

INTERNAL AND EXTERNAL VARIABLES ASSOCIATED WITH LATE PRETERM
INFANT MOTHERS' READINESS FOR DISCHARGE

by

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DEDICATION

This research is dedicated to the parents and caretakers of late preterm infants who have struggled to care for their premature infant because of lack of readiness to discharge during transitions to home.

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ABSTRACT

The purpose of this quantitative correlational descriptive study is to describe the relationships among internal and external variables and any associations with the concept of readiness for discharge. The internal variables include feeling a sense of security, empowerment, confidence, coping abilities, and perception of the crisis. The external variables include the preterm birth, support systems, and resources. Relationships between demographic covariances, internal, and external variables is described in this study.

A secondary purpose is to describe the use of Hill's Double ABCX Model of Stress and Adaptation to conceptualize the LPI mother's readiness for discharge. A convenience sample of 178 mothers consented to complete the electronic survey. A total of 163 completed a portion of the electronic survey and 101 participants completed the full electronic survey. In Qualtrics, an on-line survey tool, six questionnaires: Everyday Stressor Index (Hall, 1983), Parents Postnatal Sense of Security (Persson, 2007), Family Support Scale (1984), Parent Readiness Questionnaire (2009), Social Support (Sarason, 1981), Coping Health Inventory for Parents (McCubbin, 1981), and FACES III of Family Adaptation (Olson, 1981) were formatted to measure each of the variables stated in the research questions.

Results of the study show several significant positive relationships were found between discharge readiness, levels of parity, and a sense of security. No significant relationships were found between mothers' age and readiness for discharge, postnatal sense of security, and adaptability. No significant correlation between resilience/coping and the LPI mother's readiness for discharge was identified. A negative correlation between stressors, support, and self-esteem was shown.

A significant positive correlation between support, confidence, self-esteem, and feeling prepared to discharge was revealed. The results of this study will contribute to the healthcare providers understanding of how internal stressors negatively influences LPI mothers while external support increases the LPI mother's confidence, self-esteem and feeling prepared to discharge. Providing nursing interventions to mitigate stress and increase support to LPI mothers promotes safer transitions to home.

CHAPTER I: STATEMENT OF THE PROBLEM

Readiness for postpartum discharge is a concept that became a concern for healthcare providers during the 1990s. The length of hospital stay was decreased dramatically by insurance company policies causing concern among physicians and healthcare workers (Weiss & Lokken, 2009). Healthcare workers concerns include readiness of the postpartum mother to care for herself and her child because mothers are mostly the primary caregivers for their infants (Peyrovi, Mosayebi, Mohammad-Doost, Chehrad, & Mehran, 2016). Mothers must be able to manage their health, and the health of their preterm infant after discharge (Berry, Ziniel, Freeman, Kaplan, Antonelli, et al., 2013). A mother's perception of unreadiness for discharge is related to an increase in problems at home, an increase in the use of unscheduled health care programs and increased stress (Peyrovi, 2016). Other complications affecting the late preterm infant-mother dyad (Peyrovi, 2016) include maladaptive coping skills and decreased mother-infant bonding (Joseph, Goodfellow, & Simko, 2014). Currently, no national or state consensus exists on standardized discharge care practices to determine readiness for discharge for the late preterm infant mother.

Preterm infants born between 34 ⁰/₇ and 36 ⁶/₇ are considered “late-preterm infants” (LPIs) (McDonald, Kingston, Bayrampour, Dolan, & Touch, 2014), and are the fastest growing population of premature infants in the U.S. (Peyrovi, 2016). LPIs account for approximately 74% of the roughly 500,000 premature births, approximately 9% of U.S. births, and 11.2% of all neonatal costs (\$1.145 billion annually) in the U.S (Loftin, Habli, Snyder, Cormier, Lewis et al., 2010). The time available for LPI mothers to prepare for discharge is limited and insufficient to meet the learning needs for the LPI before discharge to home (Weiss, 2009). The infant's

complex needs cause mothers to express perceptions of feeling unprepared to discharge to home with their premature infant (Chen, Zhang, & Bai, 2015; Rowe & Jones, 2010). A mother's perception of unreadiness for discharge is found to be a strong predictor of difficulty coping post discharge (Knier, Stichler, Ferber, & Catterall, 2015), an increase use of post-acute healthcare resources and a higher proportion of re-hospitalizations (Burnham, Feeley, & Sherrard, 2013; Weiss, 2009). Nursing and health professionals need to identify, develop, and implement strategies that will increase perceptions of readiness to discharge in mothers of LPIs.

Purpose of the Study

This study will explore the perceptions of readiness for discharge in LPI mothers by examining relationships between demographic, internal and external variables. The internal variables include feeling a sense of security, empowerment, confidence, coping abilities, and perception of the crisis. The external variables include the preterm birth, support systems, and resources. This research study examines previous qualitative and quantitative literature that describes several factors that promote the perception of discharge readiness in LPI mothers such as feeling a sense of security, needing coordinated care during their hospitalization, receiving consistency of information and support, needing continuity of care, individualized care with as few care providers as possible, and adequate amounts of information about the discharge process (Askelsdottir, Lam-de Longe, Edman, Wiklund et al., 2013; Boulvain et al., 2004; Johansson, Aarts, & Darji, 2010; Persson, Fridlund, Kvist, & Dykes 2010; Rudman & Waldenstorm, 2007).

A secondary purpose is the use of Hill's Double ABCX Model of Stress and Adaptation to conceptualize the LPI mother's readiness for discharge. No current literature examines perceptions of LPI mother's readiness for discharge with Hill's Double ABCX Model of Stress

and Adaptation. Variables associated with discharge readiness include presence and degree of stressors (preterm birth); crisis (discharge readiness); or perceiving the crisis as manageable or unmanageable. The variables: preterm birth, discharge readiness, and the perception of the crisis factors are moderated by coping and partially explain the new norm of adjusting to the preterm birth and being a parent earlier than expected (adaptation). Hill's theory could provide insight into internal and external variables that affect adaptation and the association with each other.

Background and Significance

Discharging from a hospital to home is a time bound process for the LPI infant-mother dyad. Readiness for discharge is a concept placed within a transition continuum. Transitions involve moving from one life phase, condition or status to another and include elements that address process, time-span, and perceptions (Chick & Meleis, 1986). A transition is an outcome of a person-environment interaction that involves one or more persons and viewed in context and history (Chick, 1986). Post-partum LPI mothers discharging from the hospital are in a state of transition (Chick, 1986). The LPI mother's perception of the preterm birth determines her readiness for discharge that provides an estimate of her ability to leave the hospital (Lerrett, 2009).

The transitional state involves becoming a mother sooner than planned which can predispose LPI mothers to potential or actual health problems because the premature birth can be perceived as a crisis (Chick, 1986). The new mother is establishing her new identify and changing priorities causing a period of isolation, sense of loss, fatigue, and threatening her self-confidence (Bultjens, Robinson, & Milgrom, 2012). The LPI mother's perception about the transition reflects her possible role ambiguity and a possible threat to her self-concept (Chick,

1986). The premature birth may promote a post-traumatic reaction related to the interruption of the normal 40-week pregnancy process affecting the mother-infant dyad relationship (Petit, Eutrope, Thierry, Bednarek, Aupetit et al., 2016).

Mothers describe readiness for discharge as an emotional experience of coping with uncertainty, premature parental onset, parental incompleteness, becoming a parent, and completeness (Hutchinson, Spillett, & Cronin, 2012; Toral-Lopez, Gonzalez-Carrion, Cruz-Quintana, Rivas-Campos, & Perez-Marfil, 2016). The LPI mother's perception of her premature infant increases stress and anxiety (Peyrovi, 2016) possibly affecting her ability to manage her care and her preterm infant care independently at home without the help of hospital staff (Burnham, Feeley, & Sherrard, 2013). Nurses must understand that the concept of readiness for discharge is a multidimensional concept in the transition continuum, and a mother's perception is different from the health care providers' perception (Sneath, 2009).

LPI mothers are not prepared and have many unanswered questions during discharge that need to be answered (Sneath, 2009). Mothers must acquire a solid knowledge base, support, individuality, communication, and coordination related to discharge readiness (Lerrett, 2009) to increase parental confidence, coping skills, realistic expectations for being at home and strategies for connecting with community resources (Lerrett, 2009). Including mothers in discharge rounding increases communication and coordination between healthcare providers and LPI mothers (Lerrett, 2009).

The healthcare provider's role is to understand that the LPI mothers discharge readiness is hard to separate from that of the newborn and healthcare providers should concentrate on the readiness of the mother-infant dyad (Bernstein, 2013). Mother-infant dyad unreadiness has a

13% increase in calls to the health care providers for the mother and 18% increase for infants during the first two weeks after discharge (Bernstein, 2013). Mother-infant unready dyads have more symptom days (8.5% increase for mothers, and an 8.7% increase for infants) (Bernstein, 2013). Lower maternal readiness can cause increased infant sleeping position problems, increased worries about self and infant health, and increased infant feeding problems (Weiss, Ryan, & Lokken, 2006).

Currently, mothers discharge within 48 hours after a vaginal birth and 72 hours after a cesarean section. The obstetrician, insurance companies and financial incentives dictate the mother-infant dyad discharge date regardless of their stage of recovery (Lerrett, 2009). Several LPI discharge clinical practice guidelines and position statements are available and published for the nurse and physician to use but every hospital uses a different discharge guideline. The LPI discharge guidelines concentrate on physiological measures and may or may not address any psychological measures about discharge readiness. Healthcare professionals need to assess readiness for discharge holistically. The nurse may or may not be involved in discharge planning or be able to ascertain the support systems or resources necessary for a safe discharge within the 48-72 hour time frame. No national or state consensus exists on discharge care practices for the late preterm infant-mother dyad. Current practice does not obtain information about the mother's psychological readiness for discharge during her hospital stay to determine the LPI mother's coping strategies, resources, and support systems needed for a successful, safe discharge (transition) to home with her LPI infant.

The mother's ability to adapt to the stressor of the preterm birth include coping strategies, adaptability and crisis management (Hutchinson, 2012). Parent's ability to visualize, touch, and

interact with their newborn infant before discharge profoundly influences the LPI mother's perception about readiness for discharge (Hutchinson, 2012). Positive interactions between a mother and her preterm infant provide a protective factor and foster a feeling of being a mom (Nicolaou, Rosewell, Marlow, & Glazebrook, 2009). Mother's adaptation includes: fitting her lifestyle with her baby's schedule, learning from previous experience and other's advice, continuing to define her role, being a safeguard for her baby, and understanding her responsibility as a mother and regulating herself to her baby's environment (Griffin & Pickler, 2011).

Mothers of preterm infants report social support, social networking, professional and nonprofessional sources are essential to new mothers (Griffin, 2011). Enhancing maternal inner strength increases self-support, self-help, communication, and accepting support from others (Griffin, 2011). Maternal inner strength is enhanced by feeling closer to her mother, avoiding negative influences, and perceive the baby as giving her life more meaning (Griffin, 2011). Understanding the LPI mothers process for deriving meaning about her preterm birth experience allows healthcare professionals to determine which resources and services are most important for a successful and safe discharge transition.

Does a mother derive knowledge about readiness for discharge from the physical world or does she derive meaning from within herself? Are resources or social support more important for the LPI mother's readiness for discharge? From where or how is the LPI mother drawing her perception of readiness for discharge knowledge?

Philosophical Perspective

Epistemology or the study of the nature of knowledge directs the nursing discipline on the methods of or how we build nursing knowledge (Reed & Shearer, 2011). Nursing knowledge includes patterns of knowing such as personal, practice, ethical approaches with patients and families, empirical approaches that include scientific inquiry and sociopolitical approaches that inform nurses about sources of oppression in society and science (Reed, 2011). Epistemology is concerned with knowing the truth about a phenomenon. Personal patterns of knowing recognize the uniqueness of each person, including the self, and the personal experience in knowledge development (Carper, 1978). Personal knowing enables nurses to learn about others which in turn helps nurses to learn about themselves and helps nursing relate to their patients and themselves (Carper, 1978).

Intermodernism

Intermodernism is a philosophy of science that embraces Florence Nightingale who introduced the concept of research and inquisitiveness, documenting outcomes, caring, theories and empiricism (Reed, 2011). Honoring Florence Nightingale keeps nursing grounded in the roots of person-environment and inner-healing (Reed, 2011). Intermodernism provides views that empower research to be multifaceted and fluid (Reed, 2011). In-between-ness allows collaboration between philosophies and out of the box thinking to blend different methods for clinical research and betterment of patients (Reed, 2011).

In-between-ness allows the nursing perspective yet brings forth the patient perspective on an issue (Reed, 2011). Nursing practice is a fluid process from bench to bedside yet seen as two distinctly different nursing paths (Reed, 2011). Intermodernism bridges the gap through viewing nursing practice and scientific inquiry as one continuum regardless of the geographical area for

practice (Reed, 2012). Intermodernism brings the human aspect into research by looking at the human quest, spirituality, and purpose in life along with empiricism (Reed, 2011).

Openness to self-correction allows nursing to continue to grow and develop nursing theories and processes as their environment changes (Reed, 2011). Nursing needs to be self-organizing without influences from other disciplines unless solicited (Reed, 2011). Patients are human and not machines to be broken down into parts and need to be recognized as a whole unit (Reed, 2011). Patients are spiritual beings with a physical body who have intelligence and free will to make their decisions about their health care (Reed, 2011). Nurses partner with patients on their life journey through a continuum of wellness and illness to provide compassion, caring, and advocacy.

The nursing metaparadigm consists of four concepts: person, health, environment, and nursing practice. A person's worldview helps individuals organize their perspectives and evidence into knowledge by examining their views of reality (ontology) and their views of knowledge (epistemology) (Reed, 2011). Several worldviews are used in nursing to provide philosophic perspectives of human beings, their health, and healthcare practices. The nursing worldview of interest is the Reciprocal-Interaction (Fawcett & DeSanto-Madeya, 2013).

The Reciprocal Interaction worldview is a synthesis of elements from the organismic, simultaneity, totality, change, persistence, and interactive-integrative worldview (Reed, 2011). The Reciprocal Interaction World View looks at human beings as holistic. Human beings are active and interactions between human beings, and their environments are reciprocal (Fawcett, 2013). Change is a function of multiple antecedent factors, probabilistic and may be continuous

or may be only for survival (Fawcett, 2013). Change is a result of various factors from within the individual and the environment (Fawcett, 2013).

Reality is multidimensional, context-dependent, and relative (Fawcett, 2013). Objective and subjective phenomena are of interest to the researcher (Fawcett 2013). Quantitative and qualitative methods with an emphasis on empirical observations, methodological controls, inferential data, and analytic techniques comprise the designs of interest (Fawcett, 2013). Experiences and human being-environment interaction are relative to historical time and place and are an essential consideration during research (Fawcett, 2013). The Reciprocal Interaction Worldview is liberal in the fact that quantitative and qualitative methods are used to perform research studies.

Understanding the concept of readiness for discharge in the nursing paradigm per an Intermodernism philosophy suggests the concept is central to nursing (ontological) knowledge in understanding what patients need for a safe hospital discharge. A concept analysis by Galvin, Wills, and Coffey (2017) demonstrates the importance the concept of readiness to discharge has in nursing knowledge. Galvin (2017) describes readiness for hospital discharge as multidimensional that includes physical stability, adequate support, psychological ability, and adequate information that confirms this study's research framework.

Theoretical Framework

Transitions Theory

Transition theory is related to change and development that is important to nursing because of situational and health-illness events with continuities and discontinuities in the life processes of human beings that precipitates the patient come into contact with nurses (Chick,

1986). Nursing discipline concerns include human beings, environment, health, and nursing practice that provides a guide to interpreting person-environment interactions and the actual or potential effects on health from transitions (Chick, 1986). Transitions theory uses an holistic approach to examine the LPI mother's meaning or perception attributed to the preterm birth and any associated disconnectedness affecting her sense of security (Chick, 1986). Transitions theory examines a personal phenomenon and is not helpful to explain the infant-mother dyad transition, yet many research studies use the theory to explain readiness for discharge in LPI mothers. Nursing must look at the whole event from an infant-mother perspective to grasp all the dimensions of the discharge readiness concept.

The Double ABCX Model of Stress and Adaptation

One theory selected to examine the phenomena of readiness for discharge is The Double ABCX Model of Stress and Adaptation. The model is a middle range theory because it has predictive abilities (Joseph, 2014). The model is multi-dimensional, exploring effects on perceptions of stress and coping in families (Lavee, McCubbin, & Patterson, 1985). The model constructs imply internal and external realities affecting perceptions of stress and coping (Lavee, 1985).

Readiness for discharge encompasses the mother-infant dyad and the interactions between the mother, environment, family, and perceptions (Burnham, 2013). The Double ABCX Model of Stress and Adaptation examines variables affecting the family response to the transition of parenting infants and any crisis associated with the premature birth (Drummond, Kysela, McDonald, & Query 2002). The design associated with the model include quasi-experimental and quantitative descriptive. The design generates new knowledge to identify the

strength of associations between constructs of readiness for discharge and determine which factors are most important in a mother's readiness for transition to home with her LPI infant.

The Double ABCX Model of Stress and Adaptation expresses the unique phenomena of readiness for discharge from the patient's perspective. The theory attempts to establish a parsimonious, precise example or model of the real world and provide a clear idea of the phenomenon (Walker & Avant, 2010). The Double ABCX Model of Stress and Adaptation provides a framework to conceptualize the LPI mother's readiness (Figure 2.) for discharge and identify relevant variables for the study. Variables associated with discharge readiness include stressor (preterm birth), crisis (discharge readiness), perceptions of the crisis (manageable/unmanageable) moderated by coping to explain the new norm of adjusting to the preterm birth and being a parent earlier than expected (adaptation) (Figure 1.)

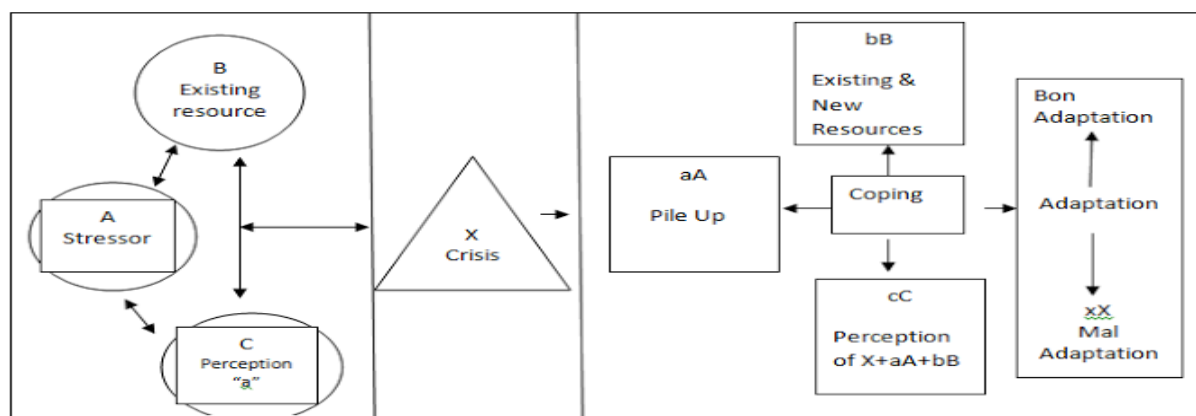


FIGURE 1. Double ABCX Model of Stress and Adaptation.

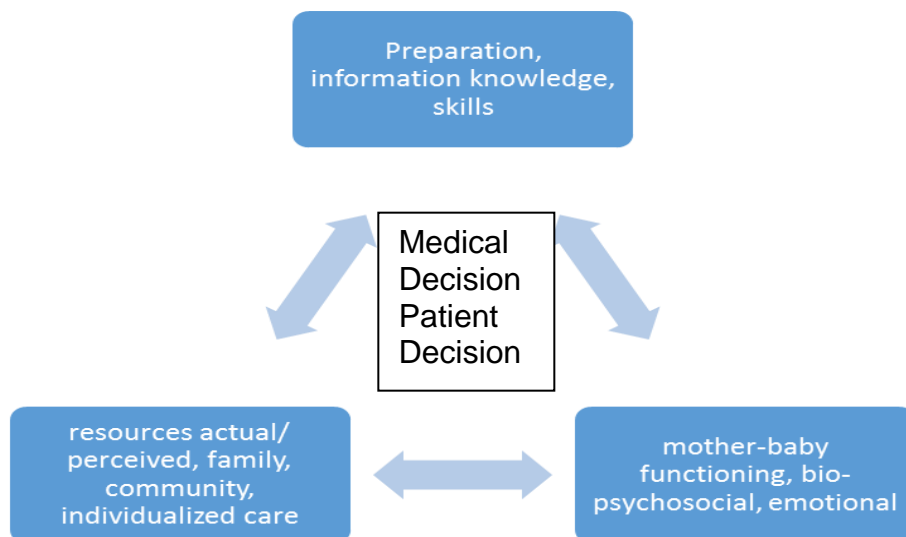


FIGURE 2. Readiness for Discharge. (Adapted from Sparks, 2016)

Theoretical Model of Maternal Competence and Responsiveness

The Maternal Competence and Responsiveness Model (Figure 3) demonstrates the complex nature of becoming a mother. Maternal competence is maternal intelligence that influences infant development and includes elements of sensitivity, responsiveness, and synchrony to respond to the infant's cues and needs (Baker, McGrath, Pickler, Jallo, Cohen et al., 2013). The model depicts the transition process mothers begin during pregnancy and continues after birth. The model depicts the mother-infant dyad as a dynamic and complex relationship that is affected by maternal contributors and infant contributors. A premature birth disrupts the maternal process that may affect maternal role attainment, confidence, and competence to provide skilled, sensitive care to her newborn infant (Baker, 2013). A premature birth affects the mother's preconceived ideas about her baby and disrupts her ability to know when and how to respond to a premature infant with different infant cues than a term infant leaving the mother-infant dyad vulnerable to undesirable outcomes (Baker, 2013).

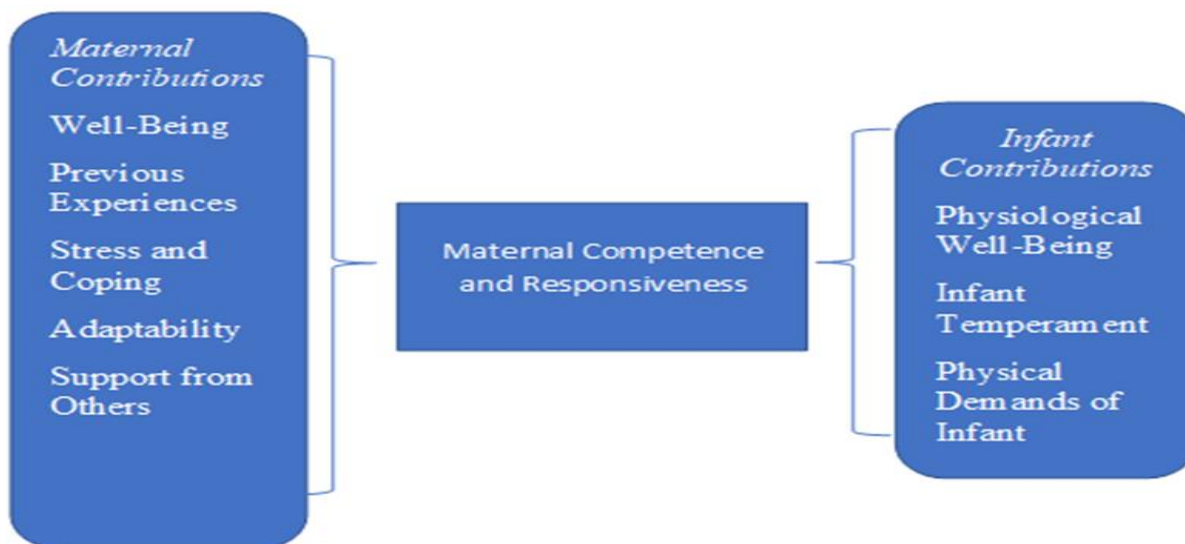


FIGURE 3. Theoretical Model of Maternal Competence and Responsiveness. (Adapted from Baker, 2013.)

Transactional Model

The Transactional Model uses infant redefinition to change the mother's perceptions or misperceptions about her birthing experience and the health of her newborn infant (Shaw, Brecht, John, Lilo, Corcoran et al., 2013). Redefinition helps parents view their infant as not being difficult or abnormal and to better engage with the infant (Shaw, 2013). The Transactional Model promotes reducing stress and trauma from self-blame and guilt thus increasing parental coping ability, increasing confidence, and self-esteem (Shaw, 2013).

Specific Aims and Research Questions

The purpose of this study is to search for relationships among proposed variables. The theoretical framework for this study guided the research questions and proposed overall that readiness for discharge is multi-dimensional with internal and external variables affecting LPI mothers' transition to home. A quantitative descriptive cross-sectional approach will be used to address specific aims.

Specific aims are to:

Aim 1: Describe factors that make families of late preterm infants vulnerable to disrupted transitions and factors that strengthen their ability to manage such transitions.

Aim 2: Determine the predictive ability of the Readiness for Hospital Discharge Survey (RHDS) and the Parent Postnatal Sense of Security (PPSS) survey in identifying what parents need to feel ready for the discharge of their LPT infant from the hospital.

Aim 3: Examine relationships between parental confidence, parental sense of security, and parental empowerment. The hypothesis is that parents who feel ready for discharge will have an increased sense of security, empowerment, and confidence and that higher perceived readiness to discharge will enhance the mother-infant dyad transition to home.

The following quantitative research questions are below:

1. What is the relationship between internal and external perceptions of LPI mother's readiness for discharge adaptability to home?
2. What is the relationship between resilience and LPI mother's readiness for discharge coping?
3. What is the relationship between the stressor (preterm birth) and feeling supported, confidence, and self-esteem?
4. What is the relationship between maternal contributors, infant contributors, and maternal competence responsiveness?
5. What combination of variables increases the LPI mother's perception of readiness for discharge?

6. What demographic variables are significantly related to readiness for discharge in the LPI mother?

Summary

LPI mothers' perceptions about readiness for discharge with their premature infant must be explored to prevent parental perceptions of feeling ill-prepared to leave the hospital with their infant. Identifying, developing, and implementing strategies that increase perceptions of readiness to transition to home include studying internal and external variables that affect LPI mothers' perceptions of readiness for discharge. Examining variables using Hill's Double ABCX Model of Stress and Adaptation framework allows this study to understand the mother's perspective by providing the mother's perception about stressors, crisis, and coping in transitioning to home.

CHAPTER II: REVIEW OF THE LITERATURE

The purpose of this chapter is to examine the current literature on the concept of readiness for discharge, coping with an LPI birth, and stressors affecting the adaptability of the LPI mother to the LPI during discharge.

Data Sources, Study Selection and Exclusion Criteria

A literature search was conducted for original research articles published between 2009 and 2016 in the following databases: CINAHL, Medline, TRIP, PsycINFO, and PubMed. Subject headings and keywords searches use variations of the words discharge, discharge readiness, preterm, late preterm, premature infant, parents, quantitative, qualitative, perceptions, coping, adaptability, and stress. Following PRISMA guidelines, articles were screened and selected based on prespecified criteria in three stages: titles, abstracts, and full-text articles. The title, abstract and full-text exclusions include not English, integrative review, not preterm focused, and did not focus on mothers' perceptions about readiness for discharge or factors that influence readiness for hospital discharge.

Data Extraction, Analysis and Quality Appraisal

Data abstraction by Polit and Beck's Levels of Evidence hierarchy include single descriptive studies and randomized controlled trials (RCTs). Polit and Beck's Levels of Evidence hierarchy provides a tool to measure quality and provide study rigor criteria by study type, sample, method, and analysis (Table 1).

TABLE 1. *Quality scoring of included studies.*

Author	Study Type	Sampling	Method	Analysis	Score	
Peyrovi, 2016	6	1	1	3	11	
Weiss, 2009	4	1	1	3	9	
Berry, 2013	4	1	1	3	9	
Baker, 2013	4	1	1	3	9	
Bernstein, 2013	4	2	1	3	10	
Horwitz, 2015	6	3	1	3	13	
Tooten, 20103	4	1	1	3	9	
Askelsdottir, 2013	6	2	1	3	12	
Pritchard, 2014	4	1	1	3	9	
Matricardi, 2013	6	3	1	3	13	
Akbarbegloo, 2009	4	1	0	3	8	
Rowe, 2010	4	1	1	3	9	
Montirosso, 2012	4	1	1	3	9	
Tandberg, 2013	4	1	1	3	9	
Petiti, 2016	4	1	1	3	9	
	Range	4,6	1,3	0,1	3	8,13
	Mean	4.53	1.4	0.93	3	9.9

Study design scores: 3=qualitative design; 4=quantitative descriptive design; 5=mixed qualitative and quantitative descriptive; 6=quantitative experimental and quasi-experimental. Sampling 0= not explained; 1=convenience; 2=purposive or case matching/ cohort; 3=random. Method detail: 1=methods and tools; 0=not explained. Analysis: 1=narrative; 2=descriptive statistics; 3=inferential statistics.

Results

A total of 15 articles met the criteria for inclusion for this study. The studies include factors influencing LPIs mothers' readiness for discharge and belong in three broad areas: perceptions (6), coping (7) and adaptability (2) identified in the Double ABCX Model of Stress and Adaptation Framework. Of the fifteen studies, 12 studies did not include theoretical underpinnings. The theories used in the remaining studies include Meleis' Theory of Transitions (Weiss, 2009; Weiss., Malin, Jerofke, Lang, & Sherburne, 2008), Transition to Motherhood Theory (Mercer, 2004; Rubin 1984), and Transactional Model of Stress and Coping (Lazarus & Folkman, 1984).

The study design and level of evidence identified four randomized control trials being the highest level of evidence included in the review, and eleven single correlational or non-

experimental designs with inferential statistics. Data collection methods include interviews (2) and surveys, with surveys being the most commonly used with and without evidence of psychometric properties. The quality of study scores ranged from 8-13 (M= 9.9). The most common sampling method was convenience (11), followed by purposive (2), and random sampling (2). The studies involve nine countries such as Italy (2), Netherland, New Zealand, Norway, Australia, Iran (2), United States (4), France, and Sweden (2). The study setting includes hospital (2), neonatal intensive care unit (10), obstetric clinics (2), and one study did not mention the setting of the study.

Perceptions of Readiness for Discharge

Perceptions about readiness for discharge in parents of preterm infants result in one quasi-experimental study with a statistically significant difference between emotional readiness and technical readiness according to scores given by mothers and nurses (Peyrovi, 2016). The remaining articles comprise descriptive and correlational studies. The study outcomes include increased phone calls to health care providers and symptom days for the mother-infant dyads (Bernstein, 2013). The risk of subsequent, unplanned readmissions is measured by asking the parent “I felt that my child was healthy enough to leave the hospital” (Berry, 2013). The lower the gestational age of the preterm infant, the more negative parental experiences and perceptions are on five areas: infant’s current condition, pregnancy course, labor and delivery, relationship with the infant, discharge and beyond (Tooten, Hoffenkap, Hall, Braeken, Vingerhoets et al., 2013). Preterm mothers who decide to discharge early from the hospital with home care feel secure in the first week postpartum as compared to preterm mothers who discharge without home care services (Askelsdottir, 2013). Mothers describe services and resources to increase their

perception of readiness such as care coordination, consistency of information, support, and individualized continuity of care with as few care providers as possible. (Askelsdottir, 2013; Boulvain, 2004; Johansson, 2010; Persson, 2010; Rudman, 2007). The quality of discharge teaching, the amount of informational content needed, the amount of information received, and the skill of the nurse in delivering discharge teaching provides a trajectory that influences post-discharge coping, utilization of family support and health care services (Weiss, 2009).

Coping and Stress in Readiness for Discharge

A literature search on the concepts of coping and stress in relation to the perception of readiness for discharge include two randomized control trials by Horwitz, Torfer-Isser, Kerker, Lilo, Leibovitz, et al., (2015), and Matricardi, Agostino, Fedeli, and Montiroso, (2012). Horwitz et al (2015) discusses that dysfunctional coping styles and low social support determine the formation of exaggerated perceptions of infant vulnerability in the maternal response to a preterm birth (Horwitz et al., 2015). Preterm infant mothers' direct observation of their infant and increased physical contact while in the hospital reduces stress levels in mothers of very preterm infants but not fathers (Matricardi et al., 2012). Before discharge, more than half the mothers and several fathers experience distress and view the situation as controllable (Rowe & Jones, 2010). Parenting efficacy increases in mothers in the three months postpartum compared to fathers who show no improvement (Rowe & Jones, 2010).

Mothers' and nurse's viewpoints differ on stressors associated with the premature birth and the infant being admitted to neonatal intensive care unit (Askelsdottir, 2013). Mothers rate their relationship with the baby and parental role as being more stressful while nurses rate the baby's appearance, behavior, treatments, relationship with the baby, and parental role as more

stressful (Akbarbegloo & Valizadeh, 2009). Nurses perceive that parents experience greater stress in the neonatal intensive care unit than parents themselves (Pritchard, 2014). Parental role is the most significant source of neonatal intensive care unit stress as reported by parents (Montirosso, Provenzi, Calciolari, & Borgatti, 2012; Tandberg, Sandtro, Vardal, & Ronnestad, 2013).

Adaptability to Preterm Infant Birth

Two articles on adaptability of a preterm infant-mother dyad after discharge include one non-experimental repeated measures study and one descriptive correlational study (Baker, 2013; Petit, 2016). Factors contributing to competence and responsiveness in the LPI mother includes using gestational age as a measure of infant well-being (Baker, 2013). Mothers of LPIs report higher stress at the time of delivery and six-weeks postpartum (Baker, 2013). At six weeks postpartum, stress is related to satisfaction with life, mood, infant well-being, and infant temperament (Baker, 2013). Preterm infant mothers' post-traumatic reaction six months after birth negatively correlated with the quality of mother-infant interaction at 12 months (Petit, 2016).

Strengths

One strength of this study is the use of scales to measure LPI mothers' perception of readiness for discharge, adaptability, and coping. The use of tools enables this study to provide inferential and statistical measures to examine associations between and among variables. Seven of 15 studies include the psychometric properties from their prospective study (Table 2). Different settings enhance generalizability to mothers of preterm infants in studies using the same tools.

TABLE 2. *Psychometric evaluation of tools from previous studies.*

Author	Tool	Psychometric Evaluation
Peyrovi, 2016	Parent Readiness Questionnaire	a= 0.81
Baker 2013	Everyday Stressor Index	a= 0.91
Dunst, 1984	Family Support Scale	a=0.79, test retest (0.91)
McCubbin, 1981	Coping Health Inventory	a= 0.71-0.79 (3 subscales)
Olson 1991	Faces III of Family Adaptation	a= 0.68, test retest (0.80)
Persson, 2007	Parents Postnatal Sense of Security Scale	a=0.88
Sarason, 1981	Social Support Questionnaire	a= 0.94

Limitations

The inclusion criteria limited articles that are published in English thereby not capturing research articles published in other languages. The exclusion rules limited research to be qualitative and quantitative studies in peer-reviewed journals restricting the scope of studies available. Many of the studies cite small sample sizes affecting the generalizability of the findings. Few studies used a theoretical framework to guide their research.

Many of the tools include self-report surveys that can introduce reporting bias into the study. Many of the studies do not randomize participants thus selection bias is an issue. Currently, there is not a defined agreed upon conceptual definition of readiness for discharge. A meta-analysis of the literature on this topic is not feasible because no standardized measure is available for the concept of readiness for discharge.

For example, Sneath (2009) reported a lack of information relating to a parents' perception of their readiness for discharge and the studies available are difficult to generalize. Sneath's (2009) integrative review confirms that parental perceptions are different from health care providers; parents are not entirely prepared and have many unanswered questions during discharge. Lerrett (2009) integrative review proposes that parents must acquire a solid

knowledge base, receive support, be given individual instructions, given verbal and written communication, and be given healthcare coordination related to discharge readiness.

Key themes include: Parents want hands-on experience with their infant before discharge, need support from hospital staff, support from family members, and need a sense of security during the first week after discharge. Parents desire to be taken seriously and to be considered essential participants in making healthcare decisions for their preterm infant (Lopez, 2015). Parents' perceptions of readiness for discharge is influenced by observing their infant and the cues given from their infant (Burnham, 2013).

Gaps in the Literature

No standardized discharge criteria for the LPI mother-infant dyad is available to determine readiness for discharge. No readiness for discharge assessment is provided to the mothers of LPIs before discharge to assess parental skills, emotional needs, and support for a successful discharge outcome. Further studies to examine the LPI mother's perception of readiness for discharge between nursery level settings is needed. Standardized definitions for the concept of readiness for discharge is critical to future research on this critical global issue. Future research should distinguish between technical (external) readiness and emotional (internal) readiness for discharge in LPI mothers. Increased research is needed to enhance LPI mothers' caring, confidence, and sense of security during discharge and post-discharge with their LPI infant.

Nurses must assess each mother and LPI individually to determine the appropriate discharge plan to ensure better outcomes. Additional research is needed to verify the applicability of the results from the systematic review to the LPI parent population and identify

new factors that can be modified by nursing interventions. The Double ABCX Model of Stress and Adaptation provides a framework to conceptualize discharge readiness, coping, stress, and adaptability for this population. The theory's focus is on families and their perception of the crisis as a threat or its ability to be managed.

How does the stress from the crisis affect coping abilities and adaptability of the LPI mother to their preterm birth? Qualitative and quantitative research shows associations between nursing therapeutics, providing education, ensuring parental support, promoting communication, individualization, and coordination of post-acute services. Future research should focus on preventing unhealthy discharges from the hospital by promoting perceptions of well-being, enhancing confidence building, and promoting meaningful interactions (Lerrett, 2009).

CHAPTER III: METHODOLOGY

This chapter describes the proposed research design, sample, setting, instruments, data collection and analyses that will be used to address the research questions.

Review of Aims and Research Questions

Specific aims are to:

Aim 1: Describe factors that make families of late preterm infants vulnerable to disrupted transitions and factors that strengthen their ability to manage such transitions.

Aim 2: Determine the predictive ability of the PDRQ, PPSS survey in identifying what parents need to feel ready for the discharge of their LPI infant from the hospital.

Aim 3: Examine relationships between parental confidence, parental sense of security, and parental empowerment. The hypothesis is that parents who feel ready for discharge will have an increased sense of security, empowerment, and confidence and that higher perceived readiness to discharge will enhance the mother-infant dyad transition to home.

The following quantitative research questions addressed:

1. What is the relationship between internal and external perceptions of LPI mother's readiness for discharge adaptability to home?
2. What is the relationship between resilience and LPI mother's readiness for discharge coping?
3. What is the relationship between the stressor (preterm birth) and feeling supported, confidence, and self-esteem?
4. What is the relationship between maternal contributors, infant contributors, and maternal competence responsiveness?

5. What combination of variables increases the LPI mother's perception of readiness for discharge?
6. What demographic variables significantly relate to readiness for discharge in the LPI mother?

Research Design

The proposed research design for this study is quantitative, correlational descriptive. The survey battery includes the Parent Discharge Readiness scale, The Everyday Stressor Index, Social Support scale, Family Support Scale, Coping Health Inventory for Parents, Parents' Postnatal Sense of Security (PPSS) scale, and FACES III of Family Adaptation scale. The combined questionnaires consist of seven measures to be collected via the Qualtrics online survey tool to answer the six research questions (Table 3). Table three shown below provides an explanation of the concept and the tool measuring the concept obtained from the Double ABCX Family and Stress theory.

TABLE 3. *Constructs with operational definitions and measurement tools.*

Model Construct	Operational Definition	Measurement Tool
Stressor	Preterm birth A family has little or no preparation for life situation, and old patterns are inadequate= Family vulnerability	Everyday Stressor Index (Hall, 1983).
Existing Resources	Social support Family support Emotional support External resources Internal resources	Family Support Scale (Dunst, 1984).
Perception	Vulnerability: the ability to defend against crisis or stressor event, anxiety, sense of security, redefine hardships, endowing situation with meaning	Parents Postnatal Sense of Security (Perrson, 2007)
Crisis	Discharge from hospital Defend themselves against crisis (recover) is it a threat?	Parent's Discharge Readiness Scale (Beth Israel Medical Center, 2009).
Pile up	Multiple role complex changes: Change of family system: role ambiguity, social ambiguity, care of the preterm infant, care of self, care of family	Faces of Family Adaptation (FACES III) (McCubbin, 1983).

TABLE 3 – *Continued*

Model Construct	Operational Definition	Measurement Tool
Existing & New Resources	Education Social Support Family Support External resources Internal resources	Social Support Questionnaire (Sarason, 1983).
Coping	The degree of mother's wellbeing, the degree of the regenerative power of family: eliminate disruptiveness of family unit,	Coping Health Inventory Scale (Patterson, McCubbin & Warwick, 1990).
Perception of (crisis + stressors existing & new resources)	Vulnerability, anxiety, sense of security, family bonds: coherence and unit maintenance	Discharge Readiness Questionnaire (Beth Israel Medical Center, 2009).
Adaptation	Family adaptability & cohesion: Family autonomy, self-reliance, self-esteem, empowerment,	FACES III (McCubbin, 1983).

Sample and Setting

The recruitment goal was to obtain a purposive sample size of 130 late preterm postpartum mothers, age 18 years and older. Some 130 participants with an expected effect size at .30 were based on correlations found in previous studies. A power of .80 is needed to identify significant effects and reject the null as recommended by Cohen and Cohen (1975) for a correlational study at a significance at 0.05 level.

Inclusion and Exclusion Criteria

The study inclusion criteria are: a) ages 18 years and older; b) English speaking; c) self-identified as a postpartum parent of a late preterm infant within the last six months; d) the ability to read in English; f) access to a computer, mobile devices; e) late preterm infant discharged to home. Exclusion criteria include: a) late preterm infant did not discharge to home; b) late preterm parent younger than 18 years old; c) No access to a computer or mobile devices; d) participants are unable to read English; or e) participants are unable to speak English.

On-Line Survey Methods

Seven surveys were compiled into one comprehensive survey in Qualtrics, an online survey tool. The Qualtrics features activated to protect the participant's identity and data include the anonymize response, prevent ballot box stuffing, prevent indexing, and open access. The anonymized response removes the IP address from the participant's data. The feature, "prevent ballot box stuffing" allows participants to complete the survey one time and prevents participants from completing multiple surveys. The feature, "prevent indexing" avoids multiple search engines completing the survey more than once. The feature, "open access" allows participants to complete the survey posted on the social media website. The feature "display logic" provides safeguards to ensure participants meet the inclusion criteria to participate in the study. The last question in the survey provided the participant the opportunity to add their email to receive a \$10 Wal-Mart eGift card and thank you card for completing the entire survey. The author provided the funds for the \$10 Wal-Mart eGift cards to 101 participants who completed the full survey.

The benefits of online surveys are that they: a) provide access to a large sample size; b) provide a faster recruitment time; c) decrease cost; and d) provide ease of access to the survey for computer literate participants. One potential burden for participants associated with the online survey in this study was the length of time to fill out the survey. A participant's possible limitation to completing this survey includes a lack of knowledge working a computer to being unfamiliar with the computer programs, the anonymous identity of the respondents, and reluctance to participate because of privacy and confidentiality issues associated with the internet (Sage, 2015). A control for participant burden is the ability to activate the "save and continue"

feature that allows participants to complete the survey at their convenience. Several limitations were outside the authors' control to mitigate the participant's burden.

Piloting of the Survey to Estimate Burden

A pilot study was conducted to test the procedure by asking late preterm infant mothers, 18 years and older, to complete the online survey in Qualtrics. Several participants took less than 60 minutes to complete the survey however participant attrition was still a concern because of the length of the survey. The participants' proficiency in computer use affected the time required to complete the questionnaire. One participant answered the survey in six minutes although she did say that she was nervous when she saw how many questions the survey contained. She also stated that the survey was easy to answer, and she felt relaxed because of the ease of the survey flow. She did recommend a wording change before initiating the study to include the length of time since the birth of the LPI.

Human Subjects Protection Procedure

This study was submitted for review to the Departmental Review Committee at the University of Arizona College of Nursing and the University of Arizona's Institutional Review Board (IRB) for approval for protection of human subjects. Participants were recruited from online support groups and social media websites utilized by postpartum mothers. A written description of the purpose and a disclosure about the study with contact information was included on the first page of the Qualtrics survey (Appendix B). A disclosure statement and an "I agree" button was provided on the first page of the survey to inform the prospective participants and allow them to give consent. If site users did not select, "I agree," the survey closed, and no paper consents were collected.

Recruitment Procedures

Permission was obtained from each website to allow the recruiting information to be posted and to prompt site users to sign up for the study. The link to the survey was provided on each website and the Late Preterm Infant Facebook page.

Data Collection Procedure

Participants completed an online survey in Qualtrics in their environment ensuring privacy. Participant recruitment occurred from a support group blog the author obtained permission to advertise the survey. The link to the survey was provided to the participants on the websites and published on the Late Preterm Infant Facebook page. The support groups contacted for permission include Peekabo ICU, Daily Strength, and Late Preterm Infant Facebook page.

Instruments

Everyday Stressor Index (ESI)

The ESI is a 20-item Likert scale with a previous Cronbach's alpha 0.91. The index measures problems faced daily by low-income mothers with young children (Hall, 1983). Some 22 common problems were identified based on a review of the literature and consulting professionals familiar with the everyday concerns of low-income mothers with young children and adaptation of several items from the Hassles Scale. The scale covers five problem areas such as role overload, financial concerns, parenting worries, employment problems, and interpersonal conflict. The scale is used in this study to measure everyday stress to examine the mother's discharge readiness with her preterm infant.

Parents Postnatal Sense of Security Scale (PPSS)

The PPSS was developed by Persson, Fridlund and Dykes in 2007. The PPSS evaluates the parents' experiences and sense of security during the first week after giving birth (Persson, 2007). The domains include a sense of the midwives'/nurses' empowering behavior, a sense of general well-being, a sense of affinity within the family, and a sense that breastfeeding is manageable (Askelsdottir, 2013). A previous study Cronbach's alpha 0.88 was obtained for the entire scale, indicating that it is a highly reliable data collection instrument (Persson, 2007). This instrument was chosen to measure the concept sense of security in LPI mother's readiness for discharge. The PPSS instrument is valid and reliable and the only specific instrument measuring postnatal sense of security. The PPSS measures the mother's ability to defend against crisis or stressor and endowing the situation with meaning (Persson, 2007).

Family Support Scale (FSS)

The FSS scale was developed by Dunst, Trivette, and Hamby in 1984. The FSS has 18-item questions to measure parents' satisfaction with their perceived helpfulness of support (Dunst, Trivette, & Hamby, 1994). The respondents indicated the helpfulness on a five-point Likert scale to identify their supports in informal kinship, social organizations, formal kinship, nuclear family, specialized professional services, and generic professional services with higher scores indicating greater amounts of support (Dunst, 1984). The scales reliability is high, with previous studies reporting Cronbach's alpha of 0.79, and test-retest correlation of 0.91 (Rowe, Barnes, & Sutherns, 2013).

Parent Readiness Questionnaire

Beth Israel Deaconess Medical Center developed this questionnaire in 2009 to determine two aspects of the mother's readiness to discharge with her NICU infant. This 14-item questionnaire examined technical readiness and emotional readiness of the NICU parent, who provided their ratings on a four-point Likert scale. Previous studies show internal consistency and Cronbach's alpha for this scale were calculated at 0.81 (Peyrovi, 2016). Readiness for discharge is a multidimensional concept and this tool measures several aspects of discharge readiness with high reliability thus making this tool important to this study.

Social Support Questionnaire (SSQ)

The SSQ questionnaire was developed by Sarason, Levine, Basham, and Sarason (1981) at the University of Washington Department of Psychology. The SSQ quantifies the perceived availability of and satisfaction with social supports. The baseline measures assess changes that take place in a person's life (Sarason, 1983). Previous study Cronbach's alpha 0.94 with good test-retest reliability and convergent internal construct validity (Sarason, 1983).

Coping Health Inventory for Parents (CHIP)

CHIP was developed by McCubbin (1981) to assess parents' appraisal of their coping responses to the management of family life when they have a child who is seriously and/or chronically ill. The coping abilities of the mother was measured using the 44-item self-report survey using a four-point Likert scale measuring three subscales of coping strategies with an ill child: "maintaining family integration, cooperation and optimistic definition of the situation," "maintaining social support, self-esteem, and psychological stability" and "understanding the

medical situation by communicating with other parents and staff.” Previous study Cronbach’s alpha 0.71-0.79 for the three subscales (2010).

FACES III of Family Adaptation

The instrument was developed by Olson (1991) to evaluate the adaptability and cohesion dimensions in family interactions. The instrument measures family cohesion (degree to which family members are separated from or connected to their family); family adaptability (extent to which the family system is flexible and able to change); and family type/ functioning (extreme, mid-range, moderately balanced, balanced) (Olson, 1991). The instrument measures the ability of a marital or family system to change its power structure, role relationships, and relationship rules in response to situational and developmental stress. Previous studies noted internal consistency ($r = .68$), and test-retest reliability ($r = .80$).

Data Management and Analysis Procedure

Data obtained from Qualtrics was transferred into an SPSS compatible file for data analysis. Descriptive statistics were used to analyze the responses on the Demographic and Late Preterm Infant Discharge Readiness Questionnaire. Cronbach's alpha was used to estimate the internal consistency of each instrument. Examining relationships among variables was assessed by Pearson's correlation and Multiple regression accounting for these covariates: a) maternal age, b) education, c) parity, d) ethnicity, e) socioeconomic status, f) infant's gestational age, g) marital status, h) method of delivery, i) gender, j) reason for prematurity, k) nursery setting, and l) home care. The level of significance was set as a p-value of less than 0.05. The dependent variables analyzed using linear regression in individual models are: a) readiness for discharge, b) postnatal sense of security, and c) adaptability.

Missing Data

Missing data was first quantified in total and by the participant. It was managed in SPSS using listwise or pairwise deletion. SPSS will automatically use either program in cases with missing data to delete the missing data depending on the option selected in the analysis. The feature in Qualtrics allowed the participants to save their answers and come back to finish the survey to decrease respondent fatigue that could cause missing data.

CHAPTER IV: RESULTS

This chapter reports the findings of a quantitative correlational descriptive study to examine the relationships between the mother's internal and external perception of readiness to discharge and adaptability to home among mothers of late preterm infants. Findings are presented based on the analysis of six research questions.

Descriptive Statistics

A total of 178 mothers consented to complete the survey. A total of 163 completed a portion of the survey. A total of 101 participants completed the full survey. Demographic and health-related characteristics of the sample are presented in Tables 4 and 5. Table 4 represents characteristics of the infant and Table 5 represents maternal characteristics. Participants' ages ranged from 18 to 45 ($M = 28.20$, $SD = 5.93$) and were non-Hispanic/non-Latino (88.0%). Most mothers had a high school diploma (44%) while mothers with four-year college education made up (19.3%) of the participants. Most of the participants had between 1-2 children (46.4%), made less than \$34,000 per year (37.5%), and were married (62.7%). Births were mostly four weeks early (41.0%), were vaginal births (57.8%), and male (55.3%).

TABLE 4. *Infant descriptive statistics.*

	N (%)
Type of Delivery	
Vaginal	93 (56.0)
Cesarean	68 (41.0)
Age of Premature Infant at Birth	
<34 weeks	68 (41.0)
<35 weeks	52 (31.3)
<36 weeks	41 (24.7)
Gender of Premature Infant	
Female	72 (43.4)
Male	89 (53.6)
Nursery Setting	
Normal Newborn Nursery	77 (46.4)
NICU Level of Nursery	84 (50.6)

TABLE 4 – *Continued*

	N (%)
Setting of Birth	
Home	2 (1.1)
Hospital	172 (96.6)
Birthing Center	3 (1.7)
Infant Time to Discharge After Birth: Infant Discharged with/without Home-Care	
With Home-Care	11 (6.6)
Without Home-Care	150 (90.4)
Bottle Feeding	
Does not Apply	37 (20.8)
Not at all Prepared	8 (4.5)
Somewhat Prepared	26 (14.6)
Prepared	45 (25.3)
Breast Feeding Preparedness	
Does not Apply	21 (11.8)
Not at all Prepared	12 (6.7)
Somewhat Prepared	27 (15.2)
Prepared	49 (27.5)

TABLE 5. *Maternal characteristics.*

Number of Children at Home	N (%)	M (SD)
0	49 (29.5)	
1-2	77 (46.4)	
3-4	28 (16.9)	
>5	7 (4.2)	
Age of Mother at Time of Birth (Year)	8-45	M(28.20) SD (5.93)
Reason for Premature Birth		
Threatened Labor	24 (14.5)	
Ruptured Membranes	27 (16.3)	
Convenience for Physician	1 (0.6)	
Infection	2 (1.2)	
Abnormal Signs and Symptoms in Fetus	11 (6.6)	
Other	96 (57.8)	
Household Income		
<\$35,000	60 (37.5)	
\$36,000-\$65,000	44 (26.5)	
\$ 66,000-\$85,000	22 (13.3)	
>\$86,000	34 (20.5)	
Mother's Educational Attainment		
High School Diploma	73 (44)	
2 Year College Degree	31 (18.7)	
4 Year College Degree	32 (19.3)	
Graduate Degree	23 (13.9)	

TABLE 5 – *Continued*

Marital Status	N (%)	M (SD)
Single	32 (19.3)	
Married	104 (62.7)	
Divorced	4 (2.4)	
Separated	2 (1.2)	
Partner	19 (11.4)	
Mother's Time to Discharge after Birth		
24 hours	16 (9)	
48 hours	73 (41)	
72 hours	53 (29.8)	
>72 hours	35 (19.7)	
Ethnicity		
Not Hispanic or Latino	146 (88.0)	
Hispanic	15 (9.0)	
Race		
Black	12 (6.7)	
Caucasian	148 (83.1)	
Asian	2 (1.1)	
American Indian/ Alaskan	1 (.6)	
Other	14 (7.9)	

Study Variables: Reliability of Instruments

Instrument reliability is measured by a common measure of scale reliability referred to as Cronbach alpha. The Cronbach alpha calculates the variance within the item and the covariance between a particular item and any other items on the scale (Field, 2013). The instrument reliability scores were calculated in the program SPSS. An overall score was used in instruments with subscales (Coping Health Inventory Scale) in the main analyses to answer the research questions. A Cronbach's alpha was conducted to estimate internal consistency on each of the seven scales. The alpha coefficients were all acceptable, (i.e., > 0.80 for the established instruments) (Zeller & Carmines, 1980). The subscale "medical situation" was borderline with a Cronbach alpha of 0.70.

TABLE 6. *Instrument reliability and scores in this study.*

Scales	Cronbach's Alpha	Actual Range	M (SD)
Family Support Scale	0.98	1.17-5	2.94 (.79)
Coping Health Inventory Subscales:	0.96	1.59-3.96	3.08 (.52)
a. family Integration	0.89	1.62-4.0	3.22 (.54)
b. social support, self-esteem, psychological stability	0.89	1.61-4.0	3.11 (.55)
c. understanding medical situation	0.71	1.37-4.0	3.12 (.64)
FACES III of Family Adaptation	0.88	1.35-4.15	3.10 (.60)
Everyday Stressors Index	0.89	21-63	33.03 (.52)
Parent Discharge Readiness	0.80	1.62-2.8	2.40 (.53)
Post-Partum Sense of Security Scale	0.84	1-4	2.76 (.59)

Review of Analysis and Accounting for Covariates

This study examined relationships among variables assessed by Pearson's correlation and multiple regression accounting for the following covariates: a) maternal age, b) education, c) parity, d) ethnicity, e) socioeconomic status, f) infant's gestational age, g) marital status, h) method of delivery, i) gender, j) reason for prematurity, k) nursery setting, and l) homecare. The level of significance was set at a p-value of less than 0.05. The dependent variables are: a) readiness for discharge, b) postnatal sense of security, and c) adaptability. Analyses were performed to determine that assumptions underlying multiple regression were met: normal distribution of data, linearity, homoscedasticity, and no perfect multicollinearity (Field, 2005). None of the assumptions were violated. One-way analysis of variance (ANOVA) was conducted to determine if there were significant differences in mean values of the dependent variables based on different levels of the categorical covariates.

For Discharge Readiness, there was a significant difference between levels of parity, $F(3, 125) = 3.420, p = .019$. Discharge readiness of mothers with 1-2 children ($M = 2.51, SD = 0.51$) was significantly greater than those mothers with zero children ($M = 2.21, SD = 0.47$). Perceived security of mothers was significantly different among different levels of parity, F

(3,133) = 2.88, $p = .038$, and gender of infant, $F(1,133) = 3.83$, $p = .001$. Mothers with more than five children had a larger mean security ($M = 3.21$, $SD = 0.28$) than those with 2-4 children ($M = 2.58$, $SD = 0.60$).

Mothers who gave birth to males had greater security ($M = 2.88$, $SD = 0.57$) than those who gave birth to females ($M = 2.61$, $SD = 0.59$). Adaptability was greater for Hispanics ($M = 3.14$, $SD = 0.40$) than non-Hispanics ($M = 3.09$, $SD = 0.62$), $F(1,80) = 4.317$, $p = .041$. Pearson correlations were run to measure the relationship between mothers' age and readiness for discharge, postnatal sense of security, and adaptability. There were no significant correlations.

Research Questions

Pearson correlations and/or multiple regression were performed to answer research questions. What now follows are the results of the analysis for each respective research question.

Question 1. What is the Relationship Between Internal and External Perceptions of LPI Mother's Readiness for Discharge Adaptability to Home?

Pearson correlations were conducted to answer this first research question. There was no significant correlation between readiness for discharge and adaptability ($r = 0.010$, $p = 0.919$).

Question 2. What is the Relationship Between Resilience/Coping and LPI Mother's Readiness for Discharge?

Pearson correlations were conducted to answer this second research question. There was no significant correlation between resilience/coping and LPI mother's readiness for discharge ($r = 0.132$, $p = 0.206$).

Question 3. What is the Relationship Between the Stressor (Preterm Birth) and Feeling Supported, Confidence and Self-Esteem?

Pearson correlations were conducted to answer this third research question. A significant negative correlation was found between stressors and support ($r = -.255, p = .005$). A significant negative correlation was found between stressors and self-esteem ($r = -.309, p = .001$). There is a significant positive correlation between support and confidence ($r = .282, p = .002$). A significant positive correlation was found between support and self-esteem ($r = .475, p < .001$).

Question 4. What is the Relationship Between Maternal Contributors, Infant Contributors and Maternal Competence Responsiveness?

Pearson correlations were conducted to answer this fourth research question. There were significant correlations between adaptability and coping ($r = .62, p < .001$); support and coping ($r = .60, p < .001$); support and adaptability ($r = .48, p < .001$); discharge readiness and support ($r = .20, p = .031$); sense of security and feeling prepared to discharge ($r = .27, p < .001$).

Question 5. What Combination of Variables Increases the LPI Mother's Perception of Readiness for Discharge?

Stepwise multiple regression was conducted to address this fifth research question. Stepwise regression is a method of fitting regression models in which the choice of predictive variables is carried out by an automatic procedure. In each step, a variable is considered for addition to or subtraction from the set of explanatory variables based on some pre-specified criterion (in this case $p < .05$). The final model was significant, $F(3, 88) = 11.770, p < .001$ and explained 26.2% of the variance in predicting mother's perception of readiness from stressors ($\beta = -.343, p = .001$), first pregnancy ($\beta = -.356, p = .001$), and security ($\beta = .225, p = .043$). A one-unit increase in stressors decreases discharge readiness by .343 on average. A mother's first

pregnancy decreases discharge readiness on average by .356. A one-unit increase in security increases discharge readiness on average by .225.

Question 6. What Demographic Variables Significantly Relate to Readiness for Discharge in the LPI Mother?

Stepwise multiple regression was conducted to address this sixth research question. The model was significant, $F(1, 148) = 4.876, p < .001$ and explained 11.0% of the variation in predicting mother's perception of readiness from first pregnancy ($b = -.373, p < .001$). A mother's first pregnancy decreases discharge readiness on average by .373. No other demographic variables were significant predictors of mother's perception of readiness. A Durbin-Watson statistic score of 2.231 indicated no autocorrelation. The VIF of 1.000 and a Tolerance score 1.000 indicated there was no multicollinearity (Field, 2005).

Summary

The purpose of this study was to examine the role of perception in late preterm infant (LPI) mothers' discharge readiness, coping, and adaptability for the transition to home. For Discharge Readiness, there was a significant difference between levels of parity. Discharge Readiness of mothers with 1-2 children was significantly greater than those mothers with zero children. Additionally, the LPI mothers perceived sense of security was significantly different among different levels of parity and gender of infant.

Mothers with more than five children have a larger mean security than those with 2-4 children. Mothers who gave birth to males have a greater security than those who gave birth to females. Ethnicity is also significant for adaptability and is greater for Hispanics than non-Hispanics.

There were significant negative correlations found between stressors and support, and stressors and self-esteem. Additionally, there were significant positive correlations between support and confidence, support and self-esteem, sense of security and feeling prepared to discharge. In terms of discharge readiness, a one-unit increase in stressors decreases discharge readiness; a mothers' first pregnancy decreases discharge readiness; and a one-unit increase in security increases discharge readiness.

CHAPTER V: DISCUSSION

Discussion of study findings, sample characteristics, strengths and weaknesses of the study, implications for nursing research, and implications for nursing practice will be discussed in this chapter. The purpose of this study was to explore the perceptions in LPI mothers discharge readiness, coping and adaptability for the transition to home. A secondary purpose was the use of Hill's Double ABCX theory to conceptualize the LPI mother's readiness for discharge and other factors that affect discharge.

Characteristics of the Sample

The sample consisted of 178 mothers with a median age of 28 years old with 1-2 children, Caucasian, high school diploma, married, income of less than \$34,000 per year, and delivered four weeks early by vaginal birth. Compared to quantitative studies reviewed and analyzed, the current study consisted of a large population of participants whose highest level of academic attainment were women with high school diplomas which was different from other studies that have a large population of participants with 2-4-year degrees (Askelsdottir, 2013; Burnham, 2013; Weiss, 2009). This finding may be attributed to the on-line recruitment via Facebook, potentially reaching a more diverse group. More males (53.6%) than females (43.4%) were born early in the study. The highest reason for prematurity was "other" (57.8%), ruptured membranes (16.3%), and threatened labor (14.5%). Other reasons for prematurity were preeclampsia, placental abruption, placenta accretia, low amniotic fluid, intrauterine growth restriction (IUGR), unexplained bleeding, and incompetent cervix. Infants received NICU level of care 50.6% vs 46.4% for normal newborn nursery care with 6.6% receiving home care after

discharge. The American Academy of Pediatrics Committee on Fetus and Newborn suggests high risk premature infants receive home care after discharge (Newborn, 2008).

This study revealed results not previously described in studies on readiness for discharge. For example, these data show that the mother's resilience did not affect her perception of readiness for discharge. Results also support a significant positive relationship between adaptability, coping and support. These relationships are consistent with the Double ABCX Model of Family Stress and Adaptation. There is also a significant positive correlation between a mother's perception of readiness for discharge and support, results that are consistent with Weiss (2009) that levels of readiness were associated with post discharge coping difficulty and utilization of family supports.

The final model explained 26% of the variance in predicting a mother's perception of readiness from stressors, first pregnancy, and security. Increased stressors decrease a mother's readiness for discharge by 34%. An increased sense of security is positively associated with readiness for discharge by 27%. The sense of security is positively associated with a mother feeling prepared to discharge. A mother's first pregnancy explains 11% of readiness for discharge and decreases readiness for discharge by 37%.

Contribution to Nursing Knowledge

This study is unique because the study uses the Double ABCX Model of Stress and Adaptation compared to other studies that used Meleis' middle range theory of transitions to explain readiness for discharge in post-partum mothers. Meleis theorizes that transitions are a process mothers pass from one life phase, condition, or status to another. During the transition changes in health status, role, relations, and expectations or abilities create a period of

vulnerability. Although the theory of transitions examines a mother's transition, the theory does not address the family as a unit. Kenner's transition model continues the concept that parents transition through a change and have five major post-hospital concerns. The concerns include: informational needs, stress and coping, grief, social interaction, and parent-child role development (Chick, 1986). The transition model speaks to families as being multidimensional however the model does not address the outcome of the transition.

The Double ABCX Model of Stress and Adaptation provides a roadmap for scientific inquiry, helps to organize knowledge, and establish the foundation for knowledge development for families (Joseph, 2014). This model is excellent to explore relationships between individual and environmental factors that impact health and wellbeing of families (Joseph, 2014). The theory explores the relationship and perceptions between stress, coping and adaptation with stressors determining the crisis. Some mothers experience stress during and after transition of care and may adapt or have maladaptation to the stress of a premature birth (Joseph, 2014).

The Double ABCX Model of Stress and Adaptation examines the interface between factors such as stressors: (A) the premature birth, family resources; (B) perception of events; (C) readiness for discharge; (aA) pile up of stressors; (bB) existing and new resources; (cC) the meaning the mother attributes to them; and (xX) the adaptation (i.e., safe transition to home) that affect a mother's perception of readiness for discharge. Families are a dynamic unit of society and influence each other (Joseph et al., 2014). As previously discussed in chapter 1, mothers of late preterm infants are usually the primary caregivers and transform into a vast invisible healthcare system that saves the government and insurance companies \$475 million annually

thereby confirming the importance of this research study and future research studies (Caregiving, 2009).

Strengths and Limitations

This study had several strengths and limitations. Strengths of the study are the online format that allowed more participants from the demographic area of the United States instead of one geographical area. The participants were recruited online in a short timeframe and the study successfully evaluated valid and reliable measures in the late preterm mother population. The study distinguished between internal and external variables associated with discharge readiness and examined the direction of relationship (both positive & negative). The scales used in this study have been used many times in different studies and are psychometrically valid and reliable.

To the author's knowledge, this is the first study to examine a model of predictors among late preterm infant mothers' readiness for discharge, sense of security, and adaptability while carefully accounting for confounding variables. The major strength of the study is the findings which decrease the knowledge gap pertaining to theory-driven studies of variables associated with readiness for discharge in mothers of late preterm infants. The findings support the use of the Double ABCX Model of Family Stress and Adaptation (Figure 4).

The limitations of the study are that participants may have found the survey burdensome, shown by the long completion time and the high number of participants who did not complete the survey. These cases were excluded from the analysis. Another limitation is the nonrandom convenience sample that was used that could potentially reduce the study's generalizability. A comprehensive presentation of the study variables of the sample is presented to allow the reader to evaluate how well the findings represent the general population of late preterm mothers.

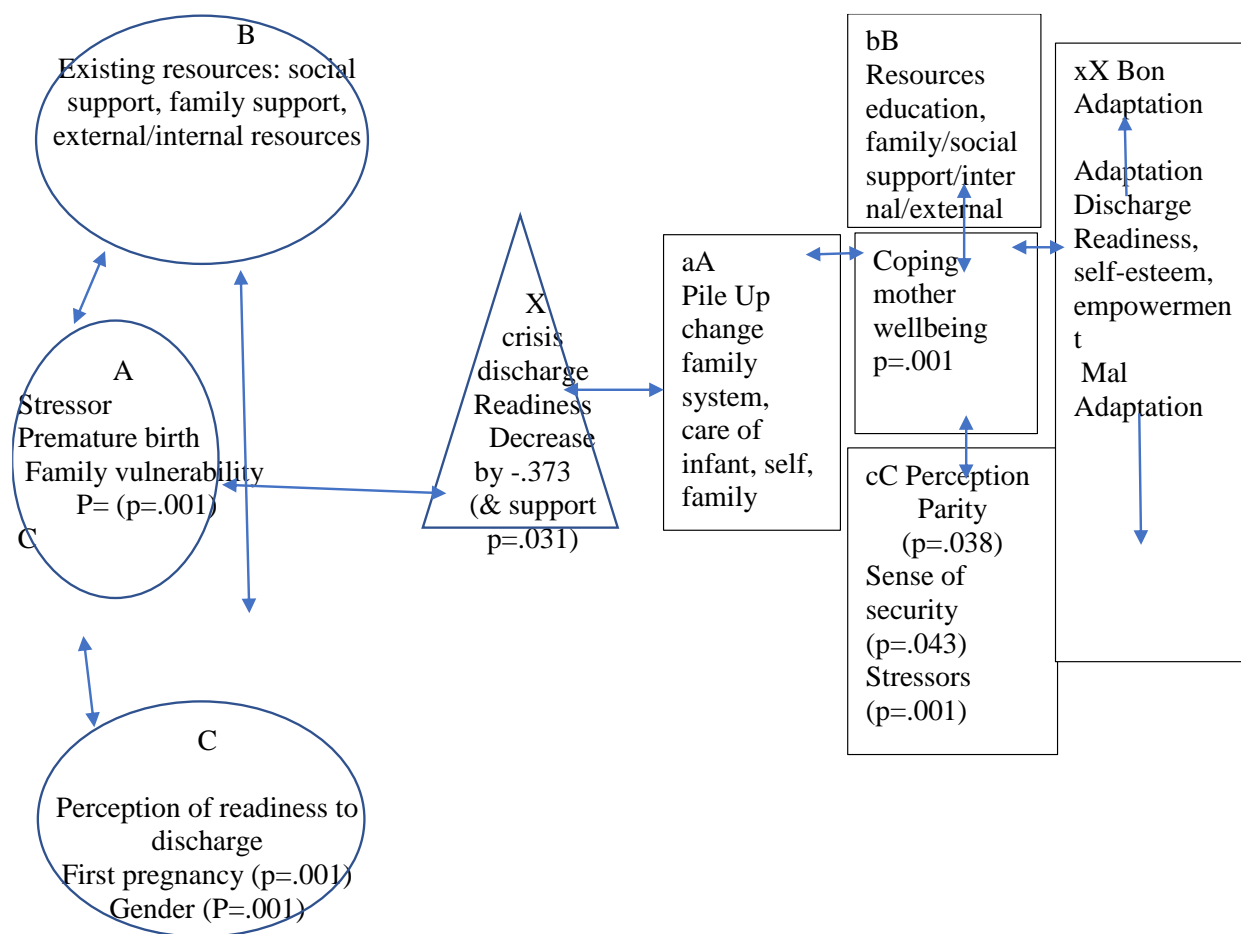


FIGURE 4. ABCX Model of Stress and Adaptation with statistical correlations.

Implications for Nursing Research

Future research on perceptions of readiness should ensure the mother and infant are studied as a unit not as separate entities. The definition of family is constantly changing, and future research should address readiness for discharge in alternate family units. Future research should examine the relationships among resources, perception, and adaptation in other sets of pile-up demands. Assessing and meeting the needs of patients and families are critical in preparing for discharge (Lerrett, 2009). Future research questions that can be explored are: How

do stressors, mediated by what family resources (support) shape the perception of readiness for discharge in mothers of late preterm infants? What type of support increases coping and adaptability to readiness for discharge?

Implications for Nursing Practice

This study has documented the importance of understanding the relationships affecting readiness for discharge in mothers of late preterm infants. A mother's perception of discharge readiness can be a process measure to identify the need for additional interventions before and after discharge. A mother's readiness for discharge should be a part of discharge preparation because a low level of discharge readiness may indicate a need for rescue strategies such as engaging family members for post discharge support, arranging post discharge surveillance and providing home health services to avert adverse outcomes (Weiss, 2009). Providing assessments of support, coping, and discharge readiness will promote safer short and long-term transition outcomes. Empirical testing of propositions linking discharge readiness with nursing therapeutics is an important next step. Nursing needs new knowledge but also needs tools and strategies that assist nurses to make better use of existing knowledge and use it in a uniquely nursing way (Chick, 1986). Providing nursing with theoretical frameworks in developing the investigation of the childbirth discharge transitions could be useful for planning systems of care that address the importance of the concepts pertaining to transitions such as perception of readiness for discharge, support, resources, having a sense of security, coping, and adaptability.

Conclusion

Few studies exist in the literature related to a late preterm infant mothers' perception about readiness for discharge. No studies are found to include the variables that specifically

linked readiness for discharge, sense of security, and adaptability. This study showed that the concept of support revealed strong relationships with coping ($r = .597, p < .001$) and adaptability ($r = .475, p < .001$); and a modest relationship to discharge readiness ($r = .195, p = .031$). Future research should include the concept of support, coping and adaptability in the perception of readiness to discharge in mothers of late preterm infants with the continued use of the Double ABCX Model of Stress and Adaptation.

APPENDIX A:
QUALTRICS SURVEY

Readiness for Discharge Variables and Better Transition Outcomes for Late Preterm Infant and Parents

INTERNAL AND EXTERNAL VARIABLES ASSOCIATED WITH DISCHARGE READINESS IN LATE PRETERM INFANT MOTHERS: A QUANTITATIVE CROSS-SECTIONAL DESCRIPTIVE STUDY

My name is Marteen and I am a nurse researcher from the University of Arizona, College of Nursing. I am interested in studying what the experience of mothers who give birth to a live infant between 34-36 weeks gestation and your perceptions about readiness for discharge with your premature infant to home. The survey is intended for Late Preterm Infant mothers, over the age of 18, who have experienced a Late Preterm birth 34(0/7)-36(6/7) to voluntarily participate in the above titled research study.

If you agree to participate, the study will involve completing the survey questions. There is minimal to no risks in taking part in this survey and your participation is voluntary. The survey should take about 10-60 minutes to complete. Your name will not be collected. No direct benefits can be attributed to your participation.

Completion of the survey is voluntary and you can withdraw at any time. Information collected is anonymous. You can choose not to answer a question; however, it is most helpful if you complete the whole thing. The questions ask you about what the premature birth of your child has meant to you, what coping strategies were or were not helpful, and how you adapted to the experience. You can share whatever you feel is important for me to know and the survey information will be kept confidential.

My goal of this study is to help find better ways to assist families who have endured premature birth, and I would really appreciate your help!

Please contact me if you are interested. I would like the opportunity to discuss the study and answer any questions you may have.

Thank You,
Marteen Sparks MSN, RN, Doctoral Candidate
Principal Investigator
University of Arizona, College of Nursing
msparks@email.arizona.edu

Yes, I agree to participate (1)

End of Block: Consent

Start of Block: Demographics**Q2 Type of Delivery**

1. Vaginal
2. Cesarean

1 (1)

2 (2)

Q3 Gestational Age of Premature Infant at Birth

34(0/7)-34(7/7) weeks (1)

35(0/7)- 35(7/7)weeks (2)

36(0/7)-36(7/7) weeks (3)

Q4 Gender of Premature Infant

1. Female
2. Male

1 (1)

2 (2)

Q5 Number of Pregnancies

1. First Pregnancy
2. Second Pregnancy
3. Third Pregnancy
4. >4 Pregnancies

1 (1)

2 (2)

3 (3)

4 (4)

Q6 Number of Children at Home

1. 0
2. 1-2

3. 3-4

4. >5

1 (1)

2 (2)

3 (3)

4 (4)

Q7 Age of Mother at Time of Birth (Year)

18-25 (1)

26-30 (2)

31-35 (3)

36-40 (4)

41-45 (5)

46-50 (6)

Q8 Reason for Premature Birth

1. Threatened Labor

2. Ruptured Membranes

3. Convenience for Physician

4. Infection

5. Abnormal Signs and Symptoms in Fetus

1 (1)

2 (2)

3 (3)

4 (4)

5 (5)

Q9 Household Income

1. <\$35,000

- 2. \$36,000-\$65,000
- 3. \$66,000-\$85,000
- 4. >\$86,000

- 1 (1)
 - 2 (2)
 - 3 (3)
 - 4 (4)
-

Q10 Mother's Educational Attainment

- 1. High-school Diploma
- 2. 2 Year College Degree
- 3. 4 Year College Degree
- 4. Graduate Degree

- 1 (1)
 - 2 (2)
 - 3 (3)
 - 4 (4)
-

Q11 Marital Status

- 1. Married
- 2. Divorced
- 3. Separated
- 4. Partner

- 1 (1)
 - 2 (2)
 - 3 (3)
 - 4 (4)
-

Q12 Nursery Setting

1. Normal Newborn Nursery
2. NICU level of Nursery

1 (1)

2 (2)

Q13 Setting of Birth

1. Home
2. Hospital
3. Birthing Center

1 (1)

2 (2)

3 (3)

Q14 Mother's Time to Discharge after Birth

1. 24 hours
2. 48 hours
3. 72 hours
4. <72 hours

1 (1)

2 (2)

3 (3)

4 (4)

Q15 Infant Time to Discharge After Birth

2-4 weeks (1)

5-8 weeks (2)

> 9 weeks (3)

Q16 Infant Discharged to Home after Birth

1. With Homecare
2. Without Homecare

1 (1)

2 (2)

Q17 Ethnicity

1. Caucasian
2. Hispanic
3. Black
4. Asian
5. Other

1 (1)

2 (2)

3 (3)

4 (4)

5 (5)

End of Block: Demographics

Start of Block: Survey Questions

Answer Question 18-20

Confidence to Abilities

1 No Confidence

2 Confidence

3 Very Confident

Q18 I feel confident that my baby's heart and breathing are safe.

1 (1)

2 (2)

3 (3)

Q19 I feel confident that my baby is healthy and mature now

- 1 (1)
- 2 (2)
- 3 (3)
-

Q20 I am ready for my baby to come home.

- 1 (1)
- 2 (2)
- 3 (3)
-

Q21 Answer Questions 22-32

- 0 Does not Apply
- 1 Not At All Prepared
- 2 Somewhat Prepared
- 3 Prepared
-

Q22 Bottle feeding

- 0 (1)
- 1 (2)
- 2 (3)
- 3 (4)
-

Q23 Breast Feeding

- 0 (1)
- 1 (2)
- 2 (3)
- 3 (4)
-

Q24 Baby care skills, such as dressing, diapering, and bathing

- 0 (1)
- 1 (2)
- 2 (3)
- 3 (4)
-

Q25 What to expect for wet diapers and bowel movement per day?

- 0 (1)
- 1 (2)
- 2 (3)
- 3 (4)
-

Q26 What medicines/ vitamins my baby will take when she/he is at home?

- 0 (1)
- 1 (2)
- 2 (3)
- 3 (4)
-

Q27 How to give these medicines/ vitamins?

- 0 (1)
- 1 (2)
- 2 (3)
- 3 (4)
-

Q28 What to do if my baby has a fever or gets sick at home?

- 0 (1)
- 1 (2)
- 2 (3)
- 3 (4)
-

Q29 Selecting a doctor for my baby to go to after she/he goes home

- 0 (1)
- 1 (2)
- 2 (3)
- 3 (4)
-

Q30 Understanding enrollment in special programs for premature infants

- 0 (1)
- 1 (2)
- 2 (3)
- 3 (4)
-

Q31 Preparing a crib/bassinet/bed at home for my baby

- 0 (1)
- 1 (2)
- 2 (3)
- 3 (4)
-

Q32 Arranging for help I may need at home

- 0 (1)
- 1 (2)
- 2 (3)
- 3 (4)
-

Q33 Answer Question 34-53

- 1 Strongly Agree
- 2 Agree
- 3 Disagree
- 4 Strongly Disagree
-

Q34 The midwife/ nurse/ personnel on the postnatal ward/home setting had a positive and supportive attitude

- 1 (1)
- 2 (2)
- 3 (3)
- 4 (4)
-

Q35 I was given enough practical advice by the midwife/ nurse/ personnel on the postnatal ward/home setting

- 1 (1)
- 2 (2)
- 3 (3)
- 4 (4)
-

Q36 I was given enough information during the first week after giving birth

- 1 (1)
- 2 (2)
- 3 (3)
- 4 (4)
-

Q37 I felt secure whilst I was on/in the postnatal ward/ home setting

- 1 (1)
- 2 (2)
- 3 (3)
- 4 (4)
-

Q38 I was given encouragement by the midwife/ nurse/personnel on the postnatal ward/ home setting

- 1 (1)
- 2 (2)
- 3 (3)
- 4 (4)
-

Q39 I felt that I took part in decision making at/in the postnatal ward/ home setting

- 1 (1)
- 2 (2)
- 3 (3)
- 4 (4)
-

Q40 I felt tense/uptight during the first week after giving birth

1 (1)

2 (2)

3 (3)

4 (4)

Q41 I felt down/depressed during the first week after giving birth

1 (1)

2 (2)

3 (3)

4 (4)

Q42 I felt anxious during the first week after giving birth

1 (1)

2 (2)

3 (3)

4 (4)

Q43 I felt physically well during the first week after giving birth

1 (1)

2 (2)

3 (3)

4 (4)

Q44 I was very tired during the first week after giving birth

- 1 (1)
- 2 (2)
- 3 (3)
- 4 (4)
-

Q45 My partner gave me practical support when we came home from the hospital

- 1 (1)
- 2 (2)
- 3 (3)
- 4 (4)
-

Q46 My partner gave me emotional support during the first week after giving birth

- 1 (1)
- 2 (2)
- 3 (3)
- 4 (4)
-

Q47 I felt that my partner was involved concerning our family during the first week after giving birth

- 1 (1)
- 2 (2)
- 3 (3)
- 4 (4)
-

Q48 I experienced a sense of affinity in the family during the first week after giving birth

- 1 (1)
 - 2 (2)
 - 3 (3)
 - 4 (4)
-

Q49 It was possible to make contact with the midwife/ nurse if I needed to, during all hours of the first week even after returning home

- 1 (1)
 - 2 (2)
 - 3 (3)
 - 4 (4)
-

Q50 I was given sufficient support with breast feeding during the first week after giving birth

- 1 (1)
 - 2 (2)
 - 3 (3)
 - 4 (4)
-

Q51 Breast feeding went well during the first week after giving birth

- 1 (1)
 - 2 (2)
 - 3 (3)
 - 4 (4)
-

Q52 I felt secure during the first postnatal week

- 1 (1)
- 2 (2)
- 3 (3)
- 4 (4)
-

Q53 I felt that the midwife/nurse was attentive to me as an individual

- 1 (1)
- 2 (2)
- 3 (3)
- 4 (4)
-

Q54 Answer Questions 55-68

1 Not Bothered

2 A little bothered

3 Somewhat bothered

4 Bothered a great deal

Q55 Having too many responsibilities

- 1 (1)
- 2 (2)
- 3 (3)
- 4 (4)
-

Q56 Taking care of family members other than your child(ren)

- 1 (1)
 - 2 (2)
 - 3 (3)
 - 4 (4)
-

Q57 Owing money or getting credit

- 1 (1)
 - 2 (2)
 - 3 (3)
 - 4 (4)
-

Q58 Problems getting along with your family

- 1 (1)
 - 2 (2)
 - 3 (3)
 - 4 (4)
-

Q59 Not enough money for basic necessities, such as clothing, housing food, and health care

- 1 (1)
 - 2 (2)
 - 3 (3)
 - 4 (4)
-

Q60 Not enough time to do the things you want to do

- 1 (1)
 - 2 (2)
 - 3 (3)
 - 4 (4)
-

Q61 Problems with transportation

- 1 (1)
 - 2 (2)
 - 3 (3)
 - 4 (4)
-

Q62 Problems with your job or with not having a job

- 1 (1)
 - 2 (2)
 - 3 (3)
 - 4 (4)
-

Q63 Problems with being married/single

- 1 (1)
 - 2 (2)
 - 3 (3)
 - 4 (4)
-

Q64 Problems with housing

 1 (1) 2 (2) 3 (3) 4 (4)

Q65 Problems with friends and neighbors

 1 (1) 2 (2) 3 (3) 4 (4)

Q66 Feeling safe in your neighborhood

 1 (1) 2 (2) 3 (3) 4 (4)

Q67 Difficulties with our child's father

 1 (1) 2 (2) 3 (3) 4 (4)

Q68 Problems holding a job

- 1 (1)
 - 2 (2)
 - 3 (3)
 - 4 (4)
-

Q69 Answer Questions 70-88

- 0 Not available
 - 1 Not at all helpful
 - 2 Sometimes helpful
 - 3 Generally Helpful
 - 4 Very Helpful
 - 5 Extremely helpful
-

Q70 My parents

- 1 (1)
 - 2 (2)
 - 3 (3)
 - 4 (4)
 - 5 (5)
-

Q71 My spouse of partner's parents

- 1 (1)
 - 2 (2)
 - 3 (3)
 - 4 (4)
 - 5 (5)
-

Q72 My relatives/ kin (other than parents)

- 1 (1)
 - 2 (2)
 - 3 (3)
 - 4 (4)
 - 5 (5)
-

Q73 My spouse or partner's relatives/ kin

- 1 (1)
 - 2 (2)
 - 3 (3)
 - 4 (4)
 - 5 (5)
-

Q74 My spouse or partner

- 1 (1)
 - 2 (2)
 - 3 (3)
 - 4 (4)
 - 5 (5)
-

Q75 My friends

- 1 (1)
 - 2 (2)
 - 3 (3)
 - 4 (4)
 - 5 (5)
-

Q76 My spouse or partner's friends

- 1 (1)
 - 2 (2)
 - 3 (3)
 - 4 (4)
 - 5 (5)
-

Q77 My older child(ren)

- 1 (1)
 - 2 (2)
 - 3 (3)
 - 4 (4)
 - 5 (5)
-

Q78 Neighbors

 1 (1) 2 (2) 3 (3) 4 (4) 5 (5)

Q79 Other parents

 1 (1) 2 (2) 3 (3) 4 (4) 5 (5)

Q80 Co-workers

 1 (1) 2 (2) 3 (3) 4 (4) 5 (5)

Q81 Parent group members

- 1 (1)
- 2 (2)
- 3 (3)
- 4 (4)
- 5 (5)
-

Q82 Social groups/ clubs

- 1 (1)
- 2 (2)
- 3 (3)
- 4 (4)
- 5 (5)
-

Q83 Church members/ minister

- 1 (1)
- 2 (2)
- 3 (3)
- 4 (4)
- 5 (5)
-

Q84 Your family or child's physician

- 1 (1)
 - 2 (2)
 - 3 (3)
 - 4 (4)
 - 5 (5)
-

Q85 Early childhood intervention program

- 1 (1)
 - 2 (2)
 - 3 (3)
 - 4 (4)
 - 5 (5)
-

Q86 School/daycare center

- 1 (1)
 - 2 (2)
 - 3 (3)
 - 4 (4)
 - 5 (5)
-

Q87 Professional helpers (social workers, therapists, teachers, etc.)

- 1 (1)
- 2 (2)
- 3 (3)
- 4 (4)
- 5 (5)
-

Q88 Professional agencies (public health, social services, mental health, etc.)

- 1 (1)
- 2 (2)
- 3 (3)
- 4 (4)
- 5 (5)
-

Q89 Answer Question 90-105

- 1 Almost Never
- 2 Once in a While
- 3 Sometimes
- 4 Frequently
- 5 Almost Always
-

Q90 Family members ask each other for help

- 1 (1)
- 2 (2)
- 3 (3)
- 4 (4)
- 5 (5)
-

Q91 We approve of each other's friends

- 1 (1)
 - 2 (2)
 - 3 (3)
 - 4 (4)
 - 5 (5)
-

Q92 We like to do things with just our immediate family

- 1 (1)
 - 2 (2)
 - 3 (3)
 - 4 (4)
 - 5 (5)
-

Q93 Different persons act as leaders in our family

- 1 (1)
 - 2 (2)
 - 3 (3)
 - 4 (4)
 - 5 (5)
-

Q94 Family members feel closer to other family members than to people outside the family

- 1 (1)
 - 2 (2)
 - 3 (3)
 - 4 (4)
 - 5 (5)
-

Q95 Our family changes its way of handling tasks

- 1 (1)
 - 2 (2)
 - 3 (3)
 - 4 (4)
 - 5 (5)
-

Q96 Family members like to spend free time with each other

- 1 (1)
 - 2 (2)
 - 3 (3)
 - 4 (4)
 - 5 (5)
-

Q97 Family members feel very close to each other

- 1 (1)
 - 2 (2)
 - 3 (3)
 - 4 (4)
 - 5 (5)
-

Q98 When our family gets together for activities, everybody is present

- 1 (1)
 - 2 (2)
 - 3 (3)
 - 4 (4)
 - 5 (5)
-

Q99 Rules change in our family

- 1 (1)
 - 2 (2)
 - 3 (3)
 - 4 (4)
 - 5 (5)
-

Q100 We can easily think of things to do together as a family

- 1 (1)
 - 2 (2)
 - 3 (3)
 - 4 (4)
 - 5 (5)
-

Q101 We shift household responsibilities from person to person

- 1 (1)
 - 2 (2)
 - 3 (3)
 - 4 (4)
 - 5 (5)
-

Q102 Family member consult other family members on their decisions

- 1 (1)
 - 2 (2)
 - 3 (3)
 - 4 (4)
 - 5 (5)
-

Q103 It is hard to identify the leader(s) in our family

- 1 (1)
 - 2 (2)
 - 3 (3)
 - 4 (4)
 - 5 (5)
-

Q104 Family togetherness is very important

- 1 (1)
 - 2 (2)
 - 3 (3)
 - 4 (4)
 - 5 (5)
-

Q105 It is hard to tell who does which household chores

- 1 (1)
 - 2 (2)
 - 3 (3)
 - 4 (4)
 - 5 (5)
-

Q106 Answer Questions 107-152

- 0 Not Helpful (1)
 - 1 Minimally helpful (2)
 - 2 Moderately helpful (3)
 - 3 Extremely helpful (4)
-

Q107 Believing that my child(ren) will get better

- 0 (1)
 - 1 (2)
 - 2 (3)
 - 3 (4)
 - 2 (5)
 - 3 (6)
-

Q108 Investing myself in my child(ren)

- 0 (1)
 - 1 (2)
 - 2 (3)
 - 3 (4)
-

Q109 Doing things with my child(ren)

- 0 (1)
 - 1 (2)
 - 2 (3)
 - 3 (4)
-

Q110 Believing that things will always work out

- 0 (1)
- 1 (2)
- 2 (3)
- 3 (4)
-

Q111 Telling myself that I have many things I should be thankful for

- 0 (1)
- 1 (2)
- 2 (3)
- 3 (4)
-

Q112 Building a closer relationship with my spouse

- 0 (1)
- 1 (2)
- 2 (3)
- 3 (4)
-

Q113 Talking over personal feelings and concerns with spouse

- 0 (1)
- 1 (2)
- 2 (3)
- 3 (4)
-

Q114 Doing things with family relatives

0 (1)

1 (2)

2 (3)

3 (4)

Q115 Believing in God

0 (1)

1 (2)

2 (3)

3 (4)

Q116 Taking good care of all the medical equipment at home

0 (1)

1 (2)

2 (3)

3 (4)

Q117 Believing that my child is getting the best medical care possible

0 (1)

1 (2)

2 (3)

3 (4)

Q118 Trying to maintain family stability

- 0 (1)
- 1 (2)
- 2 (3)
- 3 (4)
-

Q119 Doing things together as a family (involving all members of the family)

- 0 (1)
- 1 (2)
- 2 (3)
- 3 (4)
-

Q120 Trusting my spouse (or former spouse) to help support me and my child(ren)

- 0 (1)
- 1 (2)
- 2 (3)
- 3 (4)
-

Q121 Showing that I am strong

- 0 (1)
- 1 (2)
- 2 (3)
- 3 (4)
-

Q122 Getting other members of the family to help with chores and tasks at home

- 0 (1)
- 1 (2)
- 2 (3)
- 3 (4)
-

Q123 Having my child with the medical condition seen at the clinic/hospital on a regular basis

- 0 (1)
- 1 (2)
- 2 (3)
- 3 (4)
-

Q124 Believing that the medical center/hospital has my family's best interest in mind

- 0 (1)
- 1 (2)
- 2 (3)
- 3 (4)
-

Q125 Encouraging child(ren) with medical condition to be more independent

- 0 (1)
- 1 (2)
- 2 (3)
- 3 (4)
-

Q126 Involvement in social activities (parties, etc.) with friends

0 (1)

1 (2)

2 (3)

3 (4)

Q127 Being able to get away from the home care tasks and responsibilities for some relief

0 (1)

1 (2)

2 (3)

3 (4)

Q128 Getting away by myself

0 (1)

1 (2)

2 (3)

3 (4)

Q129 Eating

0 (1)

1 (2)

2 (3)

3 (4)

Q130 Sleeping

0 (1)

1 (2)

2 (3)

3 (4)

Q131 Allowing myself to get angry

0 (1)

1 (2)

2 (3)

3 (4)

Q132 Purchasing gifts for myself and/or other family members

0 (1)

1 (2)

2 (3)

3 (4)

Q133 Concentrating on hobbies (art, music, jogging, etc.)

0 (1)

1 (2)

2 (3)

3 (4)

Q134 Working, outside employment

- 0 (1)
- 1 (2)
- 2 (3)
- 3 (4)
-

Q135 Becoming more self-reliant and independent

- 0 (1)
- 1 (2)
- 2 (3)
- 3 (4)
-

Q136 Keeping myself in shape and well-groomed

- 0 (1)
- 1 (2)
- 2 (3)
- 3 (4)
-

Q137 Talking to someone (not professional counselor/doctor) about how I feel

- 0 (1)
- 1 (2)
- 2 (3)
- 3 (4)
-

Q138 Engaging in relationship and friendships which help me to feel important and appreciated

0 (1)

1 (2)

2 (3)

3 (4)

Q139 Entertaining friends in our home

0 (1)

1 (2)

2 (3)

3 (4)

Q140 Investing time and energy in my job

0 (1)

1 (2)

2 (3)

3 (4)

Q141 Investing time and energy in my job

0 (1)

1 (2)

2 (3)

3 (4)

Q142 Going out with my spouse on a regular basis

- 0 (1)
 - 1 (2)
 - 2 (3)
 - 3 (4)
-

Q143 Building close relationship with people

- 0 (1)
 - 1 (2)
 - 2 (3)
 - 3 (4)
-

Q144 Developing myself as a person

- 0 (1)
 - 1 (2)
 - 2 (3)
 - 3 (4)
-

Q145 Talking with other parents in the same type of situation and learning about their experiences

- 0 (1)
 - 1 (2)
 - 2 (3)
 - 3 (4)
-

Q146 Talking with the medical staff (nurses, social worker, etc.) when we visit the medical center

- 0 (1)
- 1 (2)
- 2 (3)
- 3 (4)
-

Q147 Reading about how other persons in my situation handle things

- 0 (1)
- 1 (2)
- 2 (3)
- 3 (4)
-

Q148 Reading more about the medical problem which concerns me

- 0 (1)
- 1 (2)
- 2 (3)
- 3 (4)
-

Q149 Explaining our family situation to friends and neighbors so they will understand

- 0 (1)
- 1 (2)
- 2 (3)
- 3 (4)
-

Q150 Being sure prescribed medical treatments for child(ren) are carried out at home on a daily basis

0 (1)

1 (2)

2 (3)

3 (4)

Q151 Talking with other individuals/parents in my same situation

0 (1)

1 (2)

2 (3)

3 (4)

Q152 Talking with the doctor about my concerns about my child(ren) with the medical condition

0 (1)

1 (2)

2 (3)

3 (4)

APPENDIX B:
RESEARCH INVITATION



This survey strives to understand the perceptions of mothers about being ready to go home from the hospital with their premature infant born 4-6 weeks early. It is essential in providing necessary emotional and physical support to ensure safe transition from hospital to home.

Invitation

What: Participate in a short research study

Who: Mothers who delivered a premature infant between 4-6 weeks early (34-36 weeks of gestation) within the last 6 months and are at least 18 years old and read English.

When: Easy to complete in 25-30 minutes online. Survey closes 11/01/2018

Infants born between 34-36 weeks gestation are called late preterm infants (LPIs). Some think that LPIs are “the great impostor” because they look like a normal newborn but being born early is different from being born at term. LPIs are considered a premature infant yet no standardized discharge protocol is available to determine when the mother and infant are ready for discharge.

This research study will examine perceptions of readiness for discharge in mothers of late preterm infants. The research involves a survey asking questions about the mother's perceptions about her birth experience and what she feels are important resources and support needed to feel ready to discharge to home with her new premature infant. **If you are interested in participating, please complete the survey at**

https://uarizona.co1.qualtrics.com/jfe/form/SV_0HD9P31IAU51o5f

APPENDIX C:
RECRUITMENT FLYER



You are invited to participate in a survey about perceptions of readiness for discharge in mothers of Late Preterm Infants born between 4-6 weeks early (born between 34_{0/7} – 36_{6/7} weeks gestation).

If you are 18 years or older, Speak English, Read English, and Discharged with a live infant born between 4-6 weeks early (34_{0/7} – 36_{6/7}) and within the last 6 months

To complete the survey, go to

https://uarizona.co1.qualtrics.com/jfe/form/SV_0HD9P3IIAU5Io5f

Questions?

Contact Marteen Sparks to participate

mspark@email.arizona.edu

Disclosure form: An Institutional Review Board responsible for human subjects' research at The University of Arizona reviewed this research project and found it to be acceptable, according to applicable state and federal regulations and University policies designed to protect the rights and welfare of participants in research.

APPENDIX D:
PERMISSION EMAILS AND LETTERS

DailyStrength Support (DailyStrength)

Aug 10, 09:50 PDT

Hi,

Thanks for writing in. Please understand that we cannot allow researchers or students to post in the support groups they wish to target, as that would be considered an intrusion, and the posts would be flagged as spam. We also cannot allow researchers or students to send private messages or hugs to our members.

You may; however, post a discussion topic about your study/project in a group we have created specifically for researchers and students. The title of the group is "Medical Research and Clinical Trials" and it can be explored by clicking here:

<http://www.dailystrength.org/c/Medical-Research-and-Clinical-Trials/support-group>

Members who are interested in participating in research projects and clinical trials can visit that support group and view the posts made by researchers and students.

Please feel free to contact us if you have any additional questions.

Best,
DailyStrength Community Support

Online Support Groups and Forums at DailyStrength! [Visit now](#)

Think you know how old you really are? Find out your actual age now – [Take the RealAge Test](#)

Visit us on Sharecare! We offer everything you need to make smart health decisions. [Visit now](#)

At home and on the go, AskMD is your go-to for finding out what's wrong and what you can do about it. [Learn More!](#)

Eva-Kristina Persson <eva-kristina.persson@med.lu.se> Mon, Nov 6, 2017, 2:17 PM

to me

Dear Marteen

Of course you have my permission to use the PPSS instrument. With this mail both mother's and father's versions, including user instructions, is attached. I will be pleased if You will send me your master-thesis when the study is finished.

Good luck with your research

Kind regards Eva Persson

Från: Marteen Catherine Sparks [mailto:mspark@email.arizona.edu]

Skickat: den 6 november 2017 20:36

Till: Eva-Kristina Persson <eva-kristina.persson@med.lu.se>

Ämne: PPSS Instrument

The Resilience, Adaptation and Well-Being Project

Email: mccubbinresilience@gmail.com Website: www.mccubbinresilience.org

October 12, 2017

Marteen Sparks

University of Arizona

Dear Marteen

The purpose of this correspondence is to confirm permission for your use of Family Inventory of Life Events and Changes measure for your research inclusive of permissions to print whatever copies you need to for your project.

We are open to answering any questions you may have.

If you make a translation of the measure into the language, other than English, please do send us a copy so we may inform others of its availability.

Let us know if we can be of assistance.

Sincerely,

Jason A. Sievers, PhD

Associate Director, The Resilience, Adaptation and Well-Being Project

CC: Laurie "Lali" McCubbin, PhD

CC: Hamilton I. McCubbin, PhD



Carl J. Dunst <cjd@puckett.org> Thu, Nov 2, 2017, 10:08 AM

to me

Marteen,

Are you referring to the Family Support Scale?

I have attached the most recent version of the scale in case this is the one you are inquiring about.

We generally provide permission for students to use the scale as is or in an adapted format for thesis research or other student research.

Let me know if you have any questions.

Attachments area



Jodi Dolezel

Mon, Aug 13, 2018, 5:46 PM

Hi Marteen! It's great to hear from you! I have a couple of clarification questions for you: 1) Is it okay if we use social media to recruit participants for th



Marteen Catherine Sparks <msparks@email.arizona.edu> Aug 16, 2018, 9:48 AM

to Jodi

Jodi,

Yes using social media is great! The survey runs until Nov 1 or until 130 participants are acquired. The egift card is from Walmart as they are easily accessible and participants probably need formula or diapers. Thank you so much for your support.

Thank You,

Marteen



Jodi Dolezel <Jodirn@peekabooicu.net> Thu, Mar 22, 2018, 11:21 AM

to me

Omgoodness yes!

I think my emails may not be coming through to you?

Please let me know if you need anything from me!

Please confirm you received this email back.

Thanks so much,

Jodi

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