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Autonomy, Competence, Relatedness, and Personal Growth Initiative Among Postpartum Women

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Tamar Boyd

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Walden University
2016

Abstract

Autonomy, Competence, Relatedness, and Personal Growth Initiative Among Postpartum

Women

by

Tamar Boyd

MA, Goddard College, 2007

BA, Johnson State College, 1997

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Abstract

Prior research on maternal postpartum care, the transition to motherhood, pelvic floor dysfunction, and pelvic floor muscle training (PFMT) has revealed that postpartum women are often denied the basic information, instruction, and preventive strategies necessary for optimal postbirth rehabilitation and psychological well-being. Employing a dual framework of self-determination theory and personal growth initiative (PGI) theory, this quantitative study utilized a cross-sectional design to investigate if autonomy, competence, and relatedness satisfaction predicted PGI in postpartum women. Differences in autonomy, competence, relatedness, and PGI between PFMT practicing and nonpracticing postpartum women were also examined. A web-based survey method was employed to collect data from 229 postpartum women, which consisted of 121 women not practicing PFMT and 108 women practicing PFMT. The Basic Psychological Need Satisfaction and Frustration Scale measured autonomy, competence, and relatedness. The PGI Scale-II measured PGI. Standard multiple regression and 4 independent-samples *t* tests were used to analyze the data. Results indicated that autonomy, competence, and relatedness predicted PGI. There were no significant mean differences between PFMT practicing and nonpracticing women. These findings have implications for positive social change such that the medical community and policy makers can utilize the fulfillment of postpartum women's needs for autonomy, competence, and relatedness to improve women's odds for optimal adjustment and adaptation to life after childbirth.

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Chapter 1: Introduction to the Study

Introduction

The transition to motherhood begins during pregnancy and extends beyond the first year postbirth (Rallis, Skouteris, McCabe, & Milgrim, 2014). It is a time marked by tremendous behavioral, social, emotional, physical, and psychological changes (Mortazavi, Chaman, Mousavi, Khosravi, & Ajami, 2013; Prinds, Hvidt, Mogesen, & Burns, 2014). The level of success a woman has navigating these changes during pregnancy and postpartum dictates the trajectory of her health and well-being and determines the health of her newborn (Mortazavi et al., 2013; World Health Organization [WHO], 2013). Within health care, there is a general understanding that one's behavior will determine one's health (Schroeder, 2007), and as such, human motivation must be considered when investigating patients' experiences and health-related outcomes (Ryan, Patrick, Deci, & Williams, 2008). Researchers within health care and health rehabilitation have found that autonomous motivation is essential for physical recovery because it impacts intentions and attitudes toward rehabilitation and preventive behavior (Chan & Hager, 2012). It is also related to enhanced persistence, engagement integration, and increased psychological well-being (Deci & Ryan, 2008; Patrick & Williams, 2012; Ryan & Deci, 2000; Vandercammen, Hofmans, Theuns, & Kuppens, 2014; Vansteenkiste, Williams, & Resnicow, 2012).

Autonomous motivation refers to motivation resulting in behaviors that are voluntary and willing as a result of one recognizing and internalizing the value of the behavior (Vandercammen et al., 2014). As highlighted by researchers, autonomous

motivation is prompted by an individual's fulfillment of the innate psychological needs of autonomy, competence, and relatedness (Deci & Ryan, 2000, 2008). Autonomy refers to the psychological need that addresses the feeling of control over one's own life (Deci & Ryan, 2012), which an individual experiences when one perceives having choices from which to choose (Smith, 2014). When the psychological need for competence is met, an individual will feel capable and successful (Church et al., 2013), such as the feeling of effectiveness one experiences when reaching a targeted outcome (Graves & Luciano, 2013). Relatedness refers to the psychological need for a sense of belonging (Church et al., 2013), which is fulfilled when one feels connection with others (Schuler, Brandstatter, & Sheldon, 2013). Fulfillment of the psychological needs of autonomy, competence, and relatedness is essential for optimal physical and mental health, enhances adaptive skills, and provides the psychological well-being necessary for one to actively engage in self-growth (Deci & Ryan, 2000, 2008; Graves & Luciano, 2013; Hill & Pettit, 2013; Podlog, Dimmock, & Miller, 2011).

Navigating challenging life transitions with the intention of self-growth, or personal growth initiative (PGI), has been shown to motivate one toward positive self-growth and promote positive adjustment to life transitions and change (Ivtsatan, Chan, Gardner, & Prashar, 2013; Loo, Tsai, Raylu, & Oei, 2014; Meyers, Woerkom, Reuver, Bakk, & Oberski, 2015). Recognized as a cognitive, behavioral, motivational, and attitudinal set of skills to be nourished (Sharma, & Rani, 2013), PGI assists with the coping necessary during challenging experiences, facilitates goal striving, and is an ingredient in healthy relationships (Robitschek et al., 2012). Individuals with a high level

of PGI demonstrate a readiness for change by making plans, utilizing available resources, and self-directing behavior toward self-growth (Myers et al., 2015; Weigold, Porfeli, & Weigold, 2013). PGI is essential for optimal emotional, psychological, and social well-being (Myers et al., 2015; Weigold et al., 2013).

Despite these well-known factors that promote optimal functioning and well-being within health recovery and navigation of life transitions, the postpartum phase has been an overlooked aspect of health care (WHO, 2013), which underscores the neglect of postpartum women. Though medical professionals understand the importance of positive maternal adjustment and healing during postpartum (WHO, 2013), maternal care has failed to focus upon the health and well-being of the new mother, as attention is placed upon the health of the newborn and supervision of parenting skills (Benoit, Stengel, Phillips, Zadoroznyj, & Berry, 2012). As such, maternal care providers do not encourage postpartum women to be active in the postbirth recuperation process and do not provide them with information, instructions, or preventive strategies necessary for optimal healing (Buurman & Lagro-Janssen, 2013; Krissi, Eitan, & Peled, 2011; Newmann, 2009). Presently, a woman's fulfillment of her psychological needs for autonomy, competence, relatedness, and PGI are not aspects of maternal postpartum recuperation and care, and these factors have yet to be investigated as potential benefits for postbirth healing and adjustment to motherhood.

Researchers have recognized the growing problems associated with poor postpartum pelvic floor recuperation, which have a negative impact on a woman's state of psychological health and well-being and diminish her quality of life (Krissi et al.,

2012; Mandimika et al., 2014; Mota, Pascoal, Carita & Bo, 2014). For example, researchers have demonstrated that pregnancy and childbirth reduced the support and function of the muscles, connective tissue, and nerves of the pelvic floor, abdomen, anus, and perineum due to intense stretching, weakening, and possible tearing, which if not healed properly will result in pelvic floor disorder or dysfunction (PFD; Bo, 2011; Bururman & Largo-Janssen, 2013; Krissi et al., 2012; Mandimika et al., 2014; Morkved & Bo, 2014). Symptoms of PFD consist of urinary incontinence, fecal incontinence, insufficient defecation, overactive bladder, chronic hemorrhoids, constipation, uncontrolled flatulence, chronic pain, sexual dysfunction, bulging in the vagina, and ultimately pelvic organ prolapse (Bururman & Largo-Janssen, 2013). Half of all childbearing women experience reduced function and support of the pelvic floor postbirth, and 64% of the general female population experiences symptoms of PFD (Morkved & Bo, 2014). However, evidence showed proper pelvic floor muscle exercises, or pelvic floor muscle training (PFMT), promoted postbirth pelvic floor recuperation (Wang, Li, & Deng, 2014), and increases psychological well-being and quality of life (Fan, Chan, Law, Cheung, & Chung, 2013; Wang et al., 2014). Furthermore, researchers have recognized increasingly that PFMT is an effective treatment and prevention of PFD during postpartum (Ahlund, Nordgren, Wilander, Wiklund, & Friden, 2013; Kocaoz, Eroglu, & Sivaslioglu, 2013; Morkved & Bo, 2014; Palaez, Gonzalez-Cerron, Montejo, & Barakat, 2014).

Given the general disregard for the postpartum phase of recuperation (WHO, 2013), researchers have shown that PFMT is not offered or rarely suggested to

postpartum women (Fan et al., 2013; Morkved & Bo, 2014; Wang et al., 2014). In addition, postpartum women are uninformed regarding the importance of pelvic floor health and proper rehabilitation of the pelvic floor postbirth (Bo, 2011; Bururman, & Largo-Janssen, 2013; Dietz, 2013; Koch, 2006; Krissi et al., 2012; Mandimika et al., 2014). Because it is understood that physical health and psychological health have a strong relationship (Bahadoran, Tirkesh, Oreizi, 2014), there is a general understanding that the distress caused by PFD has a direct link to a woman's psychological health (Knarr et al., 2014; Vries et al., 2012). Despite ample research demonstrating women need proper information, instruction, and guidance during postbirth recuperation, the failure to incorporate evidence-based research has resulted in outdated postpartum care guidelines for women that maintain the status quo of neglecting postpartum women and the postpartum period (Haran, Driel, Mitchell, & Brodrigg, 2014).

The extent to which postpartum women experience fulfillment of the psychological needs for autonomy, competence, and relatedness to others could stimulate autonomous motivation during the rehabilitation and transition process and have a profound impact upon postpartum adjustment, personal development, optimal functioning, and the psychological well-being needed for intentional self-growth. Research has shown this in numerous populations (Chan & Hager, 2012; Deci & Ryan, 2000; Graves & Luciano, 2013; Hill & Pettit, 2013; Podlog et al., 2011). Given that PGI is essential for optimal functioning (Weigold et al., 2013) and is associated with emotional, psychological, and social well-being (Meyers et al., 2015), intentional efforts to heal physically by engaging in PFMT, and intentionally navigating the many

challenges and changes presented during the transition into motherhood, could have profound implications for positive social change for women.

The remainder of this chapter will provide an overview of the current literature regarding autonomy, competence, relatedness, and PGI and how these constructs relate to postpartum women's health and psychological well-being. Gaps in the literature will be acknowledged regarding the utilization of psychological needs fulfillment (i.e., autonomy, competency and relatedness) and PGI within postpartum care. Further, the employment of PFMT for postbirth pelvic floor recuperation assisted in forming the basis for the two guiding questions of the current study: (a) whether autonomy, competence, and relatedness satisfaction, as a group, predict PGI in postpartum women, and (b) whether there are significant differences in autonomy, competence, and relatedness fulfillment and PGI between PFMT practicing and nonpracticing postpartum women. In sum, the following sections examine established factors known to promote optimal health and well-being and apply those factors to postbirth pelvic floor recuperation and the transition to motherhood experienced by postpartum women.

Background

The support and function of the pelvic floor is greatly reduced from the pressure and stretching of the nerves, connective tissue, and muscles during pregnancy and childbirth, resulting in symptoms of PFD such as urinary incontinence, fecal incontinence, overactive bladder, chronic hemorrhoids, constipation, sexual dysfunction, bulging in the vagina, and ultimately pelvic organ prolapse (Burrman & Largo-Janssen, 2013). Researchers increasingly have concurred that PFD diagnosis and treatment during

postpartum is dictated by the status quo among practitioners and women (Burrman & Largo-Janssen, 2013; Koch, 2006; Krissi et al., 2012; Norton, MacDonald, Sedgwick, & Stanton, 1988). Research investigating women's help-seeking behaviors regarding PFD revealed that women delayed seeking treatment for symptoms of PFD due to embarrassment, perceiving symptoms as a normal consequence of birth and aging, and a belief that treatment options were not available (Koch, 2006; Norton et al., 1988). Investigations regarding the practitioner's role in diagnosis and treatment of PFD revealed that practitioners believed problematic symptoms have minimal treatment options, are a natural result of childbirth and aging, and will heal with time (Burrman & Largo-Janssen, 2013; Koch, 2006; Krissi et al., 2012).

Research supported the need for practitioners to educate postpartum women on the importance of pelvic floor health and symptoms of PFD (Bo, 2011; Burrman & Largo-Janssen, 2013; Dietz, 2013; Koch, 2006; Krissi et al., 2012; Mandimika et al., 2014). Mandimika et al. (2014) provided evidence for the global lack of knowledge women have regarding the symptoms of PFD. In a cross-sectional survey consisting of 431 racially and economically diverse women ranging from 19 to 98 years old, all of the women participating in the study lacked knowledge pertaining to the symptoms of PFD. Morkved and Bo (2014) further corroborated that doctors, midwives, primary physicians, nurses, and women themselves did not acknowledge that the impact childbearing has upon a woman's body has been compared to that of a major sports injury.

Trauma to the pelvic floor as a result of childbirth was first recognized in a 1943 report by Dr. Arnold Kegel who recognized the importance of conducting pelvic floor

muscle exercises postbirth (Dietz, 2013). In 1955, Dr. Kegel wrote a second report highlighting the need for practitioners to recognize and assess for pelvic floor trauma postpartum (Dietz, 2013). However, after Dr. Kegel's second report, there was no additional follow-up research on the subject until decades later when minimal publications began expanding upon the current knowledge of pelvic floor exercises (Dietz, 2013). Today, researchers such as Dietz (2013) have acknowledged the lost generations of advancement in knowledge and have urged practitioners to bring this issue into the forefront of practice.

Researchers have increasingly provided strong evidence for the use of PFMT for treatment and prevention of PFD (Bo, 2012; Fan et al., 2013; Morkved & Bo, 2014, Wang et al., 2014). Furthermore, Bo (2012), Fan et al. (2013), and Wang et al. (2014) have provided evidence that showed PFMT should be the first line of treatment offered to women experiencing PFD. Despite the understanding that pregnancy and childbirth deteriorate the function and strength of the pelvic floor (Burrman & Largo-Janssen, 2013), PFMT is not suggested to postpartum women as an aspect of perinatal and postpartum care (Morkved & Bo, 2014; Wang et al., 2014).

The negative impact poor postpartum recuperation has upon the quality of a woman's life is increasingly recognized as a major contributor to a woman's state of psychological health and well-being (Benjamin et al. 2014; Krissi et al., 2012; Mandimika et al., 2013; Mota et al., 2014). Nonclinical postpartum depressive symptoms are experienced by over 50% of postpartum women (Howell et al., 2014), and researchers have estimated clinical postpartum depression to be as high as 20% in this population

(Bobo & Yawn, 2014; Shrivastava, Shrivastava, & Ramasamy, 2015). This has highlighted the need for women to establish satisfactory feelings of well-being to facilitate care for self, new infants, and ultimately family (Bahadoran et al., 2014; Dennis, 2014). Underscoring the connection between physical health and psychological health, Bahadoran et al. (2014) pointed out that engaging in physical exercise increases new mothers' mood and well-being and ultimately reduces the signs of depression.

In response to the loss of function and support endured by the pelvic floor of half of all childbearing women, Morkved and Bo (2014) highlighted that despite the parallel between a major sports injury and childbirth, women do not receive the attention, treatment, and preventive strategies common to sports injury practices. Though optimal injury recovery and prevention of future injuries relies on proper rehabilitation (Chan, Hagger, & Spray, 2010), postpartum women have yet to receive treatment or preventive strategies common within rehabilitative care (Morkved & Bo, 2014). Further, researchers validated and urged the use of goal setting and striving as essential components necessary for positive rehabilitation (Levack, Taylor, & Siegert, 2006; Scobbie, Dixon, & Wyke, 2011; Wade & Jong, 2000) and personal growth (Deci & Ryan, 2008). However, goal setting and striving are not aspects of postpartum recuperation and care (Bo, 2011; Bururman & Largo-Janssen, 2013; Dietz, 2013; Koch, 2006; Krissi et al., 2012; Mandimika et al., 2013).

Though the fulfillment of the needs for autonomy, competence, and relatedness are essential for human motivation and goal striving, and the scholarly community has widely accepted them as universal psychological needs that must be fulfilled to obtain

optimal well-being (Deci & Ryan, 2008; Graves & Luciano, 2013), they have not been investigated within postpartum health care or among postpartum women. Researchers have used autonomy, competence, and relatedness to investigate motivation and well-being in injury recover (Podlog et al., 2011), health behavior (Patrick & Williams, 2012), adolescent well-being (Eryilmaz, 2012), physical activity (Sweet, Fortier, Blanchard, & Strachan, 2012), suicide prevention (Hill & Pettit, 2013), subjective well-being (Taj & Chettiar, 2013), leadership (Graves & Luciano, 2013), weight management (Ng, Ntoumanis, & Thogersen-Ntoumani, 2013), education (Hein & Caune, 2014), and medical education (Burgess & Ramsey-Stewart, 2014), which all highlighted the importance of fulfilling the three basic needs for optimal functioning (e.g., striving, motivation, well-being).

Researchers have increasingly agreed that PGI is a concept that is essential for optimal functioning and well-being (Weigold et al., 2013). PGI refers to the active navigation of challenging and transitional life experiences with the intention of personal growth (Ivtan, Chan, Gardner, & Prashar, 2013; Robitschek, 1998; Weigold et al., 2013). Mental health researchers acknowledged that PGI is a necessary component of any recovery plan (Loo et al., 2014). PGI has been found to motivate change and positive self-growth (Ivtsatan et al., 2013; Loo et al., 2014; Meyers et al., 2015), and research validated that proactive initiation of self-growth is associated with emotional, psychological, and social well-being (Meyers et al., 2015). For example, a person with a high level of PGI will be more apt to change places of employment to improve life satisfaction, seek counseling for addiction, change perspective after a traumatic event,

and positively adapt to major life transitions (Ivtsatan et al., 2013; Loo et al., 2014; Meyers et al., 2015; Weigold et al., 2013).

Considering that the postpartum period is a time that practitioners and policy makers have ignored (WHO, 2013), and maternal postpartum care is an overlooked aspect of health care (Benoit et al., 2012; WHO, 2013), this study addresses a gap in research on the importance of proper postbirth recuperation of the pelvic floor, fulfillment of the basic psychological needs, and the necessity of self-initiated personal growth for positive adjustment during the transition to motherhood. I addressed this gap in the literature by utilizing self-determination theory to investigate the fulfillment of autonomy, competence, and relatedness among postpartum women. Furthermore, I investigated the level of PGI postpartum women experience. Finally, in this study I compared fulfillment of autonomy, competence, and relatedness needs, and levels PGI between postpartum women engaged in PFMT and postpartum women not engaged in PFMT.

Problem Statement

The postpartum period has been acknowledged as the first 6 months of a woman's life postbirth (Romano, Cacciatore, Giordano, & La Rosa, 2010). However, postpartum care guidelines (WHO, 2013) terminate routine care for new mothers at 6 weeks postbirth, thus highlighting 20 weeks of lost care for postpartum women. The lack of regard for the health and well-being of postpartum women is reflected in the limited research investigating women's physical health concerns during and beyond postpartum (Woolhouse, Perlen, Gartland, & Brown, 2012), the failure of practitioners to provide the

information, guidance, and strategies necessary for optimal pelvic floor recuperation postbirth (Bo, 2011; Buurman & Largo-Janssen, 2013; Dietz, 2013; Koch, 2006; Krissi et al., 2012; Mandimika et al., 2013), and the general neglect of maternal postpartum care and the postpartum phase within health care (Benoit et al., 2012; WHO, 2013).

As a result, poor adjustment during postpartum, as measured by emotional adjustment, distress, anxiety, and functioning, has been reported in up to 45% of women (Rallis et al., 2014). Half of all childbearing women experience symptoms of PFD, which results in a decreased quality of life due to impaired physical, sexual, emotional, social, and psychological functioning (Krissi et al., 2012; Mandimika et al., 2013; Mota et al., 2014). Poor postpartum pelvic floor recuperation is a major contributor to a woman's state of psychological health and well-being (Krissi et al., 2012; Morkved & Bo, 2014), underscoring the importance of addressing physical and psychological health during the postpartum period. PFMT has been found to be an effective treatment and prevention of PFD (Kocaoz et al., 2013; Morkved & Bo, 2014) and has been shown to generate postpartum pelvic floor recovery and increase quality of life and psychological well-being (Wang et al., 2014). However, PFMT is not offered or is rarely suggested to postpartum women (Fan et al., 2013; Morkved & Bo, 2014).

Furthermore, evidence has shown that fulfillment of the psychological needs for autonomy, competence, and relatedness to others are essential for optimal functioning and development and provide the psychological well-being necessary for one to actively strive toward growth (Deci & Ryan, 2000; Graves & Luciano, 2013; Hill & Pettit, 2013; Podlog et al., 2011). Self-initiated personal growth, or PGI, is associated with emotional,

psychological, and social well-being (Meyers et al., 2015), assists in positively adapting to change, and is associated with striving for self-improvement (Meyers et al., 2015; Robitschek, 1998; Weigold et al., 2013). However, fulfillment of the psychological needs for autonomy, competence, and relatedness have not been explored as predictors of PGI among postpartum women. Furthermore, fulfillment of the psychological needs and PGI are not aspects of postpartum care and have not been researched among postpartum women.

Given the general disregard of the postpartum period (WHO, 2013), the four objectives of this study, which I intended to fill the gaps in the current literature, were as follows: (a) to investigate autonomy, competence, and relatedness need fulfillment among postpartum women, (b) to investigate the level of PGI experienced by postpartum women, (c) to examine whether or not fulfillment of the psychological needs of autonomy, competence, and relatedness to others predicts PGI among postpartum women, and (d) to explore whether or not there are significant differences between postpartum women engaged in PFMT and postpartum women not engaged in PFMT.

Purpose of the Study

Given the neglect of the postpartum phase (WHO, 2013) and the general disregard of maternal postpartum care (Benoit et al., 2012; WHO, 2013), the purpose of this quantitative investigation was to examine well-established psychological factors that promote optimal health and well-being within the neglected population of postpartum women. Though research has shown that PGI promotes positive adjustment during challenging life transitions (Ivtsatan et al., 2013; Loo et al., 2014; Meyers et al., 2015),

and fulfillment of autonomy, competence, and relatedness promote the psychological well-being necessary for PGI (Deci & Ryan, 2000, 2008), researchers have yet to explore fulfillment of the three psychological needs as predictors of PGI. Therefore, the current study investigated whether or not fulfillment of the basic psychological needs for autonomy, competence, and relatedness (the predictor variables) would predict level of PGI (the outcome variable) among postpartum women. Next, the investigation compared group means of the three psychological needs and PGI between postpartum women engaged in PFMT and postpartum women not engaged in PFMT.

Theoretical Framework

Self-determination theory (Deci & Ryan, 1985) and PGI theory (Robitschek, 1998) served as the theoretical frameworks for this study. Deci and Ryan's (1985) self-determination theory posits that autonomy, competence, and relatedness to others are three psychological needs that must be met for optimal functioning, positive personal development, and physical and psychological well-being. Self-determination theory explains aspects of internal and external motivations necessary for optimal health and striving, and researchers have used it as a framework to investigate several aspects of human behavior and personality including motivation and personal striving, physical activity, adaptation to life changes, and injury recuperation (Deci & Ryan, 2008; Graves & Luciano, 2013; Hein & Caune, 2014; Hill & Pettit, 2013; Podlog et al., 2011). As will be explained in more detail in Chapter 2, self-determination theory applies to this study because it recognizes the importance of psychological need fulfillment and autonomous

motivation for optimal postpartum recuperation and the health and well-being of postpartum women.

PGI theory (Robitschek, 1998) is a multidimensional theory addressing the cognitive and behavioral aspects of intentionally and proactively engaging in one's personal development (Meyers et al., 2015). PGI theory focuses on the purposeful navigation of life's challenging and transitional experiences, which assists in positively adapting to change (Meyers et al., 2015). According to PGI theory, the construct of PGI is associated with striving for self-improvement, higher quality relationships (Robitschek & Keyes, 2009), greater levels of happiness and life satisfaction (Robitschek & Keyes, 2009), and optimal functioning and well-being (Robitschek, 1998). The core tenets of PGI theory have been investigated in research examining emotional, psychological, and social well-being (Ivtsatan et al., 2013; Loo et al., 2014; Meyers et al., 2015; Robitschek, 1998). Given that the transition to motherhood is recognized as a time in which women must adapt to major life changes, PGI theory is applicable to this study, and it will be discussed in further detail in Chapter 2.

In addition, I have referenced system justification theory (Jost & Banaji, 1994) in this study as a secondary theory to explain the outdated postpartum care guidelines for women that maintain the status quo of neglecting the postpartum period of recovery, and ultimately postpartum women (Haran et al., 2014). System justification theory is based upon the idea that individuals have a motivation to defend, rationalize, justify, and support the status quo and the political, social, and economic framework shaping it (Jost & Banaji, 1994; Liviatan & Jost, 2011; Laurin, Gaucher, & Kay, 2013). The main

assumption is that individuals have a need and want to believe the social system they belong to, or the system affecting them, is fair and logical (Liviatan & Jost, 2011), because to believe otherwise would create dissonance or discontent. System justification theory has been widely used as a theory to explain many social issues in which large populations, often disadvantaged, downplay or minimize, often at the expense of others, to maintain the status quo and ultimately legitimize it (Jost, Pelhan, Sheldon & Sullivan, 2003; Liviatan & Jost, 2011). System justification theory helps explain the adherence to the status quo of postpartum care that overlooks the postpartum phase and neglects postpartum women.

Research Questions and Hypotheses

To investigate the importance of PFMT, PGI, and the fulfillment of the basic psychological needs for autonomy, competence, and relatedness among postpartum women, the following two research questions were asked:

Research Question 1: Do autonomy, competence, and relatedness, as a group, predict PGI in postpartum women?

H_01 : Autonomy, competence, and relatedness do not predict PGI in postpartum women.

H_a1 : Autonomy, competence, and relatedness predict PGI in postpartum women.

Research Question 2: What are the mean differences in autonomy, competence, relatedness, and PGI between postpartum women practicing PFMT and postpartum women not practicing PFMT?

H_{02} : There are no significant mean differences in autonomy, competence, relatedness, and PGI between PFMT practicing and nonpracticing postpartum women.

H_{a2} : There are significant mean differences in autonomy, competence, relatedness, and PGI between PFMT practicing and nonpracticing postpartum women.

Nature of the Study

For this quantitative study, I used a casual-comparison and correlational design and employed a web-based survey method to examine well-established psychological factors that promote optimal health and well-being within the neglected population of postpartum women. A correlational design was appropriate for this study because the first research question investigated whether or not autonomy, competence, and relatedness need satisfaction (predictor variables) predict PGI (outcome variable) in postpartum women. The casual-comparison design was appropriate for this study because the second research question examined the differences in autonomy, competence, and relatedness need satisfaction, and PGI between postpartum women engaging in PFMT and postpartum women not engaging in PFMT. No variables were manipulated, as this study compared two groups of postpartum women to investigate the effect of PFMT or lack thereof on autonomy, competence, relatedness, and PGI.

Two survey instruments were utilized to measure the four variables in this study. The Basic Psychological Need Satisfaction and Frustration Scale (BPNSFP; Chen et al., 2014) was employed to evaluate the extent to which postpartum women believed the need for autonomy, competence, and relatedness were satisfied during the postpartum period. The BPNSFP is a 25-item scale that captures components of satisfaction and

frustration of the needs for autonomy, competence, and relatedness on a 5-point Likert-scale ranging from 1 (*completely not true*) to 5 (*completely true*; Ryan & Deci, 2000; Chen et al., 2014). The Personal Growth Initiative Scale –II (PGIS-II; Robitschek et al., 2012) was used to measure PGI. This 16-item scale was developed to provide a multidimensional measure of PGI by addressing cognitive and behavioral components of one’s level of knowingly initiating personal growth (Robitschek et al., 2012; Weigold et al., 2013). The items on the PGIS-II are measured on 6-point Likert scale ranging from 0 (*disagree strongly*) to 5 (*agree strongly*).

For the first research question, the predictor variables were autonomy, competence, and relatedness need satisfaction, and the outcome variable was PGI. For the second research question, mean differences were compared on all of the variables of interest between the two groups of postpartum women, which provided insight on the effect of pelvic floor physical therapy. Data were analyzed via SPSS by employing a standard (i.e., simultaneous) multiple regression analysis to investigate if autonomy, competence, and relatedness satisfaction were predictors of PGI reported by both groups of postpartum women (Research Question 1). Four independent samples *t* tests were utilized to examine whether or not both groups of postpartum women had different mean values of autonomy, competence, relatedness, and PGI (Research Question 2).

Definitions

The constructs of autonomy, competence, and relatedness are defined based on the definitions offered by self-determination theory, which have been widely accepted as psychological needs that predict optimal functioning and well-being (Deci & Ryan, 2008;

Graves & Luciano, 2013). Furthermore, the construct of PGI is defined based upon the definition offered by PGI theory.

Autonomy: Autonomy is achieved when an individual feels a sense of control over life circumstances and feels the freedom to make self-selected choices (Burgess & Ramsey-Steward, 2014; Deci & Ryan, 2000; Graves & Luciano, 2013).

Competence: Competence is achieved when one feels capable and effective when trying new tasks, learning new skills, or adapting to challenging circumstances (Deci & Ryan, 2008; Graves & Luciano, 2013).

Pelvic floor muscle training (PFMT): PFMT is pelvic floor muscle exercises conducted either with the guidance of a professional or at home via written instructions.

Personal growth initiative (PGI): PGI refers to the active navigation of challenging and transitional life experiences with the intention of personal growth (Ivtan et al., 2013; Robitschek, 1998; Weigold et al., 2013).

Postpartum period: The only known documentation of the duration of the postpartum period is that of Romano et al.'s (2010) explanation of three phases of postpartum recovery: the initial phase, immediately following birth and lasting 12 hours; the subacute phase, the first 6 weeks postpartum; and the delayed phase lasting until 6 months postbirth. However, given that many researchers have explored the first 12 months postpartum (Brown, Gartland, Donath, & Macartheru, 2012; Staer-Jensen et al., 2015; Woolhouse, Gartland, Hegarty, Donath, & Brown, 2012; Woolhouse, Gartland, Perlen, Donath, & Brown, 2013; Yawn, Bertram, Kurland, & Wollan, 2015), for the purposes of this study I defined the postpartum period as the first 12 months postbirth.

Postpartum women: Postpartum women are a population of women who have given birth in the past 12 months.

Relatedness: Relatedness is achieved when one feels a general sense of belonging and connection to others (Church et al., 2012) and one's greater community (Ryan & Deci, 2002) and is marked by one feeling understood (Patrick & Williams, 2012) and gaining a sense of social identity as a result of connectedness (Li & Zhang, 2014).

Transition to motherhood: Beginning during pregnancy and extending beyond the first year postdelivery (Afferback, Anthony, Carter, & Grauerholz, 2014; Rallis et al., 2014), transition to motherhood is a process consisting of tremendous behavioral, social, emotional, physical, and psychological changes (Mortazavi et al., 2013; Prinds et al., 2014).

Assumptions

In the current study, I assumed that BPNSFP (Chen et al., 2014) would accurately measure the extent to which the psychological needs for autonomy, competence, and relatedness were either satisfied or frustrated. The BPNSFP is a reliable and valid instrument, as it has demonstrated validity across cultures (Chen et al., 2014) and has shown consistency for both need satisfaction and need frustration (Haerens, Aelterman, Vansteenkiste, Soenens, & Van Petegem, 2015). I also assumed that the PGIS-II (Robitschek et al., 2012) would accurately measure the participants' perceived level of PGI. The PGIS-II has proven to be a valid and reliable tool for measuring the cognitive and behavioral components of PGI (Robitschek et al., 2012). Furthermore, it was

assumed that the participants involved in the study would thoroughly read and evaluate each survey question and provide honest answers to every question asked.

Scope and Delimitations

The delimitations of the current study were that practitioners, women before Week 6 postpartum, and women beyond Month 12 postpartum were excluded from the study. This study investigated postpartum women, not the practitioners that have a direct influence upon postpartum women. Furthermore, given the immediate healing required postbirth, PFMT prior to 6 months postdelivery was not an aspect of this study.

Limitations

As the analysis was a quantitative exploration, this study did not obtain in-depth reports of postpartum women's perceptions and experiences of psychological need fulfillment and level of PGI during the postpartum period. In addition, given the postpartum period is a time marked by great challenge and demand, confounding factors (i.e., individual history, developmental level, and personality) within the realm of the investigations control may have presented limitations to the findings. Further, despite the acceptable reliability and validity of the measures selected to investigate satisfaction or frustration of the need for autonomy, competence, relatedness, and level of PGI, the emotional, social, physical, and psychological challenges associated with the postpartum period may have influenced responses. As such, the general deficiency of standardized measures specific to the postpartum recuperation process and transition to motherhood may present a limitation.

Significance

For the development of any nation, it is imperative women's health is considered, for there is a distinct connection between national development and women's health (Lester, Benfield, & Fathalla, 2010). However, the historical neglect of women in global health research (Decker, Hemmelring, & Lankoande, 2010) underscores a general neglect of female health issues, which is demonstrated by the lack of attention and care given to women during the postpartum period following childbirth (Benoit et al., 2012; WHO, 2013). The comprehensive evidence supporting the necessity of positive postbirth recuperation for the long-term health and well-being of postpartum women (WHO, 2013) has been well cited by postpartum researchers who recognized the negative impact poor postpartum recuperation has upon a woman's personal development, level of functioning, state of psychological health and well-being, and ultimately her quality of life (Benjamin et al. 2014; Krissi et al., 2012; Mandimika et al., 2014; Mota et al., 2014). Further, essential for optimal functioning, health and well-being are the fulfillment of the innate psychological needs of autonomy, competence, and relatedness to others, which provides the psychological well-being necessary for one to actively engage in self-growth (Deci & Ryan, 2000, 2008; Graves & Luciano, 2013; Hill & Pettit, 2013; Podlog et al., 2011), a component necessary for successful navigation of challenging life transitions and positive adjustment to change (Ivtsatan et al., 2013; Loo et al., 2014; Meyers et al., 2015).

Although the transition to motherhood occurring during the postpartum period is a time of drastic, behavioral, social, emotional, physical, and psychological changes (Prinds et al., 2014; Mortazavi et al., 2013), the general neglect of the postpartum period

(WHO, 2013) is such that postpartum women are often not encouraged to be proactive in the postbirth recuperation process and are not provided a rehabilitation plan containing milestones or desired outcomes (Bo, 2011; Buurman & Largo-Janssen, 2013; Dietz, 2013; Koch, 2006; Krissi et al., 2012; Mandimika et al., 2014). Finally, despite the necessity of fulfilling the basic psychological needs of autonomy, competence, and relatedness, and having a high level of PGI for optimal functioning and well-being, these factors are not components of postpartum care and have yet to be investigated within the postpartum population.

Therefore, the significance this study has for positive social change is in its potential to inform the medical community of possible avenues to improve the health of postpartum women, which in turn improves the health of infants, families, and communities. For example, this study may encourage practitioners and policy makers to recognize the need for strategies and policies that will provide postpartum women with a recuperation plan, equipped with milestones to mark progress and goals to strive toward, and encourage autonomous motivation through the fulfillment of the basic psychological needs. This study may highlight the need for care that supports and recognizes autonomy, competence, relatedness, and PGI as factors to promote optimal healing and well-being during postbirth recuperation and the transition into motherhood. This study may also help inform actionable strategies and treatment programs that will encourage, motivate, and inspire proper postbirth pelvic floor recuperation and a positive transition into motherhood.

Summary

This chapter highlighted the necessity of proper postbirth recuperation for the optimal healing and well-being of postpartum women. As outlined in previous sections, improper postbirth pelvic floor recuperation may result in symptoms of PFD (Morkved & Bo, 2014), which could be treated and prevented by proper PFMT exercises (Ahlund et al., 2013; Kocaoz et al., 2013; Morkved & Bo, 2014; Palaez et al., 2014). However, PFD is acknowledged as a highly neglected issue (Bo, Berghmans, Morkved, & Van Kampen, 2015), and the postpartum period is a neglected aspect of female health care (WHO, 2013). As such, practitioners rarely provide postpartum women with the necessary information and preventive strategies necessary for optimal postbirth pelvic floor recuperation (Fan et al., 2013; Morkved & Bo, 2014; Wang et al., 2014). Instead, practitioners often advise postpartum women that problematic pelvic floor symptoms are not severe, capable of healing over time, and are a natural aspect of childbirth, and eventually a subsequent result of aging (Buurman & Lagro-Janssen, 2013; Krissi et al., 2011). Furthermore, the recognized necessity of fulfilling the basic psychological needs of autonomy, competence, and relatedness, and having a high level of PGI have yet to be investigated within postpartum research.

After providing a thorough background of the literature related to this study, Chapter 1 provided an overview of the assumptions, limitations, delimitations, theoretical framework, key variables, and the research questions guiding this analysis. A full explanation of the problem was provided, which addressed gaps within the literature. The nature of this quantitative study was a casual-comparison and correlational design

conducted with the web-based survey method. Furthermore, I explained the intentions of this study were to explore the fulfillment of the psychological needs for autonomy competence and relatedness and measure level of PGI among postpartum women practicing and not practicing PFMT. As indicated by the purpose statement in Chapter 1, postbirth pelvic floor recuperation that focuses upon fulfilling the basic psychological needs for autonomy, competence, and relatedness, and is designed to increase postpartum women's level of PGI, would potentially benefit women by decreasing the odds of developing long-term health consequences resulting from poor pelvic floor recuperation. It would also help them positively adapting to the many social, emotional, physical, and psychological changes associated with the transition to motherhood. As such, the possible positive social change implications legitimize the exploration of the satisfaction of the psychological needs for autonomy, competence, and relatedness, and PGI in relation to the postpartum period and postpartum women.

In Chapter 2, the literature search strategy utilized to conduct the review of available literature is provided. In addition, the appropriate variables and theories guiding the investigation are defined within the theoretical framework. A comprehensive literature review provides current evidence relevant to the variables investigated, and a thorough overview of the gaps in the literature is provided. Finally, the chapter concludes with a summary of the current knowledge within the discipline, underscoring the need to advance knowledge that will optimize female functioning and well-being during the postpartum phase.

Chapter 2: Literature Review

Introduction

Despite the wide-ranging implications poor postpartum adjustment has upon a woman's psychological health, well-being, and quality of life (Krissi et al., 2012; Mandimika et al., 2014; Mortazavi et al., 2013; Mota et al., 2014 WHO, 2013), the social, emotional, behavioral, physical, and psychological challenges associated with the transition to motherhood (Mortazavi et al., 2013; Prinds et al., 2014) have not received the proper attention needed to enhance postbirth health and adjustment for women (Benoit, et al., 2012). Though scholars have recognized PGI as motivating one toward positive self-growth, prompting positive adjustment during challenging life transitions (Ivtsatan et al., 2013; Loo et al., 2014; Meyers et al., 2015) and essential for optimal emotional, psychological, and social well-being (Myers et al., 2015; Weigold et al., 2013), researchers have not explored PGI during the transition to motherhood or within the postpartum population. Furthermore, fulfillment of the needs for autonomy, competence, and relatedness to others (a) fosters the motivation (i.e., autonomous motivation) that results in intentional, committed, and persistent behavior that is associated with PGI and (b) is essential for optimal human functioning and well-being (Deci & Ryan, 2000; Ryan & Deci, 2000). However, satisfaction of the psychological needs of autonomy, competence, and relatedness to others is not part of postpartum care or investigated among postpartum women.

The general disregard for the health and well-being of postpartum women has been evident in the neglect of the postpartum phase within health care (WHO, 2013) and

from statistics that showed 45% of women reported poor postpartum adjustment (Rallis et al., 2013), and 50% of birthing women experienced symptoms of PFD (Krisi et al., 2012; Morkved & Bo, 2014). Regardless of these negative outcomes, proper PFMT has been shown to effectively prevent and treat symptoms of PFD during the postpartum phase (Ahlund et al., 2013; Kocaoz et al., 2013), promote postpartum recuperation, and increase quality of life and psychological well-being (Wang et al., 2014). However, health care professionals often have not offered or suggested PFMT to postpartum women. Given the potential benefits of satisfying the psychological needs for autonomy, competence, and relatedness, and having a high level of PGI, the purpose of the current study was to investigate the satisfaction of the psychological needs and PGI within postpartum women and to examine the differences between women engaging and not engaging in PFMT.

The following chapter contains an outline of the literature search strategy I used in the extensive review of available literature. The theories and applicable variables that guided the current investigation are well defined within the theoretical framework. Furthermore, an extensive literature review of current evidence relevant to the variables investigated provides the rationale for the appraised gaps in the literature. Finally, the chapter concludes with a summary of the current knowledge within the discipline, underscoring the need to advance knowledge that will optimize female functioning and well-being during the postpartum phase.

Literature Search Strategy

The literature search strategy involved a multidisciplinary database that included the selection of Academic Search Complete and ProQuest Central. The specific databases within the chosen subject of psychology included PsycINFO, PsycARTICLES, PsycEXTRA, PsycTests & Health and Psychosocial Instruments, and Google Scholar to assist with identifying specific articles. The databases within the chosen subject of health sciences and nursing included MEDLINE, ProQuest Nursing & Allied Health Source, Cochrane Database of Systematic Reviews, PsycINFO, and Google Scholar. The comprehensive literature search consisted exclusively of peer-reviewed journals, books, and published conferences, and key terms searched included the following: *pelvic floor disorder / dysfunction, pelvic floor physical therapy, urinary incontinence, pelvic organ prolapse, postpartum /perinatal /puerperium /post-birth women, postpartum /maternal care, patient centered care, autonomy, competence, relatedness, personal growth initiative, self-determination theory, health, injury recuperation, and sports injury recovery.*

The literature search dates were adjusted to accommodate the timeframe between the years 2011 and 2016, which allowed a 5-year window to investigate current empirical publications. Given the need to acquire the historical foundation of the theories I would use as a framework for the current investigation, the timeframe for theoretical exploration was open-ended. In sum, the peer-reviewed literature search strategy employed a variety of databases and key terms to investigate the subject searches applicable to the variables investigated within a current 5-year timetable.

Theoretical Framework

The following theoretical review outlines the two theories forming the framework of the current study: self-determination theory (Deci & Ryan, 1985), and PGI theory (Robitscheck, 1998). Also discussed in this theoretical review is system justification theory (Jost & Benaji, 1994), which provides an explanation for the outdated postpartum care system maintained by policy makers, practitioners, postpartum women, and the general female population.

Self-Determination Theory

Deci and Ryan's (1985) self-determination theory expanded the early ideas of motivation and needs, beginning with Freud (1915) and Hull's (1943) drive theories, White's (1959) early conception of intrinsic motivation and competence, and early ideas of autonomy highlighted by Maslow (1955). Self-determination theory has been influenced by theories such as deCharms's (1968) theory of personal causation and Festinger's (1957) theory of cognitive dissonance. Self-determination theory asserts that the basic psychological needs for autonomy, competence, and relatedness must be considered when seeking to understand internal and external motivations necessary for self-determined and self-motivated behavior necessary for optimal health and striving (Deci & Ryan, 2000). The three core tenets of self-determination theory guiding this study were as follows: (a) the satisfaction of the psychological needs for autonomy, competence, and relatedness are essential in the achievement of optimal personal development and functioning, physical and mental health, and optimal well-being, (b) environments that are autonomy supportive (i.e. educational settings, health care

facilities) provide one with a sense of respect, an appreciation for feelings and opinions, and the sense of having choices, thus resulting in autonomous rather than controlled behavior, and (c) fulfillment of the psychological needs for autonomy, competence, and relatedness promote autonomous motivation (Deci & Ryan, 1985, 2000; Ryan & Deci, 2000).

There are two types of motivation distinguished by self-determination theory that have an impact upon personal development and well-being: intrinsic motivation, action resulting from inner interest and enjoyment, and extrinsic motivation, action prompted by outcomes outside of self (Ryan & Deci, 2000). However, self-determination theory highlights two different kinds of extrinsic motivation: controlled and autonomous motivation (Deci & Ryan, 1985; Ryan & Deci, 2000). According to self-determination theory, controlled motivation is prompted by the social environment, such as a perceived authority figure (e.g. parent, teacher, employer, doctor), or by one's self-imposed pressures to avoid uncomfortable feelings, such as guilt or embarrassment (Deci & Ryan, 2002; 2008, Ryan & Deci, 2000). In contrast, autonomous motivation is prompted by one's recognition and internalization of the benefit or value in certain undertakings, resulting in a voluntary willingness to act, and is accompanied with an array of positive benefits such as a greater amount of persistence and engagement, and increased psychological well-being and performance effectiveness (Deci & Ryan, 2002; 2008, Ryan & Deci, 2000).

In their first study testing the parameters of autonomous motivation set forth by self-determination theory within the health care setting, Williams, Grow, Fredman, Ryan,

and Deci (1996) investigated 128 individuals partaking in a 6-month weight-loss program, with an additional 2-year follow-up. Participants who reported autonomous motivation for losing weight revealed greater loss of weight, more regularly attended the weight-loss program, had a greater sustained loss of weight, and found the health care environment of the program to be supportive of individual autonomy (William et al., 1996). William et al.'s research formed the basis for Williams, Deci, and Ryan's (1998) argument that by fulfilling patients' needs for autonomy, competence, and relatedness, health care settings will be more able to create positive health outcomes by assisting in the internalization of behaviors (i.e., autonomous motivation), and ultimately prompting self-determination.

Within health care, there is a general understanding that the end result of an individual's health will largely hinge upon how that individual behaves, such as level of exercise, diet, overall hygiene, adherence to medical advice, and engagement in self-care (Schroeder, 2007). In response to this understanding, Ryan et al. (2008) argued that human behavior and motivation must be considered when contemplating the patient's experience and the relative health-related outcomes. In a meta-analysis of 184 studies utilizing self-determination theory within health contexts, Ng et al. (2012) found a common theme supporting Ryan et al.'s argument: health care that is supportive of autonomy, competence, and relatedness needs will improve patients' adherence to and motivation for treatment. Highlighting that autonomy is an ethical requirement and considered one of the most important goals within the health care domain (Beauchamp & Childress, 2009), Deci and Ryan (2012) argued that autonomous motivation is important

within health care because patients often view practitioners with a sense of authority, feel a sense of control to comply with the care options offered, and feel pressure to follow the path set forth by those that have come before.

Self-determination theory has not been utilized within postpartum care, the transition to motherhood domain, or among postpartum women. However, the core tenets of self-determination theory have been investigated and supported within a wide range of research into motivation and personal striving (Graves & Luciano, 2013; Reeve et al., 2014), goal pursuits (Hortop, Wrosch, & Gagne, 2013), physical activity (Hein & Caune, 2014), and injury recuperation (Podlog et al., 2011). Recognizing that birthing women do not receive the same treatment and prevention care that injured athletes do, Morkved and Bo (2014) highlighted that childbirth is considered parallel to the injuries incurred with a major sports injury.

Utilizing self-determination theory within the domain of sports injury rehabilitation, Chan and Hager (2012) conducted two studies to investigate how motivation regulations influenced injury rehabilitation and prevention among athletes. Study 1 investigated 214 athletes, and Study 2 investigated 533 athletes. The athletes had varying degrees of injuries and came from 13 different sports arenas. Both of the studies provided evidence consistent with past research utilizing self-determination theory: autonomous motivation had a strong effect upon intentions and attitudes of the athletes, and the more the rehabilitation environment encouraged autonomous motivation, the more the athletes would internalize and integrate the value of the rehabilitation and prevention behavior. Chan and Hager (2012) found that the more the athletes felt

autonomously supported, the more likely they were to have a positive attitude, feel a sense of control and choice, and acquire a sense of commitment for maintaining the behavior necessary for rehabilitation and future injury prevention.

In sum, a substantial amount of literature has demonstrated the general understanding that support for autonomy, competence, and relatedness promotes the motivation necessary for one to engage in health-related behaviors. Because evidence has shown that some practitioners do not encourage postpartum women to be proactive in the postbirth recuperation process (Bo, 2011; Buurman & Largo-Janssen, 2013), taken within the context of self-determination theory, some practitioners may fail to provide an environment that satisfies postpartum women's psychological needs for autonomy, competence, and relatedness, and thus foster controlled motivation rather than autonomous motivation. For optimal postbirth recovery of the pelvic floor, abdominal muscles, and perineum of postpartum women, it is sensible to consider satisfaction of the needs for autonomy, competence, and relatedness, which will support the type of motivation necessary for women to engage in an intentional recovery and ultimately foster optimal functioning and well-being during the transition to motherhood, thus supporting the use of self-determination theory for this study.

PGI Theory

Original ideas of self-actualization (Maslow, 1970), continual personal growth (Erickson, 1950), optimal potential fulfillment (Rogers, 1961), and ideas of active engagement in one's strivings (Prochaska & DiClemente, 1983) built the foundation for PGI theory (Robitschek, 1998). As highlighted by Prochaska and DiClemente (1986),

there are three triggers to an individual's personal growth: (a) developmental processes (i.e., ability to morally reason), (b) environmental factors (i.e., death of a spouse), and (c) one's intentional striving (i.e., discontentment with a marriage may prompt one to divorce). Focusing specifically upon the intentional processes of personal growth, PGI theory clarifies the cognitive and behavioral aspects of conscious and deliberate self-growth during challenging and transitional life experiences across the life span (Robitschek, 1998). The main tenets of PGI theory guiding this study were the following: intentional personal growth is associated with optimal functioning and well-being, PGI consists of a set of four specific skills (prepared for change, planning for the change, utilizing available resources, and intentionally guiding change), and people will choose to intentionally grow in areas of life they perceive to be most important (Robitschek, 1999; Robitschek et al., 2012).

Robitschek's (1997) initial work on PGI theory began with a study designed to determine whether an intervention would assist in increasing level of active engagement in PGI among adults experiencing a major life change or transition. Before and after embarking upon an outdoor adventure program, the adult participants in Robitschek's study were questioned about life purpose, goals, plan of action for the future, understanding the process of personal growth, and more. The findings revealed an increase in PGI after the intervention that was still evident 3 months later. Current research by Thoen and Robitschek (2013) supported and advanced Robitschek's early findings by demonstrating an intervention consisting of teaching college students about PGI theory and the skills of PGI may increase levels of PGI.

In a study designed to introduce and validate the development of the PGI Scale, the first scale utilized to measure PGI, Robitschek (1998) officially announced PGI as a construct. Having established PGI as a construct, Robitschek (1999) revealed that individuals could recognize when personal growth was facilitated with or without awareness, and when it was intentional or unintentional, highlighting that when growth was intentional, levels of psychological well-being were higher. Robitschek's (1999) findings provided support for the theory that PGI is self-growth that occurs on one's own accord, with awareness, and active engagement, thus advancing the idea that with awareness, PGI can be increased.

Robitschek and Keyes (2009) added depth to PGI theory by suggesting that individuals with a high level of PGI are happier mentally than individuals with a low level of PGI. Their findings show that higher levels of PGI were associated with (a) greater levels of self-acceptance, autonomy and self-direction, (b) higher quality relationships with others, (c) a greater sense of life purpose, (d) a higher connection and contribution level to community, and (e) greater feelings of happiness and satisfaction with life. Further, Robitschek and Keyes (2009) demonstrated that high levels of well-being were commonly found among individuals with high levels of PGI, thus demonstrating that PGI may be a predictor of well-being.

PGI theory posits that PGI consists of a set of four skills: (a) being ready and prepared for change, (b) planning for the change, (c) being aware of and utilizing available outer resources, and (d) intentional behavior that will actively guide the change, (Robitschek, 1998). Support for these four skills were provided by Robitschek et al.'s,

(2012) research that showed individuals that demonstrated the capacity to utilize resources, were receptive to change, exhibited intentionality, and revealed a high level of planning ability, also had high levels of PGI. In a study examining the major transition faced by 386 international students that must adjust to a new culture, Yakunina, Weigold, and Weigold (2013) provided support for Robitschek et al.'s (2012) findings. Yakunina et al. (2013) showed that planfulness was significantly related to adjustment, and greater levels of utilizing resources served as a barrier between the acculturative stress and adjustment to the new culture. Advancing the literature, Meyers (2015) investigated graduate student success, and showed that when personal growth goals are set, personal development is enhanced.

PGI theory has not been utilized to investigate the intentional growth among postpartum women. However, as shown by the literature, PGI assists in positive adaptation to change and is associated with optimal functioning and well-being. Since the postpartum period is recognized as a major life transition time in a woman's life, it could be argued that PGI would assist with navigating and adapting to the many changes occurring during postpartum, thus supporting the use of PGI as a framework for this study.

System Justification Theory

Encompassing and expanding upon aspects of Tajifel and Turner's (1979) social identity theory, Festinger's (1957) theory of cognitive dissonance and Lerner's (1980) just-world theory, system justification theory (Jost & Benaji, 1994) asserts that individuals have a need and want to believe the social system they belong to, or the

system affecting them, is fair and logical. According to system justification theory, fulfillment of rudimentary psychological needs (e.g., the need for consistency, certainty, management of anxiety, control of potential threats, and relatedness to others) is a motive of system justification (Jost & Hunyady, 2005). Specifically, system justification theory asserts that disadvantaged populations will be most apt to support unjust social systems because of the dissonance experienced otherwise (Jost, & Hunyady, 2005).

As such, system justification theory has been widely used as a theory to explain many social issues in which large populations, often disadvantaged, downplay or minimize, often at the expense of others, to maintain the status quo. For example, Jost, Pelham, Sheldon, and Sullivan (2003) conducted five studies that all demonstrated the same results: when a given status quo fails to serve populations, the individuals that suffer the most from the status quo are the individuals that are more apt to support it. Results from their studies showed (a) less educated, poverty level individuals were more apt to support policies that encouraged citizens to speak good of their government, (b) low income earning individuals were more apt than high income earning individuals to believe that low income pay prompts motivation and effort, and (c) low income Latinos were more apt than high income Latinos to have trust in their government.

Providing further evidence for the system justification motive (Jost & Benaji, 1994), Kay et al. (2009) conducted 4 experiments to test whether individuals view the current status quo positively (i.e., as desirable) and if so, whether justification occurred as a result of an individual's need to justify his/her own system. In each experiment, Kay et al. manipulated the need for individuals to justify aspects of the systems in which they

live (i.e., gender inequalities, power in politics, and policies regarding public funding). In the first experiment, after being reminded of the inescapable aspect of political systems, participants justified the current political status quo of wealthy politicians holding political power by believing that wealthy people should hold the power. Experiments 2 and 3 provided evidence for the idea that people will support the status of the social system directly impacting the status quo. For example, after briefing undergraduate participants on the high level of dependence citizens have to their country, participants were more apt to support the status quo of the funding policy found within their country, rather than the university they attended. However, after a briefing regarding the dependence of college students upon their university, participants were more apt to support the status quo of their university funding policy over their countries funding policy.

Finally, in experiment 4, the researchers led participants to interact with a woman they believed was a business student. After the interaction, participants were either told (a) that women were highly represented in business positions or (b) that women were highly underrepresented in business positions. Participants who believed women were underrepresented in business supported the status quo by claiming that the female business student they interacted with was not likable or competent. On the other hand, the participants who believed women were represented in the business found the female business student to be competent (Kay et al., 2009). Kay et al.'s (2009) experiments provide strong evidence for the tenets of system justification theory that assert individuals are motivated to justify and rationalize the status quo of the social system in which they

are a part of, and perhaps dependent upon. Recent research by Jost and Tyler (2014) advanced Kay et al.'s (2009) findings by presenting evidence for the idea that powerlessness, and dependence upon the system, prompts one to justify the system rather than try to change the system.

Crandall, Eidelman, Skitka, and Morgan (2009) provided further support for system justification theory by surveying 486 adults from the United States that revealed individuals were more apt to support and justify practices of torture if they believed the torture was longstanding (i.e. traditional) rather than new. Regardless of whether or not the torturous practices were considered distasteful, if the practice was longstanding, the participants were more apt to support the status quo, thus providing evidence that social systems are maintained by the status quo. However, Cheung, Noel and Hardin (2011) presented another dimension by demonstrating that even when the status quo is supporting discrimination, status quo support may serve as a way to satisfy the basic human need for connecting with and sharing reality with others.

Two recent studies conducted by Blanchard and Eidelman (2013) corroborated the vast research demonstrating that individuals are more apt to support a longstanding status quo. Testing whether or not longevity of a given system predicted if an individual supported the system (i.e., engaged in system justification), the first study consisted of 52 participants recruited from a variety of countries that were English speaking. The participants all read descriptions of the capitalistic system of the US, with a timeline that reported the system as either longstanding or young in nature. Participants who perceived the system as older had a higher score on system justification than did the participants

that viewed the system as younger. The results of the second study were similar, showing that of the 36 Americans and 50 Indians, regardless of nationality, the participants that viewed the Indian caste system to be older were the participants that were more apt to engage in system justification. Parallel with Blanchard and Eidelman's (2013) findings, Laurin et al. (2013) found that participants were more apt to support the status quo when they believed it was stable and unlikely to change.

Postpartum care guidelines, which are upheld by policy makers and practitioners, have been shown to neglect the postpartum period, and thus postpartum women (Benoit et al., 2012; WHO, 2013), and rely on an outdated status quo that fails to include current evidence-based research (Haran et al., 2014). According to system justification theory, it could be argued that the general neglect of the postpartum period within health care is a demonstration of maintaining the longstanding status quo of postpartum care at the expense of the underserved population of postpartum women. As such, system justification theory is utilized to explain the maintenance of the status quo within postpartum care.

Contemporary Research

Postpartum or Postnatal Care in the United States

Researchers increasingly concur that after childbirth the amount of attention and care given to women is diminished to the point of neglect. The WHO (2013) recommendations for postnatal care for women recognized the importance for new mothers to navigate postbirth successfully, though reported that the postnatal period is an overlooked aspect within health care. The WHO (2013) further highlighted the fact that

postpartum women are a neglected population in need of quality services. In their report for the National Center for Health Statistics on births in the United States, Martin, Hamilton, and Osterman (2014) reported that in 2013 there were 3.2 million births in the United States, which represents the significant size of the uncared for population of postpartum women in the United States. As highlighted by Benoit et al.'s (2012) examination of the postbirth care crises, maternal care services have neglected new mothers because they focus upon the health of the new baby and level of parenting skills, rather than health and well-being of the new mother.

In an extensive review of maternal postpartum care in the United States, Cheng, Fowles, and Walker (2006) highlighted that the 2010 United States objectives for maternal care continued to neglect maternal care beyond pregnancy and the immediate time following birth. Cheng et al. pointed out that though research on postpartum depression has produced testing measures following birth, postpartum care fails to address postpartum physical discomforts, and the emotional disturbances and struggles associated with the role of being a new mother. Cheng et al. underscored the fact that maternal physical health will predict the physical, emotional and social health of children, and urged for policies, plans, and strategies that broaden the scope of maternal postpartum care beyond testing for postpartum depression.

Carter et al. (2010) reported on the results of a collaborative Vision Team that was established in 2008 in an effort to provide woman-centered care to improve the quality and value of maternity care in the United States. The Vision Team, which consisted of an array of experts from maternity nursing, nurse-midwifery, obstetrics,

gynecology, childbirth education, delivery and labor support, health system design, family medicine, community health, public health and more, gathered to create an action plan that would be fully implemented by the year 2020. The action plan consisted of a set of goals for care during pregnancy, around the time of birth, and during postpartum, and “prioritizes wellness and preventive services” (Carter et al., 2010, p. S13). However, Carter et al.’s report fails to include any recuperation plans or preventive strategies for physical healing and recuperation of the pelvic floor, abdominal functioning, and perineum. According to the action plan, postpartum care will continue to neglect proper postbirth physical healing and adjustment to motherhood.

Romano et al. (2010) acknowledged that the postpartum period of time may consist of the first 6 months of a woman’s life postbirth and is marked by three phases of recovery: (1) the initial phase, immediately following birth and lasting 12 hours, (2) the subacute phase, the first 6 weeks postpartum, and (3) the delayed phase lasting until 6 months postbirth. However, according to the WHO’s (2013) recommendations regarding postnatal care for women, recommended contact with a practitioner does not extend beyond the sixth week postbirth, which according to Romano et al (2010) neglects the delayed phase of postbirth recovery. As such, the discrepancy between recommendations of care for postpartum women (WHO, 2013), and the recognized phases of postpartum recovery (Romano et al., 2010) indicate 20 weeks of neglected care for postpartum women.

The historical neglect of women in health research (Decker et al., 2010) is reflected in the limited research investigating physical health concerns for women that

extend into and beyond postpartum (Woolhouse et al., 2012). Woolhouse et al.'s (2012) investigation of women's physical health symptoms 18 months postbirth revealed that health concerns during postpartum may persist well beyond the postpartum period. As such, Woolhouse et al. demonstrated that postnatal care for women, which ends with a 6-week checkup, is not sufficient in safeguarding postpartum women against the long-term health consequences resulting from pregnancy and birth.

PFD

First recognized by Wall and DeLancey (1991) as the largest issue neglected within women's health care, PFD remains acknowledged as a highly neglected issue (Bo et al., 2015). Newman (2014) underscored the importance of the pelvic floor by highlighting that the muscles, connective fiber, and tissues that compose the pelvic floor are responsible for supporting the bladder, uterus, and rectum, which are crucial aspects of a woman's anatomical structure. Researchers such as Buurman and Lagro-Janssen (2013), Morkved and Bo (2014), and Bo et al. (2015) reported that pregnancy and childbirth negatively impact the female body by stretching, weakening, and possibly rupturing the muscles, connective tissue, and nerves of the pelvic floor, abdomen, and perineum.

PFD is a grouping of disorders that impact the structure and function of the pelvis and include hemorrhoids, constipation, sexual dysfunction, perineal pain, overactive bladder, bladder and bowel emptying abnormalities, anal fissures, and the three most common symptoms of pelvic organ prolapse, urinary incontinence, and fecal incontinence (Buurman & Lagro-Janssen, 2013). According to forecasted estimates of

PFD in the U.S, Wu, Hudley, Fulton, and Myers (2009) utilized the U.S. Census Bureau's projected population figures and estimated that between the years 2010 to 2050 there will be a significant increase in the three most common PFD symptoms: pelvic organ prolapse will escalate 46%, fecal incontinence by 59%, and urinary incontinence will increase by 55%. Given the recent estimates of the prevalence of PFD at 50% for childbearing women and 64% for the general female population (Morkved & Bo, 2014; Roos et al., 2013), Wu et al.'s (2009) projected estimates are significant. As pointed out by Wu et al (2009), prevalence of PFD increases with age, and there are more elderly females than there are elderly males, as such PFD is projected to impact a significant proportion of women in the coming decades.

Mode of Delivery and PFD

Though early research revealed inconclusive evidence regarding which mode of delivery (i.e., vaginal or cesarean) produced higher rates of PFD, researchers increasingly agree vaginal delivery is shown to increase the prevalence of PFD. Lal, Mann, Callender, and Radley (2003) revealed that pregnancy itself, rather than the mode of delivery, caused PFD, which ignited the debate on whether or not mode of delivery determined PFD. Casey, Schaffer, Bloom, Heartwell, McIntire, and Leveno (2005), and Lukacz, Lawrence, Contreras, Nager, and Lubert (2006) suggest that cesarean delivery presented a buffer against PFD by showing that rates of urinary incontinence were greatly reduced in women that had undergone cesarean rather than vaginal birth.

In an extensive review of cohort and cross-sectional studies reporting urinary incontinence related to pregnancy, Press, Klein, Kaczorowski, Liston, and VonDadelszen

(2007) conducted a comparison of the literature to determine which mode of delivery produced higher rates of urinary incontinence. Their findings revealed that vaginal birth increased the risk of short-term urinary incontinence symptoms, however when considering severe symptoms of urinary incontinence, there was not a significant difference between vaginal or cesarean deliveries. Handa et al.'s (2011) investigation of rates of PFD within the timeframe of 5-10 years after either mode of delivery, found that vaginal births, especially operative in nature, significantly increased a woman's odds of developing PFD.

As pointed out by Jeffery (2011), during a vaginal birth the pelvic floor distends significantly during the crowning of the newborn's head, with a muscle stretch of up to 200%, which according to Dixit, Shek, and Dietz (2014) profoundly impacts the form and function of the pelvic floor muscles. It is the impact of this significant stretch, and the possible tearing of the pelvic floor muscles during vaginal delivery that results in pelvic organ prolapse (Jeffery, 2011). However, as pointed out by Rortveit, Daltveit, Hannestad, and Hunskaar, (2003) and Day and Goad (2010), though women that deliver vaginally may be at an increased risk of developing PFD, women delivering via caesarean are still subject to the weight gain of pregnancy and hormonal changes endured by the process of pregnancy, which reduce the strength of the pelvic floor thus leading to PFD.

According to Martin, Hamilton, and Osterman (2014), in 2013 the total number of births in the United States was 3.93 million, 67.3% of which were vaginal births. In a study to examine the health impacts of vaginal childbirth, Whapples (2014) reported that 85% of vaginal births result in trauma to the perineum, 70% of which need stitches to

repair. Dietz, Shek, Chantarasorn, and Langer, (2014) add to the statistics by showing that 30% of women experience trauma in the form of muscle tears (i.e. injury) during vaginal delivery. Perineal trauma and sutures to repair perineal tears as a result of vaginal delivery, are suggested to cause aggravating pain in the perineum, increase the commonness of PFD (Whapples, 2014), and interfere with muscle strength and overall pelvic floor functioning common in PFD (Dietz et al., 2014).

Status Quo of Postpartum Care Among Practitioners and Postpartum Women

Researchers increasingly concur that PFD diagnosis and treatment during postpartum is dictated by the status quo among practitioners, and the general lack of help seeking behavior among women. MacDonald, Sedgwick, and Stanton (1988) were among the first researchers to highlight that women delay seeking treatment for symptoms associated with PFD. Koch (2006) conducted a literature review that consisted of five studies that demonstrated a common consensus: less than 38% of women seek treatment due to embarrassment, perceiving symptoms to be normal and a natural part of aging, and believing that treatment options were not available. Consistent with Koch's (2006) findings, Krissi et al.'s (2012) investigation regarding the practitioner's role in diagnosis and treatment of PFD revealed that midwives, gynecologists, nurses, and primary care physicians do not prepare women for postpartum pelvic floor problems, often consider symptoms to be nonsevere and capable of healing over time, and believe the symptoms are a natural aspect of childbirth and eventually a subsequent result of age. Krissi et al. also reported the reasons women delay seeking treatment for symptoms of PFD included embarrassment, and adherence to the advice given to them by their practitioners:

symptoms are normal, not in need of treatment, will heal with time, and are a natural consequence of aging. Krissi et al. highlighted that the stigma of PFD and the lack of information provided by practitioners were significant factors regarding discussing symptoms.

Corroborating these findings, Buurman and Lagro-Janssen's (2013) interviewed 26 postpartum women to investigate help-seeking behaviors and perceptions of PFD. Their study revealed that when symptoms do not heal, postpartum women confide in close friends and relatives that echo the beliefs and advice given to them by their practitioners: the symptoms are natural and an inevitable result of childbearing, and women will either heal or adapt with time. Buurman and Lagro-Janssen (2013) further highlighted the status quo of postpartum care among practitioners and women, and underscored the general lack of information given to postpartum women, which is echoed by researchers such as Cross, Cant, Manning, and McCarthy (2013), Choi et al. (2015), and Taylor, Weir, Cahill, and Rizk (2013).

Buurman and Lagro-Janssen (2013) also highlighted that women were unprepared and unaware of the pelvic floor problems they faced postdelivery. In turn, Buurman and Lagro-Janssen revealed that the lack of information provided by practitioners left women unaware of prevention and treatment options, which results in feelings of powerless, confusion, anger, self-blame, shame, embarrassment and ultimately adapting to or altering daily activities and lifestyle to accommodate the symptoms. In accordance with Buurman and Lagro-Janssen's (2013) findings, Roos, Thakar, Sultan, Burger, and Paulus (2014) revealed women are reluctant to discuss the impact of PFD

upon sexual functioning, as women perceive the issue to be taboo. As pointed out by Knarr et al. (2014), when providers are informed and share information about PFD and treatment options, the quality of life will greatly improve for women that experience PFD.

PFD, Psychological Well-Being, and Symptoms of Depression in Postpartum

Ghetti, Lowder, Ellison, Krohn, and Moalli (2010) found that depression is commonly found among women that experience pelvic organ prolapse. Vries, Northington, and Bogner (2012) demonstrated that older adults experiencing decreased function due to symptoms of PFD, specifically urinary incontinence, experienced psychological distress. Furthermore, Woolhouse et al. (2013) demonstrated there is a relationship between a woman's mental health during the first year after childbirth, and the condition of her physical health during the early stages of postpartum. Advancing these findings, Knarr, Musil, Wrner, Kless, and Long (2014) found a significant relationship between symptoms and severity of anxiety and depression and the degree to which a woman experiences PFD.

Research by Howell, Mora, DiBonaventura, and Leventhal (2009) suggested there is a relationship between nonclinical postpartum depressive symptoms and the physical symptoms a woman experiences during the postpartum period (Howell et al., 2009). Though estimates may vary, postpartum depressive symptoms impact over 50% of women (Howell et al., 2014), and have been noted as the dominant reason for disability pertaining to disease among women (Howell et al., 2014). Estimates of clinical postpartum depression are as high as 20% of women (Shrivastava et al., 2015), with up to

50% of women experiencing depression beyond the seventh month (Bobo & Yawn, 2014), and many women remaining depressed for the first year postbirth (Bobo & Yawn, 2014; Youash et al., 2013). Since depression is projected to be one of the most common health problems by the year 2020 (Shrivastava et al., 2015), researchers such as Bobo and Yawn (2014) highlight that treatment improvements are needed for postpartum depression.

Research validates the significant negative impact PFD has upon the quality of a woman's life. In their investigation of psychological distress accompanied by PFD among older adults, Vries, Northington and Bogner (2012) suggested symptoms of PFD (i.e., urinary incontinence) predicted psychological distress, and highlighted that one may socially isolate due to the anxiety over social humiliation, which may lead to depression. Vrie et al.'s (2012) findings were supported by Mandimika et al.'s (2014) investigation of PFD (i.e., urinary incontinence and pelvic organ prolapse) knowledge among 431 diverse women ages 19-98. Mandimika et al. found there is a general lack of knowledge regarding PFD's among women, and highlighted that women with PFD experience decreased self-esteem, limited physical, emotional, and psychological functioning, and may socially isolate. Further, in an extensive review of the literature regarding help-seeking behaviors of older women with symptoms of PFD, Strickland (2014) underscored the impact PFD has upon a woman's life, which interferes with functioning and daily activities, and negatively impacts relationships, emotional functioning and well-being.

Given the idea that physical health strongly determines psychological health, Bahadoran et al. (2014) pointed out that engaging in physical exercise increased new

mothers mood and well-being, and ultimately reduced the signs of depression. Bahadoran et al. underscores the need for satisfactory feelings of well-being and positive psychological health for women to facilitate care for self, new infant, and ultimately family. With that said, Khan et al.'s (2013) study investigating the impact of PFMT upon symptoms of PFD and anxiety and depression, raised the question of whether or not physically exercising the pelvic floor muscles should be utilized as a treatment for anxiety and depression when presented in combination with PFD.

PFMT

Pelvic floor exercises were introduced as kegel exercises, currently known as pelvic floor muscle (PFM) exercises, in the 1940s by Dr. Arnold Kegel (Kegel, 1948). However, there was no additional follow-up research on the subject until decades later when publications began expanding upon established knowledge of pelvic floor exercises. Researchers such as Bo (2012), Fan et al. (2013), Knorst, Resende, Santos, and Goldmin (2013), Newman (2014) and Pedraza et al. (2014) recognize PFM exercises as an effective means of treating symptoms and preventing PFD within the female population.

Glazener et al. (1997), and Morkved and Bo (1997, 2000) were among the first researchers that demonstrated PFMT greatly reduced the occurrence of incontinence in women during the first year postpartum. A debate began within research to determine which means of PFMT was more effective: home-based PFMT with written instructions, or PFMT guided by a professional. Bo's (2012) systematic review of data collected from 2008-2011 regarding the effectiveness of PFMT as treatment for PFD, revealed 5

randomized controlled trials (RCTs) that showed professionally guided PFMT was more effective than PFMT that was not professionally guided. Bo also showed that PFMT has no adverse side-effects and suggested it should be the first line of treatment for women experiencing PFD.

Contradicting Bo's (2012) findings, Ahlund, Nordgen, Wilander, Wilund, and Friden (2013) conducted a RCT that investigated 100 women 3 to 9 months postpartum to determine whether written instructions or professionally guided PFMT were more effective. The women were broken into two groups: (a) the intervention group, which was provided written instructions and visited a midwife every 6 weeks for 6 months, for a total of 3 visits, and (b) the control group, which received written instructions on how to conduct PFMT, and did not visit a midwife. The results of their study demonstrated that home based instructions (i.e., written instructions) without guidance from a professional was as effective as home-based instructions with guidance from a professional.

Continuing the debate, Wang et al. (2014) suggested that PFMT may be more effective when led by a professional due to the tedious repetition of the exercises, which makes it difficult for women to commit to a self-governed routine. Further, Morkved and Bo (2014) showed that supervised PFMT was effective in treating and preventing PFD during pregnancy and postpartum. However, as pointed out by Knarr et al. (2014), engagement in any type of PFMT is of benefit to a woman experiencing PFD.

The importance of PFMT during pregnancy to prevent PFD was recognized by The National Institute of Clinical Excellence (Kocaoz et al., 2013). Vast evidence from researchers such as Ahlund et al. (2013), Kocaoz et al. (2013), Morkved and Bo (2014),

Palaez et al. (2014), and Wang et al. (2014) supported and encouraged the use of PFMT within the population of pregnant and postpartum women. Khan et al. (2013) investigated the impact of PFMT upon 108 women with symptoms of anxiety and depression. Conducting measurements before and after engaging in a 6-month PFMT program, Kahn et al. (2013) showed that PFD symptoms and nonsevere anxiety and depression improved with a PFMT program that consisted of two private instruction sessions and 6 group sessions within a 6-month time period. Kahn et al.'s (2013) findings point to PFMT as an effective treatment for anxiety and depression when presented in combination with PFD. Furthermore, Wang et al. (2014) found that PFMT generated restoration of the pelvic floor postbirth, and increase psychological well-being and quality of life of postpartum women. However, as pointed out by Morkved and Bo (2014) and Wang et al. (2014) professionally guided PFMT is not offered or suggested to postpartum women as an aspect of perinatal and postpartum care, and thus postpartum women are uninformed regarding proper rehabilitation of the pelvic floor.

Transition to Motherhood

Researchers such as Prinds et al. (2014), Rallis et al. (2014), and Mortazavi et al. (2013) recognized pregnancy and childbirth as the life-altering time of transitioning into motherhood. The transition to motherhood is understood to be a time marked by drastic physiological, behavioral, social, emotional, physical, and psychological changes (Prinds et al., 2014; Mortazavi et al., 2013), which the WHO (2013) points out requires successful navigation for a woman to acquire optimal health and well-being. Rallis et al. (2014) and Afferback et al. (2014) highlighted that the transition to motherhood is a

process that begins during pregnancy and extends beyond the first year postdelivery.

Transition to motherhood is reflected in research that underscores the importance of the birth experience upon how a woman physically, psychologically and emotionally adapts during the transition to motherhood (French & Thompson, 2014; Talbot, 2014).

However, as Talbot (2014) highlights in her exploration of women's experiences of having a good birth (i.e., positive experience), the wisdom gleaned from the positive birth experience is yet to be harnessed, as women's stories and experiences are neglected.

Mortazavi et al. (2013) explored the psychological experiences of women in the eighth week postpartum, and pointed out the challenges faced by new mothers include infant feeding and health concerns, financial and economic concerns, assuming a new identity, developing the role of a mother, nurturing other family members, and concerns over one's own health. However, transition to motherhood research has yet to include proper postbirth recuperation as a means of assisting postpartum women to better managing the challenges of new motherhood. Though the transition into motherhood is a personal experience for each mother, Held and Rutherford (2012) underscores the importance of public pressure that occurs in the form of cultural expectations that scrutinize women.

Early cultural anthropology research, such as the work by Davis-Floyd (2003), referred to the transition to motherhood as a cultural rite of passage. In a review of recent research investigating the meanings attached to the transition to motherhood, Prinds et al. (2014) found that transition to motherhood is a pivotal event marked by changes in how a woman attributes meaning in life (i.e. reasons for living), and reconsiders the ordering of

the values she had prior to motherhood. Furthermore, Prinds et al. highlighted the idea that a societies health care system is representative of the core values held within that society, and emphasized that current maternity care fails to recognize the transition to motherhood as a time of growth and change.

Literature Review Related to Key Variables

The Three Basic Psychological Needs: Autonomy, Competence, and Relatedness to Others

Defined by self-determination theory as acting with volition and willingness, autonomy is considered a basic psychological need that involves a feeling of control over one's own life, and ultimately self, which must be fulfilled for an individual to reach optimal functioning and well-being (Deci & Ryan, 2012; Schuler et al., 2013). One aspect of autonomy is the perception that one has choices, which is recognized as significant for emotional well-being (Smith, 2014). It has been suggested that the experience of choice enriches a woman's experience of pregnancy and birth because the perception of control over one's choices provides the sense of control over one's own body (Smith, 2014). Ward (2012) highlights that individuals with a sense of control over their life circumstances, rather than relying on fate or being subject to environmental influences, adapt better and report better mental and physical health. Further, Ward pointed out that it is assumed positive coping, well-being, and adaptation are a result of one having a sense of control over life outcomes.

Given the general neglect of the postpartum phase (WHO, 2013), there is no known research investigating autonomy within postpartum women transitioning into

motherhood and recovering from pregnancy and birth. However, given that the impact of childbearing, and specifically vaginal birth, has been considered equivalent to the physical impact of a major sports injury (Morkved & Bo, 2014), autonomy within the realm of sports injury rehabilitation shows that maximum participation in the rehabilitation process is found to be associated with autonomy fulfillment (Catz & Itzkovich, 2002). Further, Podlog et al. (2011) pointed out that during recuperation from a sports injury, if athletes' needs for relatedness, autonomy, and competence were fulfilled, athletes experienced greater self-esteem, vitality and positive affect, which thus reduced anxiety upon returning to sport. In an extensive review of randomized trials that tested self-determination theory within the realm of health care, Deci and Ryan (2012) found that autonomy support within health care resulted in autonomous motivation toward change from patients, and thus highlighted the necessity for practitioners to support autonomy because "autonomy is considered an ethical mandate for medicine" (p. 5).

Competence is considered a basic psychological need (Deci & Ryan, 2013), that when fulfilled elicits feelings of effectiveness and capability (Church et al., 2013). Feelings of competence are prompted when an individual is in an environment that encourages active choice making, and when the need for competence is met, one will experiences a sense of effectiveness at reaching targeted outcomes (Duda et al., 2014). Given the general neglect of the postpartum period (WHO, 2013), there is minimal to no research investigating postpartum women's sense of competence during postpartum. However, recent research has investigated maternal competence when caring for a

newborn (Liu, Chen, Yeh, & Hsieh, 2011), maternal competence and postpartum blues (Denis, Ponsin, & Callahn, 2012), and maternal parenting behavior (Affrunti & Ginsburg, 2012).

The psychological need for relatedness involves the need for connecting with other people, and feeling a sense of belonging and intimacy (Church et al., 2013), and is considered a prerequisite for optimal well-being (Deci & Ryan, 2008). When the need for relatedness is satisfied, one feels a sense of connection with others, reciprocation of care and concern is experienced (Schuler et al., 2013), and one gains a sense of vitality, and increased psychological health and well-being (Teixeira, Carraca, Markland, Silva, & Ryan, 2012). As pointed at by Patrick and Williams (2012), relatedness is associated with feeling understood and close to another. Li and Zhanf (2014) provide depth by adding that a sense of connectedness provides one with a sense of social identity.

In a study investigating the need for autonomy competence and relatedness among African American Women infected with HIV, Quinlivan et al. (2013) highlighted that patients report feeling a sense of relatedness when they feel welcomed, perceive a relationship has been built with their provider, and feel a general sense of respect is given. Furthermore, in a review of randomized controlled trials utilizing intervention programs grounded in self-determination theory to improve health behavior, Patrick and Williams (2012) found that treatment modalities focused upon fulfilling the needs for autonomy, competence and relatedness had a positive effect upon results of weight control, dental health, physical exercise, and abstinence from tobacco use. Autonomy, competence, and relatedness to others are constructs that have been used to investigate

motivation within education (Hein & Caune, 2014), job performance (Moran, Diefendorff, Kim, & Liu, 2012), physical activity (Standage, Gillson, Ntoumanis, & Treasure, 2012; Sweet et al., 2012), self-reported health and health behaviors (Patrick & Williams, 2012; Ward, 2012), health care (Deci & Ryan, 2012; Self & Grabowski, 2012; Smith, 2014), well-being (Eryilmaz, 2012; Leon & Nunez, 2012; Schuler et al., 2013), sports injury rehabilitation (Chan & Hagger, 2012; Chan et al., 2011; Podlog et al., 2011), and family planning and parenting (Boyd, 2010; Matte-Gagne, Barnier, & Gagne 2013; Upadhyay, Dworkin, Weitz, & Foster, 2014; Upadhyay & Karasek, 2012). However, the fulfillment of autonomy, competence and relatedness to others has not been explored within the population of postpartum women.

PGI

The construct of PGI has been utilized within current research investigating student adjustment (Yakunina et al., 2013), problem gambling and addiction (Loo et al., 2014), and religion and spirituality (Ivtzan et al., 2013) among populations of adolescents (Ayub & Iqbal, 2012), university students (Meyers et al., 2015) and postgraduate students (Sharma & Rani, 2013). PGI is described by Robitschek (1998) as actively engaging in one's self-growth with full awareness and on one's own accord, and encompassing cognitive and behavioral aspects that inspire self-growth. Cognitions such as readiness for change, belief in one's self-success (i.e., self-efficacy), and beliefs that the future holds positive outcomes (i.e., optimism) promote personal growth and are correlated with PGI (Neff, Rude, & Kirkpatrick, 2007; Robitschek, 1998; Theon & Robitschek, 2013). However, PGI also encompasses the active engagement in behaviors that initiate personal

change to occur (Robitschek, 1998). As such Robitschek (2012) pointed out that PGI consists of a set of four cognitive and behavioral skills (preparedness for change, planning for change, utilizing available resources, and intentionally guiding change) that are developed on a continuum from low (i.e., low levels of PGI) to high skill level (i.e., high levels of PGI).

Robitschek (1997) revealed that PGI has the potential to increase, and remain increased, when an intervention designed to increase PGI is utilized within populations experiencing life transitions. Recent research by Thoen and Robitschek (2013) advance early findings by showing that an intervention designed to teach college students about PGI resulted in increased level of PGI. As pointed out by Thoen and Robitschek (2013) increased levels of PGI assist in creating a positive experience during major life transitions. Robitschek and Keyes (2009) findings show that higher levels of PGI were associated with greater levels of self-acceptance, autonomy and self-direction, higher quality relationships with others, a greater sense of life purpose, and feelings of happiness and satisfaction with life. Robitschek et al. (2012) corroborated Robitschek and Keyes (2009) findings, and advanced research by highlighting that healthy coping increased with increased levels of PGI. These findings have been further pointed out in recent research by Ivstatan et al. (2013), Meyers et al. (2015), and Weigold et al. (2013), which highlight the necessity of PGI for optimal psychological functioning and social well-being.

Summary and Conclusions

The psychological needs for autonomy, competence, and relatedness to others is vastly cited within the literature as necessary components for optimal physical and mental health, adaptive skills, autonomous motivation, and the psychological well-being necessary for one to actively engage in self-growth (Deci & Ryan, 2000, 2008; Graves & Luciano, 2013; Hill & Pettit, 2013; Podlog et al., 2011). Actively engaging in one's self-growth (i.e., PGI) is a major contributor to positive adjustment during life transitions, assists in positively adapting to change, and is essential for optimal functioning and well-being (Robischek et al., 2012; Yakunina et al., 2013). Further, there is a well-established relationship between the fulfillment of the needs for autonomy, competence, and relatedness and autonomous motivation (Ryan & Deci, 2000). Autonomous motivation is important within health care because patients often view practitioners with a sense of authority, feel a sense of control to comply with the care options offered, and feel pressure to follow the path set forth by those that have come before (Deci & Ryan, 2012). However, the fulfillment of the psychological needs for autonomy, competence, and relatedness, and PGI have not been investigated among postpartum women, and are not an aspect of postpartum care.

Half of all childbearing women experience loss of function and support of the pelvic floor due to the negative impact of pregnancy and childbirth (Morkved & Bo, 2014), which can result in PFD if not properly healed (Bo, 2012; Bururman & Largo-Janssen, 2013; Morkved & Bo, 2014), thus diminishing the quality of a woman's life (Bururman & Largo-Janssen, 2013). Though, proper PFMT has been shown to generate

recuperation of pelvic floor functioning postbirth, and increase psychological well-being and quality of life (Wang et al., 2014), PFMT is not offered or rarely suggested to postpartum women (Fan et al., 2013; Morkved & Bo, 2014; Wang et al., 2014). Further, vast evidence has shown that postpartum women are uninformed regarding proper rehabilitation of the pelvic floor postbirth (Bo, 2011; Bururman, & Largo-Janssen, 2013; Dietz, 2013; Krissi et al., 2012; Mandimika et al., 2013), as practitioners often do not prepare women for postpartum pelvic floor problems (Buurman & Lagro-Janssess, 2013; Krissi et al., 2012).

Researchers recognize the general disregard of the postpartum period, and acknowledge maternal postpartum care as an overlooked aspect of health care (Benoit et al., 2012; WHO, 2013), thus reflecting the fact that postpartum women are a neglected population in need of quality services. As such, investigating the fulfillment of autonomy, competence, and relatedness needs, and PGI among postpartum women, may advance knowledge to increase the future well-being and health of postpartum women. Furthermore, investigating the differences between postpartum women practicing, and not practicing, proper pelvic floor muscle exercises (i.e., PFMT) may provide further support for the utilization of PFMT among postpartum women.

In the following chapter, a detailed outline of the selected research design and methodology, including the targeted population, sampling, recruitment, and data collection procedures, will be provided. Further, all constructs will be clearly defined, and the instruments employed to measure each construct will be discussed at length. In addition, possible threats to external, internal, and construct validity will be discussed,

which may serve to assist future replications of this study. Lastly, all ethical considerations are comprehensively outlined to provide a full account of the steps taken to protect participants.

Chapter 3: Research Method

Introduction

The general lack of information, instruction, and guidance given to postpartum women has been cited as having a major impact upon their physical and psychological health (Bo, 2011; Buurman & Largo-Janssen, 2013; Dietz, 2013; Koch, 2006; Krissi et al., 2012; Mandimika et al., 2013). Given that successful navigation of the many changes occurring during the postpartum phase is essential for a woman's health and psychological well-being (WHO, 2013), the purpose of this quantitative investigation was to examine psychological factors that promote optimal health and well-being within the neglected population of postpartum women. Specifically, this study examined differences in satisfaction of autonomy, competence, and relatedness needs and PGI between postpartum women engaging in PFMT and postpartum women not engaging in PFMT and investigated whether or not fulfillment of autonomy, competence, and relatedness need predicted level of PGI within postpartum women.

This study utilized a quantitative correlational design to investigate whether fulfillment of the three psychological needs of autonomy, competence, and relatedness to others predicted PGI in postpartum women. Second, a quantitative causal-comparison design was utilized to analyze whether or not there were different mean values of autonomy, competence, and relatedness satisfaction and PGI among postpartum women engaging in PFMT and postpartum women not engaging in PFMT.

In the remainder of Chapter 3, I provide a comprehensive outline of the sample, sampling procedure, recruitment process, and description of data collection. In addition,

the inclusion and exclusion criteria are justified given the perimeters of the phenomena and variables investigated, and the specific power analysis to determine sample size is provided. Further, the operationalization of the constructs is detailed for ensured clarity, and the data analysis plan is outlined. I have cited prior research to provide rationale and validation for how data were collected and analyzed, and, finally, threats to validity and ethical procedures are discussed.

Research Design and Rationale

This quantitative study utilized a causal-comparison and correlational design. The two goals of the investigation were to compare the effect of PFMT or lack thereof on autonomy, competence, and relatedness need fulfillment and PGI between the two groups and to examine whether or not autonomy, competence, and relatedness satisfaction predicted PGI within both groups. A correlational design was appropriate for this study because the purpose of the first research question was to investigate whether or not autonomy, competence, and relatedness satisfaction can predict PGI in postpartum women. The correlational design allows researchers to gain an understanding of relatedness between variables, or to determine if there is a correlation (positive or negative) between two or more variables (Williams, 2007). The causal comparative design is appropriate for this study because the purpose of the second research question was to examine the differences in autonomy, competence, relatedness, and PGI between two groups of postpartum women: those who engaged in PFMT and those who did not engage in PFMT.

The postpartum period is a time of great physical, emotional, social, and psychological transition for a woman. According to recent literature, as many as 45% of postpartum women reported poor adjustment (Rallis et al., 2013). The emotional distress and anxiety associated with adjusting to the new demands of motherhood (Held & Rutherford, 2012), while juggling household, family, and career responsibilities (Marshal & Thompson, 2014), may result in stressfulness and exhaustion (Marshal & Thompson, 2014). Furthermore, the many demands placed upon a new mother require much attention and time placed upon the new baby, family, and self. As such, I considered the possible distress, exhaustion, and time demands placed upon the new mother as possible challenges during data collection. In anticipation of the general time constraints associated with the postpartum population, the measurement instruments selected appropriately measure the intended variables while requiring little time for participants to complete.

A web-based survey method was used to collect data. Current research has demonstrated the utility of the survey method to investigate differences between groups and correlations among variables within the postpartum population of women. For example, Loke and Chan (2013) investigated Chinese postpartum women's breastfeeding self-efficacy, newborns' breastfeeding behaviors, and the relationship with outcomes of breastfeeding at 6 weeks postpartum. The researchers utilized a correlational analysis that collected data via the Infant Breastfeeding Assessment Tool (Matthews, 1991), and the general Breastfeeding Self-Efficacy Scale (Dennis & Faux, 1999). In addition, Leahy-Warren, McCarthy, and Corcoran (2011) utilized a correlational design that collected

data via the Edinburgh Postnatal Depression Scale (Cox, Holden, & Sagovsky, 1987) and the Perceived Maternal Parenting Self-Efficacy tool (Barnes & Adamson-Macedo, 2007) to examine the relationship between maternal parental self-efficacy, social support, and depression among 6-month postdelivery postpartum women. In a comparative analysis examining experiences of maternity care among adolescent, young adult, and adult women, Kingston, Heaman, Fell, and Chalmers (2012) utilized a random survey method. Finally, McBean and Montgomery-Downs (2014) employed an online survey to examine behaviors and evening environments to determine differences in postpartum women's sleep adjustment.

Methodology

Population

The targeted population for this study was postpartum women 6 weeks to 12 months postdelivery. The rationalizations for selecting this population was based upon three perimeters of the phenomena as cited within the literature: (a) regardless of age, socioeconomic status, ethnicity, or education level, the negative impact of pregnancy and childbirth upon the female body can result in PFD if not properly healed (Bo, 2012; Bururman & Largo-Janssen, 2013; & Bo, 2014); (b) to researchers' knowledge, it is not possible for a person, regardless of any preset criteria (i.e., gender, age, nationality, education), to obtain optimal health and development without the fulfillment of all three of the basic psychological needs of autonomy, competence, and relatedness (Deci & Ryan, 2000); and (c) pregnancy and the postpartum period are commonly understood as a major transitioning time for postbirth women (Mortazavi et al., 2013; Rallis et al., 2014).

As such, the target population consisted of postpartum women that had exited the subacute phase of postpartum, which lasts from delivery until Week 6 postpartum (Romano et al., 2010), as PFMT may be painful before 6 weeks postpartum. As determined by the power analysis, described later in this chapter, the expectations of the study were sufficient for a medium effect size (Hallahan & Rosenthal, 1996) that would obtain statistical power of .80, with a significance level of .05 criterion acceptable for increasing the power of testing the research hypothesis (Hallahan & Rosenthal, 1996). This resulted in a minimum sample size of 77 participants in each group, with a minimum total of 154 participants.

Sampling and Sampling Procedures

A nonprobability (i.e., nonrandom) sampling design was utilized to obtain the sample for the investigation. Though “nonprobability samples are not fully representative of the sampling population” (Frankfort-Nachmias & Nachmias, 2008, p. 167), and nonrandom sampling methods may interfere with the generalizability (i.e., external validity) of a study’s results, Onwuegbuzie and Collins (2007) have found nonprobability sampling has been widely used among quantitative researchers. Given the population of interest had definable characteristics (i.e., within 6 weeks to 12 months postpartum, engaging in PFMT), the purposive sampling method was employed, as it is a strategy that may be used when identifying and selecting defined groups (Aarons, Fettes, Sommerfeld, & Palinkas, 2012). The two distinct experiences marked by the postpartum period, (a) physical recuperation postpregnancy and postbirth and (b) adapting to the life-transition of motherhood, supported the rationale for the expected significance of postpartum

women's insight into the fulfillment of the three psychological needs and PGI. Therefore, the projected value of the information provided by the selected sample was intended to increase knowledge and awareness of the issues addressed, which is a goal of purposive sampling (Onwuegbuzie & Collins, 2007).

Sampling frame. The sampling frame consisted of the general postpartum population, highlighting postpartum women that are 6 weeks postdelivery to 12 months postpartum. Given the anticipated difficulty obtaining participants for the study, the only inclusion criteria was that all participants must be between 6 weeks and 12 months postdelivery, 18 years of age and older, English speaking, and must have birthed a living, healthy infant. Given the trauma endured by birthing an unhealthy or stillborn infant, women that birthed an infant with extensive health concerns and needs, or a birth that resulted in death, were excluded from the study.

Sample size and power analysis. A power analysis using G*Power version 3.1 was conducted based upon the study's causal-comparison and correlational designs. The following parameters were selected: F tests as the test family, linear multiple regression as the statistical test, and the type of power analysis selected was a priori. The input parameters were effect size $f^2 = 0.15$, α err prob = 0.05, Power (1 - β err prob) = 0.80, resulting in a minimum samples size of 77 per group. For the second research question, a G*Power analysis was conducted that selected an additional t test, placing the minimum sample size per group at 64, with a total minimum sample size of 128.

The effect size selected was based upon Cohen's widely accepted parameters for a medium effect size, which suited the effect size expectations for this study (Hallahan &

Rosenthal, 1996). The convention of using a power value of .80 has proven to be an accepted value and reasonable target of power utilized by researchers (Hallahan & Rosenthal, 1996). The commonly used alpha value of .05 was commonly used in the literature as it increases the chances of rejecting the null hypothesis, thus increasing the power (Hallahan & Rosenthal, 1996). Applying these parameters, the total minimum sample size required for this study was 77 participants per group, with a minimum total of 154 participants.

Recruitment and Data Collection

The recruitment methods for this study replicated the methods utilized by McBean and Montgomery-Downs (2014) to recruit postpartum women ranging from immediate postdelivery to 6 months postpartum, which consisted of extensive social media outreach. The recruitment methods I utilized included designing an Internet Facebook page dedicated to the study. The Facebook page consisted of information regarding the study, an announcement for the need for participants, and the qualification criteria for participation. I e-mailed a flyer advertising the study to a variety of medical professionals (i.e., gynecologists, obstetricians, pediatricians, and family practitioners), postpartum yoga instructors, postpartum doulas, Pilates classes, mother's support groups, pelvic floor physical therapists, companies that sell postpartum and infant products, and daycare centers within the Northwest of the United States. In the e-mail, practitioners were asked to assist with the distribution of the flyer advertising the study, which contained the Facebook address for the study, by posting it on the Facebook page dedicated to their practice. As such, the Facebook page of the study was posted on a

variety of locations that provide services to postpartum women. The Facebook page and the flyer announcement sent to various locations first directed prospective participants to access the study via the designated Facebook page, then directed participants to the link for the study's online location hosted by SurveyMonkey. Data were collected over a 2-month period in February and March of 2016.

Upon entering the survey website, each participant was presented the informed consent. The end of the consent form asked prospective participants to click either "I agree" or "I decline." If a participant agreed to participate, she then gained access to the surveys. Participants who declined to participate were exited from the study. The consent form let participants know that they could exit the study at any time by exiting SurveyMonkey. I collected demographic information including age, ethnicity, household composition (marital status, number of children already birthed), education level, employment status, length of time postdelivery, mode of delivery (vaginal or cesarean section), and whether or not participants engage in PFMT. Following completion of the demographic questionnaire, participants were asked to complete two instruments that measured (a) level of PGI and (b) satisfaction and frustration of the basic psychological needs for autonomy, competence, and relatedness to others.

Instrumentation

BPNSFP

The BPNSFP (Chen et al., 2014) was employed to evaluate the extent to which participants believed their need for autonomy, competence, and relatedness to others were satisfied during the postpartum period. The BPNSFP was designed to capture the

components of both satisfaction or frustration of the needs for autonomy, competence, and relatedness to others, which research has shown can be used as a predictor of well-being and growth or ill-being (Chen et al., 2014). The BPNSFP contains 24 items on a 5-point Likert scale ranging from 1 (completely not true) to 5 (completely true). The scale demonstrates an equal blend of items representing both satisfaction and frustration (8 questions per need) with each need containing 4 questions focusing upon need satisfaction and 4 focusing upon frustration (Campbell et al., 2015). Scoring can be conducted two ways: (a) the scores for each separate need (i.e., autonomy, competence, and relatedness) can be averaged to obtain a mean score for that particular need, and (b) all three of the needs scores can be averaged to create a blended score (Campbell et al., 2015). For the questions pertaining to need frustration, the higher the score, the more a need is frustrated. On the other hand, for the questions pertaining to need satisfaction, the higher the score, the more a need is satisfied. For the purposes of this study, both means of scoring were used to gain a thorough understanding of need fulfillment among postpartum women.

Chen et al. (2014) provided evidence for the predictive and factorial validity of the BPNSFP in an investigation of whether or not need value (i.e., the level of importance assigned to the need), desire (i.e., the desire to have the need fulfilled), and cultural background were factors that influenced the well-being or ill-being resulting from either satisfaction or frustration of the needs for autonomy competence and relatedness among adolescents and young adults. Of the four cultures sampled, Belgium, China, Peru, and the United States, Chen et al. (2015) found that regardless of culture and desire to have

need met, depressive symptoms were related to need frustration, and need satisfaction was solely related to vitality and satisfaction with life, thus validating the use of the BPNSF.

As a result of demonstrating validity across cultures, the BPNSF is currently available in Dutch, Chinese, Spanish, and English languages (Chen et al., 2015). Campbell et al. (2015) provided further validation of the BPNSFP by demonstrating that need satisfaction had a positive association with the quality of sleep and functioning throughout the day in a sample of Dutch-speaking adults. Further, Haerens et al. (2015) employed the BPNSFP to investigate the impact of teaching style upon need fulfillment and type of motivation (i.e., autonomous, controlled) among adolescent students and found that internal consistency for need satisfaction (Cronbach's $\alpha = .87$) and need frustration (Cronbach's $\alpha = .84$).

The PGIS-II

Robitschek et al. (2012) developed the PGIS-II after the initial PGIS failed to measure PGI as a multidimensional construct that encompassed behavioral and cognitive aspects. The cognitive component of the PGIS-II includes contemplating personal growth activities, acknowledgment of the personal growth process, expectations of efficacy regarding the process of change, and valuing self-growth (Robitschek, 1998; Robitschek et al., 2012; Wittaker & Robitschek, 2001). The behavioral aspects of the measurement consist of searching out and optimizing personal growth opportunities (Robitschek & Kashubeck, 1998; Robitschek et al., 2012) and maintaining a plan for personal growth to completion (Whittaker & Robitschek, 2001).

The PGIS-II consists of 16-items on a 6-point Likert scale (see Appendix A) ranging from 0 (*disagree strongly*) to 5 (*agree strongly*; Yakunina et al., 2013). The 16 items are measured on four subscales that capture the four distinct skills or dimensions of personal growth: Planfulness (five questions), Readiness for Change (four questions), Intentional Behavior (four questions) and Utilizing Resources (three questions; Yakunina et al., 2013). The scores for the measurement are conducted by summing up all of the scores in each subscale and computing an average that will reveal a high and low score. High scores are equated with higher levels of PGI, and low scores are associated with lower levels of PGI (Robitschek et al., 2012; Yakunina et al., 2013). Within samples of community members and college students, Robitschek et al. (2012) proved the validity and reliability of the PGIS-II. The PGIS-II has been used in within samples of European American college students (Robitschek et al., 2012), general student population (Theon & Robitschek, 2013; Weigold, Weigold, & Porfeli, 2013), and diverse samples of international college students (Yakunin et al., 2013).

Demographic Questionnaire

The demographic questionnaire (see Appendix B) consisted of questions pertaining to participants' education level, marital status, age, number of children, employment status, ethnicity, mode of delivery (i.e., vaginal or caesarean), nature of practitioner present at birth (i.e., doctor or midwife), general status of the newborn (i.e., stillborn, premature, level of health) and number of weeks postpartum. This questionnaire was necessary to provide descriptions of the participants, and to determine which inclusion and exclusion criteria applied to participants. Given the aforementioned

definable characteristics of the desired population of postpartum women, the demographic questionnaire allowed for a purposive sample to be drawn.

Operationalization of Constructs

Autonomy, Competence, and Relatedness to Others

The constructs of autonomy, competence, and relatedness to others, are defined according to self-determination theory, which posits that the needs for autonomy, competence, and relatedness to others are considered innate psychological needs that predict optimal personal development, functioning and well-being (Deci & Ryan, 1985; Graves & Lucinano, 2013; Schuler et al., 2013). Self-determination theory research has found that when one of the three needs are not fulfilled, an individuals' personal development will be negatively impacted (Church et al., 2012; Deci & Ryan, 2012), thus all three needs must be met for optimal well-being (Ryan & Deci, 2002). Given that each need is interconnected with the other (Deci & Ryan, 2012), the BPNSFP (Chen et al., 2014), a scale developed to assess the fulfillment of all three needs, was employed to evaluate the extent to which participants believe the need for autonomy, competence and relatedness were either satisfied or frustrated during postpartum period. Components of frustration and satisfaction are scored on a 5-point Likert scale ranging from 1 (*completely not true*) to 5 (*completely true*), giving an average score for each need that either results in a satisfaction or frustration for the given need.

Autonomy is achieved when an individual feels a sense of control over life circumstances and feels the freedom to make self-selected choices (Burgess & Ramsey-Steward, 2014; Deci & Ryan, 2000; Graves & Luciano, 2013). When an individual

makes a decision that is autonomous, it is based upon one's own volition rather than a decision that has been enforced by external factors (Church et al., 2012). Ultimately, the need for autonomy fulfillment refers to the need to act with volition and willingness (Deci & Ryan, 2012; Schuler et al., 2013) and it involves the perception that one has choices, which has been recognized as significant for emotional well-being (Smith, 2014). An example of autonomy satisfaction measured by the BPNSFP is, "*I feel that my decisions reflect what I really want to do*", and frustration is represented in items such as "*Most of the things I do I feel like I have to*".

Competence is achieved when one feels capable and effective when trying new tasks, learning new skills, or adapting to challenging circumstances (Deci & Ryan, 2008; Graves & Luciano, 2013). The psychological need for competence refers to the longing for the successful prevention of unwanted outcomes, and the capable creation of wanted outcomes, thus resulting in an effective relationship with one's environment (Leon & Nunez, 2013). Competence need fulfillment drives individuals to engage in difficult tasks that are within the range of one's capabilities, thus resulting in confidence and feelings effectiveness (Ryan & Deci, 2002). An example of a competence satisfaction item on the BPNSFP is "*I feel confident that I can do things well*", and frustration is represented in items such as, "*I feel insecure about my abilities*".

Relatedness to others is achieved when one feels a sense of intimacy and connection to others that share the same values and life goals (Burgess & Ramsey-Steward, 2014; Deci & Ryan, 2008). The feeling of relatedness refers to feeling a general sense of belonging and connection to others (Church et al., 2012) and one's greater

community (Ryan & Deci, 2002). The fulfillment of the need for relatedness does not include social status or achieving desired outcomes external in nature, instead relatedness refers to the psychological fulfillment that is felt when accepted by and relating to others (Ryan & Deci, 2002). Relatedness is associated with feeling understood and close to another (Patrick & Williams, 2012), and a sense of social identity as a result of connectedness (Li & Zhang, 2014). An example of a relatedness satisfaction item on the BPNSFP is, *“I experience a warm feeling with the people I spend time with”*, and frustration is represented in items such as, *“I feel excluded from the group I want to belong to”*.

PGI

The construct of PGI is defined by PGI theory (Robitschek, 1998) as a multidimensional concept addressing the cognitive and behavioral aspects of actively engaging in one’s personal development, with awareness and intention (Robitschek et al., 2012). PGI is a process of personal growth, which is comprised of a set of four skills utilized when engaging in purposeful, intentional self-change throughout the life-span: (a) being ready and prepared for change, (b) planning for the change, (c) being aware of and utilizing available outer resources, and (d) intentional behavior that will actively guide the change (Robitschek, et al., 2012; Theon & Robitschk, 2013). The four dimensions of PGI are measured by the PGIS-II (Robitschek, et al., 2012), which is divided into four sub-scales each measured on a scale ranging from 0 (disagree strongly) to 5 (agree strongly). Examples taken from the PGIS-II include: *“I know steps I can take to make intentional changes in myself”* (planfulness), *“I know when it’s time to change*

specific things about myself” (readiness for change), *“I actively seek out help when I try to change myself”* (using resources) and *“I actively work to improve myself”* (intentional behavior).

Data Analysis Plan

As previously noted, a causal comparative research design compares two or more groups to investigate the influence independent variables have upon the dependent variable(s), thus providing an understanding of relationships and cause-and-effect among variables by (Williams, 2007). SPSS was used to conduct the statistical tests employed for this study. To test the first research hypothesis, a standard multiple regression analysis was conducted to determine if autonomy, competence, and relatedness to others are predictors of PGI in both groups of postpartum women. To test the second hypothesis, four independent-samples *t* tests were conducted to analyze autonomy, competence, and relatedness fulfillment, and PGI means between the two groups, which demonstrates whether or not significant difference exists between group means. The assumptions of the two statistical analysis tests were evaluated.

Research Questions and Hypotheses

Research Question 1: Do autonomy, competence, and relatedness, as a group, predict PGI in postpartum women?

H_01 : Autonomy, competence, and relatedness do not predict PGI in postpartum women.

H_a1 : Autonomy, competence, and relatedness predict PGI in postpartum women.

Research Question 2: What are the differences in autonomy, competence, relatedness, and PGI between PFMT practicing and nonpracticing postpartum women?

H₀2: There are no significant differences in autonomy, competence, relatedness, and PGI between PFMT practicing and nonpracticing postpartum women.

H_a2: There are significant differences in autonomy, competence, relatedness, and PGI between PFMT practicing and nonpracticing postpartum women.

To determine if autonomy, competence, and relatedness satisfaction are predictors of PGI, a standard multiple regression analysis was conducted for research question one. Though regression analysis will not allow for absolute proof, it is a statistical test that will analyze relationships among variables, and supports predictions about the dependent variable from the independent variables (Silviu, 2014). When conducting a regression analysis, there are two feasible outcomes: a relation is revealed, thus implying there is a causal effect between variables, or there is no relation, implying no causal effect between the variables (Silviu, 2014). Recent postpartum research supports the use of multiple regression analysis to examine the variables under investigation in this study. Stomp-van den Berg et al. (2012) employed a multiple regression analysis to examine factors that may predict pelvic girdle pain during pregnancy and the postpartum period. In addition, Emmanuel, St John, and Sun (2012) conducted a multiple regression in their analysis of whether or not social support was a predictor of a woman's quality of life during the weeks following birth. Further support for this dissertation study is provided by the Dietz, Shek, Chantarasorn, and Langer's (2012) study that utilized multiple regression to examine whether changes in the pelvic floor functioning of postpartum women were

associated with trauma endured by the pelvic floor. Saligheh, Rooney, McNamara, and Kane (2014) examined the relationship between sociodemographic factors, partner support, physical exercise, and postnatal depression by using a multiple regression.

The *t* test is a statistical analysis used to test whether there is a significant difference between calculated group means (Field, 2013). For research question two, four independent-samples *t* tests, were conducted to compare autonomy, competence, and relatedness satisfaction and PGI means between women practicing and not practicing PFMT. Recent research validates the use of independent-samples *t* tests for this study. Martin, Hauck, Fenwick, Butt, and Wood (2014) utilized a *t* test to evaluate the differences between two groups of women: women utilizing a service offered to pregnant women that had experienced a caesarean birth for their last delivery, and pregnant women not utilizing the service offered. The independent samples *t* tests were conducted to investigate whether or not the service determined significant changes in the two group means of fear, confidence, knowledge and intention to have a vaginal birth for their delivery modality. Furthermore, research by Tennfjord, Hilde, Staer-Jensen, Ellstrom Engh, and Bo (2014) demonstrated support for this study's statistical plan by utilizing an independent samples *t* test to conduct a comparison between pregnant and postpartum women with and without dyspareunia (i.e., discomfort or pain associated with vaginal penetration) to determine if there was a difference in pelvic floor muscle strength, endurance and resting pressure. Finally, Fan et al. (2013) utilized a *t* test analysis to compare before and after variable means of quality of life, and urinary incontinence measurements of women participating in PFMT.

Threats to Validity

External Validity

As suggested by Frankfort-Nachmias, and Nachmias (2008), external validity is concerned with the connection between research findings and the larger context of settings and populations, thus increasing the ability to make generalizations, and acquiring a sample that represents the larger population. Further, external validity may be jeopardized when researchers misconstrue findings and subsequently apply the findings to the larger population from which the sample was taken (Creswell, 2014). The current study addressed sample representativeness by utilizing purposive sampling to obtain a sample of women with definable characteristics. The preset definable characteristics of the participants needed for this study eliminated postpartum women that experienced trauma during birth (i.e., stillborn), thus seeking to represent the general population of postpartum women. Furthermore, the measurement tools selected for this investigation have demonstrated satisfactory external validity, eliminating the possibility of questions worded in a persuasive manner. Finally, this study was conducted in a manner that adhered to the code of ethics set forth for researchers; manipulation of instruments and data, maltreatment of participants, or fabrication of results are considered unethical and threaten external validity.

Internal Validity

To strengthen internal validity, researchers seek to understand the cause-and-effect of variables, while considering factors that may interfere with or compromise the results of the study (Frankfort-Nachmias, & Nachmias, 2008). As suggested by Creswell

(2014), the individual experiences of participants (i.e., history, developmental level), and instruments and procedures (i.e., measurement tool), may present threats to internal validity. As such, the individual life-style, personality, and cognitive, emotional, physical, and psychological state of each participant may present a threat to internal validity. As a result of past experience, a familiarity with autonomous motivation (i.e., motivation resulting from autonomy, competence and relatedness need fulfillment), and a high level of PGI may be present for some participants while not for others. Furthermore, the individual response each woman has to the emotional stress, and physical demands of being a new mother, may impact findings. External factors that may jeopardize internal validity, such as abuse in the home, a recent death in the family, job loss, poor household adjustment to new baby (i.e., sibling maladjustment), a challenging pregnancy and delivery, and recent residential location, may impact research outcomes. As a result, potential threats were greatly considered when interpreting, writing-up, and generalizing findings.

Construct Validity

Threats to construct validity are presented when the measurements selected for the study does not apply to the variables being investigated, or if the variables are not correctly defined (Creswell, 2014). Given that construct validity is enhanced when the measuring instrument represents the theoretical framework of the study (Frankfort-Nachmias & Nachmias, 2008), this study utilized the BPNSF, a measurement tool designed specifically to measure the three psychological needs distinguished by self-determination theory (i.e., autonomy, competence, and relatedness); and the PGI-II, a

scale designed to measure the construct of PGI, as defined by the PGI theory. As previously outlined, the two measurement instruments selected for this investigation underwent rigorous tests to ensure construct validity.

Ethical Procedures

Researchers must fully evaluate the inevitable ethical considerations that arise while conducting research with human participants. When working with research participants, basic ethical considerations include: researcher honesty, responsibility, integrity, and the application of the code of conduct; maintaining the rights and well-being of participants, and ensuring participant privacy (APA, 2010; Creswell, 2014). Furthermore, the level of harm, or risk participants may be subjected to, must be assessed by researchers to be minimal, which includes a low possibility of spiritual, social, legal, emotional, physical, economic or psychological harm (Creswell, 2014). As such, I fully adhered to the APA and Walden IRB ethical guidelines when conducting this study. Furthermore, I did not conduct any data collection for this study until fully approved by Walden University IRB (approval # 02-02-16-0324121).

Informed consent provided participants with a comprehensive explanation of their rights, an account of potential benefits and risks, and contact information in the event there should be any questions. In addition, information was provided that emphasized the participants' right to withdraw from the study at any point in time. If a participant had needed to withdraw from the study, appropriate course of action would be taken to ensure the exit is handled in a humane manner, while prioritizing participant well-being. Furthermore, participants were guaranteed confidentiality throughout the duration of the

study, were encouraged to utilize contact information should there be questions, and were provided a full explanation of the purpose of the study and how shared information will be disseminated.

The selection of SurveyMonkey to host and collect data ensured participant anonymity during data collection via a survey account designed to safeguard participant data. All data from the survey account was directly transferred to SPSS for appropriate analysis. As suggested by Fisher (2013), a data storage equipped with password-protection will enhance participant confidentiality and privacy. As such, a laptop computer with designated passwords transferred the data to a password-protected external hard drive, where data will be stored for a minimum of five years, and no longer than ten years. After the five-year minimum time period, all digital data, notes, and records used for this study will be destroyed.

Summary

This chapter discussed the current study's correlational and causal comparative designs, and the specific research questions addressed by each design. In addition, the target population was introduced, which included specific inclusion and exclusion criteria, and justification for utilizing a nonprobability sampling strategy to obtain an adequate sample of postpartum women. An extensive account of recent research provided validation for the use of a web-based survey to collect data, and standard multiple regression analysis and independent samples *t* tests to analyze the data. Furthermore, a comprehensive overview of the cited validity, reliability, and prior use of the two measurement tools selected for this study was provided. Threats to internal, external, and

construct validity were presented with the appropriate measures taken to address potential threats. Finally, ethical procedures were fully outlined, which addressed adherence to all APA and Walden IRB guidelines, the detailed informed consent process, and actions taken to enhance participant welfare.

In Chapter 4, I provide a comprehensive analysis of the current findings. Beginning with an explanation of data collection, I explain the time frame, recruitment process, response rate, and cleaning process. Next, baseline descriptive statistics and demographic characteristics provide a comprehensive explanation of sample representativeness. Lastly, addressing each research question separately, I provide a complete summary of the standard multiple regression and the independent samples *t* tests utilized in this study.

Chapter 4: Results

Introduction

Despite the general understanding that proper care during the postpartum period is crucial for a woman's health and well-being, this period of time is the most neglected aspect of women's health care (WHO, 2013). As such, women's physical and psychological health are greatly impacted by the lack of information, instruction, and guidance given to postpartum women during this crucial time (Bo, 2011; Buurman & Largo-Janssen, 2013; Dietz, 2013; Koch, 2006; Krissi et al., 2012; Mandimika et al., 2013). Given the understood importance of positive maternal healing and adjustment during the postpartum phase (WHO, 2013), the purpose of this quantitative investigation was to examine well-established psychological factors that promote optimal health and well-being within the neglected population of postpartum women. Utilizing a dual framework employing self-determination theory and PGI theory, I investigated (a) whether or not fulfillment of the three psychological needs of autonomy, competence, and relatedness to others predicted PGI in postpartum women and (b) whether or not there were different mean values of autonomy, competence, relatedness satisfaction, and PGI among postpartum women engaging in PFMT and postpartum women not engaging in PFMT.

In the remainder of Chapter 4, I provide a comprehensive outline of the current findings, beginning with an explanation of data collection. I lay out the time frame for data collection, the recruitment process, the response rate, and the usable data remaining after the cleaning process. Second, I report the baseline descriptive statistics and the

demographic characteristics, thus providing an explanation of sample representativeness. Lastly, I provide a complete summary of the standard multiple regression and the four independent samples t tests that were conducted to investigate the following two research questions and hypotheses:

Research Question 1: Do autonomy, competence, and relatedness, as a group, predict PGI in postpartum women?

H_01 : Autonomy, competence, and relatedness do not predict PGI in postpartum women.

H_a1 : Autonomy, competence, and relatedness predict PGI in postpartum women.

Research Question 2: What are the mean differences in autonomy, competence, relatedness, and PGI between postpartum women practicing PFMT and postpartum women not practicing PFMT?

H_02 : There are no significant mean differences in autonomy, competence, relatedness, and PGI between PFMT practicing and nonpracticing postpartum women.

H_a2 : There are significant mean differences in autonomy, competence, relatedness, and PGI between PFMT practicing and nonpracticing postpartum women.

Data Collection

Data Collection Timeframe, Recruitment, and Responses

Data were collected over a 2-month period in February and March 2016. The recruitment procedure, as presented in Chapter 3, consisted of e-mailing a flyer advertising the study's Facebook page to various postpartum women's health practitioners. Practitioners directed potential participants to the Facebook page, which

then directed participants to the online link for the study hosted by SurveyMonkey. However, because many practitioners did not offer an e-mail contact address online, I found many practitioners were excluded from the outreach pool. Additionally, many e-mails were left unanswered with only a follow-up e-mail providing the means for further communication. As such, the one discrepancy from the original data collection plan was altering the communication format to include the use of the telephone to reach practitioners who did not provide e-mail addresses on the Internet and to follow-up unanswered e-mails.

According to the G*Power analyses reported in Chapter 3, the total minimum sample size required for this study was 77 participants per group, with a minimum total of 154 participants. A total of 386 postpartum women responded to the electronic web-based survey. Of the 386 participants, 132 did not complete the entirety of the study. Of the 132 incomplete surveys, 81 participants exited the survey at roughly the same question, leaving the BPNSFP unanswered. In addition, 25 participants reported they did not give birth to a generally healthy baby and thus were excluded from the analysis because of failing to meet inclusion criteria. As such, a total of 157 participants were removed from analysis, resulting in a valid sample of 229 total participants, including 108 women in the practicing PFMT group and 121 women in the PFMT nonpracticing group.

Descriptive Statistics

Table 1 shows the demographics of the 229 participants in the study. Ninety percent of the sample was comprised of White/Caucasian women, and married women or

women in a domestic partnership comprised 90% of the sample. Of the total sample, 53% of the women did not practice PFMT ($n = 121$), and 47% of the women did practice PFMT ($n = 108$). Of the 108 women (47%) who did practice PFMT, 59 (26%) obtained information and instruction from the Internet, and only 24 (11%) received written instructions and/or guidance from a practitioner.

The amount of time women had spent in postpartum ranged from 6 weeks to 12 months, with an equal distribution between first time mother and multiple children. Doctors as the attending practitioners accounted for 58% of the women's births, while midwife assistance was used by 27% of the women. The mode of delivery distribution showed 73% of the women had vaginal births that were nonoperative in nature, and all women had a generally healthy infant, which was one of the criteria for participation. A bachelor's degree was held by 38% of the women and a master's degree by 21%. Women working as homemakers (i.e., at home with child) comprised 42% of the sample, while women working full time outside the home constituted 32%.

Table 1

Demographics for Overall Sample (N = 229)

Variable	<i>n</i>	%
Age		
18-19	1	0.4
20-24	24	10.5
25-29	57	24.9
30-34	93	40.6
35-40	50	21.8
40+	4	1.7
Ethnicity		
White	207	90.4
American Indian/Native Alaskan	1	0.4
Asian	7	3.1
Nat. Hawaii/Pacific Islander	2	0.9
Other	2	0.9
More than one	10	4.4
Marital Status		
Single, never been married	13	5.7
Married or domestic partnership	214	93.4
Divorced	1	0.4
Separated	1	0.4
Time in postpartum		
6 weeks to 12 months	40	17.5
3 to 4 months	44	19.2
5 to 6 months	33	14.4
7 to 8 months	39	17.0
9 to 10 months	42	18.3
11 to 12 months	31	13.5
Mode of delivery		
Vaginal that was nonoperative in nature	168	73.4
Vaginal that was operative in nature	16	7.0
Caesarean section	45	19.7

(table continues)

Variable	<i>n</i>	%
Attending practitioner and birth modality		
Birthed with midwife	61	26.6
Birthed with doctor	133	58.1
Birthed at home with assistance of midwife	35	15.3
Whether or not this birth was the first child		
No	115	50.2
Yes	114	49.8
Experience of PFMT		
Do not practice	121	52.8
Practice with use of written instructions from practitioner	24	10.5
Practice with instructions from the Internet	59	25.8
Practice with guidance from practitioner	25	10.9
Level of schooling		
Some schooling no diploma	6	2.6
High school graduate, diploma, or GED	44	19.2
Associate degree	34	14.8
Bachelor's degree	86	37.6
Master's degree	49	21.4
Doctorate degree	10	4.4
Employment status		
Work outside home part-time	36	15.7
Work outside home full-time	73	31.9
Self-employed	17	7.4
Out of work, but looking for work	2	0.9
Work at home as homemaker	96	41.9
Student	5	2.2

This study addressed sample representativeness by utilizing purposive sampling, which is a sampling method used when identifying and selecting samples that have definable characteristics (Aarons et al., 2012). The definable characteristics of the participants in this study consisted of postpartum women between 6 weeks and 12 months postbirth, engagement, or lack thereof, in PFMT, and postpartum women who had given birth to a generally healthy infant, thus eliminating women that experienced trauma during birth (i.e., stillborn). As such, this study sought to represent the general population of postpartum women.

Further, there are two definable characteristics that distinguish the postpartum period, which are commonly shared by postpartum women: (a) postpregnancy and postbirth physical recuperation and (b) navigating the challenges and changes (i.e., physical, emotional, social, psychological) associated with the life-changing transition into motherhood. Because purposive sampling aims to expand awareness and knowledge pertaining to any issue under investigation (Onwuegbuzie & Collins, 2007), the selected sample was intended to provide insight and increase understanding of postpartum women's fulfillment of the three psychological needs, PGI, and PFMT. This study intended to connect the research findings with the larger context of the postpartum period and the postpartum population of women, a goal concerned with increasing the ability to make generalizations, and ultimately external validity (Frankfort-Nachmias & Nachmias, 2008).

Results

Research Question 1

A standard (i.e., simultaneous) multiple regression analysis was conducted to address the first research question regarding whether autonomy, competence, and relatedness satisfaction, as a group, predict PGI in postpartum women. Overall, the model was significant, $F(14, 22) = 14.45, p < .001$, and accounted for 28% of the variance. The results of the analysis showed autonomy satisfaction and competence satisfaction to be statistically significant predictors to the model ($p < .05$). In other words, there was a significant relationship between autonomy and competence satisfaction and level of PGI. To avoid under or over confident estimates, estimates of relationships or standard errors that are biased, and producing unreliable confidence intervals, it is important to test the assumptions of the statistic test utilized (Williams, Grajales, & Kurkiewicz, 2013). Table 2 shows the means, standard deviations, and intercorrelations for the variables.

Table 2

Means, Standard Deviations, and Intercorrelations for PGI, and Predictor Variables Autonomy, Competence, and Relatedness Satisfaction

Variable	M	SD	1	2	3	4
1 PGI	70.07	12.26		.49	.39	.44
2 Autonomy	12.84	3.19	<.000		.56	.56
3 Relatedness	15.59	3.37	<.000	<.000		.47
4 Competence	14.43	3.22	<.000	<.000	<.000	

Note. Upper diagonal contains correlation coefficients. Lower diagonal contains p -values.

As such, I conducted a preliminary examination of the data to make certain there were no violations of the assumption of normality, linearity, and multicollinearity. Evaluation of the statistical assumption of collinearity determined the assumption has been met, as the VIF values are not greater than 10 and the tolerance scores are not less than 0.1. The assumption of normal distribution has been met, as the histogram of standardized residual displayed normally distributed errors (see Appendix C), and the normal Q-Q plots of showed points were either on or close to the line (see Appendix D). The assumption of homogeneity of variance and linearity was tested by a scatterplot of standardized residuals, which revealed a random distribution of the data, thus meeting the assumption.

A Pearson's product-moment correlation coefficient was conducted to assess the relationships between autonomy satisfaction, competence satisfaction, relatedness satisfaction, and PGI. Overall, there was a strong positive correlation between need fulfillment and PGI. According to Cohen's widely accepted parameters for a small (.1), medium (.3), and large (.5) effect size (Hallahan & Rosenthal, 1996), there was a significant positive relationship between autonomy satisfaction and PGI $r(227) = .48, p = .000$, relatedness satisfaction and PGI $r(227) = .36, p = .000$, and competence satisfaction and PGI $r(227) = .43, p = .000$.

The results of the standard multiple regression are shown on Table 3. According to the regression coefficient [$B = 1.16, 95\% \text{ C.I. } (.54, 1.79) p > .05$], the model predicts that with each additional increase in autonomy satisfaction, the level of PGI increases by approximately 116%. According to the coefficient [$B = .21, 95\% \text{ C.I. } [-.42, .83] p > .05$]

associated with relatedness satisfaction, the model predicts that with each additional increase in relatedness satisfaction there is a 21% increase in level of PGI, and with each additional increase in competence satisfaction, the model predicts there is a 91% increase in level of PGI [B = .91, C.I. [.18, 1.65] $p < .05$].

Table 3

Results for the Standard Multiple Regression Analysis of Predictor Variables Autonomy, Competence, Relatedness Upon PGI

Variable	<i>B</i>	95% CI	<i>t</i>	<i>p</i>
Autonomy Satisfaction	1.16	[.54, 61.45]	3.68	.000
Relatedness Satisfaction	.206	[-.42, .83]	.653	.52
Competence satisfaction	.911	[.18, 1.65]	2.44	.02

In sum, the results of the standard multiple regression analysis showed autonomy satisfaction and competence satisfaction to be statistically significant predictors to the model ($p < .05$). On the other hand, the results of the analysis revealed relatedness satisfaction not to be a statistically significant predictor to the model ($p > .05$). As such, the regression analysis concluded strong evidence to reject the null hypothesis that autonomy, competence, and relatedness do not predict PGI. The results reveal a statistically significant association between autonomy satisfaction and competence satisfaction and level of PGI ($p < 0.0001$). As such, autonomy satisfaction and competence satisfaction were found to be statistically significant predictors of PGI.

Research Question 2

Table 4 shows the results of four independent samples *t* tests that were conducted to examine the mean differences in variables between the two groups of postpartum women. The *t* test is a statistical analysis used to test whether there is a significant difference between calculated means between two groups, or independent samples (Field, 2013). For research question two, four independent-samples *t* tests were conducted to compare autonomy, competence, relatedness, and PGI means between postpartum women practicing and not practicing PFMT. The results revealed that there are no significant mean differences in autonomy, competence, relatedness, and PGI between PFMT practicing and nonpracticing postpartum women. The assumptions for an independent samples *t* test have been met. Based upon the design of this study, the assumption of independence has been met as the data was randomly and independently sampled. The Durbin-Watson value (1.99) revealed a value close to 2, thus meeting the assumption of independent errors. The assumption of scale of measurement has been met, as the measured outcome variable (i.e., autonomy, competence, relatedness, PGI) is measured on a continuous scale.

Table 4

Descriptive Statistics and t-Test Results for Autonomy, Competence, Relatedness, PGI by PFMT

	PFMT						<i>t</i>	<i>df</i>	<i>p</i>
	Practicing			Nonpracticing					
	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>			
Autonomy Satisfaction	13.19	3.22	108	12.71	3.15	121	-1.13	227	.262
Relatedness Satisfaction	15.83	3.11	108	15.59	3.46	121	-.56	227	.573
Competence Satisfaction	14.72	3.06	108	14.40	3.21	121	-.78	227	.435
PGI	71.78	11.21	108	68.99	13.2	121	-1.72	227	.087

The *t*-test analysis showed the mean autonomy satisfaction level between PFMT practicing women ($M = 13.19$, $SD = 3.22$, $n = 108$) and PFMT non practicing women ($M = 12.71$, $SD = 3.15$, $n = 121$) was not statistically significant [$t(227) = -1.13$, $p = .262$]. The mean relatedness satisfaction level between PFMT practicing women ($M = 15.83$, $SD = 3.11$) and nonpracticing women ($M = 15.59$, $SD = 3.46$) was not statistically significant [$t(227) = -.55$, $p = .573$]. The mean competence satisfaction between PFMT practicing women ($M = 14.72$, $SD = 3.06$) and nonpracticing women ($M = 14.40$, $SD = 3.21$) was not statistically significant [$t(227) = -.78$, $p = .435$]. Lastly, the mean PGI score for PFMT practicing women ($M = 71.78$, $SD = 11.21$) and nonpracticing women ($M = 68.99$, $SD = 13.12$) was not significant ($t(227) = -1.72$, $p = .087$). Thus, PFMT practicing and nonpracticing postpartum women were approximately quite similar. As such, the null hypothesis cannot be rejected and it is assumed there are no significant mean differences

in autonomy, competence, relatedness, and PGI between PFMT practicing and nonpracticing postpartum women.

Summary

A standard multiple regression analysis was conducted to investigate the first research question, which explored autonomy, competence, and relatedness as predictors of PGI in postpartum women. The results of the analysis revealed strong evidence to reject the null hypothesis, thus concluding that autonomy, competence, and relatedness do predict PGI among postpartum women. Four independent samples *t* tests were conducted to investigate the second research question, which explored mean differences of autonomy, competence, relatedness and PGI between PFMT practicing and nonpracticing postpartum women. The analysis results showed strong evidence to accept the null hypothesis. Therefore, it is assumed there are no significant mean differences in autonomy, competence, relatedness, and PGI between PFMT practicing and nonpracticing postpartum women.

In Chapter 5, a comprehensive summary of the analysis is provided. I begin with interpretations of the findings and the actual poststudy limitations compared to the foreseen limitations presented in Chapter 1. Based upon the findings of this study, and supported by the strengths and limitations outlined, recommendations for future research will suggest direction for further investigations. Next, a thorough explanation of implications for positive social change will be discussed. Finally, Chapter 5 will conclude with a summary, thus providing a concise overview of the key essence of this study.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

Within health care there is an oversight of maternal postpartum care and a general disregard for the postpartum phase (Benoit et al., 2012; WHO, 2013), thus underscoring the disregard of the population of postpartum women. The purpose of this quantitative study was to investigate well-established psychological factors that promote optimal functioning and well-being within this overlooked population. The two objectives of the study were to investigate (a) whether or not fulfillment of the three psychological needs of autonomy, competence, and relatedness to others predicted PGI in postpartum women and (b) whether or not there were different mean values of autonomy, competence, relatedness to others, and PGI among postpartum women engaging in PFMT and postpartum women not engaging in PFMT.

The findings of the study revealed fulfillment of autonomy, competence, and relatedness did predict PGI within postpartum women. Further, findings showed there were no mean differences in psychological need fulfillment and level of PGI between postpartum women engaging in PFMT and postpartum women not engaging in PFMT. The interpretations of the findings, limitations of the study, recommendations for future research, and implications for positive social change will be thoroughly discussed in the remainder of this chapter.

Interpretations and Findings

The findings of this study confirmed the vast evidence that suggested autonomy, competence, and relatedness fulfillment are essential for the active engagement in self-

growth (Deci & Ryan, 2000, 2008; Graves & Luciano, 2013; Hill & Pettit, 2013). As shown by the findings of this study, the fulfillment of autonomy, competence, and relatedness increased one's level of actively engaging in self-growth, or PGI, which focuses specifically upon the intentional processes of personal growth. Using standard multiple regression analysis, I found that, when combined, all three of the psychological needs accounted for 28% of the total variability in PGI. This indicated that postpartum women who have their needs for autonomy, competence, and relatedness satisfied will likely have a higher level of PGI. Given the understanding that poor postpartum recuperation has a negative impact upon the quality of a woman's life and is increasingly recognized as a major contributor to a woman's state of psychological health and well-being (Benjamin et al. 2014; Krissi et al., 2012; Mandimika et al., 2013; Mota et al., 2014), the findings of this study indicated that postpartum care practices that focus on fulfillment of psychological needs would likely increase postpartum women's level of PGI, thus increasing women's odds of optimal functioning and well-being.

This study confirmed prior research that showed a significant association between PGI and autonomy (Thoen & Robitschek, 2013; Weigold et al., 2013), and the fulfillment of autonomy, competence, and relatedness promotes the psychological well-being needed for self-initiated personal growth (Deci & Ryan, 2000). Despite self-determination theory underscoring the importance of the psychological needs working in accordance with one another (Deci & Ryan, 2012; Schuler et al., 2013), and fulfillment of all three of the basic psychological needs (i.e., autonomy, competence, and relatedness) are equally important (Deci & Ryan, 2000), the findings revealed all three of the psychological needs were

predictors of PGI, though relatedness satisfaction was not found to be significant. Despite the importance of fulfilling all three needs (Deci & Ryan, 2000), the findings of this study suggested that within postpartum women relatedness need fulfillment is experienced differently than autonomy and competence need fulfillments, thus possibly adding depth to the current literature. As such, it is sensible to consider the implications social media, and thus instant connectedness to others, has upon postpartum women's psychological need for relatedness.

Social media provides postpartum women ample opportunities to join online support groups, blogs, Facebook conversations, discussion forums, parenting classes, chat groups, and a host of other social avenues, which may provide postpartum women with a sense of relatedness to others. Further, given the lack of in-depth exploration of influences impacting postpartum women's relatedness (e.g., friendships, marriages and partnerships, family relationships), perhaps fulfillment of this psychological need during postpartum extends beyond the postpartum care setting. As such, this study introduces avenues of possible exploration impacting the psychological need of relatedness within the population of postpartum women, which may add depth to existing literature regarding relatedness fulfillment.

Research has shown physical rehabilitation (i.e., pelvic floor recuperation) is a major contributor to a woman's state of psychological health and well-being moving forward after childbirth (Krissi et al., 2012; Morkved & Bo, 2014; WHO, 2013), which highlights the connection between women's physical and psychological health during postpartum. Further, evidence has shown PFMT generates restoration of the pelvic floor

during postpartum and increase psychological well-being of postpartum women (Wang et al., 2014). As such, it was anticipated that the group of postpartum women practicing PFMT would have a higher level of need fulfillment and level of PGI. However, participants in the study scored in the medium to high range for autonomy, competence, and relatedness need fulfillment, and in the medium to high range in level of PGI. Further, the results of an independent samples *t* test found that there were no significant mean differences in autonomy, competence, relatedness, and PGI between PFMT practicing and nonpracticing postpartum women.

These findings may, in part, be explained by the vast challenges faced by new mothers, which extend beyond pelvic floor rehabilitation to include infant feeding and health concerns, financial and economic concerns, assuming a new identity, developing the role of a mother, and nurturing other family members (Mortazavi et al., 2013). Furthermore, the transition to motherhood extends beyond the first year postdelivery (Anthony et al., 2014), the prevalence of PFD increases with age (Wu et al., 2009), and vaginal births have been found to significantly increase a woman's odds of developing PFD (Handa et al., 2011). As such, investing the initial 12 months following birth may not have been a sufficient timeframe to reveal mean differences between the two groups of women.

According to PGI theory, individuals with higher levels of PGI have greater levels of autonomy and self-direction, higher quality relationships with others, and are happier than individuals with lower levels of PGI (Robitschek & Keyes, 2009). The sociodemographics of the participants reveal a majority (93%) of the women were either

in a domestic partnership or married, held degrees in higher education (i.e., 58% held either bachelor's or master's degrees), and were in their 30s. In light of PGI theory, it could be argued that past experience (i.e., age), relationships with others, and autonomy and self-direction (i.e., higher education) may have played a part in the participants' medium to high level of PGI. Through the lens of self-determination theory, autonomous motivation, which is prompted by the fulfillment of autonomy, competence, and relatedness needs, could be necessary for self-directed, self-determined, and self-motivated behavior (Deci & Ryan, 2000), suggesting an explanation for need fulfillment and PGI scores among the participants. Perhaps the study's findings reflect the general psychological, emotional, social, behavioral, and physical changes occurring during the transition to motherhood experienced by postpartum women regardless of whether or not they practiced PFMT.

Though an extensive analysis of the demographics exceeds the parameters of this study, findings revealed that of the 229 postpartum women participating in the study, only 24 women (10.5%) practiced PFMT as a result of information or instruction provided by their practitioners, and 25 (11%) practiced with some form of guidance from their practitioners. These findings suggest an avenue for future research and support previous research (Buurman & Lagro-Janssen, 2013; Krissi et al., 2011; Newmann, 2009) that showed practitioners often fail to provide postpartum women with the information, instructions, or preventive strategies necessary for optimal healing and rehabilitation after childbirth. Many researchers (Buurman & Lagro-Janssen, 2013; Choi et al., 2015; Cross et al., 2013; Krissi et al., 2012; Taylor et al., 2013) have pointed out the status quo of

postpartum care underscores the general lack of information given to postpartum women, which represents the neglect of proper postbirth rehabilitation, and subsequently adjustment to motherhood. As shown by the failure to include current evidence-based research (Haran et al., 2014), current postpartum care guidelines adhere to an outdated status quo that continues to disregard the need for providing instruction and guidance to women during this crucial time.

Within the context of system justification theory, it could be argued that policy makers, practitioners, and postpartum women downplay, or minimize, the general lack of care given to women during the postpartum period as a means of legitimizing the status quo at the expense of the underserved population of postpartum women (Jost et al., 2003; Liviatan & Jost, 2011). Further, system justification theory asserts that disadvantaged populations (i.e., postpartum women) will be most apt to support an unfair social system because a sense of powerlessness prompts one to justify the social system rather than try to change it (Jost, & Hunyady, 2005). In addition, strong evidence (Blanchard & Eidelman, 2013; Jost & Tyler, 2014; Laurin et al., 2013) has shown that individuals are more apt to support the status quo when they believe it is a well-established, stable system that is unlikely to change. As such, it could be argued that the established practice of postpartum neglect has gone unchanged by policy makers, practitioners, and postpartum women because maternal health care is viewed as a stable system unlikely of change. Within the context of system justification theory, policy makers, practitioners, and postpartum women might have a need and want to believe the social system they belong to is logical and fair (Liviatan & Jost, 2011), because to believe otherwise

produces anxiety or dissonance. As such, system justification theory assists in explaining the adherence to an outdated status quo of postpartum care that fails to include current research and continues to neglect the postpartum phase and the population of postpartum women.

Because autonomy is considered an ethical requirement, and one of the most important goals within health care (Beauchamp & Childress, 2009), researchers have argued patients need autonomy supportive environments because they often view practitioners with a sense of authority and feel swayed to comply with the care options offered (Deci & Ryan 2012). Given that autonomy supportive health care environments arm patients with information and choices regarding health care options (Deci & Ryan, 2012), one could argue according to self-determination theory that the 22.5% of women engaging in PFMT as a result of instruction or guidance from their practitioners may serve as an indication of the small percentage of women receiving information and choices after birth, and thus a lack of autonomy support. However, the scope of this study did not include an in-depth analysis of practitioners' roles in postpartum women's engagement in PFMT.

Limitations

The sample population for this investigation consisted of postpartum women who identified their newborn baby as generally healthy, thus limiting the generalizability of the findings to women with healthy babies. Despite the utilization of social media, participation recruitment was designated to the Pacific Northwest of the United States, which may limit the generalizability of findings to women in this area of the country. The

very nature of this study posed limitations, as quantitative exploration does not allow for an in-depth analysis of perceptions and experiences. As such, this study did not obtain an extensive report of postpartum women's experience of satisfaction or frustration of the needs for autonomy, competence, and relatedness and level of PGI during the postpartum period.

In light of the many challenges and changes demanding women's attention during postpartum, confounding factors such as developmental level, individual history, and personality may have limited findings. Further, the physical, psychological, emotional, and social challenges associated with the postpartum period may have influenced women's responses regarding satisfaction or frustration of the need for autonomy, competence, relatedness, and level of PGI, despite the acceptable reliability and validity of the measures selected to investigate these constructs. Further, as demonstrated by the 81 participants exiting the study at the beginning of the second measurement tool, perhaps utilizing the PGIS-II and the BPNSFS together presented a redundancy that limited response rates, thus limiting findings. Lastly, given the general neglect of postpartum women, and the postpartum period within health care, there is a deficiency of standardized measures specific to postpartum women, the postpartum recuperation process, and the transition to motherhood, which limited the findings.

Recommendations

The WHO (2013) advises practitioners to discontinue neglecting the postpartum period and offer quality care to postpartum women. Given the general neglect of women in health research (Decker et al., 2010), and lack of attention given to women's physical

health during postpartum (Woolhouse et al., 2012), the findings generated by this study mark an initial investigation of psychological need fulfillment and PGI among postpartum women practicing and not practicing PFMT. As such, recommendations for future research encourage continued exploration of this neglected population and the many variables that may assist in thriving postbirth. Further, future investigations extending beyond perimeters of this study will increase generalizability of the findings.

Though this study supported the predictive relationship between need fulfillment and PGI, relatedness was shown to be a nonsignificant predictor. As such, in-depth investigations of the many variables impacting postpartum women's need for relatedness may advance research pertaining to psychological needs, and specifically how these needs are experienced among postpartum women. These findings warrant further exploration into need fulfillment and their relationship to PGI among postpartum women. Further, in-depth exploration of women's experiences of need fulfillment, and possible environmental variables (i.e., social media) that effect level of fulfillment, is recommended.

The results of this study did not support differences in need fulfillment and level of PGI between postpartum women practicing and not practicing PFMT. However, it is worth noting that of the total respondents to the online survey, just under half reported practicing PFMT. Research has established a general understanding of why women do not practice PFMT (i.e., lack of support, guidance and instruction), despite the well-documented importance of PFMT for preventing PFD, and increasing a woman's quality of life after childbirth has been well documented. As such, future exploration of the

variables that impact women's desire to want to practice PFMT is well justified. Given the findings, and parameters of this study, explorations of the differences between postpartum women practicing and not practicing PFMT that extend beyond the initial first year postdelivery is recommended.

Implications

The postpartum period is recognized as a time of major physical, psychological, social, and emotional challenge and transition for women. Since evidence shows that PGI is a major contributor to positive adjustment and adaptation during times of major life change, and is essential for optimal functioning and well-being (Robischek et al., 2012; Yakunina et al., 2013), PGI within the population of postpartum women appears essential for thriving after birth. This study demonstrated psychological need fulfillment increased level of PGI. The social change implications of these findings suggest that if practitioners provide women with an autonomy supportive environment that encourages their sense of autonomy and competence, their level of PGI will be increased, thus improving women's chances of optimally adjusting and adapting to life after childbirth.

Though the theoretical assumptions posited by PGI theory and self-determination theory were strengthened by the findings that psychological need fulfillment increased level of PGI, this study presents theoretical implications for future research. Despite self-determination theory asserting that all three of the psychological needs are equally important (Deci & Ryan, 2000), the findings of this study imply that within the population of postpartum women, relatedness fulfillment was not a significant predictor of PGI, while autonomy and competence fulfillment were significant. With the

advancement of social communications via the Internet, perhaps the perimeters of relatedness fulfillment extend beyond the postpartum care setting and immediate surroundings, thus suggesting an advancement in our understanding of relatedness needs. As such, it is worthy of self-determination theory to explore relatedness fulfillment apart from autonomy and competence fulfillment, specifically among postpartum women.

Given the general understanding that women are not encouraged by practitioners to be proactive in the rehabilitation process postbirth (Buurman & Lagro-Janssen, 2013; Krissi et al., 2011), half of all childbearing women report symptoms of PFD (Morkved & Bo, 2014), and half of all postpartum women report depressive symptoms (Howell et al., 2014), this introduces the argument that intentional efforts to heal physically by engaging in PFMT and intentionally navigating (i.e., PGI) the many challenges and changes during the postpartum period would have positive social change implications for women and thus, improve the health of infants, families, and ultimately communities. Further, postpartum care guidelines, which rely upon outdated evidence (Haran et al., 2014), are impacted by the general neglect of the postpartum period (Benoit et al., 2012; WHO, 2013). As such, this study introduced avenues of exploration that could improve maternal postpartum care guidelines and practices.

Conclusion

It is increasingly understood that after childbirth the care and attention given to postpartum women is diminished to the point of neglect. Given the historical neglect of women in health research (Decker et al., 2010), the limited research investigating physical health concerns that extend into and beyond postpartum (Woolhouse et al.,

2012), and the general oversight of the postpartum period (WHO, 2013), this study addressed the gap in the literature that has yet to explore fulfillment of the psychological needs for autonomy, competence, and relatedness, and PGI within the neglected postpartum population of women.

Despite the understanding that a woman's postpartum adjustment (i.e., physical and mental) is a major contributor to her state of physical and psychological health, and well-being and quality of life moving onward from childbirth, (Benjamin et al. 2014; Krissi et al., 2012; Mandimika et al., 2013; Mota et al., 2014; WHO, 2013), the general neglect of the postpartum period (WHO, 2013) is such that postpartum women are not provided a plan for rehabilitation and no milestones or desired outcomes to strive for (Bo, 2011; Buurman & Largo-Janssen, 2013; Dietz, 2013; Koch, 2006; Krissi et al., 2012; Mandimika et al., 2014). Though PFMT generates rehabilitation of postbirth pelvic floor functioning, and increase psychological well-being and quality of life (Wang et al., 2014), PFMT is not an aspect of women's postpartum care (Fan et al., 2013; Morkved & Bo, 2014; Wang et al., 2014). Given that half of postpartum women report pelvic floor issues (Morkved & Bo, 2014), and depressive symptoms (Howell et al., 2014), the need for rehabilitative services are evident.

Evidence shows that PGI is essential for optimal functioning and well-being, and is a major contributor to positive adjustment during times of major life challenge and change (Robischek et al., 2012; Yakunina et al., 2013). Given the recognized challenges and changes occurring during the postpartum period, it is assumed increasing PGI within the population of postpartum women will assist women in thriving after birth.

Confirming the vast research showing that fulfillment of the psychological needs for autonomy, competence, and relatedness provide the psychological well-being needed for actively engaging in self-growth (Deci & Ryan, 2000, 2008; Graves & Luciano, 2013; Hill & Pettit, 2013; Podlog et al., 2011), the results of this study assert that level of PGI increases when postpartum women's basic psychological needs are met.

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Appendix A: PGIS-II

The postpartum period is understood to be a time of physical, psychological, social and emotional transition for postpartum women. Please mark how much you agree or disagree with each statement as it refers to your postpartum adjustment. Use the following scale:

0 = Disagree Strongly

1 = Disagree Somewhat

2 = Disagree a Little

3 = Agree a Little

4 = Agree Somewhat

5 = Agree Strongly

1. I set realistic goals for what I want to change about myself.	0	1	2	3	4	5
2. I can tell when I am ready to make specific changes in myself.	0	1	2	3	4	5
3. I know how to make a realistic plan in order to change myself.	0	1	2	3	4	5
4. I take every opportunity to grow as it comes up.	0	1	2	3	4	5
5. When I try to change myself, I make a realistic plan for my personal growth.	0	1	2	3	4	5
6. I ask for help when I try to change myself.	0	1	2	3	4	5
7. I actively work to improve myself.	0	1	2	3	4	5
8. I figure out what I need to change about myself.	0	1	2	3	4	5
9. I am constantly trying to grow as a person.	0	1	2	3	4	5
10. I know how to set realistic goals to make changes in myself.	0	1	2	3	4	5
11. I know when I need to make a specific change in myself.	0	1	2	3	4	5
12. I use resources when I try to grow.	0	1	2	3	4	5

13. I know steps I can take to make intentional changes in myself.	0	1	2	3	4	5
14. I actively seek out help when I try to change myself.	0	1	2	3	4	5
15. I look for opportunities to grow as a person.	0	1	2	3	4	5
16. I know when it's time to change specific things about myself.	0	1	2	3	4	5

Appendix B: Demographic Questionnaire

Please specify your Ethnicity (or race):

- White
- Hispanic or Latino
- Black
- Native American or American Indian
- Asian
- Native Hawaiian or Pacific Islander
- Other

Please state your age:

- 18-19
- 20-24
- 25-29
- 30-34
- 35-40
- 40 and beyond

Please state your marital status:

- Single, never been married
- Married or domestic partnership
- Widowed
- Divorced
- Separated

How many months has it been since you gave birth?

- 4 months postpartum
- 5-6 months postpartum
- 7-8 months postpartum
- 9-10 months postpartum
- 11-12 months postpartum

What was the mode of delivery?

- Vaginal that was *non-operative* in nature (i.e., no episiotomy)
- Vaginal that was *operative* in nature (i.e., episiotomy)
- Caesarean Section

Is this your first child?

Yes

If No, please state how many children you now have _____

Please indicate the general status of the newborn:

Still born

Born premature

Health abnormalities and or complications

Generally healthy

Please specify attending practitioner and birth modality:

Birthed with the assistance of a Midwife

Birthed with the assistance of a Doctor

Birthed at home with the assistance of a Midwife

Please indicate your experience of Kegel Exercises (a.k.a. Pelvic Floor Muscle Exercises) during postpartum:

I do not practice pelvic floor muscle exercises

I practice using written instructions provided by my practitioner

I practice using instructions I found on the internet

I practice under the guidance of my practitioner

Please specify your highest degree or highest level of schooling:

No schooling

Some schooling, no diploma

High school graduate, diploma, or GED

Associate degree

Bachelor's degree

Master's degree

Doctorate degree

Please state your employment status:

Work outside the home part-time

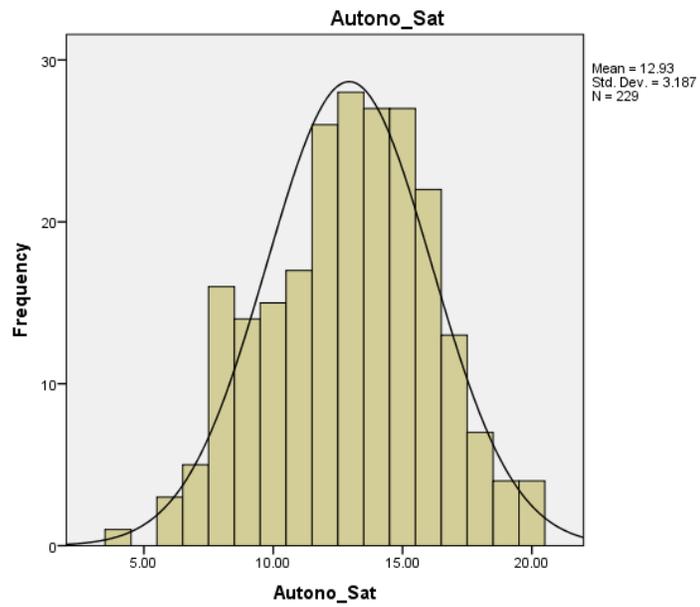
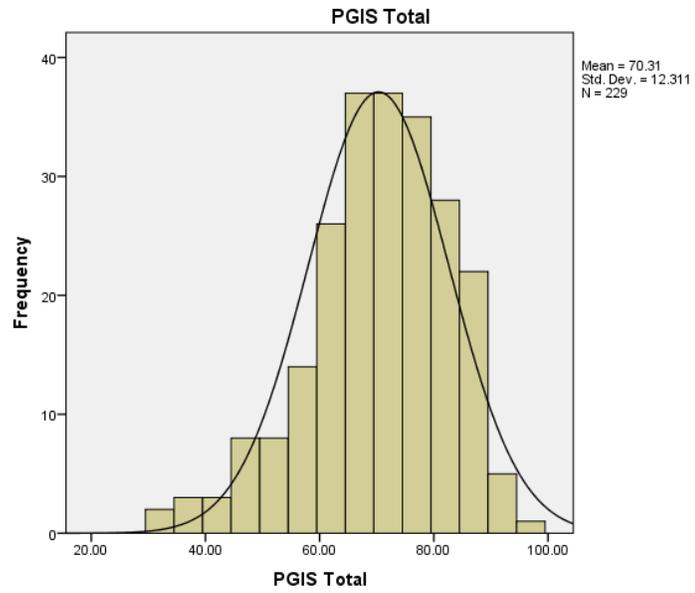
Work outside the home full-time

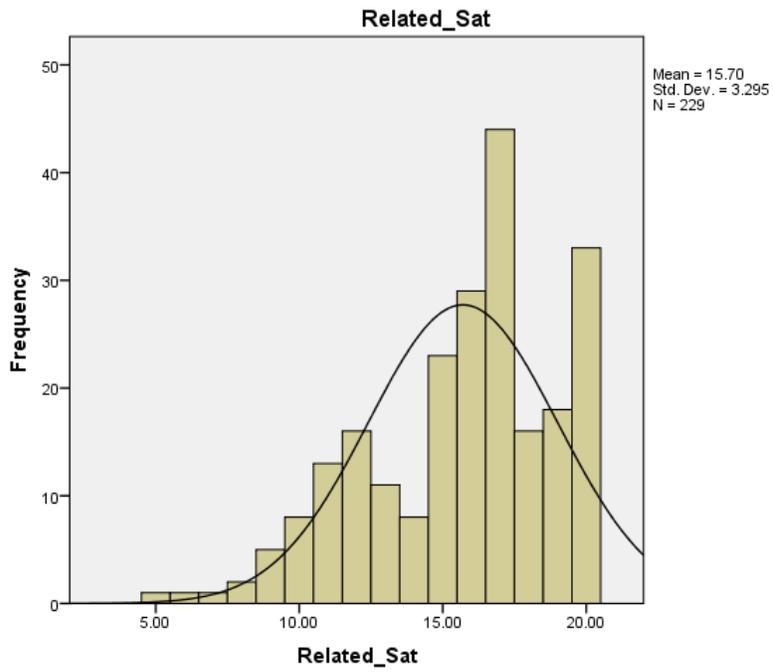
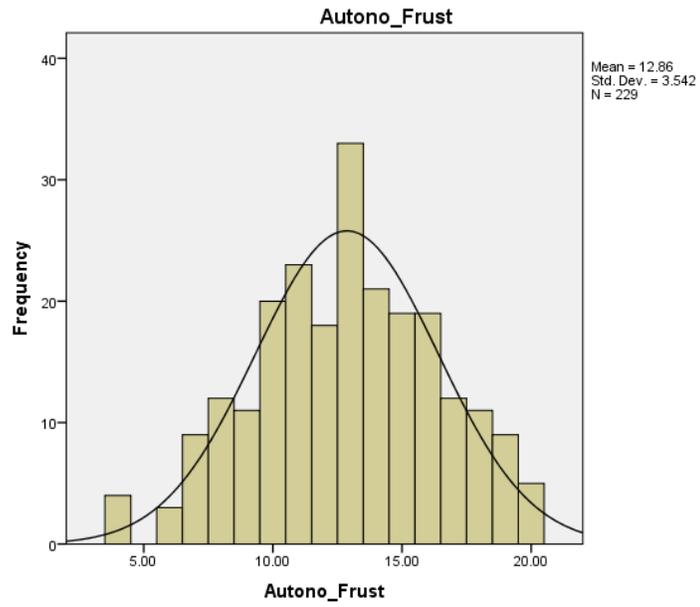
Self-employed

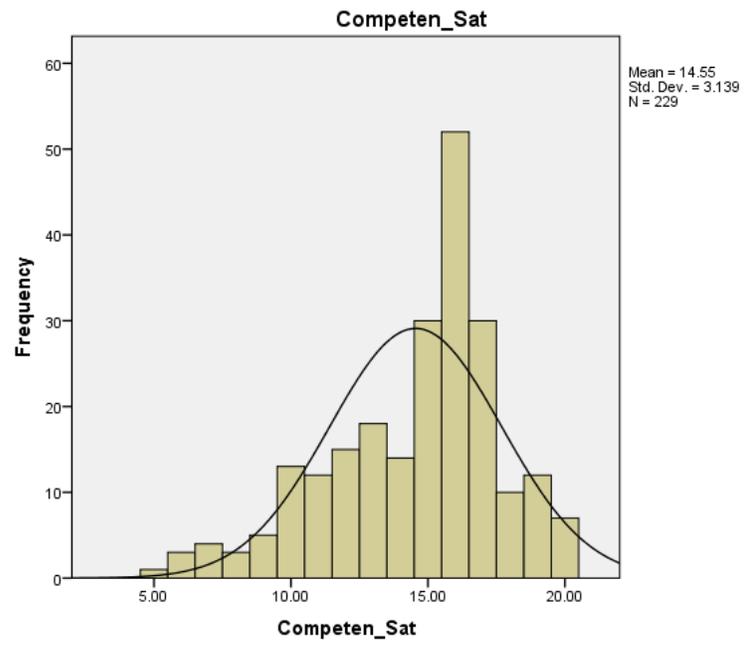
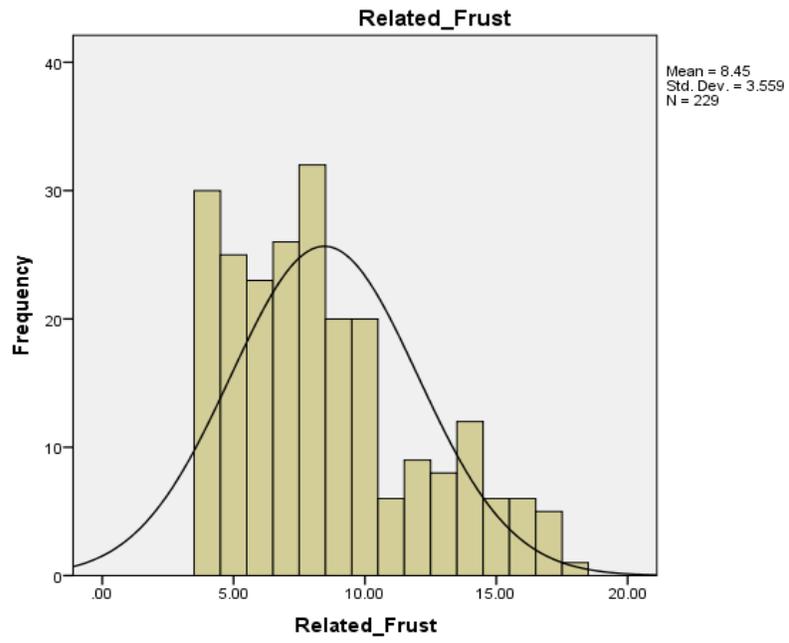
Out of work, but looking for work

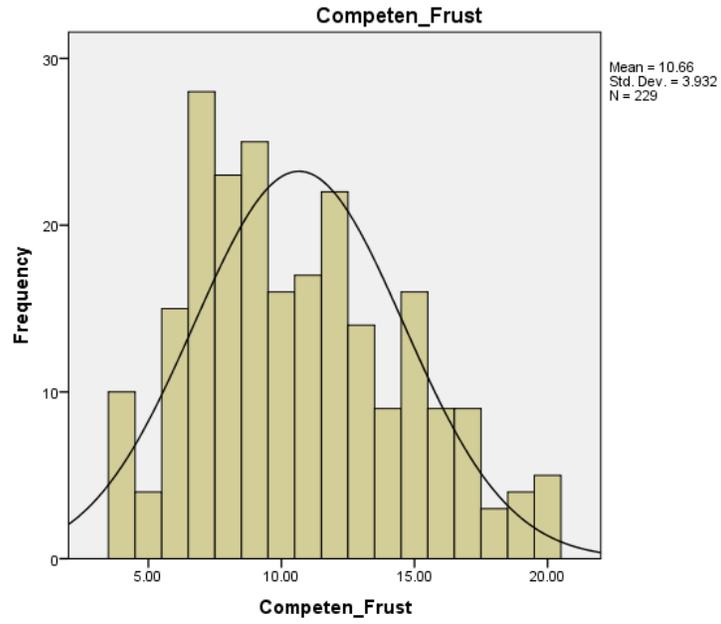
___ Work at home as a homemaker (i.e., at home with child or children)
___ Student

Appendix C: Histograms









Appendix D: Q-Q Plots

