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# Occupational Imbalance in Activity-Restricted Pregnancy

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OCCUPATIONAL IMBALANCE IN  
ACTIVITY-RESTRICTED PREGNANCY

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A Master's Thesis presented to the Faculty of the  
Graduate Program in Occupational Therapy  
Ithaca College

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In partial fulfillment of the requirements for the degree  
Master of Science

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by

Taryn Michelitch

November/2009

Ithaca College  
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CERTIFICATE OF APPROVAL

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This is to certify that the Thesis of  
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Master of Science in the Department of Occupational Therapy, School of Health Sciences and  
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## Abstract

Evidence shows that maternal stress, pain and change in activity levels have significant effects on birth outcome and infant health. Activity restriction is associated with negative impact on maternal mental health, including increases in stress and anxiety. Activity restriction is also associated with chronic or frequent pain and a decrease in physical activity. There is no current research with women experiencing activity-restricted pregnancies from an occupational focus. The purpose of this study was to explore the occupational experiences of women who are pregnant and prescribed activity restriction. Further, this study aimed to identify areas in which occupational therapy intervention may be appropriate and effective in addressing occupational imbalances and consequently tempering negative maternal health factors.

Occupational science was used as the theoretical background for the study. Two basic assumptions of occupational science guided the investigation. The first assumption is that individuals' occupations contribute to a balanced or unbalanced lifestyle. The second assumption was that occupational balance is essential for wellbeing and exists on a spectrum ranging from deprivation to overload. There were four expected outcomes. The participants were expected to have instances of occupational deprivation and of occupational overload. The women were expected to experience more negative emotions during activity restriction

This study was conducted using a phenomenological design. Extensive interviews were conducted with two women. The initial interviews were guided by the Canadian Occupational Performance Measure. Additional interview questions and measures were added to elicit information about the participants' experiences and feelings. Fourteen common themes were identified from the interview transcripts. The themes are explained in detail. The implications for occupational science, occupational therapy and the wider health community are discussed.

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## Table of Contents

Chapter 1: Introduction .....	1
Background .....	1
Purpose .....	6
Key Terms and Concepts .....	6
Figure 1 : Occupational Balance Spectrum with Operational Definitions .....	12
Chapter 2: Literature Review .....	13
Occupational Imbalance .....	13
Effects of Prenatal Stress on Birth Outcomes .....	14
Factors Effecting Occupations of Women Who Are Pregnant .....	16
Current Intervention for Occupational Issues in Pregnancy .....	22
Occupational Therapy and Its Place in Activity Restricted Pregnancy.....	25
Purpose .....	26
Chapter 3: Methods and Procedure .....	27
Research Questions .....	27
Hypothesis .....	27
Design and Assumptions .....	27
Participants and Selection Method .....	28
Data Collection: Tools and Methods .....	29
Scope and Limitations .....	34
Chapter 4: Results .....	35
Participant Information .....	35
Identified Themes .....	35

Figure 2a .....	54
Figure 2b .....	55
Chapter 5: Discussion .....	56
Overall Experience .....	56
Importance for Medical Professionals .....	56
Connections to Occupational Science .....	57
Implications for Occupational Therapy .....	59
Implications for Health Care and Wider Society .....	61
Chapter 6: Summary, Conclusions, & Recommendations .....	63
Summary of Study .....	63
Further Research Possibilities .....	64
Appendix A: Human Subjects Proposal Approval .....	66
Appendix B: Recruitment Materials .....	67
Appendix C: Instruments and Sample Interview Questions .....	70
Canadian Occupational Performance Measure (Modified).....	71
Interest Checklist .....	76
Activities Wheel and Questionnaire .....	78
Satisfaction With Life Scale.....	80
Profile of Mood States Technical Brochure.....	81
Sample Interview Questions .....	85
References .....	86

# Occupational Imbalance in Activity-Restricted Pregnancy

## Chapter 1: Introduction

### *Background*

Although a substantial body of literature has explored pregnancy and maternal health, few current studies have focused on the experience of women with activity restrictions during pregnancy. The relatively small body of literature that has examined activity restriction have primarily focused on its affect on prenatal health, using birth outcomes as a measure of the impact of the imposed activity restriction on the child. These studies have largely ignored any effect on maternal health. Research has consistently shown that during pregnancy and the perinatal period women are at a higher risk for emotional stress, physical pain, fatigue, and changes in activity levels (Cheng et al., 2006; Ciardi, Gozzo, & Wilmarth, 2002; Franklin & Conner-Kerr, 1998; May, 2001; Mogren, 2005; Wang et al., 2004). Moreover, these maternal risk factors have been correlated with negative birth outcomes. In an attempt to prevent adverse birth outcomes, physicians often prescribe various levels of activity restriction for women during high-risk pregnancies (Poudevigne & O'Connor, 2006). While there is little evidence indicating that these restrictions actually improve birth outcomes, they have been associated with increased maternal stress, pain, and activity changes (Poudevigne & O'Connor, 2006). Further, researchers have demonstrated that, over time, the effects of stress, pain, fatigue, and change in activity level can have a negative impact on the occupational balance in an individual's life (Cheng et al., 2006; Christiansen & Matuska, 2006; Mogren, 2005; Wang et al. 2004). As explained below, healthy, balanced occupational pattern is essential for well-being. In addition to the implications of current research regarding activity restriction and maternal well-being, the factors identified as

affecting maternal health are also identified as negative risk factors for birth outcome and infant health.

The term *occupation* refers to any meaningful activity a person performs during their life. In an address to the first annual meeting of the Society for the Promotion of Occupational Therapy in 1922, Adolf Meyer categorized occupation by identifying the “big four- work and play and rest and sleep” (as cited in Christiansen & Matuska, 2006, p. 50). The Occupational Therapy Practice Framework: Domain and Process (Second Edition) now recognizes eight areas of occupation: activities of daily living (ADL), instrumental activities of daily living (IADL), rest and sleep, education, work, play, leisure, and social participation (American Occupational Therapy Association, 2008). The definitions for each of these areas are included in the Key Terms and Concepts section (see p. 6).

Yerxa et al. (1989) defined *occupational science* as “the study of the human as an occupational being including the need for and the capacity to engage in and orchestrate daily occupations in the environment over the lifespan” (as cited in Johnson & Yerxa, 1989, p. 6). Occupational science asserts that humans are occupational by nature, deriving their sense of personal identity from their occupations. Further, occupational science posits that a person’s health and well-being is dependent on and balance of participation in occupations from a variety of categories throughout each day (Clark, 2000). A basic assumption of occupational science is that an individual can engage in either a balanced or an imbalanced pattern of occupational behavior, and that this distribution of behavior can affect overall health (Christiansen & Matuska, 2006). Thus, the term *occupational balance* is used to refer to the healthful salutary pattern of

occupational behavior with participation in a diverse range of required and chosen occupations (Christiansen & Matuska). Occupational balance exists on a spectrum; on either end of the spectrum are occupational balance and occupational overload.

A woman's occupational involvement during pregnancy is affected by her emotional stress, physical pain, fatigue, and any prescribed activity restriction (Cheng, et al., 2006; Christiansen & Matuska, 2006; Mogren, 2005; Wang et al., 2004). Studies have indicated that back and pelvic pain are common sources of pain during pregnancy, with the reported rates of incidence ranging from approximately 47% to 82% of the women in the study samples (Ciardi, Gozzo, & Wilmarth, 2002; Franklin & Conner-Kerr, 1998; Wang et al., 2004). Many of the study participants reported that the combination of the pain and the physical limitations associated with the pain made it difficult or impossible to engage in everyday occupations (Cheng et al., 2006; Wang et al., 2004; Mogren, 2005). Despite a lack of empirical evidence to support of the practice, obstetric and gynecology (OB/GYN) physicians prescribe bed rest, the most extreme form of activity restriction, in approximately 20% of pregnancies (Poudevigne & O'Connor, 2006). In one study, up to 60% of women reported being inactive during pregnancy due to a combination of personal factors and physician prescription (Poudevigne & O'Connor). Not surprisingly, inactivity affected most of the occupational roles filled by these women in their families, their communities, and their work environments. Physical limitations such as decreased endurance, increased incidence of pain, and altered center of gravity may directly prevent a woman from performing certain tasks associated with an occupation. Prescribed activity restriction proscribes a woman from performing certain tasks based on the assumption those tasks may endanger the fetus. Whether activity

restrictions are the result of natural occurring physical limitations, physician's prescription, or other personal factors, inactivity is linked with negative changes in maternal mental health (Cheng et al.; May, 2001; Mogren). Further, in all these situations, there is the likelihood of a bidirectional relationship between inactivity and biopsychosocial factors. Although these factors often force the individuals to decrease their activity levels, inactivity in and of itself may cause a change in medical, physical and psychological states.

Given the effects of occupational imbalance on overall health, it is important to address this issue of occupational balance in any population. Addressing this issue with women who are pregnant is especially important because the negative effects of imbalance are two-fold; an imbalance not only affects the woman's health and well-being but those changes in maternal health, also affect the fetus. Research has established a significant positive correlation between increased maternal stress and increased incidence of low birth weight and small-for-gestational-age birth, two indicators of overall infant health (Bastani et al., 2006; Sable & Wilkinson, 2000; For definitions of these terms, see the Key Terms and Concepts section on p. 6.) In addition, researchers have demonstrated a correlation of activity changes during pregnancy with low birth weight and small gestational size (Leiferman & Evenson, 2003; Poudevigne & O'Connor, 2006). The most significant correlation was established with a change from an active lifestyle before pregnancy to an inactive lifestyle during pregnancy (Poudevigne & O'Connor, 2006). Increased maternal stress has also been linked to an array of negative outcomes including increased maternal use of alcohol and tobacco, both of which negatively impact fetal health (Boyles et al., 2000), and increased incidence of spontaneous abortion.

Occupational therapy is a clinical field that aims to “restore, reinforce and enhance performance” in everyday occupations (AOTA, 1972, p. 204). The role of the occupational therapist is to promote occupational balance by helping clients to “facilitate learning of those skills and functions essential for adaptation and productivity” (AOTA, 1972, p. 204). The domain of occupational therapy practice includes adapting environments and tasks to allow a person with functional limitations to successfully participate in occupations of importance to them. This domain clearly includes the type of intervention needed to aid pregnant women experiencing occupational imbalances resulting from functional limitations during pregnancy. Occupational therapy intervention could offer adaptations and supports to allow women to engage in meaningful occupations throughout gestation regardless of restrictions. An extensive search of literature indicated that occupational therapists are not currently working with pregnant women to correct occupational imbalances or address functional losses. Moreover, the health professionals who primarily work with women during pregnancy, namely OB/GYNs and nurses, tend to perceive functional limitation as a natural part of pregnancy and dismiss the women’s pain as a temporary situation that does not need to be formally addressed (Carr, 2003; Wang, et al., 2004). Although women are often prescribed months of bed rest—far longer than patients on bed rest for illness or orthopedic conditions—once the infant is delivered, these women are expected to step off of bed rest into infant parenting and return to previous roles with no support for their loss of strength or endurance. The U.S. Census Bureau (2002) reported that each year in the United States an average of 6.4 million women between the ages of 15 and 54 years old

become pregnant. This statistic means a large segment of the nation's population is suffering from occupational imbalance, for which they are not receiving any intervention.

#### *Purpose*

The purpose of the study described in this paper was to explore the occupational experiences of women who were pregnant and were prescribed activity restriction. Further, this study aimed to identify areas in which occupational therapy intervention may be appropriate and effective in addressing occupational imbalances in activity restricted pregnancy.

#### Key Terms and Concepts

This section presents the definition of technical terms and concepts that are relevant to the discussion presented in this paper. Terms and concepts are separated into of those relevant to occupations and occupational therapy, and those relevant to understanding the medical aspects of the discussion included in this paper.

#### *Terms Relevant to Occupations and Occupational Therapy*

*Occupation.* Occupation is often conceptualized as units of meaningful activity within the ongoing stream of human behavior defined by the personal and cultural relevance of those units. Self-initiated, goal directed (i.e., purposeful), and socially sanctioned daily pursuits (Yerxa, et al. as cited in Johnson & Yerxa, 1989, p. 5)

*Occupational science.* "The study of the human as an occupational being including the need for and the capacity to engage in and orchestrate daily occupations in the environment over the lifespan" (Yerxa, et.al., 1989 as cited in Johnson & Yerxa, 1989, p. 6)

*Occupational therapy.* A profession aimed at maximizing, “participation in selected tasks to restore, reinforce and enhance performance, facilitate learning or those skills and functions essential for adaptation and productivity, diminish or correct pathology, and to promote and maintain health. Its fundamental concern is the capacity, throughout the lifespan, to perform with satisfaction to self and others, those tasks and roles essential to productive living and to the mastery of self and the environment” (AOTA, 1972, p.204). Occupational therapist serve populations, systems and individuals of all ages and level of function.

*Domain of practice.* Areas of human experience that are addressed by practitioners of a profession. The framework/model constructed by the AOTA and defined in the *Occupational Therapy Practice Framework: Domain and Process, Second Edition* (OTPF-II; AOTA, 2008) includes the following eight areas:

1. *Activities of daily living (ADL)*—Activities associated with a person’s self-care of his or her own body and physical needs (Rogers & Holm, 1994, as cited in AOTA, 2008, p. 631). These activities include eating, feeding, bathing/showering, bowel and bladder management, dressing, functional mobility, personal device care (i.e., hearing aids, contact lenses, prosthetics, sexual devices), personal hygiene and grooming, sexual activity, and toilet hygiene (AOTA, 2008, p. 631).

2. *Instrumental activities of daily living (IADL)*—Basic activities of daily life that are not immediate to personal care, but often involve interaction with one’s environment in complex ways (Rogers & Holm, 1994 as cited in AOTA, 2002, p.620). IADLs include: care of others (including selecting and supervising caregivers), pet care, child rearing, communication management (sending, receiving, and interpreting information

through typical or adaptive communication devices), community mobility, financial management, health management and maintenance, home establishment and management, meal preparation and cleanup, religious observance, safety and emergency maintenance, and shopping (AOTA, 2008, p.631).

3. *Rest and sleep*—“Activities related to obtaining restorative rest and sleep that supports healthy active engagement in other areas of occupation” (AOTA, 2008, p.632). In addition, this area includes 4 subcategories of rest: (“identifying the need to relax; reducing involvement in taxing physiological, mental, or social activities” [AOTA, 2008, p.632]), sleep, sleep preparation, and sleep participation (AOTA, 2008).

4. *Education*—This occupation area comprises pursuits “...needed for learning and participating in the environment” (AOTA, 2008, p. 632). These activities include formal education preparation, such as academic and extracurricular participation; exploration of informal personal needs or interests beyond formal education; and informal personal education participation, such as classes or training programs (AOTA, 2008, p. 632).

5. *Work*—Activities contributing to paid employment or volunteer positions (Mosey, 1996 as cited in AOTA, 2008, p. 632). These activities include identifying and selecting work opportunities, employment seeking and acquisition, job performance, retirement preparation and adjustment, exploring volunteer opportunities, and volunteer participation (AOTA, 2008, p. 632).

6. *Play*—“Any spontaneous or organized activity that provides enjoyment, entertainment, amusement or diversion” (Parham & Fazio, 1997, as cited in AOTA,

2008, p. 632). These activities include play exploration and participation (AOTA, 2008, p. 632).

7. *Leisure*—“A non-obligatory activity that is intrinsically motivated and engaged in during ...time not committed to obligatory occupations such as work, self-care, or sleep” (Parham & Fazio, 1997, as cited in AOTA, 2008, p.632). These activities include leisure exploration and participation (AOTA, 2008, p.632).

8. *Social participation*—Activities associated with maintaining behaviors expected by a given social system (AOTA, 2008). Activities included in this area involve interaction and relationships with community, family, peers, and friends (AOTA, 2008, p. 633).

*Occupational balance.* A healthy pattern of occupational behavior that is intrinsically satisfying and contains a variety of occupations. A state in which there are enough meaningful occupations to fill a person’s day, while leaving time enough to complete both required and voluntary, chosen occupations throughout the day (adapted from Christiansen & Matuska, 2006; Bendixen, et al., 2006).

*Occupational deprivation.* A state in which a person has reduced, little or no meaningful activity in their everyday life.

*Occupational overload.* A state in which the individual feels the time and energy demands of one or more of their daily occupations are overwhelming.

#### *Medical Terms Associated with Stages of Pregnancy*

*Gestation/ Pregnancy.* The period during which an embryo develops within a woman’s uterus, usually considered to span the time from conception until the time of termination through birth, spontaneous abortion, or intentional abortion (Anderson,

Anderson, & Glance, 1998; Jacobs, A. & Dirckx, 2005). In humans, the gestational period is approximately nine months (266 days).

*Perinatal.* Pertaining to the time and process of giving birth or being born, perinatal time period occurring before, during, and after birth spanning from the 28th week of gestation to the 28th day after birth (Anderson et al., 1998; Jacobs, & Dirckx, 2005).

*Postpartum.* Pertaining to the time after birth (Anderson et al., 1998, p.1297).

*Prenatal.* Pertaining to the time prior to birth (Anderson et al., 1998, p.1313). Occurring or existing before birth (Jacobs, A. & Dirckx, 2005, p.1173). In addition, the term prenatal is often used to refer to the type of care offered pregnant women as well as the physical growth and development of the fetus inside the womb (Jacobs & Dirckx, 2005, p.1173).

*Trimester.* A period of three months, which is used as an artificial division of human pregnancy into three stages (i.e., first, second, and third trimesters).

#### *Medical Terms Associated with Birth and Infancy*

*Full term birth.* Infants are considered to be born at full term if born within two weeks of the mother's due date, which is typically calculated as the 40th week from her last menstrual period (Kimsey, 2009). Given that the date of conception is often imprecise and the inexact nature of these calculations, full term birth is used to describe a child born between the 38th and 41<sup>st</sup> week of gestation.

*Gestational age.* The age of a fetus or newborn, usually expressed in weeks from the first day of the mothers last menstrual period (Anderson et al., 1998).

*Low birth weight (LBW).* Infants weighing less than 2500 grams at birth (approximately 5.5 pounds), regardless of gestational age (Anderson et al., 1998, p. 957; Jacobs & Dirckx, 2005, p.852)

*Postmature infant.* Infant born after the 42nd week of gestation, who bears the physical signs of deficiency from placental insufficiency (Anderson et al.,1998, p.1298).

*Premature/ Preterm infant.* Preterm birth describes an infant born after 20 weeks to 37 weeks of gestation. Viability of the infant, that is, the infant's ability to sustain life outside of the mother "usually occurs after 25-26 weeks of pregnancy" (University of Washington Medical Center, 1999).

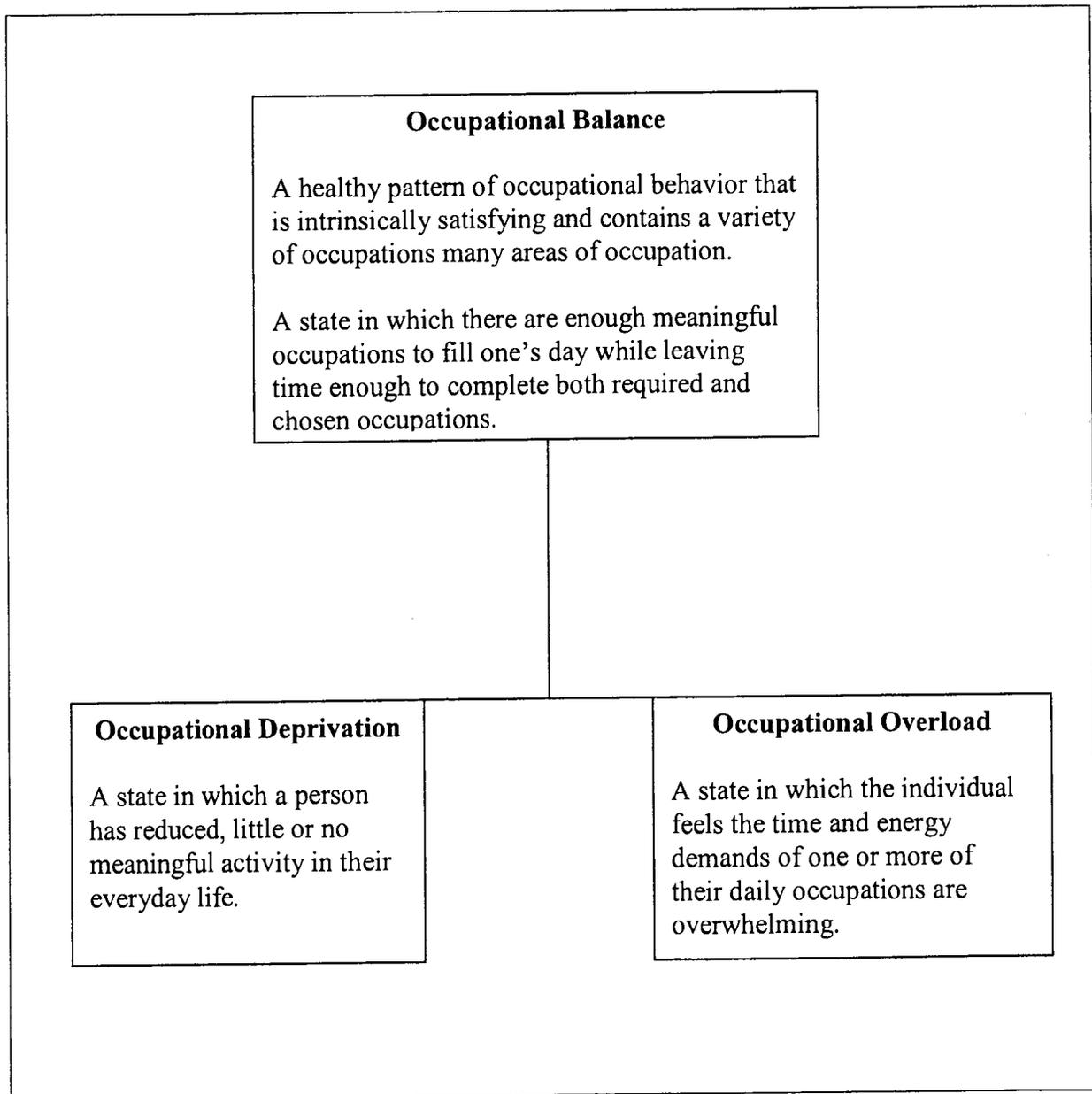


Figure 1: Occupational Balance Spectrum with Operational Definitions.

## Chapter 2: Literature Review

### *Occupational Imbalance*

Occupation is a term that refers to any meaningful activity a person performs throughout their daily life (Yerxa, et.al. as cited in Johnson, & Yerxa, (Eds.), 1989, p.5). Since the early formation of occupational terminology, occupations have been divided into functional categories. Adolf Meyer (1922), an early proponent of occupational therapy, identified the “big four- work and play and rest and sleep” (as cited in Christiansen & Matuska, 2006). The Occupational Therapy Practice Framework, 2<sup>nd</sup> edition (OTPF-II) is a current professional tool used to guide evaluation and intervention in the field of occupational therapy (AOTA, 2008). The authors of the OTPF-II revised Meyer’s original categories, and now recognize eight areas of occupation: Activities of Daily Living (ADL), Instrumental Activities of Daily Living (IADL), Rest and Sleep, Education, Work, Play, Leisure, and Social Participation (AOTA, 2008).

Occupational science is the study of human occupations, including the intrinsic motivation to engage in occupation and the importance of occupation to personality (Clark, 2000; Yerxa et.al. as cited in Johnson & Yerxa, (Eds.), 1989). A basic assumption of occupational science is that the occupations in which individual engages contribute to a balanced or imbalanced occupational pattern and that this pattern can impact overall health (Christiansen & Matuska, 2006). This concept is referred to as occupational balance. Occupational balance exists on a spectrum (see Figure 1). On one end of the spectrum lies occupational overload. Occupational overload describes a state in which the individual feels the time and energy demands of one or more of their daily occupations are overwhelming. Håkansson, Dahlin-Ivanoff, & Sonn, (2006) discuss this concept in

their study addressing the amount of time each day that people spend on different types of occupations (Håkansson, et al). The authors concluded that occupational overload is linked to the recent increases in stress related disorders throughout much of western culture (Håkansson, et al.). The other end of the occupational balance spectrum is occupational deprivation. Occupational deprivation describes a state in which a person has reduced, little or no meaningful activity in their everyday life (Håkansson, et al). Occupational deprivation has mostly been studied in elderly populations who are forced to reduce their participation in occupations as a result of increasing physical and cognitive deficits. In one particular study of mostly elderly adults ( $\geq 65$  years) with rheumatoid arthritis, participants who felt able to participate in daily occupations were less affected by depression than their less functional peers (MacKinnon, Noh, & Miller, 1998). Thus, occupational deprivation appears connected with negative mood disturbances.

A search of the literature revealed no studies examining the experience of women with activity-restricted pregnancies from an occupational science frame of reference. Indications of occupation imbalance on both ends of the spectrum have been observed in studies from other scientific and clinical fields. These studies will be discussed in the sections titled “physical limitation and pain in pregnancy: impact on activity”, and “effects if occupational involvement on birth outcomes”. No studies specifically targeted occupational involvement and its relationship with overall wellbeing in women with activity restricted pregnancies.

*Effects of Prenatal Stress on Birth Outcomes*

High levels of emotional and physical stress are damaging to the body. Stress negatively impacts cardiovascular health, blood pressure, mental health, and overall quality of life. Numerous studies have investigated the impact of prenatal maternal stress on birth outcome and postpartum health (Wurmser, Rieger, Domogalla, Kahnt, Buchwald, Kowatsh, et al., 2006; Bastani, Hidarnia, Montgomery, Agular-Vafaei, & Kazemnejad, 2006; Sable & Wilkinson, 2000). Current research shows that prenatal maternal stress negatively affects the postpartum health of infants and mothers (Wurmser et al.; Bastani, et al.; Sable & Wilkinson).

There is a wide variation in severity of the outcomes currently associated with prenatal maternal stress. A twelve month prospective longitudinal study of 86 women found that high levels of prenatal maternal stress was a predictor of increased infant crying in the first six months of life (Wurmser, et al.). Two studies correlated elevated stress levels with increased in use of alcohol and tobacco during pregnancy, both of which negatively affect fetal health (Boyles, et al., 2000; Sable & Wilkinson). One of these studies, following the behaviors and birth outcomes of 970 women concluded that higher levels of stress can be correlated with an increased incidence of spontaneous abortion of chromosomally normal fetuses (Boyles, et al.). The second study, a quantitative survey study of 2,378 births in Missouri, found a significant positive correlation between low birth weight and prenatal maternal stress (Sable & Wilkinson). A study of 110 Iranian women engaged in low risk first pregnancies showed that stress reduction in pregnant women had a strong positive correlation with a decrease in cesarean section births, a decrease in use of intrusive medical instruments to aid in birth, and a decrease in incidence of low body weight (Bastani, et al. 2006). These findings are

significant because prematurity, low birth weight and spontaneous abortion all increase rates of infant morbidity and mortality (Pulver, Guest-Warnick, Stoddard, Bylington, & Young, 2009). A search of the literature revealed no studies contradicting the conclusions of the above studies.

Emotional stress has also been shown to increase the incidence of nausea, vomiting, and fatigue during pregnancy, which are factors in general maternal health status (Chou, Lin, Cooney, Walker, & Riggs, 2003). Wurmser et al. (2006) found that increased life stress during pregnancy was correlated with increased crying in infants throughout the first six months of life. Infant crying can then have negative effects on post-partum maternal emotional state. Overall, the current literature indicates that maternal stress during pregnancy has a wide array of negative effects on maternal well-being as well as birth outcome and infant health.

#### *Factors Effecting Occupations of Women Who Are Pregnant*

Several factors contribute to the incidence of occupational imbalance in women who are pregnant. Physical pain is common in pregnancy, often deterring women from activities that require specific movements or postures. Weight gain and physical changes associated with pregnancy make it difficult for women to participate in their normal occupations. Physicians also prescribe physical restrictions to women who experience complications or who are at risk for complications. These restrictions can involve lifting, walking, or, in extreme cases, sitting upright beyond 45 degrees.

#### *Pain*

Past and current research has shown an increased prevalence of low back and pelvic area pain in pregnant women as compared to the population of non-pregnant

women. Current studies tend to estimate between 47% and 82% of women experience low back pain during pregnancy (Franklin & Conner-Kerr, 1998; Ciardi, Gozzo, & Wilmarth, 2000; Wang, et al., 2004). An anonymous survey of 950 Connecticut women cited the incidence of low back pain in pregnancy at 50% to 90% (Carr, 2003). Wu et al. (as cited in Mens, Damen, Snijders, & Stam, 2006) found that 45% of pregnant women experience low back and pelvic girdle pain. A Swedish survey study of 891 women found that low back and pelvic pain occurred in 71.7% of pregnancies; 23.2% of the sample reported high levels of pain (Mogren, 2005). The findings in current research indicate that pregnant women are a population at higher risk for low back and pelvic area pain than the general population.

Pain has been shown to affect pregnant women's ability and desire to engage in occupation. Wang et al. (2004) conducted a study in which 57% of the women participating reported that their pregnancy-related pain impaired their daily activity, 49% of the women reported that they avoided difficult tasks, 58% of the women reported their pain caused sleep disturbance, and 10.6% reported that they were forced to take time off of work (Wang et al.). Approximately one third of the women reported that they had stopped at least one daily activity and rated all the rest of their daily activities as mildly or severely difficult (Wang et al.).

### *Physical Changes*

Non-painful physical limitations also occur during pregnancy. Cheng et al. (2006) conducted a survey study using a convenience sample of pregnant women in the work force. Of 72 women, 60% indicated they found at least one work task to be problematic during pregnancy (Cheng et al.). In this study, the participants identified bending,

twisting, pushing, reaching above the head, repeating actions and fast paced work as difficult components of work tasks (Cheng et al.). The most consistently identified factor that made tasks difficult for these women was physical fatigue, although fear of injury and excessive effort were also significant factors (Cheng et al.). The findings indicate that work occupations may take more time and cause more stress for women who are pregnant as opposed to women who are not pregnant (Cheng et al.). This increase in stress and time spent may influence a woman's decision to stop engaging in some or all work occupations. This conclusion is consistent with studies that find women take more sick leave and are forced to change work duties during pregnancy (Wang et al., 2004, Poudevigne & O'Conner, 2006).

#### *Physician Prescribed Activity Restriction*

Restriction of occupational involvement has been shown to have an effect on mental health in pregnancy (DeCosta et al., 2000 as cited in Poudevigne & O'Connor, 2006; Maloni, Margevicius, & Damato, 2006). Activity restriction is prescribed to women for conditions such as preterm labor, previous spontaneous abortion, fetal growth retardation, edema and pre-eclampsia, as well as other pain and medical symptoms. There is little to no evidence that activity restriction is an effective treatment for any condition other than an incompetent cervix (Crowther, 2001; Poudevigne & O'Connor, 2006). A study performed by Crowther (2001), revealed that in randomized clinical trials, there was no significant difference in gestational age at birth, birth weight, morbidity, or mortality between women prescribed bed rest in the hospital, the most extreme form of activity restriction, and those left unrestricted in their homes. Obstetric and gynecological (OB/GYN) physicians prescribe bed rest in approximately 20% of pregnancies

(Poudevigne & O'Connor, 2006), and up to 60% of women are inactive during pregnancy (Poudevigne & O'Connor). Inactivity affects occupations associated with many of these women's roles in their families, their communities, and their work environments, creating occupational imbalance in their lives.

#### *Effects of Occupational Involvement*

Occupations performed during pregnancy have a direct and indirect link to birth outcomes. While some occupations may physically pose a direct risk to a developing fetus, most physical activity has been shown to positively impact birth weight and lower incidence of preterm birth (Pompeii, Savitz, Evenson, Rogers & McMahon, 2005). Ability to participate in daily occupations effects mood, emotional experience and physical condition (Håkansson, et al, 2006). When a woman who is pregnant experiences an occupational imbalance, her mental and physical health may decline. The woman's decline in health often has a negative affect on fetal health and birth outcome.

#### *Direct Effect on Birth Outcomes*

While overall physical activity during pregnancy is healthy, there are certain activities that increase the risk of delivering a small for gestational age infant or a preterm infant. In two separate studies of multiple workplace factors, it was determined that working at night or working irregular hours were the only factors that independently seemed to affect the likelihood of giving birth to small for gestational age infants and of preterm births (Pompeii, Savitz, Evenson, Rogers, & McMahon, 2005; Crouteau, Marcoux, & Brisson, 2006). Other factors more commonly associated with ill affects such as prolonged standing, lifting and working long hours were not found to be independently significant factors in determining birth outcome. Some significance was

noted when several factors were present at once. Though there are some risks associated with these factors, overall activity has been associated with positive outcomes. In a retrospective study of over 9,000 births, Leiferman and Evenson (2003) determined that women who exercised before and during pregnancy had better birth outcomes than any other sample group. Women who exercised before pregnancy but then became inactive during pregnancy had the worst birth outcomes (Leiferman & Evenson). These findings suggest that maternal inactivity, especially when the mother has been previously active (as in cases of prescribed bed rest), puts the developing fetus at risk.

### *Maternal Health*

Women in studies on activity restriction showed an increased incidence and length of depression from their active peers and an overall increase in mood disturbances (DeCosta et al., 2000 as cited in Podevigne & O'Connor; Maloni, Margevicius, & Damato, 2006). The women in these two studies reported that inability to perform occupations vital to their familial roles was their greatest source of stress and anxiety (Podevigne & O'Connor; Maloni et al.). In a grounded theory study, May (2001) explored the experiences of women and their families during prescribed maternal activity restriction. Participants in the study reported feelings of boredom, incompetence, and frustration from their inability to participate in even simple everyday tasks (May). Many described a sense of isolation and identity loss (May). Still others described a sense of overwhelming expectations, which they could not reach in their compromised physical and emotional state (May). Without directly focusing on occupational themes, May's study reveals strong indications of occupational imbalance among her participants. Occupational imbalance affected the women themselves and their family members. Every

participant interviewed expressed emotional distress due to the activity restriction (May). The participants experienced a mix of occupational overload and occupational deprivation. May describes this dichotomy of occupational imbalance experienced by families dealing with activity restriction:

“They [the mother] had a great deal of time to think and worry about the unborn, their partner, and other children, but felt unable to do much to improve the situation. Partners, on the other hand, were responsible for “holding everything together.” They had to take on a number of new activities...while continuing to manage their previous responsibilities” (May, pp.34-35).

In cases where the woman does not have adequate social networks for support, she may also feel occupational overload during activity restriction. In May’s study, many mothers struggled to comply with the demands of their doctor’s orders while maintaining their household and caring for other children (May). One mother describes keeping her toddler in a playpen for the majority of the day because she could not simultaneously comply with her bed rest regiment and keep him safe while he played (May). She, like many of the other mothers in the study, expressed anxiety and guilt over the compromises she was forced to make between caring for her unborn child and her older child (May). In these cases, bed rest or activity restriction becomes its own set of occupations. Complying has deep meaning for the mothers because they believe compliance is vital to the protection of their unborn infants. These bed rest occupations conflict with fulfillment of familial roles. Women do not have the time, energy and resources to manage both sets of occupations. The stress, anxiety and depression from occupational overload have negative effects on the health of the mother and the fetus.

*Current Intervention for Occupational Issues in Pregnancy*

Currently, there is a lack of intervention of any kind being used to aid pregnant women to engage in occupation throughout pregnancy. Several studies revealed that many physicians do not attempt to treat physical pain or limitations in their pregnant patients, dismissing the problem as a natural part of pregnancy (Wang et al., 2004; Carr, 2003; May, 2001). The presiding medical opinion seems to minimize functional loss during pregnancy because it is assumed to have only temporary effect. Some physiotherapists have investigated the use of a pelvic support binder or similar postural support device to relieve back and pelvic area pain (Franklin & Conner-Kerr, 1998; Carr; Mens et al., 2006), but did not look specifically at functional limitations associated with the pain. No other interventions were discovered in current literature.

Occupational therapy is a clinical field which aims to “restore, reinforce and enhance performance” in everyday occupations (AOTA, 1972, p.204). Occupational therapists often work with clients to adapt their environments, adapt the occupations in which they want to engage, or to support the learning of new skills. The end goal of therapy is to leave the client with the internal and external resources to engage in the occupations that are important to them.

Research indicates that women with activity restriction during pregnancy experience loss of function, pain, and possible instances of occupational imbalance. Any population experiencing such limitations can benefit from occupational therapy intervention. Currently, however, there is no literature discussing occupational therapy intervention for women with activity restricted pregnancies. The lack of current literature implies that there either is no involvement of occupational therapists with this type of

intervention in the pregnant population, or that there has been no research exploring the efficacy of intervention in the population.

### *Occupational Science as a Theoretical Base*

Occupational science is the study of humans as occupational beings (Clark, 2000). In one of the foundational articles for occupational science, Yerxa et al. (1989) wrote that occupational science “grew in recognition of the significance of occupation to all human beings and the need for a basic science to support occupational therapy practice” (as cited in Johnson, & Yerxa, (Eds.), 1989, p.4-5). Until the creation of occupational science, no basic science existed with the purpose of explaining human occupation (Yerxa, et.al. as cited in Johnson, & Yerxa, (Eds.), p.5). Occupational therapy as a profession borrowed research and knowledge from a variety of fields, but had no science that applied directly to its concepts and interventions (Yerxa, et al. as cited in Johnson & Yerxa (Eds.)). As Yerxa et al. wrote, occupational therapists were treating “complex and devastating problems which impact every aspect of occupation throughout the lifespan...with insufficient knowledge of *capacity*; how humans develop and sustain independence, adapt to environmental challenges and learn competency”(Yerxa, et al. as cited in Johnson & Yerxa (Eds.), p.4).

Yerxa, et al. (1989) discuss the belief system behind occupational science (Johnson & Yerxa (Eds.), 1989). This belief system is the foundation for the use of occupational science as a theoretical model. The major assumptions of occupational science are as follows: occupational engagement is vital to health, occupations are integrated closely with one’s personal identity, and engagement in meaningful occupation is an integral part of humanity that is “wired” into human behavior (Clark, 2000, p.73;

Yerxa et.al. as cited in Johnson & Yerxa (Eds.), 1989, p.7). These assumptions assert the importance of occupations to humans. Another essential tenet of occupational science is the emphasis on functional ability rather than pathology (Yerxa et al. as cited in Johnson & Yerxa (Eds.), 1989, p.10-11). Early occupational science proponents saw the value in straying from the reductionist trend in western medicine, and intended the field to support the holistic values of occupational therapy (Yerxa et al. as cited in Johnson & Yerxa (Eds.), 1989).

Occupational science is meant to be applied to the practice of occupational therapy in order to improve the quality of care provided to clients (Yerxa et al. Johnson & Yerxa (Eds.), 1989). The assumptions of occupational science reflect the values of occupational therapy (Yerxa et al. Johnson & Yerxa (Eds.), 1989, p.10). The importance of occupation is stated in the Occupational Therapy Practice Framework- II, which outlines the areas of human occupation and emphasizes the use of occupationally based intervention (AOTA, 2008). Occupational therapists are equipped to assess the occupational health of clients, including women who are pregnant (AOTA, 2008). If it is found to be necessary, it is within the occupational therapy domain of practice to help the client establish new skills, adapt activities and modify environments to improve occupational health (AOTA, 2008). The focus of occupational science on functioning rather than pathology allows for a broader scope of practice including populations with and without identified pathology. Most women who are pregnant experience functional limitations whether or not there is an underlying physical pathology (Chou, Lin, Cooney, Walker , & Riggs, 2003; Cheng, et al., 2006). Illness or medical condition may increase those functional limitations. The holistic approach used in occupational therapy

intervention is appropriate for working with women who are pregnant because these women experience physical, mental and social changes during pregnancy that may affect overall health.

### *Occupational Therapy and Its Place in Activity Restricted Pregnancy*

As the literature clearly illustrates, a large portion of women who are pregnant suffer from functional limitations during pregnancy. Whether those limitations are imposed by a physician's prescription or due to physical pain and movement difficulty, the result is a decreased ability to engage in a healthy variety of occupations.

#### *Significance to occupational therapy*

When the values of occupational therapy are applied to women who are functionally limited during pregnancy, it is clear that occupational therapy can offer valuable services to this population. An occupationally based intervention aimed at establishing new skills, adapting occupations and modifying home environments for women who are pregnant may increase the ability of women who are pregnant to engage in the occupations they find meaningful.

As has been discussed throughout this literature review, an increase in healthy occupational balance among women who are pregnant will support overall improvement in mental and physical health of the woman. By working to correct the woman's occupational imbalance, the intervention may indirectly lift the occupational overload experienced by the family members of women who are pregnant, thus improving the mental and physical health of the family. The physical benefit of reducing stress and occupational overload in women who are pregnant will also positively impact the health of the infants.

Any improvement in the health of women and their families would benefit the wider population. Societal financial burdens of neonatal intensive care units would decrease due to lower rates of premature and low birth weight infants. The United States currently falls behind other developed nations in measures of infant health (World Health Organization, 2007). Lower rates of infant mortality and morbidity may improve the reputation of the American health system in the eyes of international health organizations.

The profession of occupational therapy will also benefit from involvement with a new client population. As the first profession to address occupational imbalance in pregnancy, occupational therapists will be able to set standards for treatment and be recognized as experts in the field. The services offered to these women will be unique to occupational therapy. Recognition as experts and the ability to offer unique services will increase the value of occupational therapists as members of health teams treating women in pregnancy. The application of occupational therapy intervention to a new population will create more career opportunities for occupational therapists.

### *Purpose*

The purpose of this study is to explore the occupational experiences of women who are pregnant and prescribed activity restriction. Further, this study aims to identify areas in which occupational therapy intervention may be appropriate and effective in addressing occupational imbalances in activity restricted pregnancy.

## Chapter 3: Methods and Procedure

### *Research Questions*

The overarching research question examined in this study was as follows: What are the occupational experiences of women with activity restricted pregnancies? This question is broad in nature and allowed for investigation into all areas of the participant's physical, emotional, social and psychological experiences. In order to guide data collection and analysis, four specific sub-questions were identified: What common themes exist among women experiencing activity restriction? What occupational domains are impacted? What indications are there of occupational imbalances? How do women describe their psychological and emotional experiences?

### *Hypothesis*

Based on current literature and on the assumptions of occupational science, four statements were developed in order to outline the expected findings. Due to the documented emotional demands and physical restrictions associated with prescribed activity restriction, it is expected that the women interviewed will have instances of occupational deprivation and overload. Women will experience more negative emotions during activity restriction. Prescribed activity restriction spans home, work and other community environments, therefore, it is expected that the women will express changes in multiple areas of occupation. Considering the lack of evidence of interventions targeting the impact of activity restriction, the women are also expected to express dissatisfaction with the support received from their prenatal doctors.

### *Design and Assumptions*

The core of this study is based on the principals of phenomenological research. Phenomenological research is a broad term that refers to qualitative methods that seek to understand the holistic experiences of a population. Denzin and Lincoln (2003), yes add this two researchers at the current forefront of qualitative study described phenomenology as “principally concerned with understanding how the everyday, intersubjective world is constituted. The aim is to grasp how we come to interpret our own and others’ action as meaningful” (p. 297).

Two basic assumptions in phenomenological research are that knowledge cannot be quantified or reduced to numbers or statistics and that truth and understanding of life can emerge from people's life experiences.

Phenomenological research was developed in part as an investigative approach to studying the experiences of underrepresented populations. The design was meant to provide broad and truthful information. To this end, phenomenological design places value in extensive and organized data collection. Also valued is the close examination of personal bias on the part of the researcher.

#### *Participants and Selection Method*

The selection criteria for this study required participants to be currently pregnant, currently prescribed activity restriction of any sort by a prenatal physician, and be age 18 or above. It was believed that the only truly accurate reporting of the experience during activity restricted pregnancy would be women currently involved in the experience.

Participants were required to be age 18 or above so that they could independently legally consent to participation in the study.

Participant recruitment took place in the Washington, DC metropolitan area as well as within a two hour driving radius of Ithaca College. Flyers advertising the study were posted in obstetric and gynecological (OB/GYN) offices, alternative birthing centers, midwives' offices, preschools, and public libraries. The flyer used is included in appendix B. All offices with flyers were also given contact forms on which willing individuals could place their preferred contact information. The individuals could leave the information in a private envelope at the reception desk if they desired. Individuals were also provided contact information for the primary researcher. Flyers were handed out to individuals attending the annual Ithaca Birth Fair. Recruitment statements were posted on appropriate area specific websites. Word of mouth was also an important recruitment tool.

There were six responses to the recruitment efforts. Four women did not fit into the participant criteria. Two respondents were excluded because they had already given birth and were no longer on bed rest. Two respondents were excluded because they were not prescribed activity restriction by their physicians. Two respondents were eligible and willing to participate in the study.

#### *Data Collection: Tools and Methods*

The bulk of data was collected using open-ended interviews. Each participant was interviewed on two separate occasions. All interviews were recorded on audiocassettes. The initial interviews with each participant were guided by a modified version of the Canadian Occupational Performance Measure (COPM). Four additional measures were used to guide the interviews and to support the interview data. At the end of the first interview, participants were asked to complete a Satisfaction with Life Scale. The

participant was then asked to complete an activity checklist and an activities wheel between the first and second interviews. The Profile of Mood States was administered at the start of the second interview session. Additional questions were asked during both interviews. Additional questions allowed the researcher to collect information on topics not specifically included in the COPM. Copies of all measures and a list of sample interview questions are included in appendix C.

#### *Canadian Occupational Performance Measure*

The Canadian Occupational Performance Measure is a commonly used tool for intake interviews in occupational therapy. It is a semi-structured interview. Participants are asked to describe functional changes in three occupational areas: self-care, productivity and leisure. In each occupational area are several more specific sub-categories. The COPM is administered as a structured interview. After identifying occupations in which they have experienced functional changes, the participants are asked to rate the importance of each occupation on a scale of one to ten, one signifying little importance and ten signifying the greatest importance. Up to five of the highest rated occupations are then listed on the last page of the assessment. These five occupations are then rated on the same one to ten scale first for the participants' current performance of the occupation and then for the participants' satisfaction with their current performance.

The COPM was modified for use during the interviews in this study. The front page was replaced. The new front page asked for the participant's identification number rather than a name. It asked for age, current week gestation, if a fertility treatment had been used, the date that activity restriction was prescribed and the nature of the restrictions. The modified COPM is included in appendix C. The written instructions were also

modified to ask that participants identify *changes* rather than *problems*. This change was made to encourage participants to discuss positive and negative changes in the interview.

#### *Satisfaction with Life Scale*

The Satisfaction with Life Scale (SWLS) is a short assessment of global quality of life. The scale consists of five items. Participants are asked to rate each item from one to seven respectively meaning strongly disagree, disagree, slightly disagree, neither agree nor disagree, slightly agree, agree, strongly agree. The scale is scored by adding the ratings from all five items. The total score will fall into a category indicating which of seven levels of satisfaction the individual has. The levels of satisfaction range from extremely dissatisfied to extremely satisfied. A copy of the SWLS is included in appendix C.

#### *Profile of Mood States*

The Profile of Mood States (POMS) is a standardized mood assessment. There are 65 words listed that describe different emotions. The participant is asked to rate each item according to how they have felt in the past week. The scale is a Likert-type rating system in which each number indicates an amount. A score of zero indicates having had the emotion not at all, one indicates a little, two indicates moderately, three indicates quite a bit and four indicates extremely. Clinicians administering the POMS are not required to have participants consider their emotions over the span of a week. They may choose any time frame as long as the time frame is noted on the score sheet.

The POMS provides scores for each of six categories: tension, depression, anger, vigor, fatigue and confusion. An overall score is used to determine total mood disturbance. The POMS was chosen for this study because it includes a wide array of

positive and negative emotions. The POMS also has normative data for several populations. This study included only two participants, which makes it impossible to develop statistically significant comparisons between participant scores. Population norms allowed for consistent interpretation of scores and basic comparison to take place. A copy of the POMS answer sheet and score sheets are included in appendix C.

#### *Activities Wheel and Activities Configuration*

The activities wheel is a measure of daily time use. The wheel is a circle subdivided into increments of time. The circle is labeled with times, as a clock face would be. Participants are asked to fill in the subdivisions of the circle to indicate how much time they spend engaged in different occupations and at what time during the day the occupations take place. The activity configuration asks the participants how they feel about their time use and what they might change if they could. A copy of the activities wheel and activities configuration questions are included in appendix C.

#### *Interest Checklist*

Participants' interests were assessed using the Modified Interest Checklist (Model of Human Occupation, n.d.). The checklist consists of activities diverse in their physical, cognitive, and social demands. The participants are asked to rate their interest in each item within the last ten years and within the last year. Participants are then asked to indicate whether or not they currently participate in each item. The participants are able to add activities that are important to their lives, but are not included in the list. The interest checklist allows the researcher to gather information on which activities have been consistently important to the participants and which activities participants are

unable to participate in. This information is helpful for guiding interview questions. The interest checklist used is included in Appendix C.

#### *Interviews: Question Formation and Piloting*

Several steps were taken to form effective and appropriate interview questions. A list of topics was formed. For each topic, the researcher formed several specific questions. The researcher edited each question to include only neutral language. For example, any question that asked about *problems* would be altered to ask about *changes*. If the question could not be re worded to contain neutral language, an oppositely worded question follow up was written. For example, a question asking about negative medical experiences would be followed by a question asking specifically about positive medical experiences. This system was used in an attempt to minimize the affects of personal bias on the truthfulness of the interview data. Once formed, the questions were given to several outside reviewers. The reviewers were asked to give feedback as to the sensitivity and clarity of the questions.

The final research questions were used during a pilot interview with a volunteer who had experienced activity restriction with her first pregnancy. The volunteer was no longer pregnant, but could answer the questions retrospectively. The volunteer gave verbal feedback after the interview. This pilot interview was videotaped. The researcher and advisor reviewed the interview and made written notes for improvements. Notes and feedback were used to finalize the interview topics and procedure.

#### *Analyzing and Interpreting Data*

The interview and supporting data was analyzed using five steps. First, the audiocassettes of the interviews were transcribed into a word processing document. Field

notes on the tone, facial expression, and other indications of emotional context were added to the transcripts. The written transcript is then analyzed using horizontalization. Horizontalizing describes the process by which each statement in the interview is evaluated for meaning and relevance. It is essential for the researcher to afford each statement equal value during this process. The researcher must take into account the context, expression, tone of voice and word use when evaluating the statement. Once each statement has been evaluated, statements with similar meanings are grouped together. This process is called clustering. Each cluster of statements is then evaluated as a unit. A common theme for each cluster is identified that describes the essence of the statements and their meanings. The final step of phenomenological analysis is textural description, an overall description of the experience using the identified themes and supporting statements. In this study, the textural description was related to concepts of occupational balance.

#### *Scope and Limitations*

The nature of phenomenological research is to offer a rich qualitative depiction the experiences of a population. The scope of a study encompasses all emotional, physical, cognitive and contextual elements of that experience. This type of research allows for an in depth understanding of the target experience, but does not provide data on how populations compare to each other. By virtue of being qualitative and based on the participants' reports, the study lacks the ability to produce numerical data or support causation. The study included only two participants. This small sample may not be representative of the rest of the population of women experiencing activity restriction during pregnancy.

## Chapter 4: Results

### *Participant Information*

Background information was gathered about each participant. Factors were noted that set the participants apart from each other. Participant 1 was interviewed during her first restricted pregnancy. Participant 2 had experienced bed rest during her first pregnancy and was undergoing her second restricted pregnancy when interviewed. Participant 1 was not expecting to be on bed rest at any point during her pregnancy. She was surprised by the medical circumstances that forced her to restrict her activity. Participant 2 was aware from the start of gestation that she would have to spend at least the latter half of her pregnancy on full bed rest. Both participants had one older child living in the home with them. Participant 1 had a ten year old daughter, though, while participant 2's daughter was 17 months old at the time of the interviews. The difference in age of the daughters indicates a significant difference in associated parenting roles and responsibilities.

There were several common factors between the participants that may set them apart from the wider population of women with activity restricted pregnancies. Each participant had a supportive second parent living in the home. As mentioned above, each participant also had one older child living in the home. The participants both worked with young children in careers that required physical activity such as bending, lifting, and getting up and down from the floor. Both women were on full bed rest, a high level of activity restriction. Each woman lived in a single story house in which they were not required to climb or descend stairs.

### *Identified Themes*

Each interview was analyzed separately. Themes were identified in each interview. The interviews were then compared to identify which themes were present in both participants' experiences. Fourteen common themes were identified. Statements were selected from each interview to exemplify the essence of each theme. Each theme was given a title reflecting the participants' statements. In an effort to increase truthfulness of the themes, the theme titles were based on the actual language used by the participants whenever possible. A chart of the themes and the primary quotes is included in Figure 2a and 2b.

*Support and understanding.* Each participant stressed the importance of having physical and emotional supports. The need for emotional support was often expressed as a desire for someone to understand the participants' situations. As one participant stated, "I guess I just want someone to understand my plight and feel sympathy for me, you know?" In addition to direct statements of their needs, the participants also expressed the importance of understanding during their descriptions of experiences they had found supportive. There were three major sources of support identified: family, doctors, and the wider community.

The participants received much of their physical and emotional support from their family members. One participant described how her 10-year-old daughter and fiancé helped her to complete home management occupations. The other participant commented that the "grandmothers have not actually said no to anything" that she needed them to do for her. Both participants commented on the support they received from the second parent. The second parents were able to offer emotional support and take over some of the household responsibilities. The support of the second parents extended into help with

personal care and bed mobility as well. Commenting on the decline in her physical abilities, one participant stated that her husband would “shave my legs for me... he’s had to do it before when I was in the hospital.” The other participant stated that her fiancé had been “very attentive to her needs” and compared her daughter to a “little nurse.”

Participants also derived a great deal of support from their preferred pre-natal physicians. When asked to describe the relationships they had with their primary pre-natal physicians, the women each commented on the extent to which the physician seemed to understand their feelings, experiences, and condition. One participant described in detail her reasons for preferring one of her doctors to the rest in her HMO. Central to the physician’s positive qualities were her ability to make the participant feel understood. The other participant commented several times on the comfort she gained from feeling confident that her doctor knew her as an individual and understood her condition. Both participants stated that their preferred physician treated them as an individual with unique needs instead of “like a number”.

Each participant explicitly discussed the positive impact of having support from the wider community. One participant stated that “we have a great support system,” while the other participant commented that “everybody rallied together” to see what they could do “so I feel really supported. I feel like people actually care.” Each noted the emotional support of friends and the physical supports offered by members of the community. Emotional support was particularly potent for one participant when it came from women in the community who had previously experienced a difficult pregnancy. Community support with child-care was important to both participants. Even the kindness of strangers was noted as having a positive effect in the participants’ experiences.

*Fear of engaging.* The participants expressed fear of engaging in occupations, even when their physicians had given them permission to do so. The fear generally centered on pain or other symptoms of their condition. The participants avoided activities they were allowed to perform because they were afraid that engaging would cause an exacerbation of symptoms or increase risk to the pregnancy. One participant described her fear of going out in the community. She stated:

I feel like the bed rest has compromised my ability to be about like that. To be out and about. Like I can go out *now* but I still can't like before...now it's just like I go get what I need and come back. Because I can't, I don't want to risk it. And any time, any slight pressure, any slight pain that I feel, I have to go sit down or lay down. Because it's too much for me to handle. Because I'm very much afraid of having that sharp pain again that won't go away.

The other participant commented on limiting her physical activity while on initial prescribed activity restriction, but prior to being prescribed full bed rest; "They did say I can swim in our pool, but I haven't been obviously going full out with that because I would think that I'm using muscles down there that shouldn't be overly stressed to that point." The physical limitations participants placed on themselves based on their fears significantly affected their leisure, social participation, and activities of daily living.

*De-conditioning.* De-conditioning was a common concern for the participants. Each participant experienced a decrease in endurance and an increase in fatigue during their activity restriction. The concerns expressed included the negative effects of current fatigue and decreased endurance, but also included worries about the impact of de-

conditioning on the participants' abilities to give birth and resume their daily occupations post-delivery.

Fatigue and decreased endurance contributed to limitations at the time of the interviews. Each participant described the effect of fatigue on their daily lives. One participant commented that she needed extra time to sleep in the morning, and that she was unable to get out of bed at her normal time. The other participant commented that "most of the time I'm so physically tired. My energy is gone. I need to just lie down." As a result of her fatigue this participant was unable to complete work and school related tasks. The participants gave similar descriptions of the de-conditioning and the limits it put on their functioning. One participant stated, "The bed rest has made me more lethargic, more like 'Uhh I can't do this, I can't get up, I can't.' It's made me more tired," whereas the other participant referred to her experience as "one of the most debilitation things a female can go through...it takes a toll on your body."

The issue of de-conditioning was also discussed in context of the physical demands of labor and the expectation that the participants resume normal activity after giving birth. One participant spoke about her fears of going through active labor after being on bed rest for an extended period:

This time it's gonna be, hoo, 14, 15 weeks, and then I have to push a kid out ... and my endurance might just poop right out if I start active labor you know and then at that point, where do I go from there? What would be the plan?

This participant remembered the difficulty she had resuming physical activity after spending 5 weeks on bed rest with her first child. She found it difficult to stand for long periods or to walk for more than a few minutes at a time. The participant expressed worry

over the effects of being on bed rest for almost triple that time. Both participants worried about their abilities to care for their newborn with such decreased physical abilities.

*Sexual intimacy.* No question in the interviews specifically asked about sexuality or sexual engagement; however, each participant independently brought up negative changes in their sexual intimacy. Sexual activity is listed as an activity of daily living (ADL) in the Occupational Therapy Practice Framework 2<sup>nd</sup> Edition (AOTA, 2008). Sexual intimacy was separated from the remainder of ADL issues because the participants discussed it as a separate issue with a different emotional context. The rest of the participants' ADL concerns were grouped together in the Self-Care theme. One participant commented that sexual intimacy had initially been restricted by the physician, but the restriction had been lifted after the first month of bed rest when her condition improved slightly. This participant described the difficulty experienced by her and her fiancé surrounding sexual intimacy:

I mean intimacy has been kind of like 'eehh' for me. I mean, I think its more [my fiancé's] issue than it is mine. We haven't been, I mean, we have been, but it's not as often because he's afraid of the pain I might go through, but my doctor said it was fine... I mean we tried, and it's hard, but it's not as often. So the intimacy is (hands up in the air) we want to, but we just can't, either I'm tired, or he's scared.

It seems we're never on the same wavelength.

The other participant noted that sexual intercourse was one of the first restrictions prescribed to her by her physician during her first trimester. Her restriction was not lifted for the duration of her pregnancy.

*Looking forward.* Looking forward was a frequently identified coping strategy for the participants during their activity-restricted pregnancies. The participants looked forward to having a healthy baby and to resuming activity after birth. When asked to identify positive elements of their pregnancy, each participant responded with several things that they looked forward to at the end of the pregnancy. There appeared to be a strong emotional tie to the vision of postpartum life. When able to identify environmental or physical signs of the outcome they desired, such as the baby kicking, the participants experienced positive emotions. One participant describes that, “When I feel her move, I’m so excited. When she’s hiccupping, I’m so excited. When you know, D is putting his hand and we’re talking about the baby, I’m so excited.”

In contrast, the participants experienced negative emotions when unable to visualize the desired post-birth outcome. One participant described her feelings about having been unable to complete her planned preparations for the expected baby:

I think that when I start seeing the baby’s area done and fixed and stuff comes out of the boxes then I’ll feel a little better. Cause right now it’s just my stuff and [fiancé]’s stuff and I’m just feeling like, “Is this actually happening here?” I mean I feel the pain, but I don’t see it. Here. I can’t visualize it ... it will make it easier for me to deal with the physical aspect cause now I’m, what I’m feeling right now is I have nothing to look forward to. There’s no vision ahead.

*Paid work.* By the second interview, both participants were unable to participate in any paid work. One participant had been unable to work since the beginning of her activity restriction. The second participant was on restricted duty at work during the first interview and completely unable to work during the second interview. As one participant

succinctly iterated, “Work is out of the picture” during restrictive bed rest. The participants described feeling disconnected with their roles at work. One participant commented that she had “no control over what’s going on there.” The other participant described how difficult it was to send second hand messages to meetings and committees. Even before going on bed rest, each participant had limitations that kept her from fulfilling her roles at work. Physical pain and limitation made it difficult to complete necessary tasks. One participant commented on requiring more help to set up equipment and work with patients in her clinic. The other participant stated, “ I had to take a back role because the pregnancy was making a lot of demands on me, that I couldn’t fulfill my role as a teacher.”

The inability to participate in paid work had effects on the participants’ emotional well-being and financial resources. The participants both reported disappointment that they could not continue working. It was noted in one interview that the participant “liked the diversity in my day and I wasn’t able to get that” while home on bed rest. One participant found herself without the additional income from a part-time job she usually worked during the summer. In one interview, a participant described missing the routine and structure her paid work provided her. She stated, “I envy my co-workers so much right now. Because they’re still able to just do their normal routine and still go to work.”

*Self-care.* The title, self-care, in this study includes bed mobility, bathing, grooming, and toileting. Issues in these four areas were discussed throughout the interviews. The participants seemed to link these topics together when describing how they were able to care for themselves during activity restriction. Pain, medication, other symptoms, and the activity restriction itself impacted the participants’ abilities to care for

themselves. Participants had difficulty positioning themselves in bed. Each experienced pain with poor positioning. One participant described her pain as feeling like bedsores. Participants were limited in their bathing and grooming activities. One participant described her experience early in her bed rest with trying to shower:

I wouldn't know when the contractions would start...So it was hard to take a shower and wash up and things like that. I couldn't do my hair. I couldn't do anything. I brushed my teeth every morning and at night, but that was still, like I'm holding onto the sink [in pain].

The other participant had difficulty showering and shaving her legs because of her decreased endurance. Both women felt they had to urinate more often than before pregnancy. The participants experienced pain and difficulty trying to go to and from the bathroom frequently throughout the day. One participant also found that her frequent urination paired with her decreased bed mobility made it near impossible to achieve enough sleep at night, leaving her more fatigued throughout the day.

*Medical responsibilities.* Medication routines, medical appointments and medical procedures took time, physical effort and emotional energy from the participants. Participants viewed these activities as the necessary measures to ensure the safety of their unborn infants. Medical responsibilities were a new set of occupations with potent meaning to the participants, and, as such, had dynamic interactions with other occupational areas. Some medications and procedures allowed the participants to increase their activity level. For example, one participant was able to walk around her home and drive short distances once she was medicated. The other participant attributed her ability to stay at home rather than the hospital to the hormone injections she received weekly.

The participants found medical experiences to be a dual source of comfort and distress. Visits to the prenatal physician seemed to provide the participants with a sense of calm and control. One participant commented, "I feel good after I leave [the doctor's office], and come back home." The other participant found comfort in having scheduled an appointment for a cerclage, a surgical reinforcement of her incompetent cervix. Both participants stated that driving themselves to medical appointments gave them a sense of control. Participants described negative changes in mood as a result of prescribed hormones. One participant shared a negative experience with a drug prescribed to stop her early contractions:

She put me on medication too, to stop the contractions, but they gave me bad side effects, so I was just on bed rest and I didn't want to take them as much. I was supposed to take them every 6 hours, and I did the first 3 weeks, but then I just stopped them the last week.

The participant's side effects kept her from sleeping and from engaging in self-care activities.

*Emotional impact.* Overall, the participants experienced negative changes in emotion during their pregnancies. The participants described increases in anxiety, fear, frustration and sadness. The majority of the participants' fear and anxiety concerned worsening of symptoms and endangering the health of their unborn infants. Another source of anxiety was the effect of the pregnancy on the participants' older children. One participant commented that she was "worried about her [daughter] adjusting to this." Frustration stemmed from the participants' physical limitations and inability to complete household management tasks. Both participants also expressed frustration when

comparing their abilities with those of other women experiencing unrestricted pregnancies. The participants both reported watching reality television programs about pregnancy and birth. After watching one of these programs a participant stated, "I wonder if I could go out and do all these things, but I can't. So it's, it's frustrating, really frustrating."

Sadness was a salient part of the interviews. Participants expressed sadness because they were unable to fulfill important roles, social isolation secondary to inability to leave the house, and other factors related to their restrictions. One participant described her emotional experience during bed rest: "Am I having pre natal depression? I knew there was post natal depression, but am I having prenatal depression, because I'm just feeling sad. Cause I feel like I'm useless." Each participant expressed sadness at their inability to fulfill parenting roles. One participant was unable to be left alone with her young daughter and was unable to lift, feed, or carry her. She stated that it was the most significant occupation that she missed doing. The other participant was unable to attend the burial for her grandmother. She was also unable to attend church, which was previously a source of emotional support. She stated that she felt "cut off" from the spiritual part of her life. Both participants expressed sadness several times throughout their interviews in relation to active recreation, social, and work activities in which they could no longer participate.

*Perception of time.* Perception of time seemed to play a role in the participants' emotional reaction to the experience of activity restriction. Depending on the context, the participants each minimized the time spent on bed rest, or described the duration of their bed rest as feeling longer than actual time. When attempting to cope with difficult aspects

of the restriction, each participant described engaging in self talk or receiving encouragement from others in which the time spent on bed rest was trivialized. For example, one participant followed a discussion on the frustration she felt watching other women remain active through their pregnancies by stating, "It's temporary. That's what [fiancé] says 'It's temporary, you'll be back to normal before you know it'." During another part of the interview, the participant described coping with her feelings of sadness and frustration by telling herself "I know it's temporary. This is not me. This is just a temporary version of what I'm going through." In contrast, participants stated that time felt longer than normal when they were unable to participate in meaningful activities. One statement exemplified this feeling. She stated, "Because it feels like forever. It feels like although it is 9 months, it feels like it's the longest 9 months of your life." The participants generally felt that the days felt longer, especially when they were at home alone and when they experienced sadness, frustration, or pain.

*Seek and accept help.* Seeking and organizing help became its own occupation, requiring time and energy. The participants each had to organize childcare. One participant described how she had to arrange for her daughter to stay with friends during the week so that she could go to school with them. The other participant described asking the grandparents on each side of her family to care for her daughter during the afternoons until her husband was able to come home. The participants also found themselves in need of help for instrumental activities of daily living such as cooking, cleaning, and shopping. Due to their restrictions, the participants also needed more help completing work tasks.

Even though the participants recognized that they needed help in several occupational areas, accepting help was not always easy for them. One participant

described frustration with needing help to set up the clinic area at work. She was frustrated that waiting for help cut into the time she had to work with each client. One participant described her feelings toward co-workers offering to help her:

Another thing is especially at the peak of the bed rest, a lot of my co-workers were offering to help buy food and buy things for me. It made it hard. It made it hard for me to do that, for me to ask, or for me to give in to them helping because, I don't like that. (laugh) I don't know what's wrong with me. I just don't like, I like to do things on my own. I don't want people to feel sorry for me or feel pity for me. So, I would refrain from asking them for help, or allowing them to help me. They would say, "Well I can go and pick up some groceries for you" and I'm like, "No, that's ok," even though I did need it. I would rather not do that because I don't want, I know it's my own personal issue.

Help offered by intimate friends or family members was easier for the participants to accept than help offered by others in the community. One participant stated, "It would be different if it was my mom or [fiancé] or something, but I didn't feel too comfortable with [getting help from co-workers.]" The participants were not only more comfortable accepting help from intimates but also more confident in the quality of the help they would receive. One participant stated, "I can't even imagine if we had to hire help. Whew. And then you know, you don't know what you're gonna get when you hire help."

The participants' hesitancy to ask for help may have impacted their overall level of occupational participation. Participants chose not to participate rather than ask for help. The participants did not mention any time at which they sought help for leisure participation or social participation. The participants described a gradual change in their

attitudes toward help. As their pregnancies progressed, the participants seemed to move toward a more accepting attitude towards help. As one participant described the end stages this process, stating, "It's like I'm a little person in this community of people that actually care and realize that she does need help and there's nothing wrong with her needing help."

*Inability to meet expectations.* This theme is most concisely summarized by the following statement made in one of the interviews, "You can't do all the normal things you are supposed to do." Both participants discussed their inability to fulfill their former roles and perform occupations they felt were expected of them. In particular, the participants felt that activity restriction had negatively impacted their ability to perform parenting roles. One participant described her experience being unable to participate in her previous parenting occupations:

All this time I've been a single mom, so I've been doing everything on my own.

So not being able to do the stuff I need to be doing, because I'm always doing it, it messes with me... I really can't do normal things. That bothers me. Uuuuoh, it drives me insane. Mentally, because I go to myself, "what's wrong with me?"

The other participant commented extensively on the changes in roles concerning the care of her young daughter. Due to her restrictions, the participant was unable to lift her daughter and unable to walk more than the occasional short household distance.

Consequently, the participant was unable to stay alone with her daughter at any time. She stated:

I'm not allowed to do a whole lot except playing with her on the floor. It's actually not me caring for her or doing the feeding. Sometimes I might sneak to grab her sippy cup if it's across the room. That's a big one. I miss doing that.

When asked to rate her performance in parenting occupations, she replied that her performance was "crummy." She noted that her role had "changed to be more of a background instead of being up in the front." She continued by describing her sadness that she was unable to perform her previous parenting occupations. She stated that, "I want to be the front runner, cause that's my role, that's what I'm supposed to be doing."

The participants also felt frustrated with being unable to perform the occupations they associated with typical pregnancy. These occupations included miscellaneous activities across occupational domains, but the most frequently mentioned was preparing for the new baby. One participant in particular spoke about her inability to complete preparations for the new baby. She stated, "I haven't been able to do the baby nursery or anything to prepare for the baby." Later in the interview, she continued, "Part of me feels like I don't have time. I mean, the baby can come anytime and when she does, there's no crib here yet." The participant expressed distress at the fact that she was unable to prepare her home for a new baby, at one point commenting, "I felt extremely discouraged in these past few weeks... in terms of prepping for the baby." The participants both compared themselves to the women on reality television programs about birth and pregnancy. The participants enjoyed watching the shows, but also expressed frustration that they were unable to be as active as the women in the show. One participant commented:

I love watching these shows, it's what gets me through the day, but I watch them and I see them walking and going here and going there and doing all these things and they're just as far along as I am. And I'm thinking "I wonder if I could just go out and do all these things?" but I can't. So it's, it's frustrating, really frustrating.

The participants also compared themselves to other women in their workplaces and communities who were pregnant without activity restriction. The participants were frustrated that they were unable to maintain the active lifestyle that other women were able to maintain throughout pregnancy. One participant commented, "I'd like to have a normal pregnancy. It'd be nice. I don't want to be abnormal."

With the loss or change of roles and the inability to complete occupations, the participants seemed to have feelings of identity loss. As a bi-product of decreased ability to fulfill life roles, the women expressed the feeling that they were somehow less themselves. One participant described this feeling. She commented, "I just feel lazy. This whole thing has made me more lazy and I don't like it because I'm not a lazy person. I'm more of a "I gotta get this done, I gotta get this done." And it's, that's what's been really messing with my head." The restrictions of this participant's pregnancy made her feel that she was unable to act and feel like herself.

*Pain.* Pain and its effects were discussed frequently throughout the interviews. Both participants experienced chronic or frequent pain. Some pain was associated with the complications of the pregnancies. Hernia, necrotic fibroids, Braxton Hicks contractions, and pelvic girdle pain were each present in at least one participant. One participant stated, "Now it hurts to do the normal everyday things that I'm used to doing." As evident in this statement, pain was a major barrier to engaging in activity.

Participants described difficulty with bed mobility, self-care, and homemaking. Pain was experienced by one patient while she tried to wash her hands at the sink. A participant noted that “just to go from this side to this side [in bed], literally, it hurts so much.”

The participants were unable to engage in some leisure and social activities as well. One participant described being unable to play an active video game (i.e., wii) with her daughter, even from a seated position, because the upper body movements and trunk shifts put painful strain on her stomach. A visit at a family picnic was ended early because the participant had lower abdominal pains. Pain in the pelvic and abdominal area was often a source of emotional stress for the participants because increased pain could be a sign of early labor. Each participant described taking frequent rests and discontinuing activities because of pelvic and lower abdominal pain. In addition to pain caused by medical conditions, participants also described pain that resulted from inactivity. One participant stated, “lying there, it’s almost like you get bed sores, if that’s even possible, where I would feel so much pain in my back and in my legs”. The participants described pain from inability to stretch some muscles in their bodies and inability to change positions as frequently as before.

*Control.* The participants both noted a perceived loss of control in their daily lives and a strong desire to regain control over their bodies and environments. Most frequently mentioned was the participant’s lack of control over their home environment. Each participant talked about how their inability to perform household management occupations. One participant discussed having to rely on others to perform household tasks. She was unhappy with the fact that tasks which were important to her remained uncompleted. She commented, “I wish I could do more household stuff. I wish I could

do laundry. If I could pick one household thing to do it would be laundry. Cause that's the one that seems to lack the most." The other participant commented similarly, "It's that whole nesting feeling? ... I hate clutter and all of this is getting on my nerves." She was frustrated with having to rely on her daughter and fiancé to maintain the household.

The participants felt a loss of control over their bodies and physical states. The participants experienced a range of bodily changes during their pregnancy. Each participant described feeling fatigue and pain secondary to their pregnancy. The participants often felt helpless against the physical changes of their bodies. They were often uncertain of when symptoms would return, and were often unable to relieve pain and discomfort. One participant described frequent Braxton Hicks contractions. Her anxiety was apparent when she spoke about making sure the contractions were not patterning. The other participant described her fear of getting out of bed to bathe and groom after having experienced pre-term contractions because she "wouldn't know when the contractions would start" again. While describing the episode that led to her bed rest, a participant stated, "I was getting very dizzy and I thought I was going to pass out because I was in so much pain. And you can't take anything, so when you have that much pain, you're like, you know, almost out of your body in a sense." The participants were frustrated by the incongruence between what they wanted to be doing and what they were able to do. One participant described the feeling of an "internal conflict" between her mind and her physical abilities.

The participants desired more control over their everyday lives. Describing her desire to control more of the household maintenance one participant stated, "I micromanage from a distance." The other participant also reported sending instructions

second hand for a task. Both participants were dissatisfied with the outcomes of second hand managing of the tasks. Each participant mentioned in her interview the fact that she drove herself to the physicians office for routine checkups. One participant stated, "I drive myself. I drive myself because I still want to have some type of control over my life." The other participant also found driving to her appointments gave her a sense of control and independence.

The participants each mentioned the role of fate or of some higher power in controlling the events of their pregnancies. One participant stated, "The whole carrying and pregnant part? My body's just not meant for it. I now understand that. It's just not meant to be pregnant." The use of the expression, "meant to be," indicates a belief in fate or destiny of some kind. When speaking about the sex of her baby, the other participant said, "As God would have it, I'm having a girl." This participant also attributed to God her ability to become pregnant. She stated:

When I was 17 ... the doctors told me that I would never get pregnant, so [older daughter] is a miracle baby, and then so all these years, because it's been so long, I was like, well I guess [older daughter] will be my only baby, and then, low and behold, I'm pregnant again! So it's just like "God, you're great!"

The participants seemed to find comfort or peace of mind by attributing the control over positive events, bodily changes, and difficulties to a higher power.

Theme	Exemplary Quotes
Support and Understanding	<p>“I guess I just want someone to understand my plight and feel sympathy for me, you know?”</p> <p>“I mean the grandmothers have not actually said no to anything. I have sisters in Rome, I’ve got have friends in the area, I mean there’s people, neighbors, the neighbors are great...So we have a great support system, I would say.”</p>
Fear of Engaging	<p>“now it’s just like I go get what I need and come back. Because I can’t, I don’t want to risk it. And any time, any slight pressure, any slight pain that I feel, I have to go sit down or lay down. Because it’s too much for me to handle. Because I’m very much afraid of having that sharp pain again that won’t go away”</p>
De-conditioning	<p>“This time it’s gonna be, hoo, 14, 15 weeks, and then I have to push a kid out ... and my endurance might just poop right out if I start active labor you know and then at that point, where do I go from there? What would be the plan?”</p>
Sexual Intimacy	<p>“I mean we tried, and it’s hard, but it’s not as often. So the intimacy is (hands up in the air) we want to, but we just can’t, either I’m tired, or he’s scared. It seems we’re never on the same wavelength.”</p>
Looking Forward	<p>“When I feel her move, I’m so excited. When she’s hiccupping, I’m so excited. When you know, D is putting his hand and we’re talking about the baby, I’m so excited.”</p>
Paid Work	<p>“Work is out of the picture.”</p> <p>“I had to take a back role because the pregnancy was making a lot of demands on me, that I couldn’t fulfill my role as a teacher.”</p>
Self-Care	<p>“I wouldn’t know when the contractions would start...So it was hard to take a shower and wash up and things like that. I couldn’t do my hair. I couldn’t do anything. I brushed my teeth every morning and at night, but that was still, like I’m holding onto the sink.”</p>

Figure 2a: Reference Chart for Identified Themes, Part I

Medical Responsibilities	<p>“She put me on medication too, to stop the contractions, but they gave me bad side effects, so I was just on bed rest and I didn’t want to take them as much. I was supposed to take them every 6 hours, and I did the first 3 weeks, but then I just stopped them the last week.”</p>
Emotional Impact	<p>“Am I having pre natal depression? I knew there was post natal depression, but am I having prenatal depression, because I’m just feeling sad. Cause I feel like I’m useless.”</p>
Perception of Time	<p>“It’s temporary. That’s what D says ‘It’s temporary, you’ll be back to normal before you know it’.”</p> <p>“Because it feels like forever. It feels like although it is 9 months, it feels like it’s the longest 9 months of your life.”</p>
Seek and Accept Help	<p>“It’s like I’m a little person in this community of people that actually care and realize that she does need help and there’s nothing wrong with her needing help.”</p>
Inability to Meet Expectations	<p>“Does it bug me? yeah, probably a little bit because I want to be the front runner. Cause that’s my role, that’s what I’m supposed to be doing.”</p> <p>“You can’t do all the normal things you are supposed to do.”</p>
Pain	<p>“Now it hurts to do the normal everyday things that I’m used to doing.”</p>
Control	<p>“I micromanage from a distance.”</p> <p>“So I drive myself, I drive myself. Because I still want to have some type of control over my life.”</p>

Figure 2b: Reference Chart for Identified Themes, Part II

## Chapter 5: Discussion

### *Overall Experience*

The impact of activity-restricted pregnancy pervades all occupational domains and all dimensions of the participants' lives. There are emotional and physical effects. Social participation and ability to fulfill roles at work and school are altered. The interview data indicates that there is a combination of positive and negative changes that occur as a part of the experience of activity restricted pregnancy. The source of most positive factors was looking forward to the outcomes, namely, having a healthy child and resuming typical activity levels. There were two exceptions to this trend. One participant found it rewarding to make new, deeper connections with the parents of her students who had been through difficult pregnancies. Both participants also reported a positive change in the amount of time they were able to spend engaged in quiet leisure. Overall, the participants expressed fear, frustration, sadness, and fatigue more often than any positive emotions.

### *Importance for Medical Professionals*

Throughout the interview process, which spanned several weeks of each participant's pregnancy, medical professionals provided the participants support. Interactions with medical professionals evoked strong emotions from the participants. When interactions were positive, the participants found their prenatal nurses and physicians to be important sources of comfort and understanding. In describing positive interactions, the participants noted that their preferred practitioners made an effort to make eye contact, engage the participants in conversation about their conditions, and answer questions. Each participant commented that their preferred physicians made them

feel valued and recognized as an individual with unique medical factors rather than “like a number.” These elements allowed the participants to feel more comfortable and more in control of their health.

Positive interactions increased the likelihood that the participants would share information with their physicians. One participant noted that she would “shut down” and “not really say much” when faced with a physician or nurse she felt did not feel comfortable with. This information is important for medical practitioners who work with women experiencing activity-restricted pregnancies. In order to provide the highest quality of care, the physician may need to take into account the emotional impact their interactions have on the women they are treating. It may be helpful for physicians to have at least a cursory understanding of the impact of occupational deprivation so that they can recognize and understand the experiences of their patients more fully.

#### *Connections to Occupational Science*

Occupational imbalance is clearly an element of activity-restricted pregnancy. There were significant indications of occupational deprivation throughout the themes and interviews. Though less prominent, there were also some indications of occupational overload.

#### *Occupational Deprivation*

Occupational deprivation is defined in this study as, a state in which a person has reduced, little or no meaningful activity in their everyday life. As one participant stated, “Just being on bed rest, there’s really not much you can *do*.” A decreased ability to perform meaningful occupations existed for both participants across all occupational domains and was a major factor in several identified themes. The participants were able

to perform few of their previously valued occupations. Limitations were noted in basic and instrumental activities of daily living (BADL, ADL), work, leisure, education, and social participation. As one participant stated, “I’m just stagnant. I’m sitting here at home like a potato.” As stated in the literature review of this study, occupational deprivation is linked with numerous negative physical and emotional health outcomes. The “monotony” of bed rest, as one participant described it, caused fatigue, boredom, frustration, and other negative emotional changes. Participants viewed themselves as “helpless” and “useless” because of their inability to perform meaningful occupations.

### *Occupational Overload*

For the purposes of this study, occupational overload is defined as a state in which the individual feels the time and energy demands of one or more of their daily occupations are overwhelming. The definition of occupational overload includes instances in which one occupational domain requires enough energy and time so that other occupations are neglected. Indications of occupational overload were less overt than indications of deprivation in the participant interviews. There were two main areas that portrayed elements of occupational overload: the increased demands of sleep and rest to the exclusion of other occupations, and the inability to fulfill roles.

Each participant expressed that they needed more time to rest and sleep during a typical day. The demands of rest and sleep precluded the participants’ involvement in other occupations. One participant described her inability to complete school-work and email communications because of her undue fatigue. She stated, “It is draining when you have to sit up and type and when I try to lay down and be on the laptop, or when I read I

end up falling asleep!” The other participant described the difficulty she had completing household and self-care tasks because she would become too tired to continue.

Inability to fulfill roles can be interpreted as an indication of occupational overload. The participants described tasks that they were supposed to complete as part of parenting, homemaking, and work roles. The participants found that the restrictions of their bed rest and energy requirement for basic self-care left them unable to complete these tasks even though the perceived importance of the tasks was often high. For example, one participant perceived preparing a space for the baby’s crib and other items as an important part of her role as a new mother. She experienced stress and anxiety when unable to complete the preparation.

#### *Implications for Occupational Therapy*

Occupational therapy’s domain includes any negative change in functional ability in any of the occupational domains identified in the Occupational therapy Practice Framework, 2<sup>nd</sup> Edition (OTPF-II) (AOTA, 2008). Occupational therapists can provide restorative or compensatory intervention to facilitate an improvement in functioning. Occupational therapists work with individuals of all ages and with all levels of functioning. Given the wide range of changes in occupational involvement experienced by the participants in this study, occupational therapy could have a role in activity-restricted pregnancy.

It is important to note the similarities between women with activity restricted pregnancies and other populations commonly provided with occupational therapy intervention. Individuals who have had surgeries, joint replacements, or other medical conditions requiring inactivity are frequently referred to occupational therapy services

after a hospital stay. Women with activity-restricted pregnancies are sometimes on bed rest for several months. The de-conditioning that these women experience is similar to if not greater than the de-conditioning experienced in a hospital stay for an illness or surgery. The experiences of women with activity-restricted pregnancies are often dismissed because their condition is seen as temporary. In actuality, their condition is no more temporary than a healing hip fracture, which is routinely referred for rehabilitation services. It is important that health care professionals recognize the significant lasting effects of activity-restricted pregnancies and the ways in which services may reduce any negative impact.

Occupational therapists are experts in task analysis. An occupational therapist would be able to evaluate the tasks a woman wanted or needed to perform and would be able to identify physical and environmental barriers to performance. Suggestions for environmental changes and other compensatory strategies could be implemented to increase participation. The environment could be altered to allow for easy access to frequently used items and to allow participation in tasks from a resting position. A woman on activity restriction may benefit from training with adaptive dressing tools, training in safe transfer techniques, energy saving methods, and bed positioning to maximize comfort.

Occupational therapists may be able to work with physicians to develop a safe home exercise program for women with activity restriction. Similar to a home program for any other at risk population, the exercises would take into account any precautions the women might have and take into account the most effective way to keep their strength, range of motion, and endurance as high as possible. If the woman is unable to engage in

any type of maintenance program, an occupational therapist could work with her to develop energy saving methods and safe ways to rebuild strength and endurance after giving birth.

As seen in the interviews, the participants in this study experienced a great amount of stress, anxiety, and sadness. Occupational therapists could help women with similar emotional experiences to develop coping strategies. With the use of these strategies, the women could lower their stress and anxiety, and subsequently eliminate some of the stress related negative health outcomes.

The participants described asking for help with self-care, child-care, work, and house management tasks. Leisure involvement was also discussed. The participants both were unable to participate in active recreation and social pursuits previously important to them. Rarely, it seemed, were the women receiving support in order to participate in leisure activities. The lack of focus on leisure involvement may indicate that the participants felt that leisure activities were less important than other occupational areas; that leisure pursuits were simply not a priority. When asked about quiet recreation, the participants both responded that their quiet leisure had increased with activity restriction and that they had benefited from their ability to engage in those activities. Occupational therapists could work with women to identify and engage in meaningful leisure throughout their pregnancies. Leisure involvement may reduce negative emotional changes and provide the women with an outlet for stress.

#### *Implications for Health Care and Wider Society*

The growing cost of health care in the United States is astronomical. Intervention with women experiencing activity-restricted pregnancies would lower medical costs of

neonatal intensive care units (NICU), and treating post-partum depression. World wide, infant morbidity and mortality are used to measure the effectiveness of national health care systems. Currently, the United States falls behind other developed nations in measures of infant health (World Health Organization, 2007). Lower rates of infant mortality and morbidity may improve the reputation of the American health system in the eyes of international health organizations.

## Chapter 6: Summary, Conclusions, & Recommendations

### *Summary of Study*

The experience of activity-restricted pregnancy is complex and permeates all occupational domains. This study demonstrates the wide reaching impact of activity-restricted pregnancy on the two participants interviewed. Fourteen common themes were identified in the two participants' experiences: support and understanding, fear of engaging, de-conditioning, sexual intimacy, "looking forward", paid work, self-care, medical responsibilities, emotional impact, perception of time, seek and accept help, inability to meet expectations, pain, and control. These themes encompassed the emotional, physical, and spiritual experiences of the women interviewed. It was clear from the interviews that activity-restricted pregnancy has a negative impact on occupational health and involvement. The participants were unable to engage in many of the occupations that were meaningful to them. All occupational domains were negatively affected. They felt that their bodies lost endurance and strength throughout the process. The participants faced fear, anxiety and frustration with their conditions and with the restrictions prescribed to them. Overall, the findings indicate that activity-restricted pregnancy evokes more negative emotional and physical changes than positive. Throughout the pregnancy the participants also found positive ways of coping with their situations. Each participant had an increase in quiet recreation. Each participant also used looking forward to post birth circumstances as a way to cope with current negative emotions. There were indications of occupational deprivation and occupational overload throughout the interviews.

The findings of this study have implications to occupational therapy and to the wider health community. There is evidence to show a strong link between physical and mental health and occupational involvement. An estimated 3.8 million women will be inactive during pregnancy. Based on Poudevigne and O'Connor's study (2006), over one million of those women will be placed on restricted bed rest. If the findings in this study are applicable to the experiences of this substantial number of women, then there is a significant population of individuals suffering from occupational imbalances who are not receiving appropriate interventions. Occupational therapy could have an integral role in helping these women to navigate their activity restriction while staying involved in meaningful occupations.

Women experiencing difficulties are often dismissed because we consider their conditions temporary and insignificant. When compared to other patients, it is apparent that these women are experiencing deficits and changes that have lasting effects on their physical and mental health as well as the health of their infants. Effective intervention with this population could have secondary effects on premature birth rates, infant morbidity and infant mortality. In best interest of the women themselves, but beyond that, effective intervention for this population has the potential to lower health care and social costs associated with prematurity, infant morbidity, postnatal depression and other complications associated with activity restriction. A decrease in infant mortality would improve the United State's reputation as having an effective health care system. An improvement in occupational health may also decrease the rates of postpartum depression.

*Further Research Possibilities*

Further research needs to be conducted on the impact of activity restriction on occupational health. Conducting interviews with more women would allow for the refining of the identified themes. A larger sample size would also allow for greater diversity in backgrounds and prior experiences among participants. In order to confirm the truthfulness of the findings in this study, the identified themes must be taken through a verification process. The verification process involves the gathering of specific feedback from other members of the target population. In order to verify the themes identified in this study, a survey could be designed and distributed asking women with activity restricted pregnancies to provide their feedback as to whether the themes accurately describe their experiences. Once the themes are verified and revised to accurately reflect the broad commonalities of women's experiences with activity-restricted pregnancies, further research can be performed to establish useful interventions.

Further research on related topics would also benefit the scientific and medical community. Physicians were found to be a prominent source of support and information to the participants in this study. An investigation of physicians' knowledge and opinions of occupational balance and occupational health would be useful in determining the type of support women may receive in these areas. Further, researchers could examine the effect of educating physicians in occupational balance on the experiences of their patients.

Appendix A

ITHACA

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OFFICE OF THE PROVOST AND VICE PRESIDENT  
FOR ACADEMIC AFFAIRS

April 1, 2008

Taryn Michelitch, Graduate Student  
Department of Occupational Therapy  
School of Health Sciences and Human Performance

Re: Occupational Imbalance in Women with Activity Restricted Pregnancies

Proposal

Item 4b (ii) – You should change the criteria from “months” to “weeks”, as it was noted that gestation time is always referred to in weeks or trimesters and never months.

Recruitment Flyer

You need to indicate that participants must be 18 years of age or older. This should also be included in the *Participation Form* and *Appendix C*.

Appendix B

You should rewrite this so that the style is third-person passive instead of first-person narrative.

Appendix C

You need to delete the following sentence: “*Thank you for taking your time to participate in this study.*”

The HSR Board also had the following consultative comment:

The Board recommended finding a more recent *Interest Checklist* as well as checking the validity of the *Satisfaction with Life Scale* as they thought it might be too narrow to determine satisfaction.

One original of the revised proposal should be submitted to the Office of the Provost and Vice President for Academic Affairs for review.

Sincerely,



David Garcia, Associate Provost  
All-College Review Board for Human Subjects Research

/mt

Cc: Melinda Cozzolino, Associate Professor/Graduate Program Chair

Appendix B

# RESEARCH on PREGNANCY

## **PARTICIPANTS NEEDED!**

I would like to interview women who are currently pregnant and have activity restriction to find out more about their experiences.

If you are currently pregnant, 18 years old or older, and a doctor has given you activity restrictions please consider reading more about my study.

Examples of activity restriction include: bed rest, modified bed rest, work restriction, driving restriction, etc.

Contact me for more information.

Thank you!

Taryn Michelitch

Ithaca College Department of Occupational Therapy  
tmichel2@ithaca.edu (703) 731-4284  
Participation Form for Pregnancy Study

Please Check Each Circle That Applies:

- I have read the letter telling me about this study.
- I am at least 18 years old.
- It is ok for Taryn Michelitch to contact me using the information below to talk about participating in the study.

Full Name: \_\_\_\_\_

How Can I Contact You?

- By Phone  
please write the number you want me to call number

\_\_\_\_\_

- By Email  
please write the email address you want me to use

\_\_\_\_\_

Fold this sheet and leave it at the front desk.

**ATTN: OFFICE MANGER**

To Whom It May Concern:

My name is Taryn Michelitch. I am a graduate student in the Ithaca College occupational therapy program. I am conducting a study on the everyday activities of women with activity restriction during pregnancy. I am particularly interested in how women's everyday activities are impacted by activity restriction during pregnancy (weight limits for lifting, bed rest, etc.) I am currently recruiting women to participate in the study. I would greatly appreciate if you would allow me to leave informational flyers and contact forms in your office for recruitment.

Following are a recruitment flyer, a participant contact form, and a letter of informed consent describing the study. I am available to deliver a packet of recruitment materials including multiple copies of the participant contact forms.

Please feel free to call or email me with any questions or concerns you have. You can reach me at (703)731-4284 and at [TarynMichelitch@gmail.com](mailto:TarynMichelitch@gmail.com).

Thank you so much for your time and consideration.

Sincerely,

Taryn Michelitch, OTS  
(703)731-4284  
[TarynMichelitch@gmail.com](mailto:TarynMichelitch@gmail.com)

## Appendix C

Appendix C includes reproductions of the entire modified Canadian Occupational Performance Measure with a description of the modifications made, the interest checklist use in this study, the activities wheel and questionnaire, and the satisfaction with life scale. The format of the Profile of Mood States assessment was not conducive to reproduction and inclusion. The technical brochure has been included in place of a reproduction of the assessment itself.

# CANADIAN OCCUPATIONAL PERFORMANCE MEASURE

## Authors:

Mary Law, Sue Baptiste, Anne Carswell,  
Mary Ann McColl, Helene Polatajko, Nancy Pollock

The Canadian Occupational Performance Measure (COPM) is an individualized measure designed for use by occupational therapists to detect self-perceived change in occupational performance problems over time.

Date:	Participant ID:	
Age:	Weeks Gestation:	Number of Pregnancy:
Number of other adults in home:	Number of children in home:	Fertility Treatment Used:

## Activity Restriction

Date Prescribed:	Type of Restriction:

Modified

**STEP 1:  
IDENTIFICATION OF OCCUPATIONAL PERFORMANCE ISSUES**

To identify occupational performance changes, concerns and issues, interview the participant, asking about daily activities in self-care, productivity and leisure. Ask participants to identify daily activities which they want to do, need to do or are expected to do by encouraging them to think about a typical day. Then ask the participant to identify which of these activities are difficult for them to do now to their satisfaction. Record these activity changes in Steps 1A, 1B, or 1C.

**STEP 2:  
RATING  
IMPORTANCE**

Using the scoring card provided, ask the client to rate, on a scale of 1 to 10, the importance of each activity. Place the ratings in the corresponding boxes in Steps 1A, 1B, or 1C.

**STEP 1A: Self-care**

**Personal Care**  
e.g., dressing, bathing,  
feeding, hygiene)

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Functional Mobility**  
e.g., transfers,  
indoor, outdoor)

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Community Management**  
e.g., transportation,  
shopping, finances)

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**IMPORTANCE**

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**STEP 1B: Productivity**

**Paid/Unpaid Work**  
e.g., finding/keeping  
a job, volunteering)

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\_\_\_\_\_

\_\_\_\_\_

**Household Management**  
e.g., cleaning,  
laundry, cooking)

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\_\_\_\_\_

\_\_\_\_\_

**Play/School**  
e.g., play skills,  
homework

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**STEP 1C: Leisure**

Quiet Recreation  
(e.g., hobbies,  
crafts, reading)

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\_\_\_\_\_

Active Recreation  
(e.g., sports,  
outing, travel)

\_\_\_\_\_

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Socialization  
(e.g., visiting,  
phone calls, parties,  
correspondence)

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**IMPORTANCE**

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**STEPS 3 & 4: SCORING - INITIAL ASSESSMENT and REASSESSMENT**

Confirm with the participant up to 5 most important problems (negative changes) and record them below. Using the scoring cards, ask the participant to rate each problem on performance and satisfaction as compared to performance and satisfaction with the activity before pregnancy, then calculate the total scores. Total scores are calculated by adding together the performance or satisfaction scores for all problems and dividing by the number of problems. At reassessment, the participant scores each problem again for performance and satisfaction. Calculate the new scores and the change score.

**Initial Assessment:**

**OCCUPATIONAL PERFORMANCE PROBLEMS:**

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

5. \_\_\_\_\_

**PERFORMANCE 1**

**SATISFACTION 1**

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**Reassessment:**

**PERFORMANCE 1**

**SATISFACTION 1**

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**SCORING:**

Total score =  $\frac{\text{Total performance or satisfaction scores}}{\# \text{ of problems}}$

**PERFORMANCE SCORE 1**

**SATISFACTION SCORE 1**

$\frac{\quad}{\quad}$   
= \_\_\_\_\_

$\frac{\quad}{\quad}$   
= \_\_\_\_\_

**PERFORMANCE SCORE 2**

**SATISFACTION SCORE 2**

$\frac{\quad}{\quad}$   
= \_\_\_\_\_

$\frac{\quad}{\quad}$   
= \_\_\_\_\_

CHANGE IN PERFORMANCE = Performance Score 2 - Performance Score 1 = \_\_\_\_\_

CHANGE IN SATISFACTION = Satisfaction Score 2 - Satisfaction Score 1 = \_\_\_\_\_

ADDITIONAL NOTES AND BACKGROUND INFORMATION

Initial Assessment:

Reassessment:

COPM Modifications:

1. Front Page- The demographic information on the front page will be changed to include only the following information:
  - Date of interview
  - Participant ID code
  - Age
  - Weeks Gestation
  - Activity Restriction: When prescribed? What are the restrictions?
  - Number of pregnancy
  - Number of children and adults living in the home.
  - Fertility treatment used, if any.
2. In directions for step one, the word “changes” will be substituted for the word “problems” in an attempt to eliminate the assumption that the changes due to pregnancy are negative on the whole. The word “participant” will be used instead of the word “client”.
3. Directions for step 3 & 4 will be altered to indicate the selection of up to five problems to decrease pressure to identify problems that are insignificant or not present. It will be indicated that the performance and satisfaction scores should be made in comparison to functioning before pregnancy. The word “participant” will again be used instead of the word “client”.



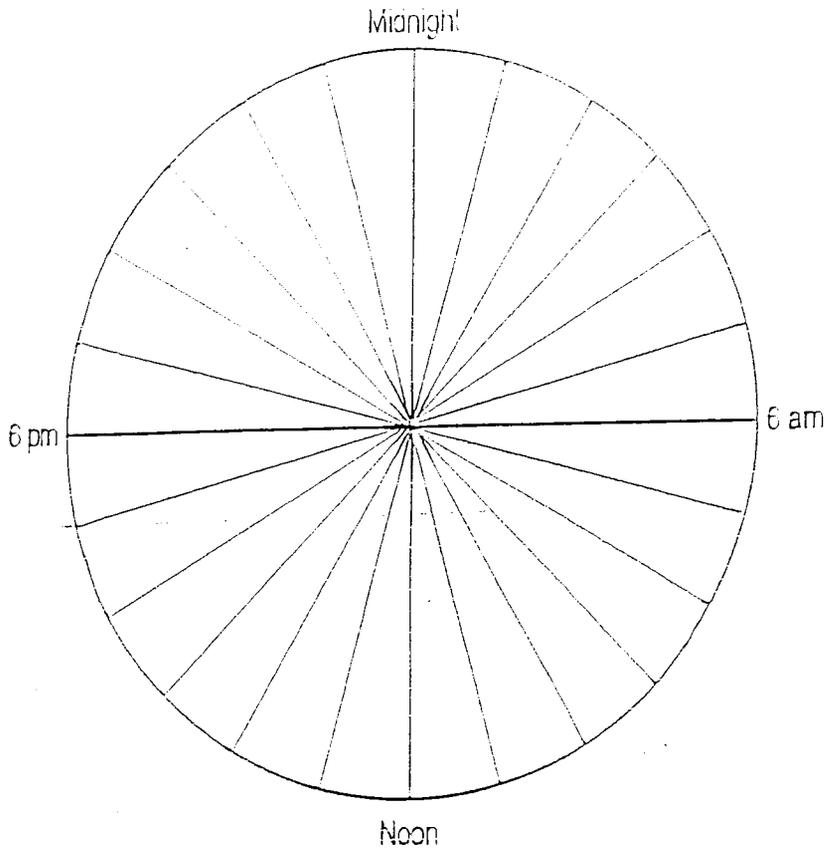


## Activities Wheel

Complete two Activities Wheel exercises, one for a typical weekday and another for a typical weekend day. Analyze your work/life balance at the bottom of each form.

Each segment of the wheel below stands for one hour of your day. For each hour, write the name of the activity you are doing during that time on a typical day. Use one pie for a typical weekday and another for a typical weekend day.

Typical  
Weekday



### ANALYSIS

#### Rest and Relaxation

How many hours do you spend sleeping? \_\_\_\_\_

How many hours do you spend resting? \_\_\_\_\_

How many hours do you spend relaxing (doing something just because you enjoy it)? \_\_\_\_\_

Total: \_\_\_\_\_

#### Responsibilities

How many hours do you spend fulfilling responsibilities to others (job, childcare, homemaking, meetings, etc.)? \_\_\_\_\_

How many hours do you spend on self-maintenance tasks (dressing, grooming, meals, chores, medical appointments, etc.)? \_\_\_\_\_

Total: \_\_\_\_\_

Compare the two totals to consider your current work/life balance.

Having completed the Activities Wheel and Activities Configuration exercises, consider the following questions:

Are you comfortable with your current balance of responsibilities and relaxation—the interplay of work, leisure, chores, and rest?

Does your day proceed at a reasonable pace? Describe.

Which activities generate positive and negative experiences for you? To what extent does your day include positive events?

Do you spend enough time with others and enough time alone?

Do your habit patterns and use of time enable you to fulfill the life roles that are important to you? Explain.

Would you like your typical day to be spent differently in some way? If so, what would you change?

## Satisfaction with Life Scale

The SWLS is a short, 5-item instrument designed to measure global cognitive judgments of one's lives. The scale usually requires only about one minute of respondent time. The scale is not copyrighted, and can be used without charge and without permission by all professionals (researchers and practitioners). The scale takes about one minute to complete, and is in the public domain. A description of psychometric properties of the scale can be found in Pavot and Diener, 1993 Psychological Assessment.

## Survey Form

Below are five statements that you may agree or disagree with. Using the 1 - 7 scale below indicate your agreement with each item by placing the appropriate number on the line preceding that item. Please be open and honest in your responding.

- \* 7 - Strongly agree
- \* 6 - Agree
- \* 5 - Slightly agree
- \* 4 - Neither agree nor disagree
- \* 3 - Slightly disagree
- \* 2 - Disagree
- \* 1 - Strongly disagree

\_\_\_\_\_ In most ways my life is close to my ideal.

\_\_\_\_\_ The conditions of my life are excellent.

\_\_\_\_\_ I am satisfied with my life.

\_\_\_\_\_ So far I have gotten the important things I want in life.

\_\_\_\_\_ If I could live my life over, I would change almost nothing.

# POMS

## Profile of Mood States

Identifies and assesses transient, fluctuating affective mood states

Maurice Lorr, Ph.D., Douglas M. McNair, Ph.D.,  
J.W.P. Heuchert, Ph.D., & Leo F. Droppleman, Ph.D.

Self-report; 65 items for POMS Standard, 30 items for  
POMS Brief, 72 items for POMS-Bi

Ages 18 years and older

5-10 minutes administration time

B level User Qualification



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Maurice Lorr, Ph.D., Douglas M. McNair, Ph.D., JW.P. Heur

### Aim

Since 1971, the POMS assessment has proven itself to be an excellent measure of mood states and their fluctuations in psychiatric outpatients, medical patients, normal adults, college students, and many other groups.

The POMS Standard assessment is a factor-analytically derived inventory that measures six identifiable mood or affective states. A short version called the POMS Brief, as well as the POMS Bipolar version (POMS-Bi), measuring both positive and negative aspects of six mood states are also available from MHS. All three POMS assessments are easy to administer, score, and profile using MHS QuikScore™ forms. The items are easy for patients to understand, allowing them to quickly and accurately complete the assessment.

The POMS assessments are suitable for both research and therapy and have a wide range of applications. Some uses of the POMS assessments include assessing mood states in psychiatric outpatients to determine their clinical status and need for therapy; evaluating the effectiveness of drug treatments for reducing states such as anxiety, depression, hostility, and confusion in outpatients; assessing the influence of various drugs and emotion-inducing films or other experimental manipulations; assessing the mood changes produced by techniques such as relaxation therapy, meditative treatment, and short- and long-term psychotherapies; and comparing the mood profiles associated with various personality disorders.

After more than 30 years, the POMS assessments continue to provide a valid and reliable measure of affective mood states.

### User Qualification

In accordance with the ethical and professional standards of the American Psychological Association and the standards for Educational and Psychological testing, MHS requires that purchasers of the POMS assessments hold a B-level qualification. B-level users must have completed graduate level courses in tests/measurement or have received equivalent documented training. Specific POMS training is not required for individuals who meet the qualification criteria outlined above.

### Norming

The POMS Brief form includes psychiatric outpatient norms. These were derived from a sample of 1000 persons who completed the POMS assessment at their initial visit to a University medical center psychiatry clinic.

The POMS Standard form includes the same psychiatric outpatient norms, as well as college student and updated adult and geriatric norms. College student norms were derived from 856 volunteer undergraduates at a large eastern university. Adult norms were taken from a group of 400 volunteers aged 18-94, stratified by age, gender, and race, according to the 1990 U.S. census. Geriatric norms came from a sample of 170 people aged 55 and older, selected to match census proportions on age, sex, and race.

The POMS-Bi form contains its own set of psychiatric outpatient and college student norms, as well as norms for high school students. More detailed POMS-Bi normative data are presented in the POMS-Bi technical brochure and the POMS Bi-Polar Manual Supplement, available from MHS.

Recent studies continue to add to and affirm the validity of POMS normative samples. A bibliography of published research is available in PDF format. Complete normative information is available in the POMS Manual and Technical Update.

### Instrument

The POMS assessments are self-report inventories in which respondents rate a series of mood states (such as "Untroubled" or "Sorry for things done") based on how well each item describes the respondent's mood during one of three time frames (i.e., during the past week, including today; right now; other). Normative data are based on the "during the past week, including today" time frame.

The POMS Standard form contains 65 items and takes approximately 10 minutes to complete. The respondent rates each item on a 5-point scale ranging from "Not at all" to "Extremely". The POMS Brief form, which is ideal for use with patients for whom ordinary tasks can be difficult and time-consuming, uses the same scale as the POMS Standard form, but contains only 30 items. It takes only 5 minutes to complete. Both the POMS Standard and POMS Brief assessments measure six identified mood factors:

- Tension-Anxiety
- Depression-Dejection
- Anger-Hostility
- Vigor-Activity
- Fatigue-Inertia
- Confusion-Bewilderment



## Complements for the POMS assessments

- Cassell Depression Scale (CDS)
- Borden Psychological Defensiveness Inventory (BPD)
- Positive and Negative Sentiment Scale (PNSS)
- International Trauma Scale (ITS)
- Strophomena Assessment for Concentration (SAC)
- SCID-5/4-TR Patient Edition (SCID-5/4-TR)
- SCID-5/4-TR Patient Edition - Interview (SCID-5/4-TR)
- Computer Assisted Social Classification System (CAS-CVS)
- Computer Assisted Social Classification System (CAS-CVS)
- General Health and Activity Inventory (GAI)



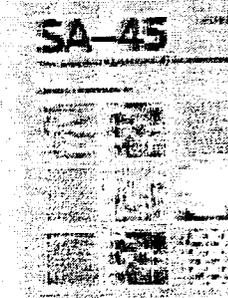
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## Profile of Mood States

Robert M. Martens, Ph.D., & Leo F. Droppleman, Ph.D.

The POMS-Bi form contains 72 items and uses a 4-point scale. It takes approximately 10 minutes to complete. Responses for the POMS-Bi range from "Much unlike this" to "Much like this". Unlike the other POMS assessments, the POMS-Bi measures both positive and negative affects. For each of the six bipolar scales, one pole represents the positive aspects of the dimension while the other pole refers to the negative aspects:

- Composed-Anxious
- Agreeable-Hostile
- Elated-Depressed
- Confident-Unsure
- Energetic-Tired
- Clearheaded-Confused

### Format

All POMS forms are available in MHS QuikScore™ format. This paper-and-pencil format is designed for easy recording, scoring, and profiling of responses. No scoring templates are necessary; the respondent's answers automatically transfer through to the concealed scoring page.

### Translations

The POMS forms are available in various languages. Please contact our Translations Department at [translations@mhs.com](mailto:translations@mhs.com) for information about the available translations or for an application to translate.

### Scientific Validation

Since 1971, numerous research studies have provided evidence for the predictive and construct validity of the POMS Standard and POMS Brief assessments. Alpha coefficient and other studies have found the POMS Standard and POMS Brief to exhibit a highly satisfactory level of internal consistency, while product-moment correlations indicate a reasonable level of test-retest reliability. Factor analytic replications provide evidence of the factorial validity of the 6 mood factors, and an examination of the individual items defining each mood state supporting the content validity of the factor scores.

Other studies have also supported the bipolar nature of moods measured by the POMS-Bi assessment, and reliability studies have shown that POMS-Bi items demonstrate sufficient internal consistency. Detailed reliability and sensitivity data are presented in the POMS Manual and Technical Update. The comprehensive POMS bibliography includes 2,932 references for research involving the POMS assessments and is organized by category.

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**Sample Interview Questions:**

What type of support do you have from family, friends or other people in your life?

How do you feel during the day?

What are some things in your life that have changed?

What are some positive experiences you have had during pregnancy?

What are some negative experiences during your pregnancy?

What are you looking forward to after your pregnancy?

What are some things that cause you to worry?

What is your relationship with your doctor?

Do you feel listened to?

Do you feel that your doctor knows about your life?

Do you feel that your doctor knows how you feel about your pregnancy?

How does your doctor respond to you when you bring up concerns?

Do you feel that others in your life have an understanding of your experience?

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