environment, and their family contexts as affecting whether they gauged outdoors and recreational programs as accessible. They took into account existing recreational policies, geography, and their infants’ age and weight. When some participants gauged their resources as insufficient (e.g., knowledge, money, childcare providers) to access particular forms of activity or physical activity programming as too inflexible or incompatible with their family contexts, they ruled out those forms of physical activity. When the women ruled out activities based on accessibility they had decided the activities were not within the realm of possibility or their capacity to achieve in the postpartum context.

Choices around recreational centres and fitness programming.

The women’s perceptions about access seemed to complement and extend their gauges of risk and essentiality; the women were more likely to perceive access as a problem if physical activity was less central to
their lives or when they perceived more risk from pursuing physical activities. For example, the women who experienced strong relational resistance about the risk of adjusting their infants’ schedules described gauging less access to recreation centre physical activity programming that was offered at specific times. However, the participants generally did not explicitly link their beliefs about physical activity access with their beliefs about risk. For example, a woman who expressed discomfort leaving her daughter alone (beliefs about risk) choose not to attend her local gym with childminding services. She did not interpret her reduced physical activity access as being related to her relational resistance but rather interpreted her reduced physical activity access as being due to environmental resistance (beliefs about mother-infant program availability and resources):

There’s the Pilates and I think there’s—I think that’s kind of it for that—for her age. Um, and to be honest, it’s a pain in the butt because it’s up on [place] and I don’t have a car. So I have to take one of those community shuttle buses to get up to it. So that’s no (2).

The women who gauged high relational risk and choose to hold back on others caring for their babies limited their indoor recreational and fitness centre access to the mother-infant programs that fit with their infant’s age and mobility and the ages of their other children. Mother-infant physical activity programming often excluded mobile infants (infants who were crawling) and older children so that the participants who had rejected independent activity and had older and more active children indicated that those programs were inaccessible to them:

I can tell you why I don’t go to yoga. There is mom and baby yoga. I thought originally to, well I didn’t even think about it because I thought I may do yoga or something, then the reason no, ‘too active babies can disrupt the environment of parents’ [description of the activity in the recreation centre activity guide]. I thought what if I have that too active baby and disrupt, and I thinking I’m not gonna even try (1).

A mother of twins described gauging mother-infant programming as inaccessible because the programs did not have additional staff to care for her children during the class: “But with these guys [her twins], it’s not easy to just throw them on and do things. Like, the mom-and-me classes, you can’t do—it’s a lot harder to do with twins” (19).
Sometimes, participants with moderate centrality described comfort with the concept of having others care for their children but their lack of access to childcare providers resulted in them gauging their access to physical activity programming as being restricted by fitness centre childcare policies. They explained that childcare at the facilities was open at specific times (usually a few hours in the morning) and often had a cap on the number of infants. These women described some childcare centres with policies that required women to sign up for childcare in advance, accepted infants only after 6-9 months of age, or refused to change diapers or feed infants. Those participants indicated such policies undermined their child-minding service use and lowered their gauges of accessibility. “Part of the problem I had with the drop-in centres was that the courses that I wanted to take, the daycares were closed. So a lot of rec centres, the daycares are only available from nine to noon or something, and the program I wanted was at four p.m.” (12).

The women described cost as a particularly relevant source of resistance in gauging physical activity accessibility. Most of the participants had reduced incomes during their maternity leaves and less disposable income and they indicated that recreation centres and fitness programs involved significant cost. They placed limitations on the amount of money they were willing to spend on a regular basis beyond basic necessities (e.g., infant care supplies, groceries).

Women who regarded their financial resources as insufficient to regularly pay for childcare at recreation or fitness centres described having further restrictions to accessing recreational programming when they gauged high relational risk. Some women, with concerns about paying for childcare, described offers from their partners to provide care but they indicated their relational risk was too high to pursue that. They choose not to leave their children for physical activity. One woman gauged independent activity as inaccessible to her because she had concluded that her partner could not provide satisfactory care for her infant, there were no other family
or friends able to provide childcare, and she did not have financial resources to pay for the recreation centre programs and daycare:

My husband is all like, you can leave her and go at night, well, who’s going to give her a bath? He’s given her 2 baths in the last year. Well, who’s gonna bathe her?...At this point it’s a perpetual cycle, it’s like I wanna do this, but I can’t cash the paycheck. I wanna do [a physical activity] but that’s 75 bucks, that’s money coming out from somewhere and I just can’t afford it....Um, I don’t have family, that support, I don’t have that. My mom, she lives in [a town] and all of my in-laws are in [a town] so I don’t have that… I wish there was free daycare that catered to younger children (13).

Participants who depicted low-moderate centrality and described limited financial resources were more likely to pursue synchronized outdoor activity in the interests of role modeling physical activity for their children:

I can’t afford to always hire a babysitter…I don’t always have someone to look after them. So, if it’s something I want to try to incorporate into my lifestyle and do on a regular basis it has to be something where I can bring them, otherwise it’s just not going to happen (12).

The women indicating higher physical activity centrality more frequently described paying to participate in physical activity programming and the gym because they had decided it was essential for them to engage in those programs that permitted them to exercise at higher intensities (e.g., mother-baby boot camp).

However, regardless of their incomes and levels of centrality, all but two of the women restricted their spending on physical activity programming and childcare or avoided spending altogether. They decided that the costs for physical activities and related childcare were too high to pay for frequently (e.g., 2-3 times per week) when there were other low cost or free options:

Five dollars, maybe like $6.00 for the class and then $6.00 for the child-minding. So it’s like $12.00, which isn’t exorbitant but if you do it often, it adds up pretty quick, so, yeah…I’ll just go to the classes that I can bring her with me and I just think that—and I can go to two classes a week instead of just one (2).

Some of the women linked program cost with their beliefs about risk and essentiality. They described their willingness to spend money on physical activity as rooted in whether paying for physical activity was legitimate in the context of their relationships, financial situations, and beliefs about their own need
satisfaction. These participants explained their gauges of relational risk and essentiality as influencing their gauges of money expenditure on activity. The women did not regard paying for activity as legitimate when they decided that the money could be more wisely spent to support their family. They chose cost-free activities. Two women with low-moderate centrality explained that they gauged money would be better used for their families than physical activity:

When you think that, wow, how should I pay, for example, my hydro, or how should I pay, for example, for—I don’t know, for example, formula, even, okay? Do you know, for example, my husband lost about twenty-six pounds in four or five months when we immigrated here. It wasn’t easy for me to look at him. So how can I go for, for example, swimming and pay five dollars? (3).

For me, it’s a big deal [paying for physical activity] because, you know, going on to mat leave can be quite the financial burden, you know….If you’re going to spend money, you want to be spending it on her, or you want to be spending it on her surroundings…Like, for me, the exercise part is all about me. Does that make sense? So, again, I’m thinking, oh, is that something that—could I just be doing something at home, you know? Could I just be putting on a workout video while she’s having a nap? (8).

When the local facilities had extended childcare hours, family-based programming, and promoted their childcare the women who indicated their funds were sufficient, but without reliable child care, gauged recreational programming as accessible. A woman described the public health nursing clinics offered at the recreation centre she attended. The nurses promoted the use of the all-day recreation centre childcare and the recreation centre offered family-based physical activity sessions:

They just started a physical program for the entire family at the [recreation centre] it’s fantastic…So we use the childminding here, it’s nice, it’s very ah, accessible, and you don’t even have to do a program, like you could just…come downstairs and grab a coffee. And they tell you that, so I found out about it, um, when one of the things they offer here for new parents is an infant parent group, um, they do once a week and a public health nurse leads it, there’s different topics….one of the things they say uh, childminding is important for your own sanity, you need it, it’s available, and it’s like that’s fantastic. And I think he [her son] did it when he was like maybe, maybe a month, so he was pretty young (25).

Some women who did not have car access during the day gauged physical activity programs beyond walking distance as inaccessible because they regarded public transportation as challenging; they decided that the time and work involved to access public transportation was not worthwhile and anticipated negative
experiences:

We share the vehicle, so kind of, I kind of tend to keep it local...so if I need the car, I can drop him off at work or I’ll, you know, so um, I took the bus...I was actually really surprised at the bus driver’s attitude. He was very anti the stroller, like it was this big inconvenience for him to get out of the bus to get that ramp out...Ya, and I was really shocked (29).

Participants indicating higher centrality described their willingness to pursue activities independently at a variety of locations and times because they gauged others’ care for their infant as unproblematic and were flexible with scheduling. Those conditions increased the range of physical activities they gauged as accessible. In particular, distance, length of time, and environmental considerations (e.g., weather) were rarely described as being sources of resistance that reduced their assessments of adequate access because they regarded physical activity as essential to their lives and driving to physical activity and accessing environments at different times to achieve activity was viewed as reasonable by them: “And then sometimes when I go to my soccer game I’ll leave for like, it’ll be like four or five hours because I have to drive somewhere” (6).

Similarly to linkages between relational risk and access the women generally did not explicitly link their perceptions about emotional risk with access. Participants with low centrality who gauged high emotional risk from the logistics involved with physical activity at recreation centres or scheduled activities also described gauging postnatal physical activity programming as less accessible. The women focused on problems accessing information that affected how they gauged their capacity to access recreation and fitness centres. They indicated that the number of activity program choices in the community was overwhelming or the information about programs and related childcare was too difficult to access. They chose to avoid pursuing physical activities beyond the information they had:

I think that the pool here, the pool mentions that it has a minding service, but I’m not really sure where that is, like I’ve been in that pool a lot of times, but I’ve never really seen the daycare, so they claimed to have a childminding service. And I’ve seen signs, like they say that there’s childminding for certain swim times, and I’m like, where, where is this? (17)
Sometimes it’s overwhelming because you see there are not enough [programs] for this area…Or there’s too many and you can’t choose….And I guess if somebody would just tell us, yeah, but we have to make the effort to find it. And sometimes it’s hard to do that, you know, it’s not that easy to find it (7).

Women with a higher level of centrality gauged lower emotional risk of pursuing more involved activities and also regarded programming at recreation and fitness centres as more accessible. They suggested that they had the informational or social means to access their desired activities. A woman described being embedded in a social network that supported her knowledge of physical activity programming and how to access it:

I’m lucky that I have a bunch of friends that, who are moms, either with kids similar in age or that I kind of have used as a resource. I have this group that I go to that’s just organized by a friend, and they’re all really active women, you know a couple weeks ago I said, ‘okay, so here’s my interview question for today everybody?’ you know. ‘How do you fit in exercise, what does that look like? And how do you do it’, so that I could figure out ways that I could do the same thing (30).

Not all of the women with high centrality indicated that they were embedded in supportive social networks but they still described gauging easy access to the necessary information to attend different recreational and fitness programming because they did not regard learning about programming as difficult. A woman described engaging in a variety of programs. She lived in the same community as the mothers with low centrality who had experienced the programs as too difficult to learn about:

Like they have so many programs at the rec centre, which is great. Especially because a lot of them are mom and baby as well so you can do things in the day and that’s really good….There’s just so much to do. I think more women should take advantage of all the recreation things that they have available, because they’re great (6).

**Choices around outdoors activity.**

The women described their environments and their infants’ ages as limiting the types of outdoor activities accessible to them. In general, despite the climate they lived in (including rain and fluctuating temperature), the women regarded outdoor physical activities as more accessible than recreation and fitness...
centre programming because they were not limited by recreation centre costs or policy restrictions. The women
linked their accessibility to outdoors activity to their proximity to environments that permitted the types of
activities they desired (e.g., outdoor trails, winter sports, and water sports) and infants’ age. Independent of their
levels of centrality, the women living in urban environments depicted outdoor physical activities as more
accessible than the women living in more suburban environments because recreation facilities and trails were
likelier within walking distance and the communities had a greater range of programming. A woman who
identified low centrality had recently moved from rural British Columbia to a more populated city and described
her access:

Like it’s easier to walk than to drive to the park in [the city]….last year, like it’s we’re out in [rural BC],
it’s like, such big expanse of space, we could do all these amazing outdoor activities, but we like literally
never walk anywhere because there’s nothing to walk to (laughs)…whereas in the city we walk a lot
more…the kids have [recreation centre] memberships and we walk to them (24).

Another woman who had moved from a more populated city to a suburban area between her two pregnancies
described her experience:

And I noted here [in her diary] that I’m not really a mall person. I don’t really like going to the mall. But
I have found…since moving to the suburbs and being a mom, that going to the mall happens to me more
than I ever thought I would…Because with my daughter, we lived in [the city], and I walked everywhere
with her. Like, only used a stroller, hardly ever [indiscernible] a car, where here, you use the car a lot
(10).

Participants described their gauges of outdoor physical activity accessibility as changing with their
infants’ ages and development because their infants’ limitations changed; in their views, infants were not
allowed to wear sunscreen, go in jogging strollers until 6 months of age, or go into back carriers until they had
neck control. As infants grew heavier women described experiencing shifting beliefs about their access to
outdoor activity and having to rethink appropriate outdoor activities and the length of time they would engage
in activity. A woman who went hiking with her son described the shifts: “So that’s nice at this stage, he’s really
portable and heavy but it just makes the exercise more efficient (mutual laughter). But I am a little bit, like I’ll
The participants indicated that their beliefs about navigating their environments affected their decisions about whether high intensity activities were accessible. Even after 6 months when some of the women started engaging in jogging with their infants in a jogging stroller, they described high intensity runs as problematic because they were worried about navigating the environment with a stroller. A woman described being unable to focus on her jog because she was worried about accidents and deciding not to risk her infant’s safety:

I was constantly thinking about, oh, is this bump going to be too much, oh I shouldn’t go that way because of the traffic, or, like, there was too much going through my head. So it’s definitely changed my physical activities in that respect (8).

Gauging Summary

I have described the women’s processes of gauging and the conditions, particularly conditions of physical activity centrality that affected women’s gauges. Gauging helped the women tentatively reconcile resistance and select the forms of physical activity that they were comfortable pursuing postnatally because they regarded the physical activity activities as being low risk, essential, and accessible. After they gauged the women moved into enacting their decisions.

Engaging

The women moved from gauging to using engaging strategies to make their decisions happen. Women used three strategies for engaging with themselves, their environments, and relationships; either they ‘pushed through,’ ‘held back’ or ‘held still’. Each strategy was associated with different postnatal activity goals. In the following section I describe each of these strategies.

Pushing through.

When pushing through, the women engaged with others, their environments, and their personal embodiment resistance to try to achieve their desired or preferred activities in the postnatal period. The women described pushing through as testing their fitness, assessing the environment, negotiating schedules and with
others, and acting flexibly. Women with high levels of centrality generally choose to push through towards achieving more frequent and moderate-high intensity physical activities independent from their infants because they regarded them as essential, accessible, and low risk for themselves and others.

None of the women who pushed through experienced resistance about being in group fitness situations. Physically and emotionally, some of these women depicted reduced fitness or injury and initially felt emotionally unready to engage in highly organized activities. Nonetheless, the participants pushed through to their desired activities by becoming engaged because they tested their physical fitness and range of physical abilities (if they had an injury). They began by engaging in lower level organizational activities and then pushed through to more involved activities. A woman explained how she increased her fitness:

Well right after I had her I felt like I needed to, like I wanted to get back into shape because I found it was really hard at the beginning. Like my first soccer practice I just felt like, so heavy and everything…I feel, like, much more fit now and I don’t have to like stop and catch my breath and, you know, feel nauseous or anything. So, it just took a few months of like every week practice and boot camps and things just to get back to where I felt like I was in shape again (6).

Participants who pushed through wanted to achieve independent regular activity but were willing to pursue lower intensity activities initially because they recognized their need to recover physically from birth and to adjust emotionally to the postnatal period. They accepted any forms of activity until they could push through to achieve more desired activities. A woman described using walking as her primary activity and then moving on to engage in runs, mother-baby activities, and team-based sports:

So even if it was just going for a walk…then I’d take it, I’d take anything in those early stages and then, you know as time has gone on, I wanted the mental benefit but also I wanted to start feeling healthier and stronger (30).

The women pushed through despite sometimes having questions about the legitimacy of asking particular people to provide care and the time and effort needed to arrange childcare. Because physical activity was so central to their lives they gauged any personal and relational risks as low compared to the risk to themselves and others of not pursuing their desired activities. They pushed through to their desired activities,
which included independent activities, by assessing their childcare options, and negotiating with and organizing with others or paying for childcare so they could be independently active:

And at about ten o’clock my grandpa came over. I got [my son] ready, and then we all walked to the gym. There’s a gym just at the community centre here. So this is usually once a week my grandpa will come over to do this. So he takes him for a walk around the neighbourhood. He goes to [the grocery store] and gets groceries or whatever. Comes back after about an hour. So that was nice. So from—at about 11 I was gyming (15).

Participants who pushed through described their childcare negotiations as intersecting with their efforts to attend to daily errands, maintain relationships, manage infants’ feeding and sleeping, and recreation centre schedules. They assessed schedules opportunistically to look for possible times and options to fit in physical activity. This woman navigated scheduling around her partner’s work and infant’s feeding schedule:

We’re still working out all of the like, how to get the best exercise, um, right now it’s worked, my husband doesn’t start work til 10, so that’s great because I can use the mornings for myself, um, so what we’ve been doing is, between 6-7, whenever she wakes up and feeds, then I put her down on his chest and I go for a run at that point and she has been settling really well on him…if he needs to distract her he’ll get her up and like distract her from needing to eat. We’re trying the bottle. She’s not super in love with the bottle so that I can’t have that freedom, so that’s the next challenge for us is to get her to maybe take it so that I can buy myself a bit of extra time and just feel more confident that I’m not leaving her in distress or somebody else in distress (28).

The women pushed through by acting flexibly to achieve their desired activities. On days when finding childcare was unfeasible or scheduling was exceptionally difficult they modified their physical activity plans and engaged in less than their ideal experiences. By pushing through they managed to achieve their desired activities at least some of the time:

Because even if I just think about my week this week versus my week last week, I mean last week I was able to get 4 really solid workouts in, this week, this week has been totally off, my older son, he’s been totally wonky, and a few other factors, so I haven’t been able to get as much of the hockey and going for a run, like that kind of stuff in, but I’ve been doing because I can’t do that, I’m compromising and doing the sort of, let’s go for a long walk with the dog and the baby and I’ll do my physio exercises. That will have to be in the good enough category, it’s better than nothing (30).

When the women pushing through were flexible they had increased access to different physical activities. They were willing to drive or take transit to different locations, be away from their children for
several hours, and to engage in a variety of different physical activity forms, often in the evening or morning: “If I don’t make it out for a workout during the day, when the kids go to bed…I’ll jump over to the [recreation centre] and go for a swim” (25). Women who pushed through spoke optimistically about the future; they anticipated increasing access to more physical activity options: “I think one of the things we’ll been taking more advantage of once [her daughter’s] diaper bathing suit arrives is on Saturdays will be taking advantage of the family swim” (25).

I’m really looking forward to when I can run with her in the stroller, so that I can use my hour in the morning to teach a class and then she’s with me for another hour during my day so that I can do that …I’m counting down the days til 6 months so that I can (28).

**Holding back.**

When women were holding back they pursued some physical activities within self-defined limits but withdrew from the pursuit of idealized or more desired physical activity until more appropriate (less risky, more essential, and accessible). Participants who held back indicated that they positioned physical activity as important for their infants’ development and their family goals. While the women indicated that physical activity supported some of their needs they placed the achievement of their more desirable physical activities as secondary to their needs to avoid compromising their abilities to meet their infants’ needs or maintain their relationships. The women who were holding back claimed a high or moderate level of centrality. Holding back involved future framing while assessing opportunities in the environment for physical activity. The women who were holding back did engage in some forms of physical activity beyond motherhood-based activities but rejected other forms of activity because of gauges of risk, access, and essentiality; unlike the women who pushed through, women who held back placed limits around some aspects of physical activity pursuit (e.g., time, cost, location, degree of emotional and physical involvement, and milieu) and none of those women consistently negotiated with others to achieve independent physical activity. Essentially, they were in a holding pattern; their desired or ideal activities were displaced for the immediate term and, for some women longer,
depending on how seriously their need satisfaction was affected:

Whereas ten years ago, I had goals like that [running a marathon]. Those were my goals. Like, you know, I had the “goal for the year” or something as maybe more exercise-based. Whereas, now, it’s not. So, you know, it’s something that I kind of, okay, I’ll put that on hold now, and get back into it when I have more time. That’s not to say that I’m not being active, but just not that physical activity—you know, be active and playing and going for walks. Like, that’s the shift right now of, okay, I’ll be active those ways (19).

The participants’ abilities to hold back hinged on their beliefs about the future (future framing). They expected to engage in more physical activity after their infants’ care needs diminished. They indicated their belief that their strategy of holding back was temporary:

And you know, as he grows older, I think those activities [I engage in] will change very dramatically. I will probably feel more comfortable going to a six to seven or six thirty to seven thirty class if he’s awake, you know, if he ever goes to bed later than that, to drop him off. Cause they have child services, right? So um, I think that there will be an evolution of activities. It’s not—I’m not stuck in one kind of - this is going to be the way it is forever (11).

Women who held back all described engaging in motherhood and outdoors activities during the day, and occasionally group, scheduled, and cost-based activities but only if they gauged them as low-risk and accessible. Several women held back on high intensity activity when they gauged high physical risk with those activities. A woman describes going hiking but holding back on running because she had concluded it would increase her fatigue and detract from her ability to care for her child:

Ya, when we were at my cabin….my sister did that hike with us, and then, and she [her sister] had been talking about doing a run in the afternoon, and then we went on the hike and she still went on her for her run…That’s something I would have done in the past, this time he [her son] was sleeping and that was kind of my window to shower and nap (18).

A few of the women were holding back from group-based physical activities because of their sense of personal risk and high intensity activities; they believed that they were not essential for strength and weight maintenance in the postpartum context. Some participants who experienced emotional resistance about pursuing scheduled activities held back from highly planned activities. They preferred outdoor or home-based activities. The women who held back took longer to engage in more organized activities than women who
pushed through but many of the women did access more highly organized and scheduled activities, including group-based activities, such as stroller fitness and mom-baby yoga. The women holding back gauged high relational risk so that they held back from negotiating with others for childcare or putting their child in daycare for the sake of achieving independent physical activity. Several of these women described feeling content to save their infants’ care by others for activities they regarded as justified for leaving their infants (e.g., socializing with friends or their partner, getting a massage, or going to physiotherapy). A woman described being unwilling to ask for evening childcare for physical activity but being willing to request it for physiotherapy because she was concerned about her long-term health if she did not attend physiotherapy and massage:

So I’ve been going for a massage if I can get away when my—like, evenings and weekends when my husband is here, I’ll go for an hour. Or I just started the physio to try and—because I’m worried that it’s going to become chronic (2).

Because of their accessibility gauges, most of the women who held back (except one mother who paid for daily mom-baby group fitness classes) chose not to spend significant amounts of money on fitness programming and a few decided against renewing gym memberships, given their reduced use. Women who were holding back looked for programming that they viewed as mutually beneficial for themselves and their infants if it was free or cost-based, and they had sufficient financial resources:

Like, we’re going to do swimming lessons….That’s exciting. That was, I don’t know, sixty bucks I think. We’re going to go every Saturday for ten weeks. That makes sense to me. That’s a fun investment because it’s getting him used to the water and it’s a safety thing, right. Like, I appreciate that they’re going to tell me how to be in the water with him appropriately. Like, that’s something I see as a useful thing to spend money on (9).

Women who held back proactively engaged with their environments to learn about different postnatal programming but they placed limits around when and under what conditions they were willing to access environments for activity:

Um, problem that I have with it is a lot of them [mom-baby classes] are from time A to time B. And I
have a lot of trouble sticking to a schedule if it’s from 10:30 in the morning till about three, and he’s a late sleeper too, so we don’t get out for a lot of them. There’s more in the afternoons, that’d be good. Um, the first time I took him to the pool, which was, like, two weeks ago, we went from 6:30 at night till 8:30, almost nine at night ‘cause that works on his schedule. I don’t want to put him on a schedule. He—he’s got his own routine and it works, and we’ve been kind of just go with it.

Women who identified holding back from physical activity placed higher priority on finding physical activity options that had program flexibility (e.g., allow older siblings, had flexible payment options, or was drop-in) and worked within their infants’ and families’ schedules. A woman who was holding back had been considering doing a mother and baby boot camp but the logistics and scheduling decreased her access because she had to arrange for someone else to pick her older son from preschool for her to attend. “It doesn’t align with preschool…for me it will just have to be drop in because my mom isn’t always in town” [to pick her older child up from pre-school] (5). Another woman described the mother-infant childcare class she engaged in: “She [the fitness instructor] let me bring [her older son] and she’s like it’s ok he can be there…she’s flexible…otherwise I wouldn’t go” (1).

**Holding still.**

Holding still involved women withdrawing from the pursuit of physical activities beyond those that the women associated with supporting infant well-being and development and their other relationships. The women who were holding still depicted low-moderate levels of centrality. Participants held still (avoided pursuing their desired activities) because they gauged them as risky, not accessible, or nonessential in the postpartum context. Holding still did not require the women to invest significant work and time towards the pursuing their desired physical activities. These women defined motherhood (walking with their baby, caring for their baby) and family-based activities (e.g., walking) as adequate postnatal physical activity:

I just get to be mommy pretty much, uh, in terms of physical activity, I would say, I’m doing more now, but not with the goal of anything physical in mind as a byproduct of being a mom, okay, I’ll take him on the stroller (baby fussing). No gym, nothing concerted (21).

Holding still allowed the participants to have the time and energy to pursue other desirable activities.
that they viewed as more accessible. The women had concluded they were able to meet their needs effectively by engaging in a level of physical activity necessary to meet their infants’ and families’ needs, i.e., going for walks or to the pool. Physical activity was important for them because it occupied time and entertained their child (ren):

P: I think, in general a lot of the time, the kids make me get out of the house. I think I am naturally a more sedentary person.

I: And they make you get out so you can?

P: Entertain them. Like even when he was a baby, older than this, I just took to walking to the [location] everyday, just as something to do with him, just to get him out of the house. So in a lot of ways, he gets me out of the house, he gets me walking, which otherwise, I’d just be reading (laughing) (17).

Personal embodiment resistance was of less concern for women who were holding still because they did not desire higher intensity activities. However, the women were also holding still by not attending schedule-based and group activity programs because they felt less confident with their physical fitness and abilities and were not as comfortable engaging in physical activity around others.

Some participants who were holding still when compared to women who were holding back or pushing through depicted higher levels of relational or motherhood resistance. Two women described experiencing the strongest resistance towards being apart from their infants. They depicted their beliefs about a “parenting philosophy” that was “attachment driven” (23) and the feeling of being separated from their babies like “removing a layer of skin” (26). It was actually how the women positioned the essentiality and risk of physical activity versus other activities they preferred to access that determined whether women chose to hold still. With the exception of one woman who was holding still, the remainder described being willing to ‘push through’ to achieve other higher priority independent activities (such as studying, volunteering, engaging in hobbies).

Holding still for physical activity afforded the participants time and energy to prioritize other activities they were able to access and that met their needs. A woman who had recently started sewing lessons away from
her infant indicated it gave her ‘space’ and was ‘rejuvenating’ for her to socialize with other adults. She was willing to take her infant for a walk to meet his needs but other activities, such as cleaning and knitting, were a higher priority to her than physical activity:

I think it’s probably more, it’s more stuff around the house that is like a bigger priority actually…I don’t feel like, I don’t feel like I can relax, like I don’t get really antsy if I don’t get any exercise, but I get really antsy if my house is falling apart, so I’ll spend time, like and that’s an activity too, housework and stuff, like I’ll spend, time cleaning my house before I’ll go, before I’ll go for a walk, kind of thing, or, um, if it’s not involving the baby, I’ll spend time trying to figure out my knitting, instead of going for a walk by myself sort of thing, but I do, I do, feel like, I mean, I have a responsibility to get out of the house once a day just for his own, his stimulation and stuff like that (26).

The women who were holding still gauged physical activity as largely unnecessary, inaccessible and risky, given their resources, their environments, and their needs to adjust scheduling. They described activity programs as too far, costly, offered at inconvenient times, and involving too much logistical work to learn about and access. Because physical activity was at the bottom of their list of priorities, these women indicated that they would hold still until it was less emotionally draining for them:

I guess because it’s not something, like for music for me, oh well, prioritize it and we’ll make it happen…You kind of just overcome the obstacles to make it happen, um, for, with exercise, it’s more like, um, it takes a lot more mental energy to make it happen cause it’s not as intrinsic thing, it’s like an external thing, it’s like I have to, I should do, so when I’m like exhausted because I have a newborn, like I’m not gonna, like I’m gonna be like, oh look into it in a couple months…When I have the internal strength to problem solve…It does take more effort for me (23).

The participants who were holding still articulated the least clear future goals about their physical activity. Although they anticipated engaging in the activities they enjoyed in the future they often positioned their physical activity in terms of how it would benefit their children rather than themselves:

I: Some people have kind of said, this is kind of a blip in my life and just you know, it’s a journey, like this first year, and then I sort of see activity being different down the road, and I’m wondering if you sort of have those kinds of ideas about the future?

P: I do see, um, I do see maybe more, outdoor activities, um, more outdoor physical activities…going to the park, me sitting on the sidelines, me going to the park maybe, going for bike rides as a family, probably…Or just wanting to be outside together as a family on the weekends whatever, passing of time, doing something out of the house, um, but I don’t, because I’ve never been the kind of person who’s like,
oh I really just need to go for a hike, I don’t think it’s ever going to be me that’s like, I need to go for a walk. I don’t think so (26).

Engaging Summary

The women differed in their strategies of engagement based on their gauges of risk, essentiality, and accessibility. Women who were holding still were avoiding pursuing their desired physical activities by engaging only in those physical activities they interpreted as supporting their relationships and others’ needs. Women who were holding back were withdrawing from pursuing some forms of physical activity, including some desired and preferred activities by placing limits, framing the future, and being selective in the types of physical activity programming they searched for and accessed. Women who were pushing through were working towards achieving their desired and preferred activities through means of testing themselves, involving others, and engaging the environment. In the following section I describe how women adjusted and modified their strategies based on their experiences.

Adjusting

The women indicated they expected that the engagement strategies they chose would support their achievement of essential, accessible, low-risk physical activity supporting their own and others’ needs in the postnatal context. However, the participants indicated their expectations did not always match their experiences. Sometimes, women indicated that their beliefs about the high risk and inaccessibility of physical activities were unsubstantiated by their experiences while, in other instances, they experienced their engagement strategies as carrying more risk and the physical activities as being more difficult to access than they had anticipated. The women indicated that their experiences with different forms of activity affected their beliefs about whether those activities were essential for them in the postnatal period.

The women reconciled their previous gauges with their changing beliefs through adjusting. Adjusting involved considering how their strategies of engaging were working and affecting themselves and others. The
women considered their overarching goals of personal functioning (emotional, physical, and psychosocial health), family harmony (sustaining and promoting relationships), and healthy child development to discern their needs to adjust. Participants adjusted strategies when their experiences of engaging led them to believe adjusting their strategy could position them better to achieve their overarching goals. Women generally described recognizing a need to adjust their engagement strategies gradually. A woman who was pushing through initially did not gauge needing as much support from her partner to achieve physical activity as she had anticipated but described her gradual discernment of needing more support for her own functioning. She adjusted by negotiating with her partner for more childcare support for her physical activity.

We needed a little bit of time to figure out what that looked like and how—and sort of what I needed. Like, I needed to figure out what I needed, and then I needed to tell [my partner]. And then he needed to kind of be in a place where he’s, like, wow, that’s going to be a lot more work that I’m going to take on. But I know you need that, so I can do it. So yeah, he didn’t help out as much until we figured out that I needed him to (15).

In instances of more overt mismatches between their gauged expectations and needs, the women indicated that they more immediately adjusted their engagement strategies. For example, a woman described her experience of people seeing her leaking breast milk as embarrassing, which increased her views about the potential personal risk of running:

I guess I hadn’t timed it right, because it was actually near her feeding time, right, and I was out running. And I guess the pressure on my chest, right? And I’ll never forget, because I was sort of running along and I noticed a couple of funny looks, right? But I didn’t click onto anything. And it wasn’t until I got back that I realized that my top was all wet….And that actually did put me off going back out for quite some time (8).

That mother adjusted from doing physical activity in public spaces to doing physical activity only in mother-infant groups where she was “surrounded by mothers who were going through the same thing”; after the incident she described, she wanted lower risk for embarrassment.

When women adjusted they retained their overall engagement strategy but shifted the ways they were engaging to pursue physical activity. The women who were pushing through opted to ‘push further’ or ‘scale
back’, those who were holding back ‘loosened’ or ‘tightened limits’, and women who were holding still ‘gained momentum’ or ‘disengaged’ (see Figure 2). In the following section, I detail how the women adjusted their strategies.

*Figure 2. Adjusting*
Adjusting for women who were pushing through.

Some of the women who were pushing through indicated that they ‘pushed further’ towards more involved and frequent activities of longer duration when they anticipated that they would be able to achieve these activities. Women pushed further by trying to increase the intensity or frequency of their activities (e.g., going from one run per week to two). A woman had pushed further by increasing the duration of her physical activity; her walking had progressed from short distances shortly after birth to up to four hours a day walking and doing errands:

So coming home after the hospital…I got cabin fever like, straight [away]…so, we came home on the Monday and on the Thursday…we just went for a walk and I couldn’t walk that far….and we just kind of started it from there….and that just got progressively longer and um, ya, and now we walk for like 4 hours at a time if he’s sleeping, and it’s kind of like oh, we’ll just keep walking, you know, just keep going (29).

The women emphasized that pushing further was progressive because it involved testing how much further they could push:

‘Really just trial and error’ I think one of the big hurdles for me, mental hurdles, how do I go and do some kind of workout and still accommodate his need for breastfeeding and all those sorts of things. So initially, I would try to get things organized ahead of time. So I would do that to test the waters and then I would try and do something longer. And then with [sport], that’s probably the longest chunk of time I’m away. I’ve sort of built up to that, rather than just starting. Okay. 3 hours here you go (30).

The women could opt to push further not only because they believed they could achieve more activity but also because they experienced personal need satisfaction and regarded pushing through as acceptable for others. Two women who were pushing further wrote diary comments about feeling “freedom” (28), “connected to life” (28), “empowered” (29), “I’m winning” (29), “accomplished” (29), and “happy” (28). They indicated that they were achieving health and eudaemonic need satisfaction from achieving physical activity.

When participants described negative or challenging experiences with pushing through they indicated
that the strength of their personal, relational, and environmental beliefs was weakened. If they regarded pushing through as leading to negative personal and relational consequences (e.g., relational tension, physical fatigue, negative effects on infants) and being an unsuccessful strategy for some activities they adjusted by scaling back their engaging efforts. A woman who had been relying on her mother for childcare while she went running indicated her experiences were affecting the strength of her beliefs about the benefits of pursuing independent activity. Here she describes her growing ambivalence and hesitancy with continuing to push through to go for runs; she was beginning to believe it might be taking advantage of her mother and stressful for both her daughter and mother:

She’s not taking a bottle yet, so I can’t really go out for any extended period thing, I mean I can go enough for a half hour run or something…but then she starts crying, my mom’s always, she doesn’t like, I don’t know, she doesn’t like watching her as much if she feels guilty when she’s crying or something, um, so that’s that my number 1 baby-sitter….I’m totally comfortable leaving her [daughter] with my mom, obviously…I just know how my mom reacts and half the time I come home and she’s outside walking with her and she’s like, “oh, she cried for like a minute” and it’s like “ah, she just cried for like a minute”…Ya, cause I just don’t want to take advantage, well, and the other thing is my mom, before, earlier on, and she’s like oh, do you want me to come over and you can go for a run, and I’d be like yes, that’s great, but she hasn’t offered recently, and I don’t know if it’s, it’s probably because she like, she’s cranky (her daughter) when I’m not around or not even cranky, but crankier, and she’ll come to me and that I’m the person that will make her, or somewhat calm anyways (27).

Scaling back did not always involve the women reducing their level of activity or downgrading the importance of physical activity for their need satisfaction. The women linked scaling back to the sources of resistance they were experiencing. For example, a mother scaled back the number of people she used for childcare but did not reduce her level of activity or downgrade the importance of activity. After having negative childcare experiences, she identified having her mother caring for her children while she was at the gym as stressful. That negated the positive emotions she experienced from going to the gym. She decided to stop reaching out to her mother for childcare:

Like, he’s not full of strings like my mum. Like, we’ve sort of stopped relying on my mum for childcare help mostly because she’s helpful in the sense that she takes care of the kids… But there’s always, like, these weird strings attached….So it always feel like on balance, I come out of the helping with the kids
worse off. Like, I’ve been helped by having her take care of my kids, but I’m now full of stress from all the other stuff that came with it (15).

The women who encountered problems with pushing through adjusted their expectations of achieving their desired activities. Although participants continued to push through to achieve physical activity they did so more selectively by choosing activities most necessary for meeting their needs and remaining functional. A woman who experienced environmental resistance as she tried to push towards more frequent independent physical activity described continuing to value independent activities but attributed difficulties with consistent childcare to scaling back to fewer experiences of independent activity:

But if you want to do something more independent like going for a run then he’s not old enough to go in a jogging stroller, so I have to find somebody that can look after him, and when you combine that in with scheduling of we have an older child, a dog you know, we don’t have family in town, so it’s just us and my partner travels a lot for work, so there’s never, it’s always shifting. It’s never like, I can do Monday, Wednesday, Friday or something like that, it’s just when you can fit it in…. I find I’m having to sort of recognize even going for a walk is, you know, is something healthy and good. It doesn’t feel like exercise to me, it doesn’t give me the same benefit, um, but, I’ll take it, if there’s nothing else I can fit in (30).

Another woman had anticipated biking and hiking regularly with her children and rock climbing with her partner but found that she was only attending group fitness programming at the recreation centre because she encountered environmental and personal resistance. She scaled back on rock climbing as an activity because there was difficulty finding trustworthy childcare: “Um, we don’t have access to someone that we can trust. My friends have put ads on Craigslist, I put an ad and I got tons of people, but I just didn’t feel comfortable with it” (25). Her difficult experiences with taking her children out to do errands affected her beliefs about emotional resistance and forms of physical activity. She experienced emotional resistance because she regarded group family hikes and cycling as too emotionally overwhelming. She scaled back to only access the local fitness centre because she had decided that the programs offered there met her needs satisfactorily and were the most accessible. Here she described letting go of her expectations of pursuing group family physical activity outings in favor of lower stress activities, such as vacations, which she had concluded were in the best
interest of supporting family harmony:

So we use the child minding here [at the recreation centre], it’s nice, it’s very ah, accessible… [My husband] was like, ah ya, that’s gonna be us [doing group family hikes]…but now, the reality is like, like, how many hiking trips have we gone on? Zero – how many times have we gone to Maui? Couple times… it’s just easier, it’s more comfortable, um, it’s simpler, and then this gives us a chance to relax as well…you have to change your expectations (25).

**Adjusting for women who were holding back.**

The women who were holding back described loosening or tightening their limits on physical activities after using the strategy. Participants described loosening their limits around the types of physical activities when their experiences of postnatal physical activity were positive. When women described their physical, relational, and emotional risk as being lower than they anticipated, they were willing to engage in more physical activity. For example, some women who were holding back on the level of physical activity intensity were surprised by their physical abilities and loosened their physical intensity limits to include hiking and mother-infant groups. A mother who experienced incisional pain and diastasis recti and had expected group activity to be more intense than activity she did on her own at her own pace had initially chosen to hold back from engaging in mother-baby group fitness activity. She loosened her limits to try to engage in mother-group activities and was surprised about her physical ability:

Um, I felt better than I thought I would. Like, I – I was able to do more than I thought I would be able to…Yeah. Like, I was able to do the whole class….I do like to be with new moms (14).

Women described adjusting by loosening their limits when holding back from certain activities no longer fit with meeting their own and others’ needs. Several women described experiencing shifts in their gauge of emotional risk as they became more confident and comfortable caring for their child(ren) in a variety of situations. The participants became more willing to loosen their limits and pursue more involved activity formats when they had positive experiences. A woman who had held back from taking her children on walks because she had decided it would be emotionally draining and compromise her ability to care for them
described her increased comfort level with taking her children out. She had loosened her limits and now took her children on walks and hikes:

It’s gained—my comfort level’s gained with it. I’m much more able to kind of throw them and go and do things. And kind of, I’ve been trying to challenge myself with that too, like, okay, we’re not going to lose it if something—you know, if this—like, kind of trying to almost—like, think of scenarios before, to talk myself through that “yes I can do this” (19).

The women loosened their limits to forms of physical activity when they had decided activities were accessible or essential to them. A woman started by taking two mother-infant classes per week but had added up to five classes per week. She felt more comfortable doing outdoor fitness and that her classes were more essential to her as she attributed them to enhancing her relaxation in caring for her son:

Well, the first time of course it was a little bit weird [being outside], but no. But I liked about it was other moms were for a while with the program so they were just more relaxed and at that time I just learned how to be with [my son]. The breastfeeding in public places…so I was just always a little bit nervous, where I’m going to feed him, where I’m going to go? I always try to look into a secluded space, but with them, with all those moms…it was easy, and the thing is I start feeling more relaxed with him. After that we start walking everywhere with him, before it was after feeding, straight to where we need to go and make sure there is a room for child and mom, a washroom, a public washroom. After those classes, it wasn’t a problem (1).

Although participants found some activities as more beneficial, enjoyable, and essential than anticipated or progressively more physically and emotionally accessible, none of the women who held back described loosening their limits to the point where they were actively pushing through to achieve their more ideal desired activities. They generally did not pursue activities that involved others or required adjustments to their infants’ schedules.

The women using holding back as a strategy tightened limits around pursuing certain forms of physical activity when they had particularly negative personal, relational, or environmental experiences. They indicated that negative social experiences during physical activity, in particular, prompted them to tighten their limits because those experiences affected their beliefs about the ability of group-based activities to meet their social and emotional needs. One woman described holding back from going to group-based physical activities after
pursuing group hikes with other mothers and finding the conversations difficult; their negative expressions undermined her emotional needs. She tightened her limits by only going for hikes with her partner who enjoyed hiking:

And so the last one we did was we went to [a lake] and it’s an 11 K flat loop and, like, not a big deal. And the mum that I went with was just kind of, like, bitching and complaining by the end of it. And I was, like, this is just crap. So I haven’t done it since with a group (9).

Women also tightened their limits around pursuing recreational centre programming when they regarded the programs they were trying to access as involving too much work and being unsuitable for their families. A woman tightened her limits to avoid pursuing independent activity because she experienced relational resistance about acting as a family role model and leaving her children with others for care. Although she was open to accessing recreational centre programming she stopped actively pursuing those programs because she regarded available programming as unsuitable for her family structure. She had two older children and they were not allowed in mother-infant programming. She walked and hiked because those activities were accessible:

Like, I try to—when she was little, I tried to participate with the rec centre programs, but now I’m finding because the age gap with the three of them is so untypical [laughs] that trying to find a time where I’m free of all of their demands is really hard….The rec centre is really good at having programs for non-crawlers. Like, say it has fitness classes where you can bring your baby and just sit. But then the selection of fitness classes to bring active kids that are a little bit older is non-existent (12).

The participants also tightened their limits to avoid programming when they had negative experiences during an activity. A mother of twins had attended mother-group physical activity classes but she needed an extra “person there to help…with her kids” during the class and indicated she was unable to concentrate on the activity because she was caring for her children. She avoided pursuing the programming because she concluded she would not experience positive emotional or physical benefits from the group activities:

Like, I did the mom-and-baby boot camps the first time. And it’s, like, what’s the point? I’m just paying to—I could just go walk around the lake by myself. So I kind of had that experience, just juggling the two of them it hasn’t really worked out great (19).
**Adjusting for women who were holding still.**

The women adjusted from holding still to gaining momentum when they had positive physical activity experiences that made them re-appraise the value of physical activity for themselves and their abilities to achieve more activity. Participants gained momentum through growing strength in their beliefs about the importance of physical activity for their need satisfaction in the postnatal period. They actively took steps to move beyond the activities of motherhood and family-based activities to engage in physical activities they believed were beneficial for them. They were moving more towards holding back as a strategy because they were beginning to regard physical activity as providing them with more need satisfaction. After her mother encouraged her to do yoga one of the women who was holding still had started doing short (10 minute) occasional morning sessions of yoga, which she described as reducing her joint pain and improving her mental health. She perceived herself as gaining momentum and wanted to increase her yoga for her own need satisfaction:

> But I think I should change my mind and put one hour at least for doing exercise. I need. I think my body needs. You know? I cannot, um, tolerate this kind—this—this kind of pain in my body. And because of that, I should decide to do something for my body….I mean, mind and my stress, it is good, and my body, both of them. And I’m thankful of her [my mother] for the pushing me to go for yoga (3).

The women gained momentum by incorporating more intentional physical activity when they had concluded this would support their greater health and well-being. A woman was holding still from kayaking and hiking because she had decided that she did not want to be away from her children for physical activity and regarded those activities as risky for her children. She used a step counter to increase her activity after reflecting on her negative experiences of physical fitness during pregnancy. She wanted to feel she was moving forward towards increased physical fitness. She gained momentum by moving towards the strategy of
holding back. Although she did not anticipate pushing through to achieve her desired activities she wanted more health benefits from physical activity:

I felt like really like, like debilitated [when I was pregnant]. I think that’s kind of a strong word, I don’t really feel that strongly about it but I just couldn’t do anything for a while... I think I don’t have any big fitness goals other than like, I like to work on my core, it’s more about like feeling better because of like how crappy I felt when I was pregnant...I think, when I um, when I get physio and I get some certain exercise for core, I’ll have to add that into what I want to do on a daily basis. I just wanna feel like I’m moving forward I guess, away from how I was when I was pregnant (23).

Because physical activity was intrinsic to providing infant care the participants rarely described wholly disengaging from physical activity; however, when one of the women indicated that she regarded the work involved in accessing any form of activity, including walks, as emotionally and physically overwhelming; she seemed to describe disengaging from most forms of physical activity temporarily. She did not describe engaging in any of the physical activities the mothers described as supporting infant care and their own eudaemonic needs, such as walking to soothe the babies or walks to the store to complete errands. She described resistance about the logistics of doing physical activity with her children: “And I did do stroller fitness with the baby when he was younger but then [now] I’m just thinking, “Oh I have to make the effort to get dressed and him dressed,” and yeah, just make excuses” (7).

Adjusting Summary

During adjusting participants considered the fit between their gauges and experiences of engaging and adjusted their strategies to align their shifting beliefs in ways that reconciled resistance and supported their overarching goals of family harmony, personal functioning and infant development. Women’s adjustments were based on their strategies of engagement but involved incorporating more forms of physical activity when they interpreted their experiences as positive and reducing their physical activity engagement when they interpreted their experiences as negative. In the final section, I describe how most women continued to reconcile resistance
by retaining their overall engagement strategy, instances where women shifted engagement strategies, and unreconciled resistance.

**Retaining or Shifting Engagement Strategies**

After adjusting the participants re-gauged the continued appropriateness of using their general strategy of engagement, given reconfigurations of risk, essentiality, and access. The participants described their strategies as working when their experiences of engaging did not substantially offset their gauges of risk, essentiality, and accessibility, thereby supporting their personal functioning, family harmony and healthy child development. Although the women described adjusting by changing how they were engaging, when the strategies were working, the women did not change their overall strategies of engagement. When the women experienced significant mismatches between their expectations and experiences, they shifted their engagement strategies.

**Retaining pushing through.**

When the participants’ experiences fit within their gauges pushing through worked for the women as a strategy. The women who indicated that they experienced improved fitness and increased access to more organized activities of longer duration over time had their beliefs about their abilities to achieve their desired activities affirmed. A woman depicted her positive outlook about being able to continue progressing towards her desired activities:

> Right now, ya, so I’ve been running and I go to the gym once or twice a week to do weights and that’s, I probably run 3-4 times now a week, and go to the gym once or twice a week, so, it’s getting there (28).

When women had positive experiences with pushing through they attributed their own, infants’ and families’ higher functioning to their engagement in physical activities. The positive functioning
affirmed their gauges that pushing through carried low relational risk and was essential for them: “I find [when] I can get some physical activity in with her, she sleeps better. That’s another thing. I just find I feel better and I sleep better, and I have more energy and I don’t feel guilty, I wanna do physical activity” (25).

Some women who pushed through described a mix of positive and negative emotions, and residual feelings of doubt and guilt about how pushing through was affecting others. Despite their doubt and guilt, those women continued to push through towards their desired activities because they had concluded that their activities were essential and of reasonably low relational risk. They indicated that their partners could function and infants’ needs could be met while they pursued activity. A woman who was pushing further expressed her mixed feelings; earlier in the interview she had indicated the benefits of having her partner care for her baby while she engaged in activity. Nonetheless she still expressed some feelings of guilt about her partner losing sleep when she went running while struggling with self-guilt about not doing enough activity:

I mean they struggle because she needs me right now and so trying to get him [her husband] to be able to help her, so that I can have the time for myself to go for a run and they’re functioning okay and I leave the house that I not worry about how they’re doing. Um, but knowing that he’ll figure it out and they’ll sort it out…They’ll figure that out for themselves but I can’t be there to figure it out for them, they have to do it….I think I’m giving myself the freedom to not worry about it, and that, right, like I think, you feel so much guilt…guilt around like needing to be active because you were so active…I’m constantly thinking about that too in my head because my husband needs more sleep and he’s going to work every day, so using up his sleep time to watch our child so I can exercise, I, like, I’m like trying to reduce my guilt by leaving the baby with him (28).

**Retaining holding back.**

Participants who were holding back and experienced positive physical activity experiences had their beliefs affirmed that waiting to engage in their desired activity benefitted them, their infants, and their families. They regarded holding back as not significantly compromising their need satisfaction and functioning. A woman who was holding back on pursuing the gym because she had decided that leaving her infant was too
risky and not essential in the postpartum context described her positive perspectives of engaging in physical activity through hiking:

So when he’s a little bit older if he takes a bottle, I could ditch him with his dad and then go take a class [at the gym]. And that would make sense because he’d be with his dad doing something…that would be, like, a me-time kind of thing. But right now I’m okay not having me time because he’s, you know, a happy little hiker anyway (9).

The participants generally described holding back as supporting their need satisfaction and relationships. A woman who was holding back from pursuing group-based physical activity programming had decided that imposing a schedule so she could attend a group-based physical activity would risk her infant’s feeding and sleeping success. Instead she walked and went to activities (i.e., swimming) on her son’s schedule, which she described as ‘working’ for her family and herself. Her experiences affirmed holding back as a legitimate strategy to meet her own and other’s needs:

And like, it works, it’s good for me too, which is also beneficial because walking outside doesn’t hurt me. And I’m going to be the better for it. He’s going to be the better for it. [My partner’s] going to be the better for it because I come home happy (4).

Most of the women who were holding back described degrees of disappointment and self-censure about being unable to achieve the physical activity they desired. They indicated that they believed they were letting go of a part of themselves. They missed experiencing the emotional, physical, and social benefits that their desired activities had provided them. At the same time, they described being able to continue holding back from their desired activities because they had concluded that the activities that they were achieving were adequate, enjoyable, and providing them with some need satisfaction. Two women who were holding back from running and independent activities and engaging in outdoors activities with their children described sufficient activity
levels and emotional need satisfaction: “Like, right now, hiking is working really well because she’s big enough to walk, and he’s small enough to carry… I feel better when I’ve been outside, more energy, happier, tolerant” (12).

Ya, I think, I’m totally happy with hiking right now… so I’m happy with that activity I think. Like I said, I’m more or less happy with where my body’s at right now and I think I get a decent amount of activity to keep me healthy (18).

The women’s emphasis on the benefits of holding back for their children also supported their efforts to hold back. Compared to the women who were pushing through the participants who were holding back commented more in their diaries about the benefits of physical activity for their infants than for themselves. This seemed to reflect the stronger resistance they expressed in their interviews about the importance of family physical activity; the women who held back held stronger beliefs about the importance of role modeling and early exposure to physical activity for healthy infant cognitive development.

Even when the participants described disappointment from holding back, they described continued experiences of resistance that supported using the strategy. One woman who was holding back from dancing, because there was no childcare offered at the fitness centre, followed by holding back from running due to a knee injury, did not believe it was appropriate to ask her friends to care for her baby for non-essential activities. Here she describes missing her favourite activities but believing that she needed to accept holding back and find other activities to enjoy:

Like now, part of my goal was to go to the gym and go on the treadmill and do some— get back into running, and so I can’t do that. So that, that I miss…. If I can get the activity, build that into my day somewhere else, then I’m okay not doing it…. It’s just finding a different activity that fits into the schedule that I enjoy. So I miss it ’cause I miss— um, I really like the dancing kind of part of it…. But yeah, I think it’s just acknowledging that it’s going to be different things than what it was before (11).

Participants’ abilities to hold back were supported by their beliefs about improved future levels of physical activity. The following woman’s beliefs about motherhood and the future supported her to continue to hold back from strength training and running, even though she felt she “should be doing more”. She indicated
her need to adjust to a “new normal” and accept current limitations to her level of fitness and physical activity because extending beyond her current level of activity could detract from her ability to care for her daughter. Her belief that she would have opportunities for more activity in the future supported her continued efforts to hold back until she returned to work:

So ya, I feel like I could do more, when I go back to work, he’s going to daycare three times a week and twice every two weeks, he’ll be in daycare when I’m not working. Um, with my shiftwork, so I’m really hoping, I can really take those two days, and make it a priority to do something on my own. So at that point, I think I’ll probably go back to the rec centre and do something there or maybe start running again or doing one of those activities that I can do without him (18).

The participants who indicated a higher level of centrality expressed greater difficulty holding back because they held stronger beliefs about physical activity as a part of their sense of self. They described having more internal struggles about holding back and letting go of their desired activities but were still able to reconcile resistance because they expected to have more “time” for physical activity in the future:

And I think it’s like, on one hand, having that kind of—changing that expectation and being okay with it. Whereas, you know, I think it does take a while to not have that kind of internal discourse of, “Well I really wanted to go for that run,” or “I really thought I’d be at a different spot right now. I really thought I’d be back to running or doing this.” When in reality I just don’t have the time right now, and I’m okay with it. That acceptance and that ability to be okay with letting go of something, I think, has been—kind of goes along with that idea of kind of just taking it as it comes and letting go of things (19).

For other women, holding back was less problematic because of their overall satisfaction with the postpartum period, ability to meet their needs through motherhood, and engagement with other activities to overcome the desire to achieve particular physical activity experiences. A woman who had indicated high centrality was holding back from all her previously enjoyed activities but indicated that she was satisfied with holding back in the short term:

I: So what makes that okay for you right now that you don’t have that space yet [to pursue running]?

P: The fact that I am so in love with my daughter. I think really the fact that this is the best thing I’ve ever done, this is my favourite job ever. I did not expect to feel so wholly immersed in it, and I know that that time will come (16).
Retaining holding still.

When the participants who were holding still were satisfied with their motherhood and family-based activities they had their beliefs that these activities promoted their infants’ needs and family harmony supported. Also, they regarded their desired physical activities as non-essential in the postpartum period. A mother held still by engaging only in activities with her infants instead of pursuing swimming. Even though she believed that swimming could support her health needs, she explained that she was satisfied walking with her children because it helped them sleep better and be happier:

Most of the time, I go for walks for two hours with my children because my children really like to go out. For example, when we are walking out of, uh, home in this—on the—on the streets, they are happy. They sleep good. They—they’re happy. They don’t cry…So I tried to be on the streets two hours a day because it makes them tired and then after that they will sleep (3).

Most of the women who were holding still expressed occasional dissatisfaction about not pursuing their desired activities but they continued to hold still because they had concluded physical activity was more important for family harmony and meeting infant needs than for meeting their own needs. Their optimism and beliefs about being able to engage in their desired activities in the future supported their efforts to hold still. Meeting infant and family needs through physical activity was generally sufficient for them because, apart from the favourite physical activity, they described their physical activity engagement as being largely externally driven. They felt that most forms of activity were minimally important for their own need satisfaction:

I just love swimming because I’ve always loved swimming, um, that’s the only kind of physical activity that I enjoy. Everything else, I’ll do for the sake of doing it, I’ll walk the dog because the dog needs to be walked, you know, carry the baby around because she needs to be carried around…Like when I take him [her son] out to entertain him, my goal is not to be physically active, my goal is simply to entertain him, and physical activity is a by-product of that, it is not an end-goal in and of itself. The physical activity is a by-product of simply his needs (17).

The participants’ degrees of dissatisfaction about holding still depended on the strength of their views of physical activity as essential for need satisfaction. A woman indicated that some physical activities could
support her feelings of well-being but that other activities, such as visiting with friends or going on outings (i.e., to the coffee shop, library), also met her emotional needs. She held still on pursuing the recreational centre and independent activities that she enjoyed but described being unconcerned because overall physical activity was a low priority for her:

Probably [physical activity is] like number 8, I’m like well, [if I have time] it’s only an hour and a half, so we’ll do number 1, 2, 3, instead, or like, honestly, it doesn’t even come to mind…Like it’s enough down my list that it’s not even in the forefront of my thoughts. I’ll think, oh what should I do, I could do some exercise…it doesn’t even, I don’t even really think about it sometimes (24).

Women who believed that physical activity was important for their need satisfaction were able to continue to hold still when they were able to meet their needs elsewhere. A woman who believed that physical activity was important to meet her emotional and physical needs expressed resignation about holding still on her physical activity; she found ways to meet her needs elsewhere with activities that she regarded as more accessible to her. Here she talks about negotiating to engage in church activities, which she described as helping her meet eudaemonic, social, and health needs, and as more accessible than physical activity because the activities were at times her partner could care for her children:

We go to our church, to volunteer in the church, and I know, like the kids need me but, I have to be there, so I, so I just say sorry kids, daddy will take care of you, or, in that sense, you know, I can’t attend to them. So maybe I schedule a couple more activities than I should perhaps, so as a mom I have the right to say no to the church, but I’m like no I’ll be there (21).

To varying degrees, the women holding still depicted self-censure because they appreciated the health benefits of physical activity and questioned whether they were using their babies as excuses to avoid or put off activity: “And maybe the baby is just my latest excuse [for not engaging in more physical activity] kind of thing in that way” (23); “But a lot of that also, a lot of that, it’s easy to say, this is just temporary, like, sure I’m gonna diet and exercise next week, right now it’s too hard, next week I’ll do it. Procrastination, ultimate procrastination” (17).

Despite experiences of self-censure several women described feeling uncertain about how to move
beyond holding still. Unlike the women who held back, and largely attributed that strategy to resistance from others, women who held still were more likely to talk about how difficult it was to increase activity because of personal resistance. They indicated that they “did not know what they were doing” (23) and increasing their activity seemed like a big step:

“I don’t know, because I know, everything in my head I know it’s good for your heart and as you get older, I know that. But putting it into practice, that’s a big step, but in my mind it’s a big step, but in reality it’s not” (7).

**Shifting strategies.**

The women shifted strategies when they could no longer reconcile resistance using the same strategy of engagement. When four participants regarded pushing through as causing negative consequences for themselves and others they shifted strategies to reconcile resistance.

The women’s perceptions of misgauging personal and relational risk were important considerations in shifting strategies. All of the women who shifted strategies had expected to be physically and emotionally ready to return to the activities they had been engaging in pre-pregnancy or during the prenatal period but they had experienced injury, lack of fitness, or being emotionally overwhelmed when they tried to re-engage in the postnatal period. They described their experiences as decreasing the strength of their beliefs about linkages between physical activity and meeting eudaemonic and emotional health needs and increasing their doubts about their abilities to perform certain activities. For example, a woman who had returned to her baseball team, jogging, and fitness programs shortly after birth experienced an injury, after which she held back on pushing herself physically because the personal risk was too high. At 12 months postpartum, she had not returned to those activities:

They have a free thing [postnatal physical activity program] on Thursdays Fridays at [location]. I did that for the first little while, but I ended up having an umbilical hernia and um, I loved going, and um, when I got my hernia it was just (pause)….I join[ed] activity way too soon, I joined back my baseball team just at 6 weeks after my postpartum and I was doing [the physical activity program], I was trying to go out and jog, all at 6 weeks postpartum (13).
The women who were pushing through and described difficult experiences with childcare (i.e., where they believed they did not have reliable childcare, had negative experiences with childcare, or did not want to be apart from their child for long periods), that they could not resolve by scaling back, decided to stop negotiating with others for childcare to push through because they interpreted the relational risk as too high. A woman described her difficulty with being apart from her son, even though she wanted to engage in physical activity without him:

I saved all these YouTube channels, I was gonna do all these quick workouts and things like that, can’t do it… And it’s hard to because you know [my husband] thinks the solution is just to get the sitter twice a week…. He doesn’t get it. I don’t want to be away from the baby, I just want to be in the other room from the baby. I just wish, I’m wishing for something that doesn’t exist, cause if he slept on his own in the crib in the other room (shhing baby) then I could be out here, and I could do some YouTube workouts or do a yoga DVD and still be close to him and you know. I don’t like leaving him with the sitter (22).

The women generally indicated that their decisions to switch strategies occurred over time through progressive adjustments when they shifted their gauges of risk, accessibility, and essentiality. A woman, who was pushing through, initially adjusted by scaling back on her physical activity intensity because she experienced a higher personal risk (injury and reduced fitness) than she had anticipated. She later experienced a higher relational risk than anticipated and scaled back again on pushing through to achieve childcare. These shifts in risk, coupled with her gauge of reduced physical activity essentiality, led to her to interpret pushing through as no longer reconciling resistance. In other words, pushing through was not supporting her needs and family harmony. She chose to switch to holding back rather than continuing to push through towards her more ideal and desired activities until her daughter was more settled without her:

If I started running consistently again that would probably be the best thing, I mean at this point, I probably could, I like I feel like, my hernia, it’s not really a hernia, but, I feel like that’s kind of healed enough that I could get out and run… I think we’ll have to see I mean if my mom can come over and just let me go for a run every couple of days that would be amazing… when she [her daughter] is better…. It’s just lower on my priority list right now and I mean it’s something that I want to do more of, but there’s just other priorities right now (27).
Outcomes of shifting strategies and unreconciled resistance.

The participants described reconciling resistance when they were able to discern a line of action that worked to minimize tension between sources of resistance. Two of the women who shifted strategies from pushing through to holding back described being comfortable with shifting strategies because they discerned that shifting to holding back reconciled resistance for them. They concluded that they were able to meet their needs sufficiently elsewhere (e.g., in caring for their infant or doing other low intensity activities). They experienced physical resistance and strong beliefs about the importance of downgrading their needs postnatally. They were able to engage in some forms of activity beyond motherhood activities. Thus, they were holding back, rather than holding still. Their strong beliefs about having more time in the future to pursue their desired activities helped them to feel comfortable with having shifted strategies:

I don’t feel nervous that I won’t find that time to either go on those runs on my own or bike ride again or go to yoga class again, like, whatever that activity is going to be again. My husband is supportive of it, it was our lifestyle before. I know it will be there again for me, so I’m trying to just enjoy now (16).

Two other women who shifted from pushing through to holding back and, finally, holding still, described struggling with their shifts in their engagement strategies. They indicated that their physical activity choices did not reconcile resistance for them. They described the disparities between the types of physical activity engagement they had decided they needed to support their needs (essentiality gauge) and the level of risk and lack of access involved in pursuing those activities as too difficult to reconcile. Both women indicated a high level of physical activity centrality but did not feel able to engage in physical activity beyond activities of motherhood and walks. They described their physical activity levels as insufficient for their need satisfaction because they were unable to make the physical activity choices to support their needs:

And for me prior to that [birth], exercise was a good way to get out and decompress and get some endorphins and so uh, it sucked, cause at least the first 3 months he would scream bloody murder in the stroller, and so I thought, this is my chance to go for all these long walks and get some fresh and at least try to feel better and I couldn’t even do that (22).
The women who were unable to reconcile resistance (unreconciled resistance) described wanting to push through towards their desired activities but feeling that their experiences with resistance led to them being forced to use other strategies of engagement. A woman’s experiences of resistance led her to largely hold still on pursuing her desired activities. She walked with her daughter but described the walks as not long enough. She wanted to pursue a range of other activities, such as running, mother-infant fitness, and recreation centre classes; however, she described the mix of her personal, relational, and environmental beliefs as undermining her ability to plan and pursue those activities. She described her partner as unsupportive of money expenditure on physical activity. Although he offered to care for her child so she could be physically active she believed she was the best person to meet her daughter’s needs and was not confident in his childcare ability. She described the recreation centre as beyond walking distance, without adequate childcare, and with expensive programs. She had incurred an early postnatal injury from physical activity and was still recovering. In particular, she concluded that her on-call work schedule made it exceptionally difficult to plan physical activity and forced her to stay close to home:

I’m on call for today starting at 1….It’s also hard you know planning the day, like if I want to go out with friends, and meet up, like the baby meet up, like there’s the, uh, [location] in [town]. I want to go to that tomorrow, but I have no idea when I work, so hard….If I don’t return that call [for a shift] in 30 minutes and I do it twice, I lose my job…I have a 30-minute time limit….Even though I’ve been in the company for eight years and I’ve rarely turned down a shift, they have the option of terminating my contract based on missed call…like, [if] I’m going for a run and they have a shift for me, I can’t (13).

A second woman who wanted to pursue independent activities, such as yoga, weight lifting, and time with her personal trainer, was walking with her son. She described being uncomfortable leaving her baby with others, had limited social support, and had negative experiences in mother-infant group situations. In particular, she described her infant care scheduling situation as making it exceptionally difficult for her to plan activity and be far from her home because she had to work around her son’s scheduling. She described carrying her baby almost continuously. She felt only able to put her baby down for short periods; he slept on her and did not
tolerate car rides or experiences of being put down:

Another thing that makes me feel trapped cause I feel like I can never go anywhere. Because he, I can get to usually [a street] before the crying starts or [another street]… he’s better if I wear him in the carrier, so I wear him a lot, um, or, I have him, just strapped to me when I’m trying to make lunches or cook or do anything, cause if I put him down he just starts shrieking after about 5 minutes tops (22).

When those women described being unable to push through towards their desired activities they experienced frustration and feelings of being trapped. One of the women explained her feelings about having to hold her baby when he slept instead of doing other activities:

Ya, so I also wrote that when he was napping he napped from 8-10 on Wednesday and I wrote that I felt sort of bored and trapped and conflicted over feeling very content and happy for the break, but also trapped by the sleeping baby because I can’t do anything….And that sleep is so much more important for him to get, for him to be functional that you know, you kind of just sacrifice sitting there holding the baby [watching TV] and I’m like, for God’s sake I’ve seen this show, I’ve seen that, but it’s, I’m not used to that….as a previously very active, physically active person, like 5, 6, 7 days a week…totally not used to [it] (22).

The other woman was disappointed and frustrated; she felt “landlocked” and experienced reduced well-being because she could not access physical activity to support her weight maintenance:

I miss going to the gym, I enjoy doing that. I enjoy going for runs….Landlocked, that’s it…Going back to happy healthy [name], being able to do the fun runs and not have to worry how I look or feel or whether I’ll fit into the clothes. I think I feel more unhappy now because it sucks. I don’t look as good or feel as good as I used to (13).

These women described imagining a different future where they would be able to achieve their desired activities as helping them to manage having to hold still:

Well, we are building a 4-bedroom house and one of those bedrooms is gonna be a home gym. So with my intention of going back to work, I’m only gonna be working 2-3 days a week so, um, you know, there’s gonna be times where, and because he’ll be a little bit older whether in part, it’s like an extra day a week of childcare or with the nanny or with the sitters I can do a little bit more stuff for myself, um, but that’s kind of what’s getting me through a little bit (22).

They described their present day-to-day experiences as difficult around physical activity. They
found ways to meet some of their needs, occasionally, to keep them functional. One of the women described how her group of friends helped support her social and emotional needs:

We have a mom group. We’re pretty close knit…Like they have a, we try and rotate mom houses, for coffee on Fridays, so we can kind of still keep that bond, um. There are the friends I have here in [town], we all kind of have the same, the same core beliefs and we all kind of raise our kids in the kind of same but it’s nice talking online, we have an ongoing group Facebook chat, 7 or 8 of us (13).

The other woman had started to be able to meet her physical and emotional needs after having some experiences without her baby for short periods; her baby was also starting to tolerate longer walks: “Um, ya, now that he’s been better with letting me go for walks and that, I take some comfort in going” (22).

Chapter Summary

Reconciling resistance involved a cyclical process of gauging, engaging, and adjusting to resolve women’s main concern in minimizing discord between their ideal physical activity desires and their actual postnatal activity patterns. Physical activity centrality, the importance of physical activity for meeting social, health, eudaemonic, and sense of self needs, was an important element that was interwoven throughout the process of reconciling resistance. Centrality affected the physical activity desires women had and how women: experienced resistance, gauged their desired activities, used strategies to engage in physical activity, and adjusted to pursue different forms of activity. The resistance women experienced about themselves (personal embodiment), their relationships, and their environments sometimes promoted physical activity, and sometimes created tension for the women about pursuing their desired activities in the postnatal period. The women resolved tensions through reconciling their physical activity, personal embodiment, relational, and environmental beliefs and determining which forms of physical activity they were comfortable pursuing in the postnatal context. In the process of reconciling women decided which physical activity options in the postnatal could best support their own and others’ needs and were accessible.

The participants gauged the personal and relational risk, essentiality, and accessibility of pursuing their
desired activities postnatally and choose activities that they thought were accessible, essential, and of low personal and relational risk. Personally, women chose not to pursue activities when they had concluded the activity intensity, emotional workload to access the activity, and activity’s social milieu put them at risk of injury, fatigue, or feeling judged or embarrassed by their abilities. Relationally, the women excluded activities that put their infant at risk of not having their needs met or risked straining partner or family relationships. Environmentally, women excluded activities they gauged as inaccessible given their family structures or infants’ ages and structural and financial resources. The women ruled in the activities they gauged as providing immediate benefits to their families and themselves within the postnatal period.

Participants engaged their environments and relationships using strategies to pursue the activities that they gauged as essential postnatally. The women who were pushing through gauged independent and regular physical activity as essential; they pushed through to achieve their desired activities by negotiating with others for childcare, investigating their physical activity options, planning ways to access them, and testing their physical limits. The participants who were holding back gauged regular activity with their infants as essential but held back on pursuing activities that affected other’s schedules and involved others. The women who were holding back recognized their activity choices were compromises but anticipated that their compromises were temporary and they would be able to engage in their desired activities in the future. The women who were holding still put a priority on motherhood-based activities but held still by not pursuing the activities they enjoyed because they did not gauge them as essential in the postpartum context.

Women adjusted their strategies based on their experiences of engaging. Many women continued using the same strategy but adjusted their gauges when their experiences of engaging were unexpected. The women who were holding still gained momentum when they started to have physical activity experiences that increased their views of the essentiality of pursuing activities beyond motherhood. The women who were holding back loosened their limits when they had positive experiences with engaging and thought they could achieve more.
activity. Participants who were holding back tightened their limits when they had negative physical and relational experiences and difficulty accessing the forms of activity they preferred. The women who were pushing through pushed further when they thought they could achieve more activity in line with their ideal activity patterns and scaled back when they experienced personal and relational resistance which increased risks of pursuing their desired activities.

The participants experienced mixed emotions from engaging and some of the women who pushed through switched strategies after having negative experiences. Most of the women were satisfied with their activity choices because they had concluded that they were currently the best for themselves and their families, although some of the women who pushed through experienced doubt, self-censure, and sometimes, guilt about pushing through. Women who held back had higher levels of resignation about their physical activity choices, while women who held still had more concern about how others perceived their choices. Two of the women were unable to reconcile resistance between their physical activity desires and patterns; when resistance was unreconciled, women felt frustrated and trapped because they could not meet their needs through activity.
Chapter 6: Discussion

Introduction

In this chapter, I begin with a summary of the theory, reconciling resistance. I discuss reconciling resistance in the context of the broader literature by describing how the findings extend, refute, or support existing literature about postpartum physical activity. Thus, my discussion is guided by the theoretical categories: reconciling resistance, gauging, sources of resistance, engaging, and adjusting. I also discuss implications for future research, practice, education, and health service delivery, and provide a chapter summary.

Reconciling resistance explains how women minimize discord between their physical activity desires and actual physical activity patterns. Reconciling resistance is a basic social-psychological process with three phases: gauging, engaging, and adjusting. Participants’ relational, environmental, personal embodiment, and physical activity centrality resistance during the postpartum period influenced the ways they navigated the three phases of reconciling resistance. The women reconciled resistance through gauging the risks and accessibility associated with pursuing their desired activities and how essential the activities were for them. The women engaged by using strategies to push through, hold back, or hold still in pursuing their desired activities and adjusted based on how well the strategies worked for them.

In this chapter I refer to reconciling resistance as a theory, although I recognize the term theory can be taken up in many ways (Abend, 2008; Goldfarb & Ratner, 2008; Polit & Beck, 2010). I use the term theory from a constructionist stance and drawing from Charmaz’s (2014) writings. As an interpretivist, Charmaz took issue with the use of the term claiming theories have positivist associations and are assumed to explain phenomena objectively. She suggested distinguishing between positivist and interpretivist grounded theories, with interpretivist theories explaining how people act based upon constructed meanings associated with the
phenomenon of interest. I consider reconciling resistance to fit with this definition of an interpretivist grounded theory; however, in contrast to Charmaz (2014), I do not think my theory is a theoretical representation of multiple realities but of a shared reality among women “that makes sense of” their postnatal physical activity decision-making (p. 231). Reconciling resistance explains how participants’ beliefs about physical activity, themselves, relationships, and the environment affected their efforts through gauging, engaging, and adjusting to make physical activity choices. As a constructionist, I recognize my theory development was influenced by my interpretation of participants’ meanings.

Constructing a grounded theory usually adds new concepts to the phenomena of interest. Adding concepts leads to exploration of literature that was not immediately obvious at the beginning of the study (Glaser, 1998). During my analysis, sorting, and writing, the concepts of resistance, physical activity centrality, and reconciling illuminated new elements of women’s postnatal activity decision-making which led me to read about particular theories and perspectives; specifically, I engaged with hierarchical leisure resistance theory, self-determination theory, and Gilligan’s (1982) work on women’s moral reasoning. The perspectives and theories I consulted are integrated into my discussion.

**Contribution of Symbolic Interactionism to the Theory**

The theoretical perspective of symbolic interactionism guided my theory development in several ways. Blumer (1969) explained that the symbolic interactionist perspective emphasizes human action as emanating from constructed meanings, relationships between individuals’ meaning making and social interaction, and ongoing processes of interpretation. Symbolic interactionism helped me to appreciate how the participants made physical activity choices based on the meanings those choices had for them, and their constructions of how their actions would affect them and others and ongoing interpretations. The meanings supporting their constructions were built through participants’ social interactions with their families and children and experiences with
physical activity and engaging with their environments. Blumer (1969) emphasized human agency in action. The participants considered their various beliefs to forge their lines of action; their beliefs affected their strategies of engagement. The processes of adjusting reflected the participants’ ongoing interpretations of their own and others’ responses to their physical activity choices. The participants adjusted their strategies or lines of action to continue to meet their own needs and what they perceived as others’ needs in satisfactory ways.

Also central to Blumer’s (1969) symbolic interactionist perspective is the importance of positioning participants as expert knowers and accessing their perspectives through multiple strategies. I used multiple means; interviews, diaries, and documents, to develop understandings about women’s postnatal physical activity perspectives, and attended to how my perspectives were influencing the developing theory through reflexive diaries and participant feedback.

**Comparing and Contrasting the Theory with the Extant Literature**

Reconciling resistance extends the current postnatal physical activity because it is the only integrated theory that explains women’s physical activity decision-making processes during the postpartum period and how women construct different forms of physical activity as desirable and worth pursuing in the postnatal context. The theory explains how relationships between women’s complex perceptions about physical activity, themselves, others, and their environments accounted for their physical activity decisions during the postpartum period and enhances our understanding about the physical activity intention-behaviour gap (Rhodes & de Bruijn, 2013) within the postnatal context. The women in the current study held varying levels of intention to pursue their desired activities. Although some women initially intended to engage or did engage in desired activities, through the processes of reconciling, some modified their beliefs about desired activities and shifted their intention.

Reconciling resistance also contributes by explaining some of the patterns of postnatal activity that have emerged in the literature. Rhodes and colleagues’ (2014) longitudinal study objectively measured the physical
activity of 102 couples not expecting a child, 136 parents expecting their first child, and 76 parents expecting their second child at baseline, 6, and 12 months postpartum (6 and 12 months post baseline for non-expecting couples). Their findings that mothers’ transitioning to first time parenthood significantly reduced their moderate physical activity rates over the course of the postpartum year while both first and second time mothers increased their light physical activity and decreased sedentary time fit with the findings in the current study. Many of the women in the current study reconciled resistance by choosing to hold back or hold still from pursuing their desired higher intensity physical activities (e.g., running) and engaging in more light-moderate intensity physical activities (e.g., walking, mother-infant groups). Some women indicating believing that the physicality of motherhood reduced the necessity of pursuing additional physical activity, which supported their choices to hold back or hold still on physical activity engagement. The overall increase in light physical activity and decrease in sedentary physical activity in the postpartum period reported by Rhodes et al. (2014) could be partially accounted for by decreases in women’s moderate physical activity found in the current study because some women view moderate intensity physical activities as less essential in the postpartum context.

Similarly, reconciling resistance helps support understanding about the diversity of postnatal physical activity patterns described in the literature. Albright, Maddock, and Nigg (2006), in their study exploring perinatal physical activity patterns with an ethnically diverse sample of 79 women within one year of childbirth, found that the majority (43%) of women who described themselves as active pre-pregnancy reduced their activity and became inactive or insufficiently physically active postnatally. Fewer women maintained pre-pregnancy high activity levels (23%) or inactivity levels (22%) and an even smaller percentage (13%) increased their postnatal physical activity as compared to pre-pregnancy. It is possible that the large proportion of women who reconciled to hold back in the current study were similar to the women who reduced their physical activity levels in the Albright et al. (2006) study. The participants holding back in the current study were no longer engaged in the same type of physical activity they had enjoyed pre-pregnancy because of their beliefs about risk,
essentiality, and accessibility of those activities. The participants who pushed through might be similar to the women in Albright and colleagues’ study who maintained their previous physical activity levels, and those who were inactive pre and postnatally, could be regarded as similar to the women who used the strategy of holding still. The women in their study who increased activity might be similar to the current study participants who recognized physical activity as essential for them in the postnatal context.

By foregrounding the importance of need satisfaction and highlighting the dynamic influence of resistance, reconciling resistance adds to our understanding about why some women during the postpartum period adjust their physical activity intentions and behaviour. In the current study, when making physical activity decisions the participants gauged the impact of different physical activity choices on meeting their own and others’ needs. I have not encountered postnatal physical activity literature that discusses the fit between physical activity centrality (or the importance of physical activity for need satisfaction) and strategies of postnatal physical activity engagement. Likewise, I have not encountered research explaining how the changing postnatal context affects women’s physical activity decision-making. In the current study, through the processes of gauging, engaging, and adjusting, the women experienced shifts in their beliefs that intersected with their strategies of engaging to achieve physical activity and their physical activity desires. In the following section, I discuss how the major theory elements of resistance, gauging, engaging, and adjusting fit within decision-making and physical activity literature and related theories.

**Resistance.**

Constructing resistance as the beliefs that women held affecting their decision-making is consistent with socio-cognitive theories that have been applied to understand physical activity behaviour. For example, the theory of planned behaviour describes beliefs as forming from experiences and being that which a person comes
to accept as true for him/her (Azjen & Cote, 2008). Beliefs are characterized as a form of self-knowledge within the theory because they are self-endorsed truths (Ajzen & Cote, 2008). In the current study, the women were processing their postnatal experiences and reconciling their beliefs about physical activity, themselves, relationships, and environments.

The ways in which current study participants described resistance as manifesting fits with decision-making literature about beliefs. Cognitive researchers suggest that beliefs carry a number of properties, such as strength and stability (Leitgeb, 2017). The participants described their recollections of resistance as being experienced to varying degrees, such that they could experience more or less resistance about certain factors in their decision-making (e.g., childcare, fatigue), and have the level of resistance shift across the postnatal year.

Participants in the current study described commonly referred to maternal physical activity barriers and facilitators that have been reported in the literature, such as cost, fatigue, childcare availability, family support for exercise, and convenient gym access (Albright, Saiki, Steffer, & Woekel, 2015; Brown, Brown, Miller & Hansen, 2001; Cramp & Bray, 2011; Doran & Davis, 2001; Down & Hausenblas, 2004; Evenson et al., 2009; Groth & David, 2008; Hamilton & White, 2010a; McIntyre and Rhodes, 2009; Nicklas et al., 2011; Saligheh, McNamara & Rooney, 2016), as important sources of resistance in their efforts to reconcile resistance. However, the theoretical concept of resistance in the current study departs from the barrier/facilitator literature because the women represented resistance as dynamic in the postpartum context.

The women described experiencing varying levels of resistance, particularly physical and emotional resistance, throughout the postpartum year. With the exception of Cramp and Bray (2011), who examined women’s differences in barriers across four intervals (12, 18, 24, and 30 weeks postpartum) and Evenson et al. (2009) who examined differences in perceptions of physical activity barriers at 3 and 12 months postpartum,
there seems to be an implicit assumption in the literature that barriers and constraints affect women similarly across the postnatal year (e.g., Saligheh, McNamara, & Rooney, 2016).

Evenson and colleague’s (2009) work supports my concept of postnatal resistance as dynamic. In the current study, many participants reported personal shifts in physical and emotional resistance from about 6 weeks to 4-5 months that led to them gauge the emotional and physical work of physical activity as less personally risky over time. That finding fits with Evenson et al.’s (2009) claims that ‘baby issues’ (e.g., feeding schedules) were less of a barrier at 12 months compared to 3 months. The significance of ‘baby issues’ or baby care beliefs in postnatal physical activity decision-making might lessen across the postnatal year as mothers develop relationships with their babies, infant feeding and sleeping patterns become more stable, and mothers progressively recover physically and adjust emotionally to the postpartum period.

Cramp and Bray’s (2011) study did not chronicle resistance changing across the postpartum period; instead, they found minimal variation in participants’ reported barriers across the four postpartum data collection time points. Each woman in that study reported their barriers at least once, but of the 230 participants, only 114 women listed barriers at time 1 (12 weeks), 120 at time 2 (18 weeks), 129 at time 3 (24 weeks) and 131 at time 4 (30 weeks). It is difficult to infer from Cramp and Bray’s study whether the findings reflect consistency in the barriers for women or consistent barriers across women with similar characteristics. The current study findings point to the importance of examining Cramp and Bray’s findings in the context of physical activity centrality. The women in the current study indicating low centrality reported more similarity in their resistance across the postnatal period because they did not regard physical activity as critical to meet their needs, compared to the women with higher centrality (held physical activity as central to meeting their own and others’ needs) who described more shifts in their experiences of resistance while pushing through to pursue physical activity.
The way that resistance is linked to need satisfaction, risk, essentiality, and accessibility in the current theory extends understanding about physical activity facilitators. In the current study, physical activity centrality (resistance) could motivate women to choose particular physical activity options by increasing participants’ views of the essential nature of physical activity for their own and/or others’ need satisfaction. In the literature, physical activity facilitators are usually depicted as acting as general motivators or enablers (e.g., Evenson et al., 2009; Nicklas et al., 2011). For example, a commonly listed postnatal physical activity facilitator is partner support (e.g., Hamilton & White, 2010b). The current study findings suggest that partner support acts as a facilitator, not in the direct sense of enabling the achievement of activity, but in the sense that partners’ support enables a woman to honour her perceptions of physical activity centrality and use that to consider her physical activity options for her need satisfaction. The women in this study who believed that they lacked partner support constructed certain forms of physical activity as less essential for their need satisfaction because they regarded pursuing physical activity as potentially introducing relational conflict.

The focus on need satisfaction and interconnections between sources of resistance extends existing thinking about physical activity barriers. A commonly cited barrier to women’s physical activity is lack of time: authors have attributed that concept to the time mothers spend in childcare and household activities that limit time for physical activity (Albright et al., 2015; Brown, Heesch & Miller, 2009; Cramp & Bray, 2011; Doran & Davis, 2011; Nicklas et al., 2011; Taveres & Plotkinoff, 2008). The current study suggests that, in the context of new motherhood, women only prioritize the activities they believe support personal and relational need satisfaction which can mean that they rule out physical activity. New mothers might report a lack of time to exercise when they believe physical activity is not directly supporting their own and others’ needs.

Importantly, reconciling resistance emphasizes the importance of understanding postnatal physical activity choices as being the product of women’s intersecting beliefs rather than simply being based on
perceptions of specific barriers or facilitators. The physical activity literature has positioned barriers and facilitators as opposing forces that either constrain or promote activity, with limited exploration about their intersection or aggregation in decision-making (Doran & Davis, 2011; Downs & Hausenblas, 2004; Evenson et al., 2009; Nicklas et al., 2011).

Implications of intersecting resistance

Considering both facilitators and constraints via reconciling processes opens up new possibilities to understand women’s physical activity decision-making during the postnatal period as operating from a threshold perspective. Reconciling resistance suggests that variations in physical activity beliefs as they intersect with environmental, relational, and personal embodiment beliefs create conditions whereby women gauge certain forms of activity as being legitimate and achievable for them or not. For example, some of the conditions of independent physical activity were that women believed that physical activity was central to their lives, their children would be safe, they were not inconveniencing others, and independent activity benefited themselves and others. While concerns about guilt and inconveniencing others (Lewis & Ridge, 2005; Hamilton & White, 2010b; McGannon & Schinke, 2012; Thompssen, 1999) have been linked to constraining physical activity in mothers with young children, I could not find postnatal research positioning them as conditions of physical activity engagement.

The idea of a decision-making threshold is new in the postpartum physical activity context and extends barrier/facilitator and social cognitive theory research. The literature has reported factors increasing the likelihood of physical activity engagement (e.g., Cramp & Bray, 2011; Bauer, Pivarnik, Feltz, Paneth, & Womack, 2013). For example, Bauer and colleagues (2013) found that women living in the postpartum period with higher self-efficacy were more likely to overcome perceived barriers and engage in physical activity at recommended levels. A limitation to the likelihood approach is that it does not account for changing conditions of perceived barriers and self-efficacy or reveal how shifts in these factors (e.g., perceived barriers) dynamically
affect other factors in women’s decision-making. Reconciling resistance extends these approaches by explaining how intersecting beliefs affect gauges of risk, essentiality, and access, and through adjusting, accounts for how shifts in beliefs can affect postnatal physical activity choices.

The threshold notion arising from reconciling resistance fits with recent decision-making literature, such as research under the rubric of decision field theory (e.g., sequential sampling models and multi-goal pursuit). Decision field theories fit with the current study findings because they assume that people accumulate evidence towards a particular decision and make choices once they pass a preference state threshold, the state at which the person is inclined to act towards a particular option (e.g., go to a mom-baby exercise class) (Ballard, Yeo, Loft, Vancouver & Neal, 2016; Busemeyer & Townsend, 1993; Roe, Busemeyer & Townsend, 2001). In the current study, participants’ beliefs, which acted as the sources of resistance, also acted as evidence that accumulated in their decisional choices but reconciling resistance identified situations where participants’ beliefs changed, e.g., about whether higher levels of physical activity intensity had benefits for meeting their needs and others’ needs. When the women gauged, they reconciled resistance based on their internal thresholds of risk, essentiality, and accessibility and engaged in activities when they regarded them as low risk, essential, and accessible for them.

Reconciling resistance emphasizes the importance of belief (resistance) patterns, particularly physical activity centrality beliefs, to explain women’s physical activity choices during the postnatal period and whether women are willing to pursue the types of physical activity patterns that align with physical activity recommendations. The participants in the current study chose particular engagement strategies when their beliefs about physical activity, personal embodiment, relationships, and environments aligned to support the strategies. For example, unless experiences ‘chipped away’ at the strength of their physical activity beliefs, participants indicating the highest level of centrality tended to persist in valuing independent physical activity for themselves, viewing time separate from them as beneficial for their infants and partners, and in regarding
physical activity as form of self-care. Such beliefs supported their decisions to engage with others and their environments to achieve independent physical activity that they generally depicted as being of higher intensity than synchronized activities.

Participants who held strong beliefs about family exercise and lower levels of physical activity centrality also tended to hold beliefs about reducing the priority of their own needs postnatally and the inappropriateness of leaving their babies for physical activity; they reconciled resistance by avoiding independent physical activity.

The current study findings about belief patterns and physical activity choices fit with Rhodes and colleague’s work outside of the postnatal context around the action control framework (Rhodes, Plotkinoff, & Courneya, 2008; Rhodes & Jan de-Bruijn, 2013). That framework has demonstrated similarities in people’s cognitions based on their physical activity profile (successful non-intender, non-successful non-intenders, successful intenders, and non-successful intenders). It is possible there is overlap in women’s belief patterns during the postpartum period and the cognitions those authors measured to discriminate physical activity profiles.

Reconciling resistance links to the outcome expectations concept embedded into socio-cognitive behavioural theories (Mack et al., 2011) because the participants explained their physical activity choices in terms of their expected long and short-term outcomes for themselves and others (e.g., my infant would not have her needs met, I would feel better, or I would feel guilty). The women in the current study seemed to link their sets of physical activity, personal, relational, and environmental beliefs to develop expectations about the trajectory of events that would unfold if they chose particular physical activity options. In the short term, the women seemed to have expectations about what would happen in the context of their daily lives and to their abilities to provide infant care and perform daily tasks if they choose particular forms of physical activity, e.g., high intensity. The women also seemed to have expectations about what would happen in the context of their relationships over time as a result of pursuing different forms of activity; e.g., some believed pursuing physical
activity in the evening would contribute to decreased family connectedness over time because of ‘missed opportunities’ for family bonding. The women also considered long-term outcomes. The participants who were holding back and holding still believed they could presently meet their needs satisfactorily but expected to be more active in the future.

The complexity of relational, personal, and long-term expectations the women considered in reconciling resistance extends previous research in the postnatal context. In previous studies measures of outcome expectations have centred on women’s proximal personal expectations of activity during the postnatal period (e.g., Glinsky, Hughes, & McInnis, 2012). For example, Cramp and Brawley (2009) in their randomized controlled exercise trial with new mothers measured participants’ personal proximal expectations of physical activity enjoyment and ability of physical activity to support improved mood and feelings of accomplishment and energy. The current study findings suggest that women living in the postpartum period consider an intersecting range of potential personal and relational outcomes in both the shorter and longer term, pointing to the importance of considering a variety of outcome expectations.

The way in which the women’s expectations acted as influential but not immutable in physical activity decision-making is consistent with a symbolic interactionist perspective (Blumer, 1969). The expected trajectories were the women’s interpretations of what they expected to happen and acted to influence the number physical activities the women believed were justifiable for them. For example, one of the women believed she would create relational tension with her partner and feel guilty about downplaying her motherhood responsibility. She also anticipated that recreation centre daycares would not meet her son’s needs; thus, she could not see why she would pursue independent activity, and so chose to avoid it. Unless any aspects of her expected trajectory changed (e.g., she had positive experiences with childcare) through engaging she would
continue to choose to avoid independent physical activity. However, the processes of adjusting suggest that these interpretations were malleable based on engaging experiences that affected the strength of their beliefs.

**Multiple goal pursuit.**

The mid-range theory of reconciling resistance complements the postnatal literature by articulating how multiple goals affect physical activity decision-making in women with young children (Appleby & Fisher, 2009; Palmer & Leberman, 2009; Taveres & Plotkinoff, 2008). In the current study, the women all expressed broad level goals to be functional through meeting their needs to a certain degree while promoting family harmony and healthy infant cognitive and social development. At the level of daily physical activity decision-making, the women were dealing with meeting their own and others’ needs. To achieve those ends they continually assessed personal functioning, family harmony, and infant development. In essence, the rationales that the women used to justify their decisions were oriented around their broad goals and whether physical activity could support their achievement of them. Appleby and Fisher (2009) and Palmer and Leberman (2009) explained that elite athletes constructed their activity as supporting their sense of self, ability to care for their children, and childhood development; however, their work was in the context of mothers with children at various ages and women who were pursuing athletic careers. I could not find literature that explicitly discussed women’s perceptions of physical activity supporting multiple goals during the postnatal period.

The notion of multiple goal pursuits fits with recent physical activity literature critiques that have emphasized the importance of considering physical activity decisions in the context of other competing priorities and goals (Rhodes, Quinlan, & Mistry, 2016). In their systematic review, Rhodes and colleagues (2016) highlighted that other goals can compete for the time it takes individuals to achieve physical activity. When other goals cannot be completed concurrently with physical activity (e.g., walk to the store to get groceries), there can be goal conflict. Rhodes and colleagues differentiated between behavioural and more
abstract level goals. They defined behavioural goals, in line with Carver and Sheier (1982), as short-term minor goals (e.g., go for a walk) that support higher level goals (e.g., meet my needs). They found that conflicting behavioural leisure goals (e.g., socialize and have screen time) were more likely to be negatively related to physical activity than conceptual or abstract goals.

The findings of Carver and Sheier (1982) fit with the current study results because conceptually higher-level goals (e.g., meet personal needs, and promote family harmony and infant development) did not differ among the women. It was not differences in the participants’ conceptual/abstract goals that were related to their physical activity but differences in participants’ beliefs about whether physical activity could support achievement of those goals. For example, among women indicating lower centrality, pursuing other behavioural goals (e.g., socializing) that supported needs and were more accessible conflicted with inclinations to pursue physical activity, so they chose to pursue other activities instead.

The women’s beliefs about whether their goals could be met through physical activity (physical activity centrality) influenced how they gauged essentiality, risk, and accessibility and reconciled resistance. Women indicating moderate centrality only regarded physical activity as important for supporting their needs to a point but also regarded physical activity as providing some support for family harmony and infant development. They engaged by choosing holding back as the best strategy for them. The strong beliefs of women indicating high centrality in the ability of physical activity to meet their own and other’s needs meant that using pushing through as a strategy to achieve desired activities would bring them closer to meeting their goals. The women indicating low centrality described their preferences for other activities, which they regarded as more accessible (e.g., reading, music, socializing) and more able to meet their needs than physical activity, in addition to their beliefs about the potentially negative personal and relational consequences arising from engaging in physical activity. They framed physical activities as deflecting them from meeting their goals so holding still was the
most viable option for them. These findings fit well within self-determination theory because it suggests that people tend to pursue the goals supporting personal need satisfaction (Deci & Ryan, 2000); the women constructed the degree to which physical activity supported their goals and acted accordingly (Blumer, 1969).

**Gauging.**

The current study participants reconciled resistance by gauging the risk, accessibility, and essentiality of activities to discern their limits for physical activity pursuit. This notion of gauging, in the sense of positioning different considerations against each other to determine a course of action, is consistent with a number of physical activity behavioural theories. For example, the theory of planned behaviour suggests that people meld their predispositions towards activity, feelings about social norms, and degree to which they believe they can control their physical activity into their physical activity intention (Ajzen & Cote, 2008). However, gauging departs from other behavioural theories by orienting these women’s intentions to pursue physical activity in terms of their own and others’ need satisfaction. Gauging makes explicit their considerations about themselves and others in physical activity decision-making, which adds to theories, such as expectancy-value theory that have oriented decision-making around personal expectations and values (Eccles & Wigfield, 2002; Wigfield & Eccles, 2000). At the most basic level, the participants reconciled resistance through gauging the minimum amount of need satisfaction they believed they needed from physical activity that could support their ability to maintain their activities: to care for their babies, their relationships, and themselves, at an acceptable level. In the following section, I discuss the sources of resistance these women were gauging in relation to the literature and how the women’s depictions of resistance create new considerations for postnatal physical activity recommendations.
Physical activity centrality resistance.

Physical activity centrality in the theory represented the aggregation of the participants’ physical activity beliefs and captured the degree to which they believed physical activity supported their needs. The higher the level of centrality, the more participants described their physical activity engagement as being central to their ability to experience health, eudaemonia, social connectedness, and achieve their self-definitions. Participants’ expressed centrality reflected their intrinsic motivation towards achieving physical activity as a means to satisfy their needs in the postnatal period. The higher the levels the women used to depict their centrality the more persistent they were in trying to achieve activity. Most of the women indicating high centrality pushed through to achieve their physical activity goals.

I could not find directly comparable concepts to centrality but I view centrality as most closely aligning with self-determination theory (actually a cluster of theories that explain human motivation), specifically basic psychological needs theory (Ryan & Deci, 2017). Basic psychological needs satisfaction theory posits that people are intrinsically motivated to act in ways to meet essential needs of competence, autonomy, and relatedness to achieve psychological well-being (Ryan, 1995). Self-determination theory predicts that a higher level of autonomous or intrinsic motivation relates to persistence (Deci & Ryan, 2008).

Because the women’s levels of centrality linked to their autonomous motivation and need satisfaction reconciling resistance can extend concepts in self-determination theory in the context of postnatal physical activity. Self-determination physical activity research has identified strong relationships between degree of physical activity integration (level of autonomous motivation) and behaviour but relationships between physical activity and need satisfaction have been less clear (Texeira et al., 2012). Studies have consistently suggested that people who believe that physical activity supports their feelings of competence engage in more physical activity but the quantitative associations between relatedness and autonomy and physical activity have been mixed (Texeira et al., 2012; Vlachopoulos, Kaperoni, & Moustaka, 2011). The current study findings suggest that
considerations of different needs or conceptualizations of needs, such as physical/emotional and eudaemonic needs, in the postnatal context might help support understanding about the relationships between need satisfaction and women’s physical activity choices.

In centrality, eudaemonia is represented as a need that supported generalized feelings of competence, confidence, environmental mastery, accomplishment, and purpose when satisfied. Eudaemonic needs have not been directly positioned directly within self-determination theory; eudaemonia is represented as a way of living that contributes to human flourishing but not as a need people are seeking to fill (Ryan, Huta, & Deci, 2008). Nonetheless, the inclusion of eudaemonic beliefs in postnatal physical activity centrality is important because it provides mechanisms by which postnatal physical activity can support women’s competence and confidence in their abilities to care for themselves and their children during the postnatal period. In the current study, participants described a sense of environmental mastery, accomplishment, and purpose through activities like engagement in walks with their infants. Similarly, in Whipple, Combs, Dowd, and Elliot’s (2011) qualitative work about mothers’ motivation for physical activity, the women described running as helping them with eudaemonic aspects of their lives; it contributed to meaning, a sense of accomplishment, personal growth, and achieving success.

The separation of the physical/emotional and eudaemonic needs properties within centrality in the theory of reconciling resistance aligns with self-determination theory. Physical and emotional needs incorporated the women’s perceptions about the degree to which physical activity supported their physical functioning and emotional well-being. They distinguished their ‘in-the-moment’ positive physical activity responses contributing to short-term emotional well-being from the more enduring well-being they associated with eudaemonic need satisfaction. These findings are consistent with self-determination theory that differentiates between hedonic (e.g., pleasure) and eudaemonic forms of motivation (Ryan, Huta, & Deci, 2008).
Centrality as a concept in the current study also supports the self-determination theory literature in the context of postnatal physical activity motivation by emphasizing the importance of taking into account the study participants’ past physical activity experiences. Self-determination theory has emphasized that motivation to engage in particular behaviours develops through experiences over time (Ryan & Deci, 2017). In the current study participants who indicated higher centrality held stronger beliefs that engaging in more organized and higher intensity physical activity could contribute to their emotional and physical health. The high centrality women described their inclinations towards more organized and higher intensity physical activity experiences as related to their past positive physical activity experiences with those forms of physical activity. Women with lower levels of centrality viewed such kinds of physical activity as more emotionally overwhelming and potentially detracting from their emotional wellbeing. Women with low centrality described previous negative experiences from engaging in physical activity that may have related to their expectations of some forms of physical activity as being emotionally unrewarding. These findings are consistent with life course perspectives that highlight the importance of past experiences in shaping health decisions (Bravemen & Barclay, 2009).

The participants’ varying beliefs about group physical activity and their emotional need satisfaction raise questions about assumptions in the postnatal literature that mother-infant based physical activity can contribute to emotional well-being. Cramp and Bray (2010) found that new mothers’ feeling states (e.g., anxiety) were not different when the women exercised with or without their babies and suggested that new mothers ‘should be encouraged to participate in mother and infant baby classes’ (p. 348). Postnatal physical activity intervention and barrier studies have recommended mother-infant programming as pragmatic and positive ways for new mothers to achieve physical activity and improve mood (Watson et al., 2005). However, the women in the current study varied in their views of physical activity experiences that were less desirable than others in
relation to their centrality beliefs and infant presence. Women across all levels of centrality qualified their ‘in-the-moment’ emotional experiences of mother-baby fitness as less enjoyable because they felt less free during the experience. Women indicating low centrality did not desire to engage in mother-infant physical activities because of personal embodiment resistance; they associated group physical activity with their possible lack of ability to perform and embarrassment. Women indicating high centrality who desired physical activity experiences that they could ‘get lost in’ to support their emotional need satisfaction did not enjoy mother-baby physical activities as much as independent activity. Mother-infant physical activities may only be suitable to promote emotional well-being for some women who subscribe to moderate forms of physical activity centrality, which involves preferring lower to moderate intensity group physical activity and socializing with other mothers.

The current study fits with the self-determination literature by emphasizing the importance some women placed on engaging in physical activity to support the way they defined themselves. Stryker and Burke (2000) suggested that people construct role expectations in line with their perceived identities and seek to act in identity-consistent ways. The women’s expressed need to retain behaviours that supported how they defined themselves fits in the postnatal context where women generally are navigating their beliefs about themselves in the context of their relationships and responsibilities as a new mother (Laney, Lewis-Hall, Anderson, & Willingham, 2015). In the current study women indicating high centrality endorsed themselves as physically active individuals and indicated particular physical activities that were important to them (e.g., running). Women with moderate centrality experienced strong relational resistance and placed more emphasis on the importance of physical activity engagement to support their views of an active family identity, while women indicating low centrality largely rejected physically activity as a way in which they defined themselves.
Consideration about need satisfaction through centrality offers a new line of thinking in the physical activity literature dealing with women with young children, which has often positioned mother’s physical activity decisions as being relatively constrained and non-volitional (Hamilton & White, 2010a; Taveres & Plotkinoff, 2008). In the current study the participants did not explicitly link their physical activity engagement with satisfying their need for autonomy, a basic psychological need (Ryan & Deci, 2017); however, they were seeking autonomy, which was expressed in their physical activity choices. The women reconciled resistance to make activity choices they could accept. The primary issue for participants with unreconciled resistance was their lack of perceived control to meet their needs through their physical activity behaviour. Their autonomy was undermined because they did not accept their current levels of physical activity and could not find solutions to their problem. These findings fit with Deci and Ryan’s (2017) self-determination theory work because they argued that the essence of autonomy is self-endorsement, not independence and self-reliance, because people can endorse many identities that actually link themselves to others (e.g., motherhood). For Deci and Ryan (2017) true autonomy is achieved when a person is able to self-regulate his/her behaviour. Although participants in the current study who accepted their physical activity choices might not have been engaging in the activities they preferred their choices were mostly autonomous. Most of the participants believed that their decisions met their own and other’s needs sufficiently.

**Personal embodiment resistance.**

Reconciling resistance emphasized the importance of these women’s physical and emotional embodied perceptions in postnatal physical activity decision-making. The women’s personal embodiment resistance factored strongly in gauging risk and choices about pursuing moderate-high intensity physical activity, group physical activity, and forms of activity that involved more logistical planning (e.g., recreational programming). All of the women discussed personal embodiment resistance in their physical activity decision-making and the
four women who switched strategies described experiences of embodied resistance, such as injury and reduced physical fitness, as highly important in their decisions to switch.

Personal embodiment, as a concept in reconciling resistance, adds to the literature by explaining how women construct personal risk in physical activity engagement during the postpartum period. The participants viewed physical activity as risky when they believed it would extend them beyond their physical and emotional capacities to perform daily tasks, such as infant care, or when they were at risk of embarrassment or judgement. Physical activity research typically positions the engagement in physical activity as being a protective health behaviour (Plotkinoff & Trinh, 2010). The current study suggests that women living in the postnatal context may believe they are protecting their emotional and physical health when they avoid certain physical activities. The contrast points to the importance of understanding women’s perspectives about the personal risks they believe they are avoiding in their postnatal choices.

Women’s descriptions of personal embodiment resistance, arising from the physicality of motherhood in the current study, support and extend Collins and colleagues’ (2007) qualitative study that explored women’s perceptions of their physical activity when they were mothering young children. The authors argued for the inclusion of childcare activities in self-report physical activity measurement because women in their study included the childcare activities of: attending a playgroup and carrying and playing with their baby as physical activity. Similarly, in the current study, regardless of centrality, the women considered childcare activities listed in the Collins and colleagues’ study as contributing to their physical activity. In the current study women mentioned additional motherhood-related activities, such as transporting infant supplies (i.e., taking the stroller in and out of a car, carrying a car seat) as forms of physical activity.

The concept of personal embodiment resistance contributes to the postnatal physical activity barrier literature by contextualizing a commonly reported barrier to postnatal physical activity: fatigue or tiredness. Studies outside the postpartum context have positioned fatigue as incorporating multi-dimensional physical and
psychological (e.g., weariness and reduced motivation) elements (e.g., Shen, Barbera, & Shapiro, 2006). Likewise, in the current study, the women seemed to express both emotional and physical elements of fatigue. Participants considered the risks of physically overextending themselves in their physical activity choices based on their perceptions of physical fatigue, which was related to both their engagement in the activities of motherhood and sleep deprivation. Accessing some forms of physical activity involved considerable work and planning. Thus, the women considered the risk of emotionally overextending themselves in their physical activity choices based on their perceptions of their emotional capacity, given their daily demands. Participants indicating low centrality indicated less motivation to engage in the work and planning involved of accessing scheduled or recreational centre programming; they viewed those physical activities as potentially emotionally overwhelming when other activities they preferred to support their emotional well-being seemed more accessible. The current study findings suggest that women might express fatigue as a barrier for physical activity under conditions of experiencing physical fatigue, reduced motivation, and emotional weariness from the demands of infant care and other daily activities.

The prevalence and significance of personal embodiment resistance in the current study extends the postnatal physical activity literature that has only highlighted some physical aspects as important in women’s physical activity. Two-thirds of the women in the current study indicated personal embodiment resistance, which encompassed their consideration of fatigue, pain, injury, and adequate fitness, as significantly influencing their physical activity choices. In the existing literature fatigue has consistently been supported as a postnatal physical activity barrier. Evenson et al. (2009) described fatigue as the third highest reported postnatal physical activity barrier and perceptions of fatigue discriminated between the women who were active prenatally but not in the postpartum period in McIntyre and Rhodes’ (2009) study. However, levels of fitness, injury, and pain have not generally been regarded as important in the postpartum context (Cramp & Bray, 2011; Evenson et al., 2009; McIntyre & Rhodes, 2009). Cramp and Bray (2011) found that only 8% of their sample reported physical
considerations as barriers, while McIntyre and Rhodes (2009) found that perceptions of injuries did not
discriminate among women’s physical activity patterns during the postpartum period. Only women from
Symons-Downs and Hauseblas’s (2004) study supported the significance of physical beliefs in postnatal
decision-making; 21% reported that their physical limitations and restrictions acted as barriers to their physical
activity. However, unlike other barrier studies where responses are open-ended (e.g., Evenson et al., 2009),
Symons-Down and Hausenblas invited participants to select options from a short list of barriers (e.g., physical
limitations, tiredness), which could account for the higher percentage. I could not locate any research that
suggested lack of fitness served as a barrier for postnatal physical activity.

It is difficult to account for the relative lack of attention to personal embodiment resistance in the
postpartum period emanating from the physical activity literature. The experience of birth and birth recovery are
acutely embodied and injury and fatigue are consistently listed as major deterrents for physical activity
motivation outside of the postnatal literature (Breivik et al., 2006). The postnatal literature studying the
transition to motherhood suggests that a high prevalence of physical symptoms (e.g., backache, abdominal pain,
fatigue) persist for a substantial percentage of women and the higher the severity and frequency, the greater the
negative physical, emotional, and functional postnatal impact (Cooklin, Amir, Jarman, Cullinane, & Donath,
2015; Webb, Bloch, Coyne, Chung, Bennett, & Culhane, 2008).

It may be possible that women do not report personal embodiment resistance (particularly around
physical risk) as a primary barrier in survey studies because reporting other barriers seems less personally
threatening. Nonetheless, in the current study, personal embodiment resistance affected the women’s
perceptions of their abilities to perform physical activity. Most of the women depicted surprising experiences of
feeling ‘winded’ and ‘unfit’ where they were not able to perform physical activity to their previous levels.
Some participants described perceptions of physical fitness, injury, and pain as decreasing their motivation to
engage in physical activity at higher intensities by undercutting their beliefs in their abilities to perform it.
Those perceptions affected their beliefs about the ability of physical activity to support their need satisfaction. Buman, Giacobbi, Yasora, and McCrae (2009) argued that individuals construct complex reasoning schemas for their physical activity choices and may report more neutral reasons for limiting participation (e.g., lack of time, no childcare) to protect their self-concepts. My study findings suggest that new mothers, with reduced motivation, might choose to report more neutral barriers that protect against negative evaluations of themselves.

The participants’ expectations and embodied experiences of group fitness support Beauchamp, Dunlop, Downey, and Estabrooks’ (2011) work exploring whether perceptions of group similarities contribute to exercise adherence in postnatal physical activity classes. Beauchamp and colleagues applied Harrison, Price and Bell’s (1998) framework that explains how people categorize the qualities of others at surface and deep levels to postnatal mothers’ fitness class attendance. The authors found perceptions of similarities in age (surface level quality) predicted postnatal class exercise adherence; they commented about difficulties measuring deep level impressions (e.g., values, attitudes) which might have accounted for the lack of relationships between deep level impressions and attendance. In support of Beauchamp and colleagues’ theorizing about relationships between perceptions of group similarity and participation, the current study findings suggest that perceptions of group similarities were important sources of resistance in new mothers’ choices to attend group fitness programming. The women indicating low centrality who wanted to avoid group fitness suggested they were ‘dissimilar’ to the women who attend group fitness because they doubted their abilities to ‘keep up’ and regarded their fitness abilities as being lower than the other class members. Participants who indicated wanting to avoid mother-infant group fitness seemed to perceive themselves as different at a deep level based on their descriptions of their negative experiences with other mothers and their attitudes towards parenting. In contrast, women who gauged low risk in these group activities appeared to share deep level similarities because they described enjoying the camaraderie of group activities and the supportive environment.
Relational resistance.

Participants’ descriptions about relational resistance add to our understanding of the meanings behind the postnatal physical activity barrier, lack of childcare, which is commonly identified in the literature (e.g., Groth & David, 2008). It seems self-evident that women might express this barrier because they desire to engage in independent activity but do not have access to suitable childcare. The current study findings suggest that when women identify lack of childcare as a barrier it may mask more complex reasons for not pursuing independent activity. All of the women in the current study referenced childcare as an important source of resistance in their physical activity decision-making; however, their reasons for choosing not to use it varied. Few women indicated that they did not use childcare strictly because they did not have any financial resources for it or a trusted family member or someone who could provide child care for their infants, as evidenced by the fact that all participants used childcare for other activities. Some women claimed that they did not want to be separated from their infants because of exclusive breastfeeding or personal fears of separation for the purposes of physical activity. Several women expressed mistrust toward recreation daycare facility options; they believed that the facilities were unsafe, dirty, or a place where their children would not receive adequate stimulation. Other women were concerned about spending their limited childcare availability on physical activity; they wanted to reserve childcare for more essential activities. Often, the participants expressed several reasons. These findings suggest that, although lack of childcare is a commonly cited postnatal barrier, women might identify child care as a barrier under conditions when childcare options are available and accessible financially.

The current study participants’ experiences of relational resistance do not fully fit with previous physical activity research, which explains low rates of maternal physical activity as having strong relationships with mothers’ felt obligations and responsibilities to care for their homes, families, and infants at the expense of physical activity (McGannon & Schinke, 2012; Miller & Brown, 2005; Perales, Pozo-Cruz, & Pozo-Cruz, 2015; Thompssen, 1999). Physical activity researchers (Brown et al., 2001; McGannon & Schinke, 2012; Miller &
Brown, 2005; O’Brien, Lloyd & Ringuet-Riot, 2014) have emphasized the care ethic, generally defined as the “cultural expectation that women sacrifice their own needs to take care of others” (McGannon & Schinke, p. 180), as the feelings underlying women’s sense of obligation and responsibility. They have argued that women feel guilty, selfish, or irresponsible pursuing activities that take time away from their abilities to care for others and fulfill family and household responsibilities (McGannon & Schinke, Thompson, 1999). The complex reasoning expressed by the participants in the current study contrasts with the suggestion that postnatal physical activity decision-making is predominantly driven by a self-sacrificial care ethic. The theory of reconciling resistance suggested that these women ultimately made choices about physical activity on the basis of the complex interplay of physical activity, personal, relational, and environmental resistance. Participants’ gauges of relational resistance (e.g., about infant safety, infant development, trust of others, beliefs that ‘using’ others for childcare would damage their relationships) affected their decisions about their strategies to engage in independent physical activity but they were not the only factors influencing women’s willingness to be physically active and their choices of forms of activity. Physical activity centrality and personal embodiment and environmental resistance also influenced women’s decision-making and whether they even desired other forms of physical activity or believed they were accessible.

The theory of reconciling resistance also suggests that women’s decisions were not consistently self-sacrificial. These women’s beliefs about the ability of physical activity to meet their own needs were critical to their decision-making. The study participants, in all cases, pragmatically downgraded their need satisfaction because they had to provide infant care, which could interrupt activities in which the women were engaged. Nonetheless, all of the women did not reconcile resistance by holding back or holding still on pursuing activity unless they indicated that they were meeting their needs satisfactorily through their choice of physical activity or alternative activities. The women that reconciled resistance, by deciding to push through, did so because they recognized physical activity as essential to their need satisfaction.
Participants, in the current study, considered their needs in their decision-making which fits with how Gilligan (1982) described her ethic of care philosophy. She described the ethic of care as being women’s felt obligation to consider possible outcomes of their decisions on both themselves and others because women inherently recognize themselves as being interconnected with others and their actions as affecting others. Gilligan’s philosophy does not include surrendering the self, and, in the instance of what she describes as the ‘survival’ line of reasoning, the self is primarily considered. In all modes of moral reasoning she suggested that women take into account themselves and how any outcomes of their decisions would affect them.

The theory of reconciling resistance also suggests that participants’ consideration of other’s needs and their own responsibilities did not necessarily lead to reduced efforts to pursue physical activity and less engagement in physical activity. Certainly, some of the women who held back drew on the discourse about self-sacrifice, selflessness, responsibility, and guilt when explaining their choices to limit the forms of activity they would pursue. In contrast, for participants pushing through, language about guilt and selfishness or feeling a sense of responsibility to abandon their postnatal activity desires was rarely invoked when the women described providing infant care. Those women constructed meeting their own needs through physical activity as supporting their ability to meet others’ needs, including those of their infants. That finding fits with Lewis and Ridge’s (2005) qualitative study about mothers’ physical activity; some of the women in that study constructed their engagement in physical activity as a means to be a better and more relaxed parent because physical activity gave them energy and a sense of family balance and well-being.

Lewis and Ridge (2005) suggested that reifying stereotypical reasons for women’s inactivity restricts conversations that might facilitate women’s abilities to achieve physical activity. Reducing the influence of the ethic of care, self-sacrifice, and responsibility discourses could be important to enable more comprehensive understanding about the complex factors contributing to women’s postnatal physical activity decision-making. The theory of reconciling resistance suggests that women’s constructions about how well physical activity can
support their own and others’ need satisfaction are critical factors.

*Environmental resistance.*

The current study participants’ perceptions about environmental resistance were important factors in their efforts to reconcile resistance. Potential environmental effects find mixed support in the postnatal literature (Cramp & Bray, 2011; Evenson et al., 2009; Richardsen et al., 2016; Saligheh, McNamara, & Rooney, 2016). Environmental resistance interfaced with the study participants’ gauges of personal emotional and relational risk. Women were unwilling to pursue physical activity options they gauged as too emotionally overwhelming to access (e.g., logistics too complex, too far, during infant nap time, having to sign up for childcare spots) and recreational postnatal physical activity programming they gauged could upset family harmony (e.g., program time, scheduling, cost, and lack of childcare). Even when the women reconciled to the importance of particular forms of physical activity for themselves and others’ need satisfaction environmental resistance could dampen their desire to achieve the activities, and in some cases, the women ended up reconciling resistance by choosing more accessible and less desirable options.

The participants’ environmental and accessibility considerations, such as program cost, physical environment, and recreational program options, fit with research outside of the postnatal context suggesting that the built environment and leisure policy can affect physical activity engagement (Cureton & Frisby, 2011; Sallis et al., 2006). Unfortunately, these considerations have rarely been listed as important postnatal physical activity barriers. Evenson and colleagues (2009) found that less than 5% of women within a year of childbirth reported environmental considerations as barriers to postnatal physical activity, as compared to 59% of women who reported personal barriers, and 30% who reported relational barriers.

Inattention to environmental resistance in the postnatal physical activity literature might emanate from study designs of barrier/facilitator research. Often, the studies are socio-cognitively, theoretically-based and centre on personal and relational sources of resistance (e.g., Cramp & Brawley, 2009; Koh, Miller, Marshall,
Brown, & McIntyre, 2010). Studies that provide participants with pre-determined lists of barriers/facilitators to select do not include different sources of environmental resistance in the lists (e.g., Doran & Davis, 2011; Symons-Downs & Hausenblas, 2004). Studies that have had open-ended responses have grouped participants’ responses in forms where environmental sources of resistance tend to become enmeshed with intrapersonal and interpersonal sources so that they become invisible (e.g., Evenson et al., 2009; Groth & Davis, 2008).

When authors have focused on the postnatal physical activity environment environmental resistance emerges as important in decision-making. Similarly, to the current study participants, a recent qualitative study about new mothers’ physical activity barriers found lack of knowledge about programs, lack of information provided by care providers, activity location distance, program structure, and program cost contributed to perceptions of limited access to recreation centre-based physical activities (Saligheh, McNamara, & Rooney, 2016). The current study findings concur with those authors’ identification of mismatches between women’s available resources (financial, emotional, knowledge, transportation) and program offerings during the postpartum period. Part of the reason that women might report a lack of time to be physically active could be challenges with recreation centre program time offerings and available childcare. Women may restrict activity choices to outdoor or home-based activities that do not reflect their preferences in similar ways to some of the women who were holding back in the current study.

The current study findings suggest that where the women lived in relation to the community centres and their distance from recreation and fitness centre programming affected their physical activity choices. When shops, hikes, or outdoor activities were outside of walking distance or involved a lengthy drive these women perceived their physical activity options as limited. Participants without car access had difficulty with envisioning taking public transit with their infants. These findings support the growing body of research about the importance of the built environment for people’s physical activity decision-making (e.g., Sallis et al., 2006).

The theory of reconciling resistance extends built environment research in the context of the postnatal
period by offering novel ideas about environmental resistance and the shifting landscape of accessibility.

Participants’ environmental physical activity access was limited by having to use a stroller because they reduced their physical activity intensity on the basis of safety of trails, sidewalks, and roadways that they feared might be uneven and difficult to navigate. As infant age, weight, and mobility shifted, different types of programming at recreational centres and within the environment (e.g., hiking) became more or less accessible to the women. Because the mothers were aware of pediatric safety recommendations about infant neck control and sun exposure some types of synchronized activities were simply not regarded as feasible by mothers with infants less than 6 months of age, such as jogging or hiking in sunny environments.

The current study findings bear similarities to the literature about physical activity decision-making for people living with disabilities. A meta-analysis about outdoor recreation decision-making processes for families with children living with disabilities found that the navigational logistics of accessing playground equipment and outdoor opportunities were highly important considerations, in addition to multiple social, cultural, and relational considerations (Sternman et al., 2016). In the built environment literature there is an implicit assumption that improved walkability and recreation centre proximity enhances people’s perceptions about physical activity access. However, the current study findings suggest that walkability and proximity enhancements designed for the general population might not be sufficient to increase accessibility for some populations, such as women managing infants.

From a critical theorist’s perspective, the women’s environmental resistance represents structural constraints (Stevens, 1989) because environmental beliefs concerned literal recreational centre policies and environmental considerations that could limit physical activity choices. Rather than regarding structural constraints as a singular problem, the current study participants constructed explanations about whether the environment was limiting for them around their physical activity choices based on their personal, relational, and physical activity centrality beliefs. This was an important consideration because women living in regions with
similar distances from the recreation and fitness centres and the same policies held different perceptions about environmental access. For example, the women who pushed through constructed the outdoors and recreational and fitness centre environments as entirely navigable. This finding supports recent work by Richardsen et al. (2016) who suggested that, even though women within the postnatal period lived in the same geographic regions and within similar distances to recreational centre programming, they provided diverse ratings of recreational centre accessibility, regardless of their socioeconomic status and ethnicity. These similarities point to the complexity of women’s gauging of physical activity accessibility.

**Engaging strategies.**

Based on how current study participants gauged and positioned physical activity for their own and others’ need satisfaction, the women engaged using different strategies. Some women pushed through to achieve their desired independent activities by testing their fitness, working with others, finding childcare, navigating schedules, and looking for opportunities. Others held back on achieving their desired activities but coordinated opportunities to engage in physical activity with their infants during the day and their family members when available. For the women who held still physical activity was only used with their babies and families to meet their relational and infant needs.

The current study findings about engaging strategies are similar to constraints negotiation strategies described in leisure constraints research. Jackson, Crawford, and Godbey (1993), who first speculated about the relationship between constraints negotiation and leisure participation, introduced the notion of the balance proposition, which has similarities with the theory of reconciling resistance. The balance proposition posits that constraint negotiation strategies play the role of reconciling the influences of both constraints and motivations (Jackson et al., 1993), much like the engaging strategies the women choose in the current study reflected how the women reconciled sources of resistance. In this sense, constraint negotiation strategies are akin to the women’s engagement strategies. Unlike leisure constraints theory; however, which has more narrowly
conceptualized leisure motivation around expected personal outcomes (Manfredo, Driver, & Tarrant, 1996; White, 2008), reconciling resistance suggests motivations for physical activity arise from the women’s beliefs about the ability of physical activity to support their own and others’ needs and their relationships.

The strategies women used in the current study fit with the two types of constraint negotiation strategies, i.e., behavioural and cognitive, that Jackson and Rucks (1995) proposed. Behavioural negotiation strategies have been suggested as including strategies such as adjusting schedules, finding more information, finding convenient activities, financial strategies, and negotiating with others (Hubbard & Mannell, 2001; Jackson & Rucks, 1995). Cognitive strategies have been represented as more complex because they act to reduce dissonance between beliefs about behaviour and actual behaviour patterns (Jackson & Rucks, 1995). Reconciling resistance suggests that women who were holding back and holding still engaged less behaviourally than they did cognitively. The women holding back did not engage extensively with scheduling and negotiating with others although they did find out information about programming and choose activities that they perceived as more convenient (such as walks and mother-baby groups). On the other hand, participants who were holding back and holding still engaged extensively in cognitive strategies; they reframed the ability of physical activity to support their own and others’ needs and justified putting their desired activities on hold because they believed that their decisions were temporary. This fits with Jackson and Ruck’s (1995) perspective that the negotiation strategy people choose matches their situations. For example, the women holding back seemed to be behaviourally ‘holding back’ from pursuing their desired activities and using more cognitive strategies to temper any dissonance from holding back.

The participants in the current study who indicated higher centrality and who were pushing through appeared to use more extensive behavioural negotiation strategies as they worked with others, their fitness, the environment, and infant schedules; they also engaged in cognitive strategies, such as constructing their pursuit of independent activity as beneficial for themselves and others. The mothers who indicated high centrality
sometimes experienced dissonance about their choices to push through because they conflicted with their beliefs about fairness in their relationships. One cognitive strategy, Jackson and Rucks (1995) described is to downplay the significance of a constraint and continue to push ‘harder’ to achieve desired activities. It is possible that the women who were pushing through had to downplay or ignore the significance of sources of resistance to continue to engage in their strategy of pushing through.

For current study participants it is difficult to speculate about long-term consequences of their strategies. Leisure constraints theory is specific to theorizing about how people negotiate constraints in the context of their leisure. The women in the current study often integrated physical activity in their daily lives in the context of limited leisure (defined as “space in which he/she had the freedom of choice to do what he/she wants to do”) (Iso-ahola, 2016, p. 290); many of the participants engaged in synchronized physical activity, which included providing infant care. Leisure constraints theory suggests that the degree of strategy use is associated with increased participation in desired activities and, with increased participation, the experience of emotional and enduring benefits (e.g., personal development, improved self-image) (Hubbard & Mannell, 2001; Stebbins, 1997; 2005). It is possible, despite using leisure constraint negotiation strategies, these benefits were dampened for the women in the current study who were active during non-leisure time in the postnatal context.

A common cognitive strategy and thread in participants’ efforts to reconcile resistance involved their constructions of physical activity decisions in relation to family role modeling. The women, to varying degrees, either believed engaging in physical activity with their children or by themselves role modeled an active lifestyle or self-care respectively. These findings concur with qualitative research examining parental reasons for engagement in physical activity (Hamilton & White, 2010a). In one study, parents wanted to role model active lifestyles and to be fit and healthy to take care of their children (Hamilton & White, 2010a). The concurrence of these findings suggests that women can recognize themselves as having a level of personal responsibility to develop and nurture positive attitudes towards physical activity in their children.
In the theory of reconciling resistance role model beliefs seemed central to how participants reconciled resistance and made decisions about the types of activity in which they would engage. The women who were holding back drew the most heavily on particular role model beliefs where they sacrificed some of the enjoyment and need satisfaction they derived from physical activity by abandoning their independent activity experiences in favour of family-based experiences.

It is possible that taking ownership of instilling positive physical activity attitudes in their children detracts from women’s physical activity and might be detrimental to parents’ wellbeing over time. O’Brien, Lloyd and Ringuet-Riot’s (2014) qualitative work explored how physical activity public health campaigns and neo-liberalism affected mothers’ well-being and physical activity experiences; they found that mothers (mostly with children under age two) felt pressured to act as physical activity role models to raise healthy active children. Those authors suggested engaging in physical activity for the purposes of role modeling at the expense of personal enjoyment over time could have the net effect of women being even more disinclined towards activity and reducing their overall wellbeing. Several of the women in their study expressed feeling shameful and guilty because they did not achieve the recommended level of physical activity and did see themselves as ‘role models’. Their findings, in addition to the findings from the current study, suggest that over the longer term role modeling rationales may not be effective at increasing women’s physical activity.

**Adjusting and shifting strategies.**

The women in the current study adjusted their strategies based on their experiences of engaging. They adjusted when they believed that adjusting their engagement strategies could better align them to support their own and others’ needs and their overarching goals of personal functioning, family harmony, and healthy infant development. When their experiences of engaging led them to believe that more actively pursuing physical activity would not compromise meeting other’s needs and support their needs participants tended to push further, loosen limits, or gain momentum. When their experiences of engaging raised doubts about need
satisfaction participants responded by scaling back, tightening limits, and disengaging. The concept of adjusting is consistent with leisure constraints theory that suggests that people’s relative “profitability” estimations about the benefits of pursuing particular leisure choices are not always correct, such as when one imagines going for a swim will be enjoyable, but the pool is crowded (Godbey, Crawford, & Shen, 2010, p. 13).

The concept of adjusting adds theoretical considerations to leisure constraints theory by explaining the processes that influence ongoing constraint negotiation and motivation in the postnatal physical activity context. Lyu (2016) argued that theorizing about the complex and ongoing processes of leisure decision-making has been underdeveloped in leisure constraint theory. The current study findings suggest that women’s ongoing engagement strategy adjustments or ‘constraint negotiation tactics’ were influenced by complex motivational factors, including their own and others’ needs and overarching personal and family goals.

The concept of adjusting and the notion of shifting beliefs raise questions about the significance of early postnatal physical activity decision-making for women’s long-term engagement with physical activity. Although the women in the current study adjusted their strategies they generally retained them and mostly described holding back or holding still. The study participants with high centrality who reconciled resistance by holding back described significant shifts in their physical activity beliefs and physical activity choices during the postnatal period. Four women believed that they had a reduced need for the independent physical activities they had engaged in pre-pregnancy because they were now achieving sufficient activity through infant care, walks, and mother-infant programming. Three participants emphasized their new responsibility to preserve their energy for infant care; they no longer believed their previous high intensity activities fit with their new responsibilities. When women with high centrality shifted to holding back, after negative experiences with injury, child care, or physical fitness, they reconstructed their previous activities as unable meet their needs in their current contexts. Physical activity participation has been reported to be consistently lower for women with young children than women without children (e.g., Rhodes et al., 2014). It is possible that how women
reconcile resistance and justify choices in the postpartum period persists over time and reduces their desires to pursue more physical activity.

For the current study participants, the influence of the women’s experiences in the adjusting phase raises questions about the importance of women’s emotional interpretations while reconciling resistance. The women described their experiences in terms of how they made them feel about themselves and others, with the negative and positive aspects of experiences necessitating their adjustments. Paulus and Yu (2012) reviewed the role of emotions in decision-making; they identified emotions as predominantly defined in relation to valence and arousal states. They suggested that the role of emotions in decision-making is to modulate the way that peoples’ beliefs get represented, such that different beliefs receive more weight and demand more attention during decision-making. Baumeister, Vohs, DeWall, and Zhang (2007) suggested that cognitive processing of peoples’ experiences creates emotional “residue” that can be re-activated to influence new decisions (p. 173).

These conjectures are relevant to the theory of reconciling resistance, particularly adjusting, because the women in this study processed and reacted to their experiences of engaging. The participants’ emotional interpretations of their recent experiences seemed to influence how they modified their engaging strategies. At a deeper level, the women’s emotional interpretations of different physical activity choices seemed to relate to their cumulative life experiences with physical activity, streamline the beliefs they attended to in their decision-making, and influence how they described reconciling resistance. Women indicating lower centrality seemed to focus more on the negative personal outcomes (embarrassment, emotional risk), moderate centrality women focused more on relational outcomes (effect on their babies and relationships), and high centrality women focused more on positive personal outcomes (benefits for personal health) as they explained their reasons for their physical activity choices. These differences suggest that the women might have had stronger emotional responses to those outcomes. The women with moderate centrality described the most complex reasons for their choices; it is possible that the importance of physical activity involved more conflict and ambivalence for them.
in the context of increased demands because their emotional interpretations of the importance of physical activity were neither overwhelmingly positive nor negative.

The current study suggests that, in absence of strong emotional postnatal physical activity experiences, women might retain their general engagement strategies because the process of shifting between strategies was generally insidious and relatively slow. The two women who shifted from pushing through to holding back described experiences of personal, relational, and environmental resistance that raised doubts over time. It was only in instances of overtly negative experiences with personal fitness, injury, and difficulty with leaving their children that women indicating high centrality abruptly shifted from holding back to holding still.

It is possible the participants’ complex reasoning discouraged them from fully shifting strategies. Buman et al. (2009) applied Meichenbaum and Fong’s (1993) constructive narrative framework to physical activity decision reasoning. They explored the reasoning schemas that sedentary older adults used to rationalize their physical inactivity and fit the different reasons participants gave for not participating into Meichenbaum and Fong’s (1993) framework; level one reasons (i.e., cognitions) were relatively superficial and relating to a lack of knowledge, level two cognitions were context specific self-relevant (e.g., lack of time), and level three cognitions were deeply held affective cognitions representing belief systems. Buman et al. found that their participants held complex reasoning across levels of cognitions and argued that previous negative experiences might embed cognitions at a deep level and affect rationalizations to avoid activity. Likewise, participants in current study expressed complex reasons for their strategies of engagement, suggesting that some beliefs supporting their choices were stronger and requiring more highly valences (positive or negative) for experiences to shift those beliefs.

Summary

I have explicated how the theory, reconciling resistance, and theoretical components, resistance, gauging, engaging, and adjusting, supports and extends the extant literature. In the final sections, I discuss the
study implications, limitations, and provide a conclusion.

**Study Implications**

The current study findings suggest a number of implications for health care practice, education, service delivery and research that I discuss in the following section.

*General postnatal physical activity provider support.*

Because the study findings demonstrated that some of the women who were motivated to engage in physical activity experienced pain, injuries, and extreme fatigue, providing new mothers with information about postpartum recovery times, when physical activities can be resumed, and which physical activities are least likely to result in injury seems important. The study findings suggest that more guidance from providers about returning to postnatal physical activity could reduce the likelihood that women who desire to return to the physical activities they engaged in pre-pregnancy will underestimate or overestimate their physical risk. Many participants’ uncertainty about returning to physical activity originated in their concerns about their abilities and effects of activity on healing (e.g., cesarean incision, perineal tear), fatigue, and functionality. Lack of guidance can result in some women unnecessarily deferring physical activity that could be beneficial or engaging in activities of too high intensity or duration for their bodies.

The findings further suggest the need for early postpartum assessment, information, and support for pain and injuries extending beyond common short-term perinatal causes (e.g., breastfeeding and perineal pain) to support physical activity for women who experience or might be at risk for pain and these types of injuries. Shoulder, back, and neck injuries, which many women attributed to carrying their babies, doing basic infant care, and moving their babies in and out of cribs, affected their gauges of physical risk and deterred them from engaging in physical activity.

Early support for physical activity could be integrated into existing postpartum health education sessions or public health well-baby lecture series and provided by nurses or physiotherapists. One of the participants
perceived benefits from attending a postpartum physiotherapy education session at the hospital about normal postpartum physiological changes, strengthening the pelvic floor, and using proper body mechanics for infant lifting and breastfeeding. Unique to this class was its flexible delivery; mothers were allowed to attend the class up to 3 months post-birth. This type of flexible delivery could be beneficial because mothers have reported an inability to take in the abundance of postpartum education provided during their immediate short hospital stays; later access to classes could allow for more consistent delivery of support for mothers inclined to engage in these education sessions (Forster et al., 2008; McCarter-Spaulding & Spence, 2016).

The study findings suggest that conversations about postnatal physical activity expectations could be beneficial prenatally. Participants’ negative experiences with physical activity could have significant effects on reconciling resistance and the strategies they choose. They experienced surprise about their fitness, the physicality of motherhood, and levels of fatigue; particularly some of the women with moderate-high centrality who indicated that they had expected their return to fitness to be easier. Introducing prenatal conversations about postnatal physical activity expectations and goals before women are managing infant care and experiencing increased fatigue could help support their development of realistic postpartum physical activity expectations, particularly for women indicating moderate to high centrality who express a desire to return to the physical activities they engaged in pre-pregnancy within the postpartum period.

The study findings suggest that health care providers can support physical activity by providing information about community-based physical activity options. Early experiences of informational resistance (i.e., experiencing difficulty learning about programs) limited participants’ perceptions of physical activity accessibility. Many women indicating low-moderate centrality expressed difficulty finding out about available postnatal physical activity options, which fits with Saligheh and colleague’s (2016) qualitative work where they also concluded that women experienced difficulty accessing program information. Resources for fitness programs or outdoor options in the community (e.g., program schedules, free classes) might be well received for
mothers between 3-4 months post birth when some may be more likely to be ready to engage in more emotionally and physically involved physical activity. Some women indicating high centrality could benefit from receiving the resources sooner since several of these women in the current study indicated engaging with program options before the 3-4 month mark.

One avenue to augment face-to-face resource delivery at public health or physicians’ offices could be through social media and online communities because many of the new mothers described being connected with other mothers through community Facebook® groups; participation in online groups has been linked with feelings of social connection and support (Parry, Glover, & Mulcahy, 2013). Public health nurses and physicians could distribute physical activity community resources (e.g., class schedules) via posts and links through these online sites. Offering public health well-baby series within community centres also has the potential to enhance the visibility of recreational centre programming and perceptions of physical activity accessibility for women who engage with public health programming, and to support the provision of positive messaging for using childcare at recreation facilities. One mother reported that the nursing public health well baby series (e.g., immunizations, breastfeeding support) was offered at her local recreational centre. The nurses encouraged the mothers to use the childminding at the recreation centre to support emotional well-being.

The study findings emphasize some women’s needs for physical activity support later in the postnatal year. Somewhere between 6-9 months, as their infants became heavier, more mobile, and able to go in jogging strollers some of the women’s gauges of appropriate activities tended to shift. The women indicated that the well-baby lecture series offered at public health offices by nurses extended to the 6-month mark; therefore, a physical activity lecture at 6 months could be an appropriate way to support postnatal physical activity for mothers who attend the well-baby series and desire to engage in outdoor activities when activity accessibility might start to shift. Alternative delivery formats, such as webinar or video format could enhance the accessibility of the lectures
for mothers disinclined to be in mother-infant environments or who perceive them as difficult to access given their scheduling and resources. Several of the women in the current study expressed desires for centralized online information about postpartum physical activity and local options. Currently, the Healthy Families BC (2017) website offers extensive information about pregnancy, birth, and breastfeeding, including a breastfeeding app that links new mothers to local care providers and breastfeeding support, but it does not offer the same level of information about physical activity. Enhancements to existing centralized online information sources for new mothers, such as a postpartum physical activity guide, could also increase the accessibility of information to support postpartum physical activity across the postnatal year for mothers who prefer or find online resources as more feasible in the postnatal context.

One promising strategy to support postnatal physical activity recreational and outdoor community information dissemination for some women could be through a tailored short messaging service. Fjeldsoe, Miller, O’Brien and Marshall (2012) have extensively developed and refined their MobileMums intervention to increase physical activity in women with young children. In their intervention women meet with a behavioural counsellor to set goals and then receive automated short text messages reminding the women of local activities (e.g. free swimming drop-in at the recreation centre), planning prompts based on their goals (e.g., call your friend so you can arrange a walk), goal check-ins (e.g., did you meet your goal this week?), and support based on women’s responses. The intervention may be too resource intensive to apply on a large scale (i.e., it also involved a social support person and phone call follow-up), but the software they developed to provide automated prompts could be a useful means of disseminating tailored physical activity recreation centre and outdoor community (e.g. hikes) programming information. Health care providers could screen new mothers who might be interested in receiving this support. The authors reported training professionals to perform the behavioural counselling session; a behavioural counselling session could be provided by trained fitness professionals who work in the facilities where programs are offered.
Centrality-specific postnatal physical activity considerations.

The variation in participants’ beliefs about the centrality of physical activity in their lives suggests that tailoring postnatal physical activity support and counseling could be an important strategy for care providers. Engagement in conversations with women during the postpartum period about physical activity perceptions could provide indications about the centrality of physical activity for them. Asking women to discuss how or whether they are trying to fit activity into their lives postnatally would provide indications about whether they are using the strategies of holding still, holding back, or pushing through. Moreover, women’s history of physical activity engagement throughout the perinatal period would be important to assess.

Women who indicated high physical activity centrality and demonstrated autonomy and considerable knowledge about their bodies did not get injured easily because they adjusted their activity intensity and duration. They engaged in a level of activity beyond the Canadian Fitness Professional’s (2007) and Mottola’s postpartum physical activity (2002) recommendations of a slow return to activity, beginning with walking in low risk births from 2-4 weeks post birth at 5-10 minutes duration. Because standard recommendations might not fit for some women who are similar to the study participants indicating high centrality, providers may need to collaborate with women who desire an early return to activities of higher intensity and longer duration in developing acceptable strategies for returning to physical activity.

Although study participants could benefit from increased information about postnatal physical activity community programming, specific program and community elements (e.g., childcare, postpartum physical activity groups) might be more important for the women who had similar characteristics to study participants who pushed through. The women who pushed through were continuously navigating schedules and negotiating with others for childcare requiring information about recreation centre programming and fitness centre childcare options. Healthcare providers, recreational programmers, and librarians can be knowledgeable about
local active moms’ meet-up groups and supportive online communities that could provide a forum for women who desire group-based physical activity and the opportunity to network with other women about physical activity in the postpartum period. Free or low-cost childcare options at recreation centres would be especially helpful for women who indicate they are comfortable using childcare while they are exercising.

Women who are similar to the study participants who held back could benefit from discussions about a mix of program information, focused on their overall physical activity preferences. Connecting them with mother-baby group-based physical activity options, as well as daytime, and low-cost options could be particularly important for them. Women holding back on engaging in physical activity might be receptive to information about accessible trails and conversations about safe outdoors activity considerations (e.g., sun exposure, baby-wearing).

A major thrust of all postnatal physical activity research is how to increase or improve rates of postnatal physical activity (e.g., Fahrenwald et al., 2004) but the study findings raise questions about whether promoting increased postnatal physical activity is beneficial for all women. Women indicating low centrality appear to regard their desired physical activities as less achievable and essential in the short term. The postnatal context might not be the most optimal time for them to increase physical activity. Because the study participants were able to identify the benefits of increasing their physical activity it is unlikely that increased education about activity benefits would be useful for all women during the postpartum period. The study participants indicating low centrality were reliant on other activities for their need satisfaction, such as socializing or hobbies. Counseling women with similar profiles to increase physical activity postnatally could lead to decreased need satisfaction and lower levels of well-being because pushing them to replace the activities that met their needs with physical activity might undermine their well-being. On the other hand, many women, including some indicating low centrality, described accessing library mother-infant read and learn sessions. It is possible linking new mother walking programs with community facilities (i.e., new mothers’ walking programs meet at the
library) could ease perceptions of access by increasing the visibility of these programs.

For some women similar to the study participants indicating low centrality, the postnatal period could be opportune for providers to engage in conversations about motherhood and physical activity as compatible in the longer term. When women return to work and are not walking as frequently to support infant care, it is possible they might naturally reduce their activity. Care providers could facilitate conversations with mothers about how to engage in their favourite physical activities in the longer term when resistance shifted.

*Education and health service implications.*

The study findings suggest that health providers should be educated and knowledgeable enough to counsel women within a year of childbirth about returning to physical activity, and increasing activity intensity and duration. The intimate relationship between physical activity and need satisfaction in this study suggests that providers should be aware that new mothers vary in their beliefs that physical activity enables them to be functional, support healthy relationships, and support infant growth and development in the transition to motherhood and may experience challenges with their transitions without physical activity.

The study findings suggest that it is important for providers to be aware that some women may not have strong desires to increase their physical activity beyond the provision of infant care or their current activity levels regardless of whether their level of activity meets activity recommendations. Although physical activity was important for all of the study participants many women believed their general physical activity levels required to provide care for their children were sufficient. That finding suggests that it is important for providers to have discussions with women about what current postpartum physical activity recommendations (30 minutes/day moderate physical activity) mean for them in the context of their existing mothering physical activities.

Education about women’s processes of reconciling resistance could also be beneficial to fitness professionals, such as fitness instructors and personal trainers, who provide postpartum physical activity
instruction, education, and support. Their education about postpartum physical activity focuses on the physiological changes of the postpartum transition in relation to physical activity (Canadian Fitness Professional, 2007) rather than the decisional processes that affect participant attendance and commitment to programming.

The study findings support the growing attention in the literature linking early experiences with physical activity and long-term physical activity choices (Ball, Salmon, Giles-Corti, & Crawford, 2006). The women often described the nature of their relationship with physical activity as stemming from their childhood and early adult experiences. These findings support the need for education of physical education teachers and coaches about how to create supportive physical activity environments that promote positive physical activity experiences throughout adolescence and early adulthood (Cote & Fraser-Thomas, 2011).

The study highlights the importance of directing healthcare resources towards postnatal physical activity support. There is a growing attention in the postnatal literature about the critical need for increased healthcare services for new mothers across the postnatal year to promote maternal function and well-being, quality of life, infant health and development, and reduce chronic disease risk (Benoit, Stengel, Phillips, Zadoroznyj, & Berry, 2012; Suplee et al., 2014; Walker, Murphy & Nichols, 2015). In British Columbia, women receive one postnatal visit from public health nurses and sometimes only a phone call depending on region (BC Women’s Hospital and Health Centre, 2017; Fraser Health, 2014). Approximately 25% of women reported being asked about health promotion behaviours, including physical activity (and smoking and nutrition), during any of their post-birth healthcare visits in a Canadian study conducted on Vancouver Island, British Columbia (Benoit et al., 2012).

The study suggests the lack of attention and healthcare resources directed at supporting postnatal physical activity could be detrimental to maternal well-being, and concomitantly, infant health, since the two are so strongly linked (Canadian Pediatric Society, 2004). Often the argument to sustain or raise rates of
women’s postnatal physical activity is to ward off long-term negative health effects (e.g., Davenport, Giroux, Sopper, & Mottola, 2011); however, the study findings suggest that mothers with unreconciled resistance become frustrated and experience reduced well-being within the postnatal period if they are unable to achieve enough activity to support their needs.

The study findings indicate that, although healthcare providers are in a position to potentially affect women’s gauges of risk, essentiality, and accessibility by offering information about community programming, physiological recovery, and anticipatory guidance, some women within the postnatal period may be unlikely to seek out health care provider support in reconciling resistance about physical activity. The study participants viewed health care providers as experts on breastfeeding, infant health, and maternal recovery but not on physical activity. Most of the participants sought support for physical activity from family, friends, new mothers’ groups, physiotherapists, and fitness instructors. Although I could not locate research about postnatal advice, these findings fit with research about women’s and providers’ perceptions of physical activity advice in pregnancy. Women have described physical activity advice from providers during pregnancy as vague, overly conservative, and difficult to follow (Ferrari, Siega-Riz, Evenson, Moos, & Carrier, 2013) and providers have described feeling undereducated and unsure about their counseling efforts (Stotland, Gilbert, Bogetz, Harper, Abrams, Gerbert, 2010).

The study findings underscore the importance of increasing education about physical activity for primary care providers but also raise questions about whether providers could partner and collaborate with other health and service providers to provide physical activity education and support to new mothers. For example, the Vancouver South Community Birthing Program offers ongoing new mothers’ drop-in sessions with invited experts on an array of topics (e.g., sleep, nutrition, CPR, infant massage) (South Community Birthing Program, 2017). Recreation, fitness, kinesiology, physiotherapy centres and postpartum fitness groups can augment the information and support given by primary care providers by providing expert advice and support at these types
of drop-in health promotion clinics.

Women’s reliance on their partners’ and friends’ support to access physical activity also raises questions about whether providers could more effectively integrate support people into health care discussions. Since reconciling resistance was continual, it is possible that the participants naturally relied more on family and friends because they could provide ongoing regular support. Miller, Trost, and Brown (2002), found, in their randomized trial testing interventions to increase physical activity in mothers with young children, that levels of partner support mediated women’s physical activity behaviour change; increases in partner support predicted the likelihood of women meeting physical activity recommendations. Initiating health promotion conversations with new mothers and partners or family at health care visits or health promotion clinics could further build some women’s networks of support for health promotion activities, such as physical activity.

**Research implications**

There are a number of research implications arising from the study findings. Because physical activity centrality was significant in reconciling resistance, exploring and refining the concept to develop a centrality measure would be important. A centrality measure could be used in physical activity interventions designed to improve women’s perceptions about relationships between physical activity and need satisfaction.

Research about psychological need satisfaction in exercise could support the development of such a measure. Wilson, Rodgers, Rodgers, and Wild (2006) developed and refined a psychological need satisfaction in exercise scale that measured how well exercise environments support feelings about competency, autonomy, and relatedness. Some of the competence and relatedness beliefs questions seem useful to capture women’s beliefs about physical activity in relation to meeting eudaemonia and social needs. However, this scale does not fully fit for the women in the current study who described more complex eudaemonic, physical/emotional, and sense of self needs during the postnatal period. Developing a measure to account for such elements could support a fuller understanding of physical activity in relation to need satisfaction during the postpartum period.
The findings also indicate the importance of understanding the degree to which physical activity supports women’s needs compared to non-physical activities during the postpartum period. The psychological need satisfaction in exercise scale is designed to measure how exercise environments or certain exercise experiences support need satisfaction (Wilson et al., 2006). Rather than examining only need satisfaction questions on a centrality measure assessing the importance of physical activity for need satisfaction, compared to other activities, could be important for developing further understanding about how central women need to believe physical activity is for it to take preference over other activities.

The study findings also point to the importance of developing a questionnaire to measure women’s gauges of risk, accessibility and essentiality in relation to their beliefs about physical activity, relationships, themselves, and their environments. Research focusing on sources of resistance in relation to gauges could increase understanding about the relationships between sets of physical activity beliefs and physical activity choices and support the development of interventions undermining cognitions that support women’s rationalizations about lack of engagement in physical activity.

The eudaemonic needs my participants expressed achieving from physical activity seem to be underappreciated postnatal physical activity benefits. In particular, postnatal walking has usually been promoted to mothers because it can support short-term hedonic emotional effects (i.e., feeling good) and reduce depressive symptomology (Armstrong & Edwards, 2004; Watson et al., 2005). When the current study participants met their eudaemonic needs through activity the outcome was successfully managing life with an infant, suggesting further exploration about how physical activity could be a route to supporting capacity for confidence and competence in new mothers.

Reconciling resistance provokes reflection about the ability of common postnatal physical activity intervention strategies to increase physical activity. Although mother-infant programming is a commonly suggested strategy to enhance new mothers’ physical activity (e.g., Saligheh et al., 2016), the current study
suggests this type of programming might not appeal to or be beneficial to all women. Similarly, the study results suggest that improvements intended to increase environmental access to physical activity, such as improved walkability, low cost recreation program offerings, and child minding services might not improve women’s access to these services. Women avoiding physical activity due to concerns about infant separation or about the effects on their relationships might be equally unlikely to access physical activity at a recreational centre even if childcare hours are flexible and low-cost. Women who gauged a low likelihood of benefit, such as the women indicating low centrality, did not gauge community programming and outdoors activities as accessible to them because they believed that accessing physical activity programs and outdoor activity, in general, involved significant planning, organization, and work. Women indicating low centrality gauged more personal risk (e.g. embarrassment) in these situations and did not want to expend the emotional and physical energy, and navigate schedules, and relationships for activities they were not certain would benefit them.

Postnatal physical activity interventions have also placed strong emphasis on increasing women’s levels of physical activity by improving their barrier self-efficacy through goal setting, strategizing, and developing implementation intentions (e.g., Lewis, Martinson, Sherwood, & Avery, 2011; Albright et al., 2014). In contrast, the current study findings suggest that interventions targeting levels of activity motivation could be most efficacious at increasing postnatal activity levels because women with high centrality were the most intentional and persistent in their efforts to achieve physical activity. The women who pushed through engaged the most overtly and extensively in negotiating their environments and with others and were the most successful achieving their desired activities because they indicated that they believed in the benefits of their desired activities for themselves and others; they had a high level of motivation to achieve activity. Likewise, leisure constraints negotiation research suggests that the base level of activity motivation relates to the degree of constraint negotiation; the higher the motivation, the more an individual involves themselves in constraint negotiations (regardless of the number of constraints), and the more successful they are at achieving their
desired activity (Hubbard & Mannell, 2001). While postpartum interventions could have the benefits of increasing motivation they have not directly targeted motivation itself.

Addressing levels of postnatal physical activity motivation through research interventions would be complex because the study findings suggested that the reasons for motivation varied and related to resistance across the personal, relational, and environmental spectra. Interventions could be tailored so that women indicating low centrality are supplied with positive postnatal physical activity experiences, e.g., easy access to introduction of low-intensity activity in non-judgmental environments. For women indicating moderate centrality interventions could involve more family-based (linked to libraries or playgrounds) or outdoor physical activity options that mix in socializing with daytime childcare options that are of low cost and high quality. Study participants with high centrality were highly motivated but injury from returning to high intensity activities early and embarrassment about reduced level of physical fitness demotivated them, suggesting interventions involving education about progressive return to physical activity and normative physiological recovery could help prevent negative experiences and support increasing physical activity intensity for women who regard physical activity as central to their need satisfaction.

Since participants’ adjustments were generally incremental, the findings suggest that intervening to support an increase in physical activity and to support physical activity maintenance needs to occur over the longer term. Because studies have reported that rates of physical activity continue to be low in women with young children (Larson-Meyer, 2002; Rhodes et al., 2014) it is possible that women continue to reconcile resistance and use the same strategy of engagement over time. The intensity of infants’ childcare needs might be replaced by increased scheduling demands of work, children’s extracurricular activities, and family activities (Tavares & Plotkinoff, 2008), with outcomes of women continuing to choose holding back or holding still on pursuing their desired activities even as their children get older.

Additional research about whether different engagement strategies were associated with different levels
of well-being is warranted. The current study participants mostly reported feeling reasonably satisfied with their physical activity choices but the women expressed varying degrees of resignation and mixed feelings about their engagement strategies. It seems important to understand whether continuing to hold back or hold still on pursuing physical activity or the extensive negotiation and effort required to push through has negative implications for women’s mental health and engagement with parenting during the postnatal period. It seems possible that engaging in compromised physical activity experiences (e.g., synchronized physical activity) result in negative effects for wellbeing. A longitudinal mixed methods study following women from the prenatal period until several years post birth could develop understanding about reconciling resistance over time, mental health, and physical activity patterns.

The study participants’ descriptions of their physical activity also raise questions about the need for further research exploring the validity of postnatal physical activity measures that may be under-estimating postnatal physical activity. Many women reconciled to reducing their physical activity intensity and frequency because they felt childcare responsibilities, such as holding and walking their children and moving infant equipment (e.g., strollers, car seats), constituted significant physical activity. Likewise, the mothers in Collins et al.’s (2007) qualitative study felt like they were being physically active almost constantly and Rhodes and colleagues (2014) found that first and second time mother’s light intensity physical activity increased across the postpartum transition. Metabolic equivalent values that are used to standardize and measure energy expenditure on physical activity questionnaires have not been validated for women’s physical activity in the postpartum period (Brown, Ringuet, Trost, & Jenkins, 2001; Mackay Schofield, & Oliver, 2011). Accelerometers (e.g., ‘fitbit’ type device technology) are unable to fully measure upper body energy expenditure and could miss significant amounts of physical activity energy expenditure for mothers who carry/hold their infants for sustained periods (Mackay et al., 2011). It may be as important to improve postnatal physical activity measurement as it is to develop interventions that support postnatal physical activity because accurate
measurement of physical activity is essential to assess the effectiveness of interventions and determine actual rates of postnatal physical inactivity.

Limitations.

The study has a number of limitations. Due to prohibitive cost associated with hiring people to do interviews in other languages, my sample included only women who speak English. Also, it is difficult to determine the effect of being a novice grounded theorist researcher on the findings. I reflected on how my interviewing style might have affected or limited what the participants shared, which may have limited what I was able to learn during this study.

Glaser (1978) would not suggest that a grounded theory is judged by the representativeness of the sample, but by how well participants’ experiences represent the theoretical concepts. In the current study, the women varied in their levels of centrality and used different strategies. I did not have women that shifted from holding still to holding back or from holding back to pushing through so elements of my theory may be underdeveloped from the perspective of how women transition towards increasing their postnatal physical activity. I only had one woman who disengaged from activity. The concept of disengaging would have benefitted from accessing more participants to provide incidents to support those processes. Many of the women were recruited from urban areas; only a few women came from suburban areas. Because study participants gauged access resistance and activity differently depending on location it is possible that my categories on environmental resistance could have been more fully developed with the addition of participants from suburban areas.

Regardless of Glaser’s perspectives about theoretical representativeness, the sample included mostly high income and well-educated women; it is possible women with different incomes and educational backgrounds would have described different postnatal experiences of reconciling resistance or different decisional processes around postnatal physical activity. It is important to recognize that several participant with family incomes of >$80,000 commented that, while their incomes seemed high, they were not high
given the costs of living in the Vancouver and Lower Mainland areas. The median family income of the tri-cities from which I predominantly recruited ranges from $82,000-$93,000 (Tri-Cities Early Development Committee, 2014), while in Vancouver the median family income is $76,000 (Statistics Canada, 2014), suggesting the sample represents women with average incomes. Although research has suggested safety is a concern for women in relation to physical activity decision-making (Sallis et al., 2006), none of the women experienced resistance about the safety of engaging in physical activity outdoors or in their communities, suggesting safety was not a problem for the women in the current study sample.

I received feedback from a participant partway through recruitment that my flyer gave the impression of more time commitment for the study than was actually required. Although I changed the flyer, I might have initially attracted women with fewer sources of resistance. It was only after the flyer was changed that I interviewed women with unreconciled resistance, suggesting the possibility that women with stronger sources of resistance were not adequately represented in the study, and the possibility that unreconciled resistance is a more common experience.

Conclusion

In this chapter I have compared my theory and its concepts with the literature and discussed implications for research, practice, education, health service delivery, and study limitations. The purpose of this study was to explain women’s decision-making processes about physical activity during the postnatal period. I developed a grounded theory, entitled reconciling resistance that adds to the literature by beginning to account for reported rates of postnatal physical activity and explaining new mother’s activity choices. I have argued that resistance is a new concept differentiated from barriers, constraints, and facilitators because it is dynamic and linked with need satisfaction.

The theory extends postnatal physical activity research by orientating women’s intention to pursue physical activity around need satisfaction and linking women’s physical activity decisions to their multiple
overarching goals pursuit. Reconciling resistance suggests that women pursued and engaged in different forms of physical activity, conditionally, only when they believed the forms of activity could support their own and others’ needs within acceptable levels of risk and accessibility. The participants made their decisions and adjusted in relation to how well they believed pursuing different forms of physical activity could contribute to their achievement of higher order goals (to remain functional, promote family harmony, and support healthy infant development).

The theory emphasizes women’s physical activity decisions during the postpartum period as being determined by complex intersecting considerations (i.e., resistance), rather than particular barriers and sources of resistance (e.g., relational resistance). For the participants, relational resistance was an important influence in pursuing independent activity but less influential in whether women pursued physical activity generally. Physical activity centrality, the degree to which physical activity could support need satisfaction, is a new concept that was particularly important in how women gauged the risk and accessibility associated with their desired activities and reconciled resistance. Reconciling resistance suggests that women’s experiences of personal embodiment (emotional and physical) and environmental resistance were highly salient in whether women pursued organized activities at different intensities and where they were active.

The diversity of women’s physical activity preferences and gauges of levels of risk and accessibility raise questions about the universal applicability of commonly suggested postnatal physical activity recommendations (e.g., mother-infant programming, walking). The findings suggest walking and mother-infant programming only appeal to some women during the postpartum period, pointing to the importance of tailored recommendations that might include options for independent activity and that are not mother-infant based.

The findings suggest a number of research, practice, education, and health service delivery implications. Since centrality was so important in physical activity decision-making, it seems important to further understand and develop a centrality measure, as well as a way to understand relationships between gauges of risk,
accessibility, and essentiality and new mother’s beliefs. Unpacking these relationships could develop understanding about relationships between need satisfaction and physical activity choices and the development of interventions that support new mother’s activity based on their centrality. Longitudinal work exploring the effects of engagement strategies could enhance understanding about whether postpartum beliefs that support women’s physical activity choices negatively relate to wellbeing and health over the longer term.

The findings are applicable for a diverse range of care providers and professionals who are in positions to support postpartum physical activity, such as fitness professionals, physiotherapists, kinesiologists, public health nurses, and primary care providers. The findings point to the importance of ongoing postnatal physical activity support beyond the immediate postpartum period and particularly around personal embodiment resistance, since injury, physical fitness, pain, and fatigue were important in women’s decision-making. The differences in participants’ physical activity interests via centrality suggest that care provider attention to mother’s varied physical activity interests and concerns could more effectively support postpartum physical activity. Providers may need further education about progressive postpartum physical activity return and relationships between physical activity and postnatal need satisfaction to provide these types of support.

The findings support the growing literature emphasizing relationships between postnatal physical activity and maternal health and the importance of directing more healthcare resources towards supporting new mothers (Gruber & Halderman, 2009; Rooney, Shauberger, & Mathiason, 2005; Walker et al., 2015). In this study, physical activity was related to the participant’s abilities to remain psychologically and physically healthy, and women who were unable to meet their needs through activity expressed lower levels of well-being within the postnatal period. Women had to invest significant energy and planning to achieve physical activity, making decisions in the context of changing relationships and often, uncertainty about their body’s abilities to engage in physical activity as they recovered from birth. It is possible that early shifts in postnatal thinking and physical activity engagement persist over the longer term, pointing to the importance of addressing and
supporting physical activity engagement during this transitional time.
References


Shen, J., Barbera, J., & Shapiro, C. M. (2006). Distinguishing sleepiness and fatigue: focus on definition and measurement. Sleep Medicine Reviews, 10(1), 63-76. doi: 10.1016/j.smrv.2005.05.004


Volunteers needed: Seeking new mothers for physical activity decision-making study

Are you looking for an opportunity to discuss your perceptions around motherhood and physical activity? We are looking for mothers with infants between 2.5 months and 1 year of age to participate in a physical activity decision-making study. You do not have to be physically active to participate.

As a participant, you would be asked to participate in an interview (1-1.5 hours in length) discussing your decision-making about postnatal physical activity and complete a 3-day written diary. In appreciation for your time, you will receive a $10.00 coffee shop gift card.

For more information, or to volunteer, please contact: Sarah Liva at [redacted] or Email: [redacted]
Appendix B: Edited Recruitment Flyer

Volunteers needed: Seeking new mothers for physical activity decision-making study

Are you looking for an opportunity to discuss your experiences with motherhood and physical activity? We are looking for mothers with babies less than 1 year of age to participate in a physical activity decision-making study. You do not need to be physically active to participate.

You would not need to travel to participate. As a participant, you would be asked to participate in an interview (1-1.5 hours in length) at a place of your convenience (with or without your baby, whichever works for you) discussing your decision-making about postnatal physical activity and complete a 3-day written diary, which you can fill in as little or as much as you want/are able. In appreciation for your time, you will receive a $10.00 coffee shop gift card.

For more information, or to volunteer, please contact: Sarah Liva at [redacted] or Email: [redacted]
Appendix C: Consent

The University of British Columbia
School of Nursing
T201 2211 Wesbrook Mall
Vancouver BC Canada V6T 2B5

Consent Form
Women’s Postnatal Physical Activity Decision-Making
Graduate student: Sarah Liva, Doctoral student, UBC School of Nursing
Dissertation Committee: Dr. Wendy Hall (supervisor), Dr. Tanya Berry, Dr. John Oliffe
Dr. Hall phone: [redacted]

Sarah Liva is conducting this research study entitled: Women’s Postnatal Physical Activity Decision-Making as part of the requirements to receive her doctoral degree.

**Purpose:** The purpose of this study is to explore how postnatal women make decisions around physical activity. By talking to new mothers about how they make decisions about physical activity, the findings from this study will help develop understanding about how health care providers and the health care system can support women’s physical activity.

**Procedures:** Participation in this study would include an interview, at your home or a place of your choosing, to discuss your experiences with physical activity, and completion of a 3-day diary and demographic questionnaire. The interview will take approximately 1-2 hours. It is possible, although unlikely that you may be contacted by telephone following the interview, in order to clarify what you discussed, although you are under no obligation and may decline to comment. If you agree to further discussion, I will meet with you once after all the interviews are completed to provide a summary about women’s decision-making and ask you to comment on my findings.

Participation in this study is completely voluntary. If you agree to participate and later decide you do not wish to, you may drop out of the study at any time without a reason and without detriment to yourself. It is possible that by discussing your experiences with physical activity you may become uncomfortable during the interview. You are free to decline any questions, change the topic, or stop the interview at any time. If following the interview, you feel you have experienced stress due to discussing your experiences; you may contact the BC NurseLine (Phone Number: 811) or your health care provider for assistance. It is not expected that there will be any other risks involved in your participation.

**Confidentiality:** Your interview will be recorded and transcribed onto a password protected computer, and information from the diary entered into a computer program. Study data will only be kept on a UBC School of Nursing Research computer in a locked research room, while the digitally recorded interviews will be locked in a filing cabinet unless in use. The only people who will be able to access study data will be the researcher and her supervisor. Your personal information, such as your phone, email, and address will also be kept confidential. No identifying information will appear on the tapes or transcripts; only a code number will identify these. You may receive a copy of the transcript and the final results if you request them. Your name will not appear in any research reports. Information from this study may be used for research that involves a secondary...
analysis for up to 5 years, with the understanding that the appropriate committees will approve any additional research projects that use the information collected.

**Renumeration:** You will receive a $10.00 coffee shop gift card for your participation.

**Who can I contact if I have any further questions about the study?**
You may contact the researcher’s supervisor, Wendy Hall at [email]

**Who can I contact if I have any questions about my rights as a research participant?**
You may contact the Research Subject Information Line in the UBC office of Research Services at UBC, at [email]

I agree to be contacted once the interviews are completed to comment on the research findings.

**Yes** **No**

I have read the above and understand the risks and benefits. By signing this consent, I agree to participate in this study and agree that I have received a copy of the consent.

Participant’s name________________________
Participant’s signature_____________________
Date__________________
Appendix D: Information letter

Understanding postnatal women’s physical activity decision-making

Dear Parent:

My name is Sarah Liva, I am a nursing PhD student in the School of Nursing at the University of British Columbia. I am conducting a study to learn about how new mothers make decisions around physical activity, and am looking for mothers to participate. I am a nurse, mother, and fitness instructor with a background in maternity nursing care. I want to talk with new mothers about their decisions to be active and factors they perceive as helping or hindering activity participation. The findings from this study will help develop understanding about how health care providers can support women’s physical activity.

This study is not limited to first-time mothers; all mothers who have had a baby within the last 12 months may be eligible to participate. You are eligible regardless of your current exercise patterns (i.e. you exercise never, sometimes, every day). Participation in this study would include an interview, at your home or a place of your choosing. The interview will take approximately 1-2 hours and if you agree, I will meet with you once all the interviews are completed to provide a summary about women’s decision-making and ask you to comment on my findings. You will receive a coffee shop gift card of $10.00 for participating.

Your interview will be recorded and transcribed onto a computer. Your transcribed interview will remain confidential on one computer in a locked research office at the School of Nursing. The study data will be kept for 5 years after the study on the School of Nursing computer, unless you would like it erased following the study completion. The recordings will remain in a locked room at the School of Nursing and only my supervisor and me will have access to them and the computer that contains the interviews. Identifying information will not be on your interview; I will change your name to a number. Your name would not be on any research reports.

There is no obligation to participate; if you agree to participate and later decide you do not want to, you can drop out of the study at any time, without consequence or reason. You can refuse to answer any interview questions and request that any part of your interview information be deleted. If you have any questions about yourself as a research participant, please contact the UBC Office of Research Services. If you have any questions about the study please contact either me, Sarah Liva, or my supervisor, Wendy Hall.

Thank you for your consideration to participate in this research.

Sincerely, Sarah Liva RN MSN
Appendix E: Diary Template

Below is a diary example organized on a ½ hourly schedule, with the exception of between 10 PM-6AM that is organized on an hourly schedule. Please use the activity or activities column to generally list your activity for that ½ hour. Because people often multi-task and have several things happening at once, a column for any other thoughts, additional activities, interpersonal/environmental considerations, and feelings you would like to add has been provided for you to explain other activities you might have done briefly within the half hour, emotions, or interpersonal considerations. Because it can be difficult to track all of these elements on an ongoing basis, you may provide as much or little information as you can (e.g. you might only jot down feelings or what else was happening).

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity or activities</th>
<th>General thoughts or comments about additional activities, interpersonal/environmental considerations (e.g. arguing, laughing), or feelings</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 AM</td>
<td>Feeding baby</td>
<td>Middle child woke up while feeding, had to help use the toilet, baby crying while helping her with the toilet</td>
</tr>
<tr>
<td>6:30 AM</td>
<td>Making breakfast/ate breakfast</td>
<td>Oldest 2 children fighting over toy when eating breakfast, one child put in time-out for 5 minutes for swearing, stressful, lots of yelling</td>
</tr>
<tr>
<td>7:00 AM</td>
<td>Preparing school and daycare lunches</td>
<td>Phone call for 5 minutes, let the dog out, had to help child find socks for school – socks in dryer still wet, put on laundry</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Etc. every ½ hour.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>From 10 PM-6AM every hour.</td>
</tr>
</tbody>
</table>
Appendix F: Demographic Questionnaire

Age:

If married/cohabiting, number of months/years married/cohabiting:

Number of children:

Age(s) of children:

Ethnicity:

Education: (please circle or highlight)

- Some high school
- Completed high school
- Some college/post-secondary education
- Completed College Diploma/Certificate
- Some University
- Completed University degree/post-graduate program

Household Income: (please circle or highlight approximate range)

- < 20,000
- 20,000-40,000
- 40,000-60,000
- 60,000-80,000
- 80,000-100,000
- >100,000

Occupation (please list below) (if on maternity leave, please list your occupation prior to maternity leave)
Appendix G: Women’s Summary

Postnatal Women’s Physical Activity Decision-Making: Summary Findings

Introduction: This report presents a summary of the Postnatal Women’s Physical activity decision-making study conducted between September 2014-December 2015. The purpose of the study was to develop a theory about how postnatal women (women with an infant aged <1 year) make physical activity decisions. Thirty postnatal women from the Greater Vancouver Regional District completed a 3-day activity diary and then were interviewed about their experiences with postnatal physical activity. Online and text media sources were explored to enhance understanding about the environment in which postnatal women made physical activity decisions.

Findings: The women participated in a range of sports, outdoor, and indoor activities. Walking was the most common form of activity. The definition of physical activity varied across women; some considered all activity as physical activity (such as infant care), while others had narrower and more defined perceptions.
Postnatal Women’s Needs

Postnatally, women needed to preserve relationships, feel competent, have purpose and autonomy, maintain a sense of self, and experience emotional and physical wellbeing. Their needs could be met in a variety of ways (e.g. through socializing, having time alone, and finding ways to get their babies to sleep consistently). Women’s needs could also be met through physical activity. A few examples:

• **Eudemonic needs** (collective sense of purpose, competence, autonomy). Women could feel autonomous when they made physical activity decisions reflecting their preferences, and purposeful, when physical activity (such as a walk, going to the store) was associated with accomplishment and getting out of the house. Women could feel competent as a mother when they were active with their baby and expressing their values to engage in family activity, and be physically competent when they engaged in activities they felt skilled at.

• **Health (Physical and emotional needs)** Women experienced physical and emotional wellbeing from engaging in physical activity, and increased strength and energy to care for their baby.

• **Social and relational preservation** Women felt increased connection with others when engaging in team sports, group activities, or physical activity with family and friends.

• **Sense of self** Women felt they were maintaining a sense of self when continuing to do activities they affiliated and experienced wellbeing from (such as outdoor activities, intense activities, social physical activity).
Comfort zones and physical activity centrality

• Coming into the postnatal period women had comfort zones for physical activity decision-making that led them to generally gravitate towards particular types and amounts of physical activity.

• There were a range of comfort zones (see fig. 1 (page 7), #1 comfort zone of decision-making). Some women were comfortable being physically active as it was integrated with motherhood (e.g. through infant care, going for walk for errands) because that allowed them to meet their needs, while others felt particular forms and types of physical activity were also important for meeting their needs (such as going on a mom-baby hikes, or to gym) (see fig 1, #1, comfort zone of decision-making).

• The degree to which physical activity was attributed with meeting needs was physical activity centrality (see fig. 1, #2, physical activity centrality).

• For women, centrality could range from low to high; the higher the centrality, the more motivated women were to engage in physical activity because it was linked with meeting needs (see fig. 1, #2, centrality arrow).

• Comfort zones reflected the strength of physical activity centrality, with higher centrality associated with more intentional physical activities (see fig. 1, #2 centrality arrow and #1).
Reconciling resistance

Physical activity centrality, or the importance of activity, often shifted postnataally due to restructuring of women’s daily activities and priorities. Women wanted some control in meeting their needs through physical activity but if the importance of physical activity had shifted or was shifting, they wanted to feel it was justified, given their context. Women did not want to compromise meeting their infant’s and others’ needs in this process. To justify and have control in meeting their needs through activity without compromising others’ needs, women made physical activity decisions through a process of resistance reconciliation.

Women held personal and moral guidelines and perceptions about their environment that affected their ability to carry out their preferred physical activities in order to meet their needs through activity. These guidelines and perceptions were sources of resistance, in the form of personal/moral (e.g. feeling that I cannot ‘use’ others for childcare) or environmental considerations (e.g. lack of childcare, poor weather) that affected options and possibilities for physical activity experiences (e.g. type, where, how often, how long, with whom, at what cost) (see fig. 1, #2; environmental and personal and moral resistance). Women could also experience resistance from their postnatal physical activity choices. To reconcile means to make amends with or resolve. Women made postnatal physical activity decisions that reconciled their experiences of resistance so their physical activity patterns were justified and valid for them. For example, if a woman perceived a lack of accessible postnatal physical activity mom-baby classes, they had to reconcile the worth of negotiating to find other options, given their physical activity centrality, personal/moral guidelines, and environmental perceptions.
Strategies for reconciling resistance

Women used a variety of strategies (independently or together) when making physical activity choices (see fig. 1, #2). These strategies reconciled women’s experienced resistance about their postnatal physical activity decisions, which may or may not have fitted within their physical activity preferences.

- *Future framing* – positioning the experience of not engaging in preferred patterns as temporary

- *Changing perspectives* – positioning more activities as physical activity, thereby allowing more experiences to meet physical activity needs

- *Synchronizing activity* – doing activity with their children so they continued engaging in physical activity when childcare was not available or desired

- *Compromising* – doing activities in less than ideal forms (e.g. a lower intensity, for shorter duration) so women could continue to be able to be physically active in some ways

- *Finding workarounds* – adopting a stance of navigation and resilience to resistance in order to continue to meet needs through activity

- *Meeting needs through other activities* - strengthening the importance of other activities for meeting needs
Outcomes of reconciling resistance

Physical activity centrality influenced how women reconciled sources of resistance. If resistance was perceived to be high, women might shift the importance of physical activity towards being less central, while other aspects of their life, such as motherhood, sleep, and relationships, became more central (see fig 1., #3). Decentralizing physical activity allowed women to reconcile resistance because it became less important for women to engage in physical activity. If resistance was perceived to be lower or physical activity centrality strong, women could affirm or strengthen their physical activity centrality, leading to increased physical activity or maintaining patterns (see fig 1., #3). When women reconciled resistance with physical activity centrality, their ‘comfort zone of decision-making’ could change (see fig 1., #3 connecting to #1).

Most of the time, the above strategies were effective at reconciling resistance because they helped women feel their choices were the most feasible and realistic given their unique postnatal contexts. Sometimes women could not reconcile resistance (see fig 1., #4). In those circumstances they experienced an inability to meet their needs through physical activity and reconcile with their experiences of constrained choices around their physical activity. When women could not reconcile resistance, their needs were not being met; they could feel dissatisfied and frustrated leading to feelings of reduced overall wellbeing.
Figure 1: Reconciling resistance theory diagram
Study Implications: This study adds understanding to the decision-making processes about physical activity during the life transition in the postnatal period, as well as the complexity of the postnatal decisional environment.

- Postnatal physical activity has been linked with improved mental health and well-being; this study adds further understanding about how physical activity contributes to collective well-being through meeting eudemonic, affiliation, relational, and health needs.
- Women’s physical activity centrality varied, highlighting the importance of having an individualized approach to postnatal physical activity support.
- Postnatal physical activity decision-making was driven by women’s efforts to satisfy their needs rather than whether women had knowledge about physical activity benefits or the amount of physical activity recommended for health. The results raise questions about the utility of common clinical practices, such as providing patient education and prescribing recommended amounts of physical activity.
- Women typically were not offered health provider advice around physical activity; they made their choices based on personal preferences, availability of programs, and advice from friends, family and online environments. While health providers claim to support health-promoting practices as part of their roles, given the complexity of physical activity decision-making, the adoption of a multisectoral approach (e.g. integrating staff at rec centre facilities and postnatal fitness programs) could be an effective way to augment delivery of postnatal physical activity support.
Appendix H: Transcription Confidentiality Agreement

SCRIBES TRANSCRIPTION SERVICE, VANCOUVER BC
DATA PROTECTION AND CONFIDENTIALITY AGREEMENT

THIS CONFIDENTIALITY AGREEMENT (the “Agreement”) is made this day of November 18th, 2014 (the “Effective Date”).

BETWEEN

Sarah Liva
(Hereinafter referred to as “The Client”).

AND

Scribes Transcription Service a valid business and subsisting under the laws of British Columbia, Canada having its address at #307-1525 West 13th Ave., Vancouver, BC V6J 2G9

Scope of Work
Scribes Transcription Services provides confidential transcription services on an as needed basis to academic, corporate and private clientele.

Confidentiality
Scribes Transcription Services does not collect, retain or disseminate any private information that may arise in the conduct of the transcription project, other than that which is necessary to complete the transcription of audio files and subsequently prepare invoices/billings to the client. Scribes does not sell or share mailing lists under any circumstances.

Data Control and Storage
The content of all audio files and transcripts, participants names, personal or commercial information will be kept confidential at all times.

The nature of the content of all material will not be divulged in any way to any third party, with the exception of the transcriber actually processing the file. Transcribers entrusted with audio files or transcripts are bound by a confidentiality agreement with Scribes.

Data is stored on password protected computers operating with up-to-date virus protection and spyware. Computer access is limited to authorized users. Any data that is meant only for specific users is stored in files which those users have permission to view or modify. Transcribers are given access only to their project directories.

Data is destroyed immediately upon request from an authorized person, or after approximately thirty days after the completion of the transcript, whichever comes first.

Data is backed up daily on a password protected external disk drive located at Scribes offices. Data files may be exchanged with clients utilizing a secure FTP server located in Canada.
INTELLECTUAL PROPERTY AND PUBLICATION

The Client will own all rights, including any and all intellectual property rights in the deliverables and any other materials produced by Scribes in the performance of the Services.

Scribes will not make public the results of, or any materials created during, the performance of the Services.

Signed this 18th day of November 2014 at 12:16

SCRIBES TRANSCRIPTION SERVICE

Client Name (Please print or type)

Client Signature

Date

NOV 18/14

Date

NOV 18/14
Appendix I: Initial Interview Guide

Research questions: What are women’s decision-making processes about physical activity in the postnatal period?

Broad areas of inquiry

1) Review and discuss the diary (to highlight habits, context of decisions, and factors that might influence decisions), discuss participant’s perceptions of physical activity.
   a) How reflective of your daily life do you feel this diary is? How does your daily life influence your thinking about physical activity?
   b) Discuss the processes of decision-making around instances of physical activity. What thoughts did you have prior to activity, during, after?
   c) What do you feel counts as physical activity? or what does physical activity mean to you?

2) How do your past experiences with physical activity influence your thinking about engaging in physical activity? (positive/negative? Across her lifespan)

3) What are your experiences so far with deciding to engage in physical activity since you have had your child? (If mother has other children) How do these experiences compare with your last child?

Values/Expectations/Managing

4) Describe your perceptions of a good day? If you are not having a good day, what are things that help you manage it?

5) What has (if anything) changed in your thinking about physical activity since you have had a child?

6) What are some of the things that need to happen for you to be able to be physically active? (if active)

7) Have you changed your thinking about being physically active since having a child?
8) How do you feel when you are physical active? Before (planning), during, after? (if active)

9) How do you think about physical activity in your day-to-day life?

   Goals/barriers/perceptions of postnatal physical activity

10) What would have to change for you to increase your physical activity?

11) Do you have goals around physical activity? Are the same goals you have always had around physical activity?

12) What helps or hinder you to achieve your goals around physical activity?

13) What motivates you to be or not be physically active?

14) How active should new mothers be?

   Closing questions (derived from Charmaz, 2006)

15) Do you have anything to ask me?

16) Is there anything else you can think of that you might not have thought about before?

If the participant brings up ideas about social support, policy, environment, I will ask the participant to elaborate.
Appendix J: Interview Guide Iterations Second and Third

(Second interview guide)

Experiences with exercising post-baby does this reflect you and your activity?

How has your PA changed since having your baby?

How have your thoughts about PA changed since having your baby?

Thoughts about what constitutes exercise?

Reasons for exercise?

Legitimacy of exercise?

What do you view as PA?

Has this changed?

What are your motivations for being physically active?

Demotivators?

What are your feelings around PA?

How does it make you feel?

Do you have any goals around PA?

How do you feel your past experiences with PA affect you now?

- How does childcare and care needs interface with your activity

- How does weather affect your exercise

- Describe any role models or people that motivate you to be active

Now that you are on mat leave does that affect your perceptions of time – what to do with your time, does that influence what you do around activity?

What has changed for you generally in terms of how you do things?
(Third interview guide)

How does this diary reflect your physical activity?

What sorts of things do you consider to be physical activity?

**Describe the changes around frequency, intensity, type, and timing?**

**Practicality of exercise:**

How much does this factor in?

**Prenatal environment:**

How do you think your prenatal environment and thoughts affected your activity patterns and thinking about activity and has that carried over into now?

**Experience of ability in activity:**

Describing that process and what changed along the way?

**Body Mindfulness/Conserving energy:**

People have talked about an increased mindfulness about maintaining body function to help in the care of their infants that is different in a way than it was before. Does that resonate with you?

People have talked about conserving energy – does this resonate with you?

Does this shape the way you decide to use your energy?

Shaped the way that you think about your body, what it’s capable of and that has led them to have different perspectives around activity, like they don’t care about exercising for the same reasons? Does this resonate with you?

**Osmolality of environment:**
I am interested in this process of taking babies into the world. People have talked about a process of being comfortable taking the babies out into the world, e.g. around naps, over extended periods of time. Feeling emotionally ready to leave the house for extended periods of time?

Being connected to the house being able to leave the house?

**Talk about ideal: and what makes it okay that you are not getting the ideal.**

**General decision-making** - When you think about the postpartum period, how would you describe it day to day?

How would you describe decision-making generally? Is it tentative?

Have you experienced change in your feeling about your scheduling, increased or decreased freedom of scheduling throughout the year?

**Process of ability** - Have you noticed any change in your physical activity since having your baby? – process of ability

Interview question: Have there been changes in what they have done postnatally across the spectrum?

Have you had experiences with postpartum physical activity where you were surprised by the experience, positively or negatively? Where you found they did not meet expectations?

**Satisfaction** - How do you feel about the amount of physical activity you’ve been doing?

How do you feel your past experiences with PA affect you now?

How have your thoughts about PA changed since having your baby?

How do you see the future in relation to physical activity?

What is your ideal activity? What makes it okay that you are not getting your ideal activity?

How much activity do you think mothers’ should be doing?

What sorts of things are important to you in raising your daughter/son?
What are your motivations for being physically active?

Demotivators?

What are your feelings around PA?

How does it make you feel?

Do you have any goals around PA?

Theory

- Women use ground rules to make decisions – green light/red light
- Everyone has their own set of rules, there are no right wrong rules, just those that develop based on your experiences and who you are
- 3 main sets of rules
- Environment (what are you working with? this includes your resources (money, car), your physical environment (recreational programming, weather), your scheduling (infant temperament, other kids, partner’s work) – what’s even possible for you to do literally
- Physical activity ground rules (general attitudes towards physical activity, what do you like, do you like it, etc.) this has a fairly strong effect on what you do
- Self-presentation ground rules (who you see yourself and present yourself to the world), your thoughts about who you are – what you’re willing to do for others/have to do/willing to do/won’t do/how much you like to do things on your own, how you think mothers should be/how central are they, how you would like to reveal your fitness, what’s even possible for you based on who you are?

When you think about deciding around physical activity you use ground rules to weave a path of least resistance.

Everyone’s path is different. In an environment that can be challenging and you are often not in control of when your baby will get up, when they will be fussy, environment can be difficult peppered with times of wonderfulness – let’s talk about the environment of decision-making – when you think about this postpartum period how would you describe it generally?

Take a path that causes you the least internal discomfort – in that it won’t make you feel like you are acting in a way that is not consistent with who you see yourself as – for example, letting someone watch your baby so you
can be active, when you are not comfortable with that, or that you are not making others act in a way that is not consistent with you or them

-letting them watch your baby to exercise so that you can exercise when you know it would be taxing on them

-going out in the evening to the gym with your baby when your partner just got home and you know he wants to see the baby

-exercising because you know you share a mutual love or thinking about it

Or based on environmental demands, finding something to do that feels doable, not like travelling on a bus to a different town

Some of the strategies people use to do this: synchronize activity, re-envisioning the future, releasing/reshaping self identity, re-classifying activity, compromising the experience, assessing relational outcomes?

1. Relational ground rule example: Willingness to allow other people to take time out or compromise their scheduling in order to help you exercise

   **Rule:** Letting someone watch my baby is good for me, the person watching, and my baby. (You see it as a good thing so perhaps it may mean they get to spend some time with someone else, which is good and you get a chance to exercise, which is also good)

   **Rule:** Letting someone watch my baby is taxing on them, unfair, and not in the best interest of my baby

2. Normal mother ground rule example: Mothers are the most important person to support emotional and physical development. When I’m on maternity leave, my baby is my job. Mothers deserve time to themselves. My baby is vulnerable and I am the best person to protect her/him. I need to be the primary person responsible for house chores. I don’t like being with other mother’s as they are too competitive.
3. Revealing my fitness. I consider myself to be a fit person. I’ve never really considered myself as fit. I’m not comfortable being active around my friends because I think they are more fit than me. It is important for me to be active to be consistent with who I am as a person.

Rule intersection: I am responsible for house chores, including making dinner, so that relates to my scheduling around when it is possible for me to do activity.
Appendix K: Initial Theory Diagram
Appendix L: Sample Field Note

Notes from interview 6

Me: beforehand went into the interview with a sort of not optimistic attitude – me and participant had a very difficult time connecting at our first meeting – felt that it wasn’t going to go well.

Found myself asking a lot of questions and her not doing a lot of the talking

Sense of guardedness on her perspective, not keen to elaborate, short with responses – just very difficult to connect with her responses and pull more from them. What was going on there? Was it more me or her? Hx. I was exhausted the first time I met her (stayed up late the night before/person passing away/fight with husband) and had difficulty explaining the diary to her – did that set the tone too much coming into the interview?

She started to warm up to me after the interview – had a nice conversation following and was much more open about her life and perspectives – talked about doing crafts for her family for Christmas and her perspectives on materialism, potty training, 10-15 minute easy conversation after the interview

She was a bit unsettled during the interview – her baby was awake, active, and distracting – if she had been deeply engaged I think she would have settled more and BF her daughter – at one point she was going to BF and changed her mind –

I did find myself going ok a lot – I’ve heard this before and perhaps did not engage what I should have
Interesting perspectives about the hx with soccer, just such a confident attitude that others need to help her like her partner and she’s totally ok with that. She needs to exercise and ‘deserves’ the time away – good to get away – comfortable with leaving her baby with others but respectful of others like her parents and not leaving her baby there because they ‘have done their time’ raising their own 3 kids – perhaps there is a realization component about the work of others in baby care and respect for the work they did and why it is not right to ‘leave the baby’ with them

Interesting perspective on appreciating the flexibility – she is definitely in another place – doesn’t need that attachment or ‘signing up’ to make her go – she will just anyway.

Comfort with people – happy to leave with her partner so they can develop a relationship too.

***I need to get into peoples’ occupations and how that relates to their purpose and how they spend their time*** next interview
Appendix M: Calibrating Resistance Memo

Women made decisions in a complex daily decisional environment, characterized by ambiguity, volatility, vulnerability, fatigue, repetition, happiness, and pride. Ambiguity could arise as there was less inherent daily structure as compared to when mothers were working (since most were on maternity leave) and many women discussed the need to set routines to carry themselves throughout the day. The environment was volatile as infant needs could suddenly or unexpectedly become urgent and infants were sometimes unpredictable in their temperament and sleep patterns.

The environment was one of potential emotional vulnerability and growth for women (#16, #18), as women were in a continual process of shaping their positions around motherhood practices and beliefs. Women’s security of self-perception in some ways was destabilized during the postpartum period. Women could be subject to judgment from others about their parenting choices and practices and were sometimes placed in positions to defend their choices. Some multiparous women described being less concerned or reactive to the judgmental aspects of the environment. Having children or a newborn child had potential to increase social and relational vulnerability, as women had to fit meeting infant needs into their already existing relationships. The strength and nature of friendships transitioned during this postpartum because having an infant shaped time available for socializing. Some women described experiencing less emotional connection and common ground with some friends, which created the potential for social vulnerability. There was generally a shifting dynamic in parent and in-law relationships.

There was an enhanced mindfulness about the body during the postnatal period, regardless of parity. The collective experience of pregnancy, birth, and the postpartum brought to the forefront women’s ideas about their body, particularly around functionality, the limits to the body, and a heightened need to protect and preserve the functionality of their body. Women were mindful of the need for a functioning body in the care of their infants and this created the possibility for vulnerability. Women talked about a more urgent need to resolve injuries and respect their bodies’ limitations and fatigue so they could preserve their ability to care for their infant. Women’s bodies also incorporated their mental health and overall well-being, as they discussed the need to maintain their mental health to continue to care for their infant.

The postpartum period was sometimes described as incredibly fatiguing, as women functioned often with less than sufficient sleep, but with constant childcare considerations. While the environment could be volatile, it also held stability and repetition, as infants needed continuous care, days were always filled with infant care (e.g. bathing, feeding, changing).

It was also a positive environment interspersed with happiness and pride. Women described bouts of intense or general happiness and joy with their infant and witnessing progression of their infants’ skills. Some described pride and amazement in their bodies in relation to birth and what their body was capable of doing. Some described perceived growth in character (e.g. toward decreased selfishness).

Core Concern

Women’s core concern when making physical activity decisions in this environment was to meet the needs of themselves and others (such as their infants). Consideration of maternal and infant needs in physical activity decision-making occurred within the wider context of meeting generalized postpartum needs. The need for physical activity was embedded within a web of other competing needs women had. Beyond base needs (eating, sleeping, etc.), postnatal women had generalized needs: to find structure, preserve/restore: bodily
function/emotional status/energy levels/relationships as they cared for their infant, navigate a sense of self around how they were or wanted to be as a mother, protect themselves from judgment, and have positive experiences with their infant. Women also held various perceptions about physical activity as a need both either/or for their infant and for themselves.

What is the definition of needs and whose needs were being met?

There were a variety of others’ needs women had to meet in the postnatal environment. There was increasing flexibility in the time women had available to meet those needs depending on the person. Some people’s needs were more or less constant needing more immediate attention and some needs could be met more flexibly and women had more room to manipulate their time, environment, and scheduling to meet those people’s needs.

Infant needs (e.g. bathing, feeding, sleeping) were a constant for women, and the least flexible because infant’s needed assistance to meet their needs. Meeting infant needs held the highest priority. The immediacy of infant needs fluctuated but were always present – example, even when they are sleeping, ‘I feel like I’m on’. Women still considered infant needs when away from their child, such as when they were engaged in activity, such as work or physical activity (example from 13; example from 15). If older children were at home women also had to consider their needs and described a ‘see saw’ effect. They prioritized helping the child with the most pressing needs but then returned to the child who’s needs had not been prioritized, as very often in the interim their needs increased and became the priority (e.g. increased hunger). Infant needs were described as usually having the highest priority because infants could not self-soothe or meet needs independently. To a lesser extent, women’s extended family (e.g. parent with health concerns) and partner had needs that women had to help meet, these held varying priority.

Women’s needs were also a constant consideration (ex. from 15) but there was more flexibility in when women’s needs could be met; women could ‘push off’ meeting their needs if they needed to take care of immediate infant needs, such as feeding or trying to get their infant to sleep. Women could also be flexible or creative in how they met their needs. For example, some women described reading or catching up on emails in the car because their baby was sleeping in the backseat. Some women would even organize their time to account for the infant napping in the backseat (e.g. going early to an activity) so they could ensure time to themselves. Though spending napping time not doing household tasks might come with a cost to them of not getting the work done that they wanted and dissatisfaction with their accomplishments (#10, #7). Women described only being able to push off their needs for a certain amount of time before they needed to enlist external help or find creative ways to meet them.

While infant and maternal needs were more or less constant, the need for women to be physically active was of varying urgency. Physical activity needs were but one of many needs that women and infants had. Basic needs, such as caring for the baby, and eating and sleeping, and work, if they were working, were base needs, but beyond these base needs there was variability in the importance of other needs, such as the need to maintain house cleanliness, socialize, break from caring for their infant, and engage in physical activity.

Postnatal women described having multiple levels of needs. These included base daily needs, as described above, such as eating, sleeping, maintaining a level of house order and cleanliness, socializing with
others, getting emotional breaks from the work of childcare (e.g. whether that was in the form of a nap, the baby sleeping on a walk, or someone else watching the baby). Women described higher level psychosocial needs, such as the need to have purpose and feel like they were accomplishing or contributing something in the postnatal period. Women also held needs, such as the need to decrease ambiguity of daily structure, maintain a level of control or a sense of reliability in outcomes, reduce personal vulnerability, preserve functional ability to care for their infant, and manage the fatiguing workload of caring for an infant child. Women also sought happiness or experiences that were more reliably positive.

**Core category – Calibrating resistance**

Because women had to consider their infants and other’s needs in their physical activity decision-making, women encountered resistance to be physically active in the same ways they had chosen before having children. This necessary incorporation of their infant and others’ needs into their physical activity decision-making introduced restrictions around women’s perceptions of the possibilities for physical activity, the activities they would feel comfortable engaging, and with whom they would be active with.

It was possible women could overcome or take measures to reduce this resistance and achieve activity in ways that met their ideal, but this required women to navigate the sources of resistance they encountered. For example, the following quote is from a woman satisfied with her physical activity, as she described part of the process of enlisting the support of her husband to watch her children when she goes to the gym.

‘When [my son] was born (first baby), we realized I had depression. And he’s a family doctor (her partner), so he knows to a certain extent, what -Yes. So, he has a certain idea of what that involves and he-I mean, we still needed to go through a process of, like, what I need because I didn’t know at the beginning what I needed. And yeah, I needed to figure out what I needed for myself and that was a bit of a process, like, what is going to make me feel good’…[my partner] knows-like, I know he finds it stressful to say, take care of two kids at the same time at bedtime, which is sometimes when I’m out (at the gym). But he knows, again, like, on balance that it’s more necessary that he helps out this way’ (#15)

**The omnipresence of postnatal physical activity resistance**

Women encountered resistance in their postnatal physical activity decision-making regardless of their pre-pregnancy physical activity level or preferences. For many women the postnatal period forced a compromise to reduce or alter choices away from their preferred physical activities and patterns. Alternatively, some women described experiencing no enjoyment from physical activity and a preference for minimal to no physical activity. However, the postpartum environment could create resistance to engaging in those preferred physical activity patterns and could shift those who were less physically activity towards more activity because taking care of children and infants necessitated physical activity. The following is an example from a woman who did not enjoy physical activity, but felt her activity possibly increased since having children:

*But for my—*with my children, [*laughs*] I can say they like to be in my hands. I mean, I should—* Me: Carry them? Yes. Carry them, both of them, because they don’t like to be one by one. I should carry both of them, and now they are bigger. Each of them are about eight, eight and a half kilograms, so most of the time [*laughs*], I have about sixty-five or sixty-four—thirty-five,
thirty-four pounds on my hand and walking, and they—most of the time, they don’t want to sit in their stroller. Uh [sighs], maybe because of that [laughs], my physical activity more than before, maybe. I’m not sure. You know, [laughs] my weight shows that yes, it is more than before because I lose weight. So maybe—maybe it’s more than before. I’m not sure (#3).

Women who self described themselves as not preferring to be physically active described enjoying some form of physical activity and that the postnatal period provided resistance towards engaging those activities in ways they would enjoy. From a woman who engaged in no regular activity and described a general dislike of activity apart from some experiences at the health club.

So, and before I was pregnant I did have a health membership as well and I did go. I went once, twice a week. I did a little bit here and there but it wasn’t a regular thing. And I know after I did it I always felt really good, it felt really good. I was like, “Oh yeah! I can do anything.” But then after a couple days of not doing it you forget that feeling, you forget that high. And so, I know if I did it more often it would be more effective and better, yeah. But now my excuse is because I have the baby I can’t and I don’t want to put him in, like he’s never been away from me except with my kids. So, I have never, like I don’t want to put him—I know a lot of health clubs they have little daycare kind of thing where you can drop them off. But I don’t really kind of, I’m a little bit worried about leaving him there. He would probably enjoy it but I would be just too stressed out. Interviewer: And why would you be stressed out? Participant: Because in case something happens, because there’s other kids. And he hasn’t really been around other kids that much except when we went swimming, that wasn’t really much. But I’m afraid, you know, what if he gets sick from other kids and what if something happens. And, you know, something could happen and he could get hurt and I don’t want him to get hurt. That’s my fear (#7).

The postnatal environment created numerous sources of potential resistance for women when making physical activity choices. Resistance was something experienced as intrapersonal cognitive conflict that women described as drawing them away from making particular activity choices. Resistance was also the discomfort they experienced when they found themselves in situations that were in conflict with their ground rules (described below) or when they reflected on postnatal physical activity experiences. Thus, resistance was something women experienced when anticipating making particular physical activity choices (in the process of decision-making), during physical activities, and following, as the women processed the activity. The following is an example from a woman who experienced resistance after her run, which shaped her future decision-making about running.

I did do—what was that I was doing? I think it was—oh, when was it—I just remember being—it was when we were out in [a trip]. And I think—yeah, I went out without her for a little run. It wasn’t anything major, I just thought, oh, I’ll go out. But it was quite early on, and I guess I hadn’t timed it right, because it was actually near her feeding time, right, and I was out running. And I guess the pressure on my chest, right? And I’ll never forget, because I was sort of running along and I noticed a couple of funny looks, right? But I didn’t click onto anything. And it wasn’t until I got back that I realized that my top was all wet. And you couldn’t put it down to sweat, it was pretty obvious. And that actually did put me off going back out for quite some time (#8).
Appendix N: Early Memo for Calibrating Resistance, Ground Rules

Ground rules:

To attenuate the resistance they encountered when making physical activity decisions, women used ground rules. Ground rules helped to calibrate the resistance women encountered when making physical activity decisions, so their physical activity decisions met the needs of their infants but did not lead to complete sacrifice of their own needs. The ground rules shaped what women viewed as sources of resistance and represented women’s beliefs about their own and infants’ needs and the possibilities for physical activity given their environment. They were sets of ideas postnatal women drew upon, limiting or expanding the physical activity choices available to them. Women’s ground rules around physical activity, self-presentation and the environment acted as guidelines helping women decide which physical activities they would be willing to engage in, under what circumstances, and with whom. Ground rules helped women to stake a position around physical activity and for what reasons they would be active or not.

Having ground rules was important in the postnatal period because the environment was changing, volatile, and at times, ambiguous, so the ground rules helped orient women when making physical activity decisions. In a context when time was often fractured and women were not always able to complete activities as planned because they had to tend to infant’s needs, ground rules helped women be responsive to their changing environment and make sense about what was possible around physical activity. Women spoke about being physically active as something they choose partially to occupy their time (#1, #2, #3, #4, #5, #6, #8, #9). In an environment where time was extended, and women often felt they were doing few daily activities that centred on infant care, having ground rules around activity helped them navigate the ambiguously structured space of the postnatal year when women may not be working. Even women who were working postnatailly used ground rules to help provide some direction around spending their time with their infant when not at work.

Ground rules were declarative ideas women held about themselves, physical activity, motherhood, and their environment. For example, a physical activity ground rule might be, ‘I enjoy running’ or ‘I don’t experience any fulfillment from doing any type of physical activity’. A motherhood ground rule might be, ‘I am the best person to meet my infant’s needs’. The ground rules were evident in the transcripts based on these types of declarative statements or inferred based upon women’s actions and their descriptions about why they choose those actions. For example, many women commented about not wanting to put their infant in gym facility childcare. They described not wanting to do so because the childcare’s were: e.g. ‘unsafe’, ‘no one-on-one care’, or ‘unsanitary’. From these statements ground rules could be inferred; e.g. if my child is going to go into childcare for me to exercise, it needs to be in a one-on-one environment’.

There were three main categories of physical activity decisional ground rules: those around physical activity, the environment, and self-integrity, and sub categories within each category. I will describe them briefly here and then discuss how they ‘set’ the sources and strength of resistance women encountered when making physical activity decisions.
Physical activity ground rules: The physical activity ground rules were the most influential in women’s decision-making; these included women’s feelings towards physical activity generally and around specific types of activities. These ground rules set women’s base needs and motivations around physical activity.

Physical activity was important for a variety of reasons to women and women classed physical activity along a spectrum of essentiality in their day-to-day life. Some women considered physical activity essential and some did not. Women also classed physical activity along a spectrum of pleasure – the pleasure they derived from engaging in particular activities or physical activity in general. Women held notions about the degree to which the intentional incorporation of physical activity should occur in their day-to-day life when they had leisure time. Often, women described that when having leisure ‘free’ time (that not with their baby), engagement of physical activity was not necessarily a priority, rather, other activities, such as socializing, cleaning, or doing errands were a priority. Physical activity, if engaged in, was often done because women needed to do it from the perspective of essentiality, as a way to function as a mother, to fill time, to socialize, or to occupy their baby.

There were several subcategories of physical activity ground rules; views towards specific physical activities, reasons for activity, and what they considered to be physical activity.

Women’s definition of physical activity: Women’s definitions of physical activity were incredibly varied. All considered ‘traditional’ physical activity, such as running, sports, fitness classes, as physical activity (e.g. ground rules being – I consider running a physical activity but not x). It was most common that women referred to physical activity as ‘exercise’. The intentionality behind the activity factored into how some women classified their activity. Walking was the most common form of physical activity, yet some women gradated it, noting that walking to the store was less likely to be classed ‘physical activity’ (e.g., a walk for a purpose) as compared to a ‘walk with friends’ (e.g. a walk that was just for the sake of walking). Some women described that physical activity needed to be defined (e.g. around time and around a particular activity, such as a yoga class) for them to consider it activity. Other women described all activities, such as baby-care (i.e. any care that required them to stand) as physical activity. Many women described their perceptions about what was classified as activity had broadened in the postnatal period. Some women were surprised about the physical work of motherhood and the care of an infant that included carrying a baby often, pushing a stroller, carrying a carseat and infant supplies, and considered these activities as ‘resistance training’ or physical activity. Other women commented on the reduced time available to complete household chores or the need to do them with their baby in arms or in the carrier and now considered these types of activities as physical activity because they had to do them with increased weight or at a quicker pace.

Views about specific physical activities: All women were active in some way and expressed enjoying some form of traditional physical activity (e.g. walking, dancing, or swimming). Women described a range of physical activity engaged in postnatally, such as, walking, stroller fit, lightly jogging, boot camp, soccer, going to the gym/partaking in fitness classes, home based exercise (i.e. videos), yoga, mom and baby fitness classes (e.g. aquafit), rock-climbing, and hiking.

The most commonly described activity was walking, highlighted by nearly all the mothers. Walking was seen as a basic physical activity that was both a necessary function of motherhood and for some mothers enjoyable. Attitudes towards walking were mixed as women held various levels of appreciation for having to walk in the care of their infant(s).
Women’s attitudes towards mother-baby classes were neutral overall but stroller fitness was generally viewed positively. Several women reported engaging in mother-baby fitness or aqua classes or having tried them at the recreation centre or (#1, #2, #7, #10) and several were considering them or re-trying (#2, #6, #7, #8), though only two reported going regularly and enjoying these classes (#1, #2). Several women held favourable perspectives towards stroller fitness (indoor mall walking) (#8, #11, #14, #16).

Many women reported previously enjoying the gym or engaging in independent (i.e. not with their baby) fitness classes (#1, #2, #6, #7, #8, #9, #10, #11, #14, #15, #20) though only two participants were presently going to the gym (#15, #20).

Some women reported they had returned to doing some of the activities they enjoyed beyond walking: playing soccer (#6), bike-riding (#11), running (#12), rock-climbing (#20). A few women used exercise apps/program and were favourable to home based exercises (#2, #4, #7, #18) or reported enjoying and partaking in hiking regularly (#4, #9, #12, #14, #18). A few reported enjoying team sport (#6, #10, #13) though only one was currently on a team. More commonly, women reported highly enjoying specific activities but that they were not ready or able to re-engage them yet (#3 (swimming) #4 (snowboarding), #5 (skiing, running), #8 (running), #11 (dancing), #12 (sailing, hiking), #16 (running), #17 (swimming)).

**Reasons for activity:** Women saw physical activity as fulfilling general functions and engaged in physical activity for various reasons; some women had particular functions/reasons as dominant, while several women described engaging in physical activity for more than one reason.

1. Physical activity as a good way to spend time (#2, #3, #6, #8, #9, #14, #16, #17, #20)
   - socialization, connect with new moms, hike with family
   - filling the day, get out, entertain the baby, soothe the baby
2. Physical activity to fulfill motherhood (#4, #5, #6, #7, #9, #10, #11, #12, #13):
   - promote infant development
   - role model
3. Physical activity for pure enjoyment and the emotional feelings it was associated with (#1, #2, #4, #5, #6, #9, #11, #16, #17, #18, #20),
   - do something I love – e.g. hiking, snowboard
4. Physical activity to maintain function to do the work caring for their infant (#3, #4, #5, #8, #10, #11, #16):
   - rehabilitation or prevent injury
   - preserve mobility and strength
   - preserve or restore energy
   - mental health, reconnect with myself?
5. Physical activity because it was important for self – it was a part of who they identified as and to these women a basic need (#2, #4, #6, #9, #11, #13, #15, #16, #20)
   - e.g. mental health - have a break, reconnect with myself – these people connected with physical as a way to relax – it is what they would do with leisure time
   - e.g. way to maintain relationships - play with my team
   - e.g. important for my views of self and body and what I should be able to do
Environmental ground rules

The environmental ground rules included women’s perceptions about their environment around three categories; scheduling, physical environment, resources.

Scheduling: Scheduling incorporated women’s perceptions about their babies and others’ schedules and how these affected their use of time. For example, it incorporated perceptions about their baby’s temperament and whether their baby could be in the care of other people for short periods of time or whether they felt their baby would not cope. It incorporated thoughts about how flexible women thought their infant was to ‘go out’ or whether they felt they had to stay close to home to accommodate the baby’s naps. It included women’s thoughts about how their breastfeeding (if they were) affected their use of time - i.e. the degree of predictability of infant feeding and ability to leave their baby with someone else between feeds. It also included considerations about their own or their partner’s schedules and how that affected their use of time.

Physical environment: The physical environment incorporated women’s perceptions about service availability, weather, walkability, and ease of accessing programs from an information standpoint or a logistical standpoint (e.g. proximity of programs, the availability of daycare, availability of online resources).

Resources: Resources incorporated women’s perceptions about human (e.g. who was available to help), energy (e.g. what level was their fatigue at, energy reserve, fatigued women acknowledged not always doing activities because of feeling tired but on the reverse side, fatigue was often described as a motivator for action because it restored energy, it depended on women’s perceptions about physical activity and the role of physical activity in energy), tangible (e.g. a jogging stroller, car), and fiscal resources (e.g. money to pay for classes).

Self presentation and preservation ground rules were rules women held around themselves, the ways they needed to act to be consistent with the type of person they viewed themselves as, and how they wished to be seen by other people, centering around 3 categories, relational; motherhood, and self-integrity perspectives.

Relational: These were the perceptions women held about how they were comfortable acting in relation to others, such as their partner or extended family. To engage in intentional physical activity, others also often had to be involved (e.g. in the care of their child). Women considered how/who they thought might be affected by their physical activity decisions. These incorporated perceptions about what others’ wants and needs were and degree to which it was important to them to respect/honour others’ wants and needs (i.e. when their partner worked long hours and came home – they did not want to leave the partner with the baby while they did other activities). These were the rules women considered necessary to uphold to preserve their relationships with others. Women talked about having ‘strings attached’ (#15) in relationships with others in the care of their children, that is, when others cared for their children the logistical hassle of organizing and the need to ‘repay’ for their help or face relational sanctions was too emotionally taxing to consider these others to help with childcare so they could be active.

These ground rules also extended to decisions around who they would be active with. Women thought about whether bringing others with them negatively or positively affect their relationship (example of a mother who was considering hiking with friends - positively, as in if the women had a friendship where they hiked with their
babies together and enjoyed it – it enriched their friendship rather than taking away from it). These rules incorporated relationship history between partners and themselves around activity (e.g. whether they shared a mutual appreciation for physical activity, whether they thought their partner valued physical activity).

**Motherhood:** These were the perceptions women had around motherhood and ways they were comfortable acting to meet their expectations of what a ‘good mother’ would do. These incorporated perceptions about the degree to which the baby was their primary responsibility (mother centrality) and not others, who should be involved in care, and motherhood practices – e.g. can others feed my infant a bottle (even of EBM) or does the baby need me to be the sole person feeding? They also included perceptions about how mothers viewed maternity leave – e.g. because I’m not working, does that now mean I must do all household responsibilities and baby care to ‘pull my weight’. They incorporated perceptions about 1:1 (mother-baby care) as important for infant development and how comfortable women were to be away from their infant. This also included perceptions about how mothers should act around physical activity and perceptions about the importance of self-care practices for mothers (i.e. some mothers viewed self care as function of being a mother as a way to role model taking care of themselves and not losing themselves just because they were now mothers) (self-care was a bit of a ‘buzzword’ among mothers #10, #17, #19, #20).

**Self-integrity perspectives:** These incorporated women’s perceptions about themselves in relation to fitness, their bodies, emotional and mental health, and how to preserve and protect themselves from emotional or physical harm. They incorporated women’s perceptions of themselves as a ‘fit person’. i.e. Is it important to be to be physically active to be consistent with how I view myself – would not engaging in physical activity reveal myself as a ‘failure’? These also incorporated women’s perceptions of comfort revealing their fitness to other people. There was varying levels of comfort with being physically active around other people, as some were worried they would not be able to keep up, others would judge them, or they would feel self-conscious (e.g. around possibility of leaking milk, need to reduce intensity). Apart from others’ viewing their physical activity ability, women held body perceptions around whether they were comfortable with others viewing their body (e.g. in a gym environment). They held perceptions about the body’s tolerance for activity and how activities would affect their energy levels (e.g. going for a run would deplete what existing energy I have so I would not do it) and emotions (e.g. going for a run would feel good, but my emotions would quickly be negatively re-set because because after I would be sweaty and would not have the opportunity to have a shower due to baby care). The degree to which they viewed physical activity as restorative and as a function of self-care as opposed to something for weight loss or ‘looking good’ carried strong influence towards seeking to be physically active beyond that which was involved in maternal care.

They ground rules also incorporated women’s perceptions of themselves around autonomy of action – the degree to which they would feel personally comfortable involving others to care for their children. Women who considered themselves independent might often not want to have others involved in their child’s care so they could be active because they thought they might be perceived as dependent.

**Ground rules as setting sources and resistance levels:** When making physical activity decisions, women could encounter resistance in many forms: environmentally, relationally, morally, socially, physically, logistical/scheduling resistance, and resource wise. Resistance was an internal feeling of aversion to a particular choice or aspect of a choice. The ground rules – or women’s perceptions of themselves, physical activity, and the environment shaped women’s views about what created resistance for them to engage physical activity in the way they choose. For example – a mother’s ground rule that the infant has a difficult temperament and
cannot be left with others meant that scheduling restrictions were a source of resistance for that mother in physical activity decision-making.

**How ground rules created or reduced resistance in physical activity decision-making:**

Ground rules intersected and created feelings of resistance towards particular activity choices, particularly around being active without the baby. The ground rules also reduced resistance towards particular choices.

Resources and accessibility. Women’s perspectives about their environment, e.g. what was available, location, accessibility, affected their decision-making choices. For example, if there was a class they might enjoy but was a 15-minute bus ride to get to, women might opt out of the activity, depending on the degree to which they were comfortable or willing to take the bus. Women’s perceptions about the amount of effort that should be expended to find physical activities factored into their knowledge about what was available. Because women generally described not receiving physical activity resources, women had to search for activities and if not motivated would be unlikely to know about particular ones. Weather was a common discussion point; perceptions about weather and activity affected the likelihood of engaging in walks independent of the weather. Women’s perceptions about their resources – support, finances, supplies (like a stroller, car, clothes) that would support their physical activity limited their choices available if they felt they did not have, for example, expendable income to engage in physical activity, which generally cost money. Or, if they did not believe expending money for physical activity was appropriate unless they were going to be able to attend all the sessions. Many women cancelled gym memberships during this time or put them on hold, heavily because it felt like wasted money when they were not able to use them. Perceptions about finances intersected with relational ground rules, if women felt their partner did not value physical activity, women might not pay for memberships or classes because it would increase the potential for conflict with their partner.

From the perspective of logistics and scheduling physical activity, the unpredictability or temperament of infant behaviour meant that planned physical activities could not always be followed through. Women’s perceived ability of their infant to be with others or be separated from them so they could engage in independent physical activity affected the types of physical activity they participated in. If women thought their infant was not going to be able to cope with their absence or if logistically, they believed their infant would need to breastfeed in the time they would be gone, women would choose not to leave their baby to be physically active. Even if women believed their infant would cope with their absence, women also considered the quality of infant care or resources available to them. For example, women often considered gym childcares as inadequate because they were crowded, held potential for sickness, and could not provide one-to-one care.

Self-presentation perspectives affected the likelihood of women letting others watch their baby. Many women wrestled with perceptions about how they were comfortable behaving as a mother, both from the perspective of who they saw themselves as, as a person in relationships with others, and the expectations they believed society and their social/relational environment held for them as a mother. These motherhood and self-perceptions could create cognitive resistance in the context of physical activity decision-making. In the above example, even if a woman believed her infant could cope with her absence and there was available childcare, she still might not feel comfortable to leave her infant with another for physical activity because she viewed it as her motherly responsibility to care for her infant at all times. Some women had available adequate childcare,
but described that they were not emotionally ready to be separate from their infants, thus any activities they engaged had to be with their infant.

From a relational perspective, women’s beliefs about the effect of having others watch their children for physical activity on their relationship had the potential to create resistance when making physical activity decisions. Women considered others’ needs in their physical activity decision-making and strove to be consistent with themselves to make choices they felt did not negatively affect others. Women might still not feel comfortable allowing others to care for their children because they thought it might negatively affect their relationship with that person, putting unfair pressure on them to help (e.g. feeling concerned about asking parents who are retired and having ‘raised 3 kids’ to watch their daughter, #6). These women encountered moral resistance, as they did not want to feel like they were ‘using’ or manipulating others for their own benefit. They felt it was not worth the cost of the others’ negative or cumulative negative experience(s) of watching their child.

Emotional resistance, as emanating from ground rules around self-integrity also factored into women’s decision-making. Women sometimes had opportunity to engage in activity, with adequate care, but the emotional experience of organizing with others the care of their infant was perceived to be too overwhelming emotionally. A participant describing her day, speaking about stress when other family members watch their children while she exercises (#15).

Participant: In general I just noted that it was a busy day, and that I wasn’t totally sure of the helpfulness of my family helping because—yeah, like, my grandpa takes [my son] for a walk. That’s fantastic. But he comes right at ten. Like, he’s super punctual. And I’m, like, I’m not super punctual as a person. So—and he’s pretty good. Like, he’s not fully of strings like my mum. Like, we’ve sort of stopped relying on my mum for childcare help mostly because she’s helpful in the sense that she takes care of the kids. And, you know, to be fair, like, I’m not ever too worried about the way she treats them or anything. But there’s always, like, these weird strings attached...Like, when someone can take care of my kids it’s wonderful because it gives me time to myself, which I really like. But if it came with so much stress—like, it sort of—it doesn’t on balance work out. Like, on balance, like, I’ve gotten less stress from not having to take care of them directly, but I’m getting more stress because of the crap that they give me or whatever for it. So overall I’m a little bit plus on the stress scale.

Women also experienced social resistance, as emanating from self-presentation perspectives. Women had feelings of resistance to physical activity around decisions of who they would be physically active with. When making physical activity decisions, women considered: who they might be exercising with, in the context of mom/baby groups, with family, or friends; whether they thought the other would enjoy the activity; whether it would help preserve their relationship; whether they thought they could ‘keep up’ and whether they might feel judged. Depending on how concerned women were about their physicality and ability they might opt out of activities with others, so they could preserve their integrity of self as a ‘fit person’. Women also experienced resistance when they were pressured to participate in particular activities from family members they did not enjoy.
Physical resistance: Women’s perspectives about their bodies and its ability could create sources of resistance when making physical activity decision-making. If they felt activity would cause them more fatigue or that their body was not healed enough for activity, they may opt out of engagement in intentional physical activity.

Calibrating resistance: To calibrate means to measure against a standard and to check that something is working against that standard. Women checked their ‘internal’ resistance was within an acceptable range when making physical activity decisions; their own standard as set by their ground rules. The sources of resistance were different for each woman who held different sets of ground rules. Calibrating resistance around physical activity decisions allowed women to conserve physical and emotional energy to cope with their changing environment, periods of volatility, fatigue, ‘not being able to get things done’, and uncertainty.

In the context of resistance, the physical activity ground rules set the ‘base resistance’ or base inclinations women had towards physical activity along the spectrum of frequency, intensity, type and timing of exercise from being very infrequently active or only as a function of motherhood towards engaging in physical activity regularly. Though women’s perceptions about physical activity and activities could not be separated from the current context (i.e. they were influenced by the current environment), the physical activity ground rules cumulatively reflected women’s overall inclination towards engagement in physical activity and particular activities. The physical activity base resistance positioned women within a tolerable range of physical activity, along the lines of frequency, intensity, type, and time. For example, women who reported disliking activity generally, but enjoying some types of activity, such as swimming might infrequently prefer to swim, but beyond that might only engage in physical activity as it was a function of motherhood in caring for their infant. They would tolerate a base range of physical activity where they did not engage in intentional physical activity regularly. Whereas a woman who reported enjoying physical activity and was a previous marathon runner would be less likely to tolerate infrequent intentional activity and might be more comfortable with daily physical activity in some form.

The physical activity ground rules, which set the base resistance, interfaced with the environmental ground rules and self-presentation ground rules, which both projected a certain level of resistance towards women’s preferred physical activity patterns. Women’s perceptions of their environment affected what physical activity was possible for them. The environmental ground rules particularly shaped perceptions of when and where women could be physically active. For example, even if a woman really enjoyed mom/baby yoga, if it occurred during naptime or a time that conflicted with their infants schedule they may not participate in that class.

Women’s self-presentation ground rules or perceptions of themselves and who they wanted to be seen as to others particularly affected with whom women would be active with (e.g. with friends, alone, with their baby), under what circumstances, and who they would be willing to involve if they wanted to engage in intentional physical activity. They also helped women estimate the cumulative emotional and physical expense of engaging in particular activities and so affected what they would be willing to try and do around activity.

The environmental and self-presentation perspectives acted in women’s decision-making and shifted the ‘base level of resistance’ towards or away from more or less physical activity. For example, the following women, who greatly enjoyed hiking and did so regularly prenatally described having inclination towards hiking
postnatally regularly, but the social and emotional resistance she experienced from hiking with other mothers pushed her away from hiking. The environment made it possible to hike, creating a state of reduced resistance to hike – e.g. enhanced the likelihood - as hikes were local and accessible, but the social experience of hiking created resistance to seeking out mom-baby hikes, shifting her base level of resistance downwards towards less intentional hiking activity.

Or—I wanted a Facebook group, so I started up, with what moms likes to do—just wants to get out, and so I was, like, let’s have a group where we can just once a week, we’ll pick a place and we’ll go to [a place] or do this or that. And that went okay for a few weeks until I realized people weren’t kind of at the pace that I wanted to go. Like, I wanted to go out for a sweat. Like, I wanted to go for a hike and, like, pack him on and go. And the moms were, like, “Oh, carry the baby for a whole hour? That’s intense.” I’m, like, seriously? Like, it’s a baby. Like, let’s go.

And so the last one we did was we went to [a place] and it’s an 11 K flat loop and, like, not a big deal. And the mum that I went with was just kind of, like, bitching and complaining by the end of it. And I was, like, this is just crap. So I haven’t done it since with a group. But, you know, my husband likes to hike, and so we’ve done [a place] a couple of times since and stuff like that (#9).

Though she enjoyed hiking and, environmentally, it was possible for her, in context she experienced social and emotional resistance. To reduce the resistance she stopped engaging in mom/baby hikes and only hiked with her partner. In this way, she recalibrated the conditions in which she would be physically active. In effect, her ground rules were altered; she no longer considered hiking itself as a preferred activity as she had in the past, but now, her enjoyment was conditional on who she was with and their enjoyment because, to her, it was not emotionally worth the experience of trying to hike with others who did not enjoy hiking in the same way. The ground rule – I enjoy hiking, was added to – to I enjoy hiking, only when I am hiking with others who also enjoy it.

**Testing resistance:** To calibrate resistance when making decisions around physical activity, women had to engage in a continuous process of assessing and managing sources of resistance. Sometimes women managed the resistance by testing it; they made decisions they deliberately knew would or could result in the experience of resistance, but the motivation to engage in the activity, either socially or personally, was stronger than the internal resistance they experienced and the resistance they anticipated from engaging in the activity. In the context of walking, several women (#1, 16, 19, 20, 21) talked about a process of engaging in gradually longer walks, thereby testing environmental sources of resistance (e.g. their infant’s tolerance, being worried the infant might not cope with the length of the walk), and self-presentation/preservation resistance, (e.g. concerned they might not be able to physically tolerate the walk). Consequentially, if the ‘testing’ experience was positive then women might recalibrate their comfortable level of resistance upward and engage in more activity.

This woman recounted her experience of doing mom/baby outdoor group fitness classes and how she was able to gradually feel more comfortable in the care of her child in public, which resulted in more physical activity.

*P: Well I didn’t no. Well the first time of course it was a little bit weird but no. But I liked about it was other moms were for a while with the program so they were just more relaxed and at that time I just learned how to*
be with [my son], the breastfeeding in public places, so I didn’t do with (her other two children), so I was just always a little bit nervous where I’m going to feed him, where I’m going to go. I always try to look into a secluded space, but with them with all those moms, just feeding with cover of course, with a cover, it was easy, and the thing is I start feeling more relaxed with him. After that we start walking everywhere with him, before it was after feeding, straight to where we need to go and make sure there is a room for child and mom, a washroom, a public washroom. After those classes, it wasn’t a problem (#1).

She further described how the greater freedom she felt caring for her child related to her current activities. Because she was free to breastfeed at any location, she was able to engage in long, daily walks to the mom/baby fitness centre and partake in almost daily activities. The postnatal environment, to her, opened up possibilities for increasing fitness.

Other women tested their experiences of physical resistance because they were motivated to return to their previous level of physical fitness. This woman described the process of being able to ‘keep up’ with her soccer team.

I didn’t, I just kind of noticed it one day like in the last month or so when I remembered back to that first day that I practiced and I remember how hard it was. And now we do fitness for the first half hour of practice and sprints and everything. I’m still heavy, like I still need to drop pounds, but I’m like much more fit now and I don’t have to like stop and catch my breath and, you know, feel nauseous or anything. So, it just took a few months of like every week practice and boot camps and things just to get back to where I felt like I was in shape again (#6)

Some women tested their resistance along multiple levels. e.g emotionally, environmentally, and physically. This women slowly tested her physical and emotional resistance to increase her physical activity and decide what types of activity would fit for her, calibrating her resistance to fit with what she was comfortable doing.

It was just—I would just sort of see that we would do something and I felt better at the end of it, so I knew next time it would go—do a little more. And it did work hand-in-hand with how long [my daughter] would be okay to be away from the home, too, because it’s not just the energy, but it’s also, I guess, bringing baby along as well and learning how to pack for baby, look out for baby when you’re not at home...And just as we got more comfortable with those things and I noticed my body healing more, we just did more of it.

And, you know, I have a tendency, because of marathon training, I do kind of push myself, so it was more a case of I would realize I’d gone a bit too far and have to pull back. That’s sort of how I found my limits. I did a boot camp, a mommy and baby boot camp, with a woman that my sister does a boot camp with, and she was intense. I mean, she’s amazing, she was great for my sister, who was getting ready for a wedding, but her mommy and baby boot camp, it turns out, was just too much for me. There were [moves] I could not really do, and then I did hurt myself in the course of the training with her, so it really made me realize, okay, this just isn’t my [indiscernible] right now. So I took a break from that one. (#16)

In these cases, the testing of resistance led to increased physical activity because the women were motivated by the prospect of reaching a goal or having positive experiences with fitness. Negative experiences, as in the example of the mother who gradually felt that letting others, such as her mother, take care of her
children while she exercised was too emotionally taxing, had the potential to decrease physical activity women, recalibrating the resistance towards a lower range of comfortable activity. In that women’s case, she described beginning to rely more often on her partner for childcare, while she engaged in physical activity, than her family.

**Reducing resistance:** Women operated with ground rules that were their ‘best guesses’ of what would lead them to maintain their own self-integrity and preserve their relationships (take care of themselves and others). However, women were not always aware of sources of resistance and learned about them from their experiences and the physical activity choices they made. From a women recounting her experience going for a walk postpartum a ways from her house and finding herself not physically prepared for the walk:

> Like, suddenly realizing—I was just like, oh, I’ll just run—you know, like, I’ll just—I can walk a hundred miles. No. Walking around the block and I was exhausted. And that’s the problem, is if you put yourself in a situation where you suddenly go, ‘Oh, shit. I can’t—I’m, I’m exhausted. What do I do?’ And like, you do half a kilometre. Well, there’s no—you’ve got to do the other half to get back, right? There’s no go cart that comes and gets you [laughs], right? Like, there’s no jumping in your kid’s, you know, stroller and like, saying, ‘Let’s go.’ I mean, it’s—you’re—and it’s scary to suddenly realize, like, this is what I—where I was at, and I can’t—you know, like, I can’t even do this without feeling, feeling winded. So that’s not something that a doctor can assess by looking at your stitches, right? (#11)

When women had these experiences, they reduced the resistance and had to recalibrate, often, towards reduced activity. These experiences of learned resistance led to changes in ground rules. For example, in the previous case described about the woman who experienced social resistance to hiking with other mothers, she learned about previously unknown sources of resistance and integrated them into her ground rules.

Women also occasionally misjudged their sources of resistance and found themselves in situations of reduced resistance. For example, a woman talked about being surprised by her ability to go for long walks (#14). In that case, reduced physical resistance led her to calibrate their resistance upwards towards more physical activity. As a consequence, ground rules about the ability to engage in walks and maintain their energy were adjusted.

Often, women, consciously, or ‘more knowingly’ scanned and assessed for potential sources of environmental or self-presentation/preservation resistance when making physical activity decisions and tried to calibrate the resistance by reducing it. The following woman is describing some of her sources of resistance and how she ended up deciding for the time being just to go for walks with her daughter, because she needed to reduce the sources of resistance she experienced when engaging in postnatal physical activity or making activity decisions.

> P: Well, [exercise program] they have a free thing on Thursdays Fridays at [place]. I did that for the first little while, but I ended up having an umbilical hernia and um, I loved going, and um when I got my hernia it was just (pause). Sorry I’m not explaining it right, I enjoyed going out there, it was during the nap time when she was younger and it was difficult because she would get so fussy. But it was nice being around different moms, they understood, um, and I looked at getting the hernia from the pregnancy, joining activity way too soon, I joined back my baseball team just at 6 weeks after my postpartum and I was doing [exercise program], I was trying to go out and jog, all at 6 weeks postpartum, and I had it set in my head, I was going to lose all the weight, I wasn’t hungry, I was breastfeeding, and I was like you know what, I was losing weight rapidly, I was
feeling so much better about myself, based on what I was seeing on the scale and then I started eating and the numbers started to climb (pause). I still wanna go to [exercise program], um but it’s tough to get going in the morning [place] [it was 20 minute drive and she also was on-call for work]. Like they have a free thing there, if I wanted to do anything out here in [place] it costs money and it’s only 2 hours, like do I want to go to the [rec] centre, like they have like a daycare that’s there, uh it’s only for 2 hours, they don’t feed them and they don’t do diaper changes. Well she’s one – that’s hard. It’s not like she’s potty trained and like four or five years old, like that’d be different. But she needs more care and attention and there’s like 15 other kids in there and one care person? She’s not getting enough, nearly enough attention. And I can’t afford to go to any of the gyms that are here, any of the gyms that are here. I can’t do a monthly thing, cause I have no idea if I’m going to work. (#13)

To her, walking with her daughter was the only way she could reduce the sources of resistance to a manageable – or ‘acceptable’ zone of resistance and be physically active.

**Low and high resistance:** The environmental and self-presentation/preservation sources of resistance interfaced with women’s perspectives of physical activity, creating a continuum of high to low states of resistance – the above example (#13) would be an example of a women experiencing a high state of resistance to physical activity.

In the context of facilitation – there were environmental and self-presentation/preservation conditions that created reduced states of resistance and a higher likelihood of physical activity. Resistance was always present to some degree, but it might be some sources of resistance were less present for some mothers.

For example – if women held the perspectives they were not to be away from their baby as a mother (mother centrality), their infant’s temperament and scheduling were difficult and there were not physical activity options in the environment fitting their schedules - that would be a highly resistant state towards engagement in physical activity – these mothers might only be physically active as a function of motherhood. Conversely, women who were comfortable with their infant being with others and their temperament and had available options might experience reduced resistance to be physically active.

Another example - for one women income might be an important source of resistance but for another this was not experienced as a source of resistance (of course, whether they were willing to spend money on physical activities would be a product of all their other perspectives about the importance of spending money of physical activity, their partner’s support to spend it, whether they thought their infant could reliably tolerate attending the program, based on their scheduling, etc.)

**Strategies**

Women used a variety of strategies to help calibrate or temper their resistance experienced when making physical activity decisions or when they reflected on their current activity patterns.

1. Synchronizing activity: Women often synchronized their activity in the form of doing mom/baby classes, walks, with their baby. This allowed them to calibrate resistance, especially if they wanted to be more physically active, but felt limited by their environment or their perceptions of leaving their baby with others. Synchronizing activity allowed women to still consider themselves an active person.
2. Framing as temporary: Many women framed their physical activity experiences as temporary, as a product of the unique postnatal environment. This allowed them to calibrate resistance because they accepted the environmental limitations that restricted their choices. By framing as temporary they did not need to abandon perspectives of self, especially if they considered themselves a fit person, or someone who enjoyed physical activity greatly. They envisioned a gradual return to self around their physical activity once they returned to work or their children’s independence increased.

3. Adopting new self perspectives/releasing self: Many women adopted new perspectives or released a sense of self or particular aspect of self in order to calibrate resistance, especially when they were dissatisfied with their physical activity or did not feel they were able to calibrate resistance within a reasonable range. For example, women who experienced reduced activity might adopt the perspective that the reduction in their activity helped them to be a better mother – or to draw them closer to motherhood ideals. i.e. they were sacrificing their activity to care for their child so this sacrifice allowed them to be a better mother. Conversely, women might adopt new perspectives that helped them calibrate resistance and allow them to increase their activity. For example, women might ‘hold strong’ to the importance of physical activity and ensure the y achieved physical activity because they felt this helped them to be a better mother, i.e. a self-cared for mother is a better mother.

Some women adopted new perspectives that going to the gym involved less guilt than doing other leisure activities because being active was positive. From one, It’s something that doesn’t feel self indulgent because women with dumping his kids off at a daycare so that they can go for the spa, they would feel guilty about that, but exercise is good for you, you know, ‘I’m trying to lose the baby weight, I’m being healthy’ so there’s, it’s guilt free escape from the kids, I think, you know. I get that a lot too, oh I can go to gym, I can drop the kids at the gym for an hour or two, get an hour or two alone, but you know, I’m getting healthy, and you know. So there’s much less guilt attached (#17). Feeling like they were doing something good for themselves, women were able to calibrate feelings of resistance towards taking time for self-care.

Women might also shift the reasons for which they were doing the activity, which shifted their perceptions of how often they should be active and type of actives that would be acceptable. i.e. previously not enjoying walks, but now viewing walking as a beneficial activity for their infants so now adopting the perspective that walks are positive.

4. Re-classifying activity: Women also widened or adjusted perspectives about what they considered to be physical activity. Many women started to consider childcare as physical activity, describing their postnatal activity as relatively unchanged compared to prenatally, but distributed differently during the day. Foreexample: whereas before children, they described sitting all day, and having pent up activity to expend at the gym at the end of the day, women described, as a mother, they were very active and on their feet often.

The less time available to do house chores meant that some women started to view their household tasks as physical activity because they were done so much faster or more intensely than before or with their children in their arms. By reclassifying activity women were able to calibrate the resistance they might experience from doing less intentional activity because they still considered themselves as active. Activities that were previously considered low intensity might be made more intensive. Women might deliberately incorporate activity into
their household activities to increase activity (for example – doing squats while doing the laundry or focusing on posture while doing the dishes).

5. Compromising the experience: Many women decided they would accept the environmental resistance limitations and be ‘satisfied with less’ (#5) in their physical activity experiences (e.g. running – half running with the stroller with toddler running alongside or go for a short run). Women attributed this reduced but acceptable satisfaction as a function of motherhood – ‘things in some ways need to change’. This allowed them to calibrate the resistance encountered; women were not able to be active in the way they would choose but were still able to hold onto perceptions of themselves as physically active.

**Readiness to exercise – conditions in which resistance was calibrated? – aspects of the resistance spectrum?** {I haven’t worked through this piece and I do not know how yet to incorporate this. There are definitely aspects or states along the resistance spectrum that women reported being in and these factored into decision-making and created conditions of resistance to being physically active. I consider these as undercurrent processes or evolving conditions that might occur across the entire perinatal period and extending across pregnancies.

I don’t feel ‘Readiness to exercise’ is a basic social process because not everyone really described experiencing it and it does not explain fully women’s decision-making; it was the constant calibration of experienced resistance that affected what they did and how they made decisions. For example, these, below, are not processes per se. People did not necessarily ‘move’ along a spectrum of high or low emotional readiness to be physically active – some stayed in the same place the whole postpartum, as their emotional readiness was a product of their ground rules about motherhood and physical activity. Some were never comfortable being away from their babies postpartum, some were comfortable very early on. Perhaps this is a snippet of a larger process that occurs perinatally. These might end up being incorporated as part of a more parsimonious theory that refines/reduces the ‘ground rules’ concept out, but I just don’t know how yet. I think the ground rules concept clutters everything because of the multiple categories it creates.

…I think perhaps one of the biggest conditions of activity decision-making was how they viewed physical activity….

**Essential versus not essential**
Something that includes all activities or only specific ‘traditional’ physical activities}

**Emotional readiness to engage in intentional physical activities:** Women’s high or low emotional readiness to engage in non-essential activities (if they viewed physical activity as such) and being away from their baby factored into women’s choice of activity.

To be intentionally physical activity (i.e. not just that which was part of basic infant care) women had to be in a state of emotional readiness, emotional readiness to start to consider ‘doing physical activity’ and also emotional readiness in the form of being comfortable with others watching their children while they were physically active. Some women described that there was an initial period of sorting, when they were just learning about their baby and trying to figure out how to do basic baby care and breastfeed, and needed to meet those needs before they might consider doing intentional physical activity, like going for a walk (e.g. #20 – not
transcribed yet). But this was only for women who defined physical activity as that which was intentional and did not define infant care as physical activity.

The degree to which those needs (e.g. feeding, sleep) remained met or unmet or organized/unorganized affected emotional readiness to be physically active and seek out intentional physical activities. For example, if there was no system around sleep that allowed the mothers to at least get some sleep or rest, they might not be able to even consider trying to be physically active. However **this all depended on how women viewed activity; if they found physical activity to give them energy, they might engage in physical activity despite their sleep needs not being met. Or if they thought physical activity was essential versus not essential. Some women needed these needs worked out to be emotionally ready for physical activity but some did not.

In terms of independent, intentional physical activity, some women described not feeling emotionally ready to allow their infant to be by themselves while they were being physically active, and this did not change throughout the postpartum period (#5, #16) or across pregnancies. For example, one mother, who was incredibly physically active prenatally – (not transcribed yet) described that she wanted to be active, but only if her baby was in the other room being watched (#22). She was cognizant of this and described not being emotionally ready to be separated from her infant. Because she had a low emotional readiness to be away from her infant, she needed to exercise with her son, so her activities were restricted as such.

**Physical readiness to exercise (and as it might intersect emotionally):** Women’s perceptions about their body’s state of healing affected the types of physical activity choices they would make; if they felt physically unready to be engaging in physical activity (and again, dependent on perceptions about what constituted physical activity), as well as emotionally unable, they might not engage in intentional physical activity.

Women talked about physical healing and their experiences across the perinatal spectrum as relating to their physical state to be physically active. Healing was not limited to the immediate 6-week postpartum period but extended across the postpartum for some women (#5, #8, #15). In some sense, the process of calibrating resistance began prenatally because this was when women had to make adjustments to their physical activity in some way. Some women experienced restricted or altered activity in their pregnancy, as advised based on particular conditions (e.g., diabetes, placenta previa), which affected their perceptions about bodily function and ability. Sometimes these restrictions altered how they viewed activity – e.g. they might have started to associate physical activity as something that might potentially harm the baby, which carried into the postpartum. For example:

> And I had miscarriages before I had her, so once I got pregnant, I was kind of too scared to go exercising. So I didn’t do it. And then I had, like, a medical complication with her that’s called placenta previa. And then they told me not to exercise. So I really didn’t do any exercise the whole time I was pregnant.

> [I asked her about her thoughts of what new mothers should do]. So, on one hand, I’ve heard I should take it easy and, like, let your body recover because they say you can exercise after six weeks, but your body’s not really totally healed. And then – um, and then I found out about the abdominal thing [she had diastasis recti-and a cesarean section] and I was worried I was going to do damage by exercising (#14).
These prenatal, as well as early postnatal experiences, perhaps around breastfeeding or a difficult birth or just around being ‘hit’ with the emotional reality of being a mother for first time mothers, affected women’s perceptions of physical readiness to be physically active.

However, not all women described going through a distinct process of physical readiness for physical activity and reported feeling fine to exercise early on postnatally at a level they were previously comfortable with (#18 – half done transcribing – no quote).

**Osmolality of environment:** The degree to which women were comfortable providing baby care in and out of their home affected their decision-making around types of physical activity. If they were comfortable leaving the home independent of their infant’s schedule, they could plan physical activities and attend scheduled ones consistently. If they felt ‘tied’ to their home, this severely restricted possibilities for activity. Osmotic equilibrium is the balance of ‘serum particles’ both inside and outside the cell. Women had two environments – that of their home (inside cell) and the outside environment (outside cell). Osmolality of environment related to the concentration of infant care activities (serum particles) – whether they were primarily done in the home or whether there was a fluidity between the home and the environment. Women were variously restricted to their house, dependent on the degree to which they felt motivated and capable of providing infant care within the home or not.

Osmolality of the environment is about the size of the women’s world. Initially, some women described needing to stay close to their home, as they ‘sorted out’ sleep, their baby, and feeling schedules, and gradually reported increasing the time they felt able to take their baby into the world (#8, #21 – not transcribed yet).

> You know, you sort of feel safe in your environment at home, and now, like, the first time you’re changing diapers and feeding and doing things out in public, that’s also a big factor, you know? You say, “Oh, I want to go out” or “I want to go for this walk” or “I want to do this picnic, but I’m going to have to feed in public, I’m going to have to do a diaper change in public. Like, am I ready for that? Is the baby ready?” (#16).

There were various states women were in of being able to provide infant care at home and out ‘in the world’. Some women concentrated their activities in the home and did not leave the home for more than 1-2 hours so they could accommodate napping or feeding schedules, while others described leaving their house for hours or the whole day. For some women, this did not change across the postpartum, though some women described this changing over time and feeling more comfortable taking their baby out, as with the mother who described being more comfortable in public with her baby as a product of the mom-baby group (#1). However, there was not necessarily a process women went through with engagement in the world, as some described not changing their daily activity patterns as a product of having a newborn (#4, #9); these women took care of their babies in the same way at home as in the environment.

> I just operate by my own schedule...But um, I do notice it because people will say things like, ‘You were active—you were walking downtown two days after having him? You took him to the park?’ or ‘Oh, you took him to the [place]. Oh, that’s such a good idea.’ Or ‘You had him on the bus?’ And people are like—I notice it because people get surprised by the way that we operate. And it makes me sad because—maybe it shouldn’t (#4).
Appendix O: Revised Diagram

- Physical activity as integrated into motherhood
- Intentional physical activity with baby
- Occasional intentional physical activity without baby (favourite activities)
- Regular intentional physical activity without baby

Centrality of physical activity
1. function (emotional, physical, motherhood)
2. specific types of activities
3. definition of activity

Ground rules
Appendix P: Example of an Early Memo

Personal preferences – ideas about exercise
i.e. it is enjoyable, relieves stress – presumably based on past experiences
Do these fit into ideas about self? – no they fit into personalized ideas – which is seemingly different.

Not all personalized perceptions are distinctly linked to ideas about self
For example – perceiving that exercise fits into schedule
Is it that they have personally view themselves as a scheduled person?
That comment about the motivation of exercise being that it fits must represent some underlying personalized perception about how one should conduct oneself in the world or as related to motherhood

Perhaps she sees motherhood as extremely regimented and scheduled
Thus exercise too must be scheduled
Or perhaps such a comment is a reflection of all aspects of her being
‘She thinks that days should be ordered to be purposeful, motherhood is scheduled and time is limited, she considers herself a very organized person’

Renegotiating the relationship to PA
-presumably people have relationship to PA prior to CB – expectations of what PA provides, how to get activity, etc. CB introduces a necessary change in that relationship due to restructuring of time, new contractual relationship emerges, mother is the author of this contract –
- ‘ways of looking at PA’
-gym is off the table – new choices need to emerge such as walking and now weather is a factor
-chores can be PA
-PA can give social experiences
-some might stay the same

Contract is a list of ideas about exercise or physical activity

However the ‘contract’ or ‘relational terms’ is negotiated provides the scaffolding to decision-making and the degrees of freedom around decisional choices – narrows the choices of activity
New contract dictates the scope and degrees of freedom
The contract frames the decision-making – what activities are in, what are out why they would do particular activities or not

There are activities, related associations, environments of activities

Baseline motivation to exercise??

The contractual meanings and how these come into being is based upon perceptions of motherhood, self, purpose.
New thresholds/personal likelihood for activity are created including the type, environment, level of commitment necessary, importance of reasons for exercise
• not only because of kids though – could be because of immigration,

May7th – Adjusting – definitely is adjusting because they are not completely changing their ways of thinking they are altering them
Perspectives? these are ways of thinking only views on the world
Guidelines? these indicate ways of acting situationally – can not account for great contextuality

Looking for something that indicates a way of making decisions
Guideline doesn’t indicate the way of looking at the world rather a way of acting?

**Adjusting the ground rules**

We all inhabit ground rules for action - these indicate the basic and governing principles of conduct in any situation or field of endeavor – rules for deals with situations or circumstances arising chiefly from the particular nature of the playing area or the interference of spectators. Universal ground rules and individual park ground rules –
Universal – this is what I think about exercise
Individual park ground rules - This is what I think about exercise and that particular situation

*Practical/Environment factors and choice of particular activities:*
Partner’s presence minimally affecting choice but when off work, increased likelihood of walk or activity (2para1mid);
proximity of exercise friends in building (10para4),
no car, increased likelihood of walking, having the car increased ease of group activities (2para2; 3para1),
 enjoy the weather (3para3; 7para4),
walking becoming main exercise choice as gym off the table (3para4),
why pilates - limited other group activity choices (9para1);
group mom and baby classes to decrease cost (12para10
*Personally* - stress reliever, less now (3 para5; 4para2-3; 6para4),
feel good about myself (4para1),
combats the depression issue (4para2; 6para4);
shifting reasons – less intense (4para3),
well-being (4para3; 5para5; 6para4),
something for self (4para4),
part of being (4para4);
feeling good in body (5para5);
feeling up to it; feeling like self again, returning to normalcy (6para1; 13para4); having errands to do (context of walking)(6para3);
mind feeling clearer (6para4);
making body useful (6para4);
feeling better (11para2);
fitting into clothes (13para3);
preventing weight gain (13para3);
feeling energetic

Weather deciding factor in activities, changes plans, affects mood/motivation, reduces options (1; para2line1; 2paralmid; 2para2whole; 3para1; 4para5; 11para3);
winter will affect schedule (7para3);
(ease of accessing) distance due to lack of care (9para1; 3; 9 para4);
disinterest in public transportation (10para1),
lack of sleep varying importance (11para2; 17para1);
lack of childcare (11para2; 15para3);
cost (12para1);
facility quality (15para4);
physical limitations (breastfeeding/running) (15para3; 15para5; 16para1);
pain affecting intensity (16para3; 16para5);
feeling unmotivated – forcing oneself to go (17para2)
Appendix Q: Example of Early Diagram