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Psychosocial Support During Pregnancy: A Narrative Inquiry of Low-Income Unmarried Women in Iowa

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Walden University
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Abstract

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Women in Iowa

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MPhil, Walden University, 2020

MA, Liberty University, 2015

BS, Northwest Missouri State University, 1999

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Health Education and Promotion

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Abstract

Pregnant women who experience high levels of stress and who lack support are at higher risk for negative birth outcomes for themselves and their offspring including preterm labor, low birthweights, and a myriad of other short- and long-term health and behavioral consequences across the lifespan of the child. Unmarried or socioeconomically disadvantaged women lack the most common resources used to protect against the negative effects of stress during pregnancy. A research gap existed regarding the specific types of psychosocial support perceived by low-income unmarried women to be most beneficial at buffering their perceived prenatal stress. The ecological model and the stress buffering theory provided the framework for the study. The purpose of this qualitative, narrative study was to explore which types of psychosocial support are preferred by low-income unmarried women to buffer against stress during pregnancy. Women were interviewed in focus groups and individually, and social media posts were examined. Inductive narrative analysis was used to extract three overarching themes. Study findings indicate that lack of support from the baby's father coupled with barriers to health education correlate with an insufficient means to buffer stress during pregnancy for low-income unmarried women living in Iowa. This research has the potential to create social change by providing data that can guide the development of health education programs, interventions, and materials, which may decrease prenatal stress through buffering, improve birth outcomes, and decrease the risk for unintentional harm caused by uninformed prenatal interventions.

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Dedication

I dedicate this dissertation to my husband, Benjamin, who has never stopped believing in me and encouraging me to chase my dreams. To my children, Madeline, Benton, and Meredith, who light up my darkest days and remind me that the world is a beautiful place. To my mother, who always wanted me to be a doctor, and never doubted that I do would great things. To my Papa, who taught me to be humble and kind, who taught me to persevere, to fight for what is right, triumph over adversity, and to always walk with my head held high. To my favorite puppy Margo, who sat by my side countless hours as I completed this dissertation. To my best friend Erin, whose words of encouragement never fell on deaf ears and who kept me going when I wanted to give up. To my creator, the Heavenly Father, who created me in his image and has plans for me beyond my wildest imagination. Lastly, I dedicate this dissertation to the women who shared their stories with me, who trusted me with their deepest thoughts during their most vulnerable moments.

when I was down. Those who made me question my worth, and at times, my ability to

succeed. Thank you for underestimating me. It makes this victory so much sweeter. To

God be the Glory!

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Chapter 1: Introduction to the Study

Pregnancy is often perceived as a time of jubilation and celebration for many women. In the United States, however, an increasing number of women are reporting high levels of emotional distress during their childbearing years (Gunja et al., 2018). Thirty-four percent of U.S. women aged 18 to 64 reported experiencing emotional distress within the past 2 years that they were unable to manage by themselves (Gunja et al., 2018). Coupled with the high rates of maternal mortality and low satisfaction rates with healthcare that is received (Gunja et al., 2018), women in the United States are facing complications unknown to other first world countries.

With only 24% of women reporting satisfaction with health care and another 38% skipping care due to costs (Gunja et al., 2018), health educators need new ways to improve health outcomes for women in the United States. Psychosocial support provided across the ecological model is one such way of reaching women, especially vulnerable pregnant women, including those who are unmarried and low-income. Pregnant women who experience high levels of stress and who lack support from interpersonal relationships, community, and society are at higher risk for negative health outcomes for themselves and their offspring, including preterm labor, low birthweights, and a multitude of other short- and long-term consequences (Feinberg et al., 2016; Scheyer & Urizar, 2016).

Chapter 1 will provide a summary of the background of the problem, problem statement, and purpose of the study. The research questions (RQs) will be revealed and information on the theoretical and conceptual frameworks will be discussed. The nature

of the study and operational definitions will be provided. Finally, assumptions, scope and delimitations, limitations, and research significance will be addressed.

Background of the Problem

The prenatal or antenatal period begins at conception and ends at delivery (Rogers et al., 2018). Although the prenatal period can be full of excitement and joy, for many women, pregnancy brings with it unwanted and potentially unmanageable levels of stress (La Marca-Ghaemmaghami & Ehlert, 2015). Prenatal stress has been correlated with preterm labor, hypertension, and low-birthweight deliveries as well as a myriad of associations in offspring ranging from brain development, chronic disease, and high-risk behaviors across the lifespan of the child (Bale, 2014; Glover, 2014; Soares-Cunha et al., 2018; Staneva et al., 2015). Despite increased knowledge and advocacy for improvements in prenatal care (Al-Ateeq & Al-Rusaiess, 2015; Downe et al., 2016; World Health Organization [WHO], 2018), prenatal stress continues to contribute to rising levels of preterm labor and low-birthweight babies (Lilliecreutz et al., 2016; Lima et al., 2018; Merklinger-Gruchala & Kapiszewska, 2019).

In 2017, the incidence of preterm labor and low-birthweight babies in the United States rose for the third straight year, from 9.57% and 8% to 9.93% and 8.28%, respectively (Martin et al., 2018). Negative birth outcomes, such as low birthweight, account for over 40% of all neonatal deaths (Witt et al., 2014). As a state, Iowa ranked 35th for the percentage of preterm births (9.2% of all births) and 48th for percentage of low-birthweight deliveries (6.6% of all births) in 2017 (Martin et al., 2018). Although the experience of stress and excretion of cortisol varies based on the individual, stress

disorders affect 20% of adults in the United States, and women are twice as likely as men to suffer from chronic stress and anxiety (Office on Women's Health [OWH], 2018). In 2013, 24% of surveyed Iowa women reported having two or more significant stressors during their pregnancy (Iowa Department of Public Health [IDHP], 2015). Low-income pregnant women who experience higher levels of stress and altered cortisol levels during pregnancy have an increased risk of postpartum depression (Scheyer & Urizar, 2016). Research has shown that mothers without partners, and those with low social support, experience higher levels of maternal depression (Cabeza de Baca et al., 2018; Darwiche et al., 2019; Theme et al., 2018). Lack of support is a social determinant of health disproportionately affecting low-income populations (Office of Disease Prevention and Health Promotion [ODPHP], 2018b; OWH, 2018). The ODPHP (2018a) has identified the reduction of low-birthweight children (MICH-8.1), the reduction of preterm labor (MICH-9.1), and the reduction of the incidence of depression (MICH-34) as Healthy People 2020 objectives. Research has shown that women who experience less stress and higher levels of psychosocial support during pregnancy have a lower incidence of depression, preterm births, and low-birthweight babies (Feinberg et al., 2016; Lilliecreutz et al., 2016; Scheyer & Urizar, 2016).

Problem Statement

Despite shifts from bio-medical to holistic care in several countries, the United States continues to underdeliver mental health screenings and psychosocial support as part of routine prenatal care (Donald et al., 2014; Kingston et al., 2015). Psychosocial support, that has been traditionally used in cancer and HIV care, covers the physical,

cognitive, emotional, social, and spiritual health of an individual and is used to strengthen resilience through a holistic approach (Legg, 2011). The WHO's antenatal care model calls for pregnant women to receive psychosocial and emotional support as a routine part of quality antenatal (or prenatal) care (WHO, 2018).

Although research has indicated the most preferred and effective method of support among pregnant women experiencing stress is spousal support (Crowley et al., 2018; Kashanian et al., 2019; Mlotshwa et al., 2017; Razurel et al., 2017), 39.8% of births in the United States in 2017 were to unmarried women (Martin et al., 2018). In Iowa, the birthrate to unmarried women is slightly lower at 35.4%, earning the state a rank of 37th in the nation, which is up from 39th in 2014 (Martin et al., 2018). Research from many countries has shown maternal mental health benefits, ranging from decreased stress and anxiety to improvements in self-esteem and self-efficacy, resulting from community-based volunteer-driven peer support for low-income pregnant women (Gabbe et al., 2017; Hetherington et al., 2018; McLeish & Redshaw, 2017).

Researchers have also studied the preferences of pregnant women for different levels of mental health screenings across the ecological model, including those offered by childbirth educators, social workers, and medical professionals (Bayrampour et al., 2017; Kingston et al., 2017; Kingston et al., 2015). The current literature has highlighted the need for at-risk pregnant women to receive psychosocial support to buffer against the damaging effects of prenatal stress on birth outcomes and fetal health (Downe et al., 2016; Feinberg et al., 2016; Hetherington et al., 2015; Racine et al., 2019); however, a gap exists in identifying the specific types of psychosocial support perceived by low-

income unmarried women to be most beneficial for buffering their perceived prenatal stress (Bloom et al., 2013; Edmonds et al., 2015; Hetherington et al., 2015).

This qualitative research on low-income pregnant populations was aimed at filling the gap in understanding the preferences for psychosocial support of low-income unmarried pregnant women in Iowa through the collection and analysis of narrative data. Data on preferred types of psychosocial support provided information and research-based support for health educators working to assess the needs of and improve health outcomes for low-income unmarried women and their offspring. The research results contribute to the field of health education and promotion by providing data that can be used for planning and implementing health education interventions, developing health education curriculum, and creating health promotion materials for maternal health practitioners that use preferred psychosocial support methods to buffer perceived stress during pregnancy.

Purpose of the Study

The purpose of this qualitative research study was to explore which methods of psychosocial support provided across the ecological model are preferred by low-income unmarried pregnant women. The ecological model suggests that health is determined and influenced by multiple levels including intrapersonal (individual), interpersonal, institutional (organizational), community, and public policy (McLeroy et al., 1988). This research on low-income pregnant women aimed to determine (a) which social relationships, health interventions, community support, and local or state programs are perceived as beneficial; (b) what barriers exist to receiving support; and (c) how low-income unmarried women use the support received to buffer stress during pregnancy.

Findings from this research may help educators and practitioners shape future collaborative prenatal care through the creation of health promotion materials, the development of individualized prenatal care interventions, and the creation of support systems across the levels of influence. Although evidence through research exists to indicate that social support serves an important function during pregnancy, health educators and practitioners have limited data that reveal the preferences of low-income unmarried, pregnant populations for receiving psychosocial support, which serves as a buffer to stress (Bloom et al., 2013; Edmonds et al., 2015; Hetherington et al., 2015).

Psychosocial support provided during the prenatal period as part of prenatal care must be perceived by the patient to be beneficial at decreasing stress in order to have a substantial impact, as the use of nonpreferred methods of support can result in feelings of stigmatization and judgment, resulting in additional stress and anxiety (Bloom et al., 2013; Burke & Perndorfer, 2016; Jakobsen & Overgaard, 2018). Support interventions and screenings developed to serve vulnerable populations such as pregnant women have been shown to cause unintentional harm and support gaps when the type of support provided does not match the preferences or needs of the individual being served (Allen-Scott et al., 2014; Crowley et al., 2018; Garg et al., 2016). Using a qualitative narrative approach, research on low-income pregnant populations could provide data that deepen health educators' understanding of the preferences for psychosocial support across the ecological model of low-income unmarried women during pregnancy. Through the creation of health promotion materials and evidence-based interventions built from the findings of the research, practitioners and educators can potentially decrease prenatal

stress, improve birth outcomes, and decrease the risk for unintentional harm caused by uninformed prenatal interventions.

Research Questions

Main RQ: What types of psychosocial support do low-income unmarried mothers need (based on identified preferences) to receive and use as a buffer to perceived prenatal stress?

Sub RQ1: What barriers, if any, do low-income unmarried mothers encounter when seeking out psychosocial support during the prenatal period?

Sub RQ2: How are low-income unmarried mothers able to apply the psychosocial support they have received to reduce perceived prenatal stress?

Theoretical and Conceptual Framework

The theoretical and conceptual frameworks selected for the research were driven by the RQs. First, the stress buffering theory was selected to address Sub RQ2. Next, the ecological model was selected to address the main research question and Sub RQ1. The following paragraphs provide a deeper explanation as well as a history of these concepts.

Stress Buffering Theory

The theoretical framework which underpinned the research is the stress buffering theory. This theory, first introduced by Cobb (1976), posits that social support serves as a protective measure, or buffer, against the dangerous health outcomes related to stress (Cohen & Wills, 1985). The stress buffering theory is the most well-known and widely researched stress theory related to social relationships (Dunkel-Schetter et al., 2011; Holt-Lunstad & Uchino, 2015). Previous researchers have used the stress buffering theory to

examine the relationship between social support and the impact of stress on health

(Mandelbaum et al., 2020; Roth et al., 2018; Wethington et al., 2015). Figure 1 shows

how the cycle of the stress buffering theory from the moment a stressful event occurs

through the psychological and physiological impact on health behavior.

Figure 1

Stress Buffering Theory

Note. Adapted from "Social Support," by M. S. Rodriguez and S. Cohen, in H. S. Friedman (Ed.), *Encyclopedia of Mental Health* (1st ed., Vol. 3, pp. 535-544), 1998, Academic Press. Copyright 1998 by Academic Press.

Under the stress buffering theory, there are two ways in which support can negate the effects of stress. First, perceptions of support can increase resilience and coping in the affected individual, ultimately reducing the perception of the stressful event (Rodriguez & Cohen, 1998). Second, the perceived support may serve to reduce the impact of the stressful event by reducing the reaction to the stressor, therefore reducing the impact of the stressor on the affected individual (Rodriguez & Cohen, 1998). Understanding the relationship between perceived stress and psychosocial support is essential to the field of health education and promotion during the development of curriculum, educational materials, and interventions, making the stress buffering theory an ideal framework to underpin this research (Glanz et al., 2015; Hostinar, 2015; Mandelbaum et al., 2020; Wethington et al., 2015). The stress buffering theory provides a framework that underpins the RQs and guides this research through the exploration of the perceptions of low-income unmarried women and how the types of support they receive are used to buffer their perceived prenatal stress. A more comprehensive review including literature support will be discussed in Chapter 2.

Ecological Framework

A leading conceptual model in the area of social support is the ecological framework, which also shaped the research. This framework focuses on how properties of the environment either support or fail to support people, including psychosocial supports (Germain, 2010). The ecological model, when used for health education and promotion, addresses the importance of designing public health interventions and educational materials that impact the multiple layers of influence that contribute to the psychosocial

support of women during pregnancy (McLeroy et al., 1988). Individual personal factors,

relationships, community, and organizational influences, and societal norms all interplay

in the type, amount, and effectiveness of support provided to unmarried, low-income

women during their pregnancies. The ecological framework provides an explanation of

how prenatal stress may result from interactions at the individual level, lack of support at

the relationship level, and poverty at the community and societal levels (Bronfenbrenner,

1989). Ecological models are widely used in the field of health education and promotion

as they provide data on the environmental factors which influence behavior and show

support for environmental interventions (McLeroy et al., 1988). Previous researchers

have used ecological models to guide studies about social support, pregnancy, and mental

health (Ashaba et al., 2017; Connelly et al., 2015; Giurgescu et al., 2015a), making the

ecological model the best choice for my research. Figure 2 shows the five levels of

influence of the ecological model as they relate to support offered during the prenatal

period.

Figure 2

Ecological Model as Applied to Support During Pregnancy
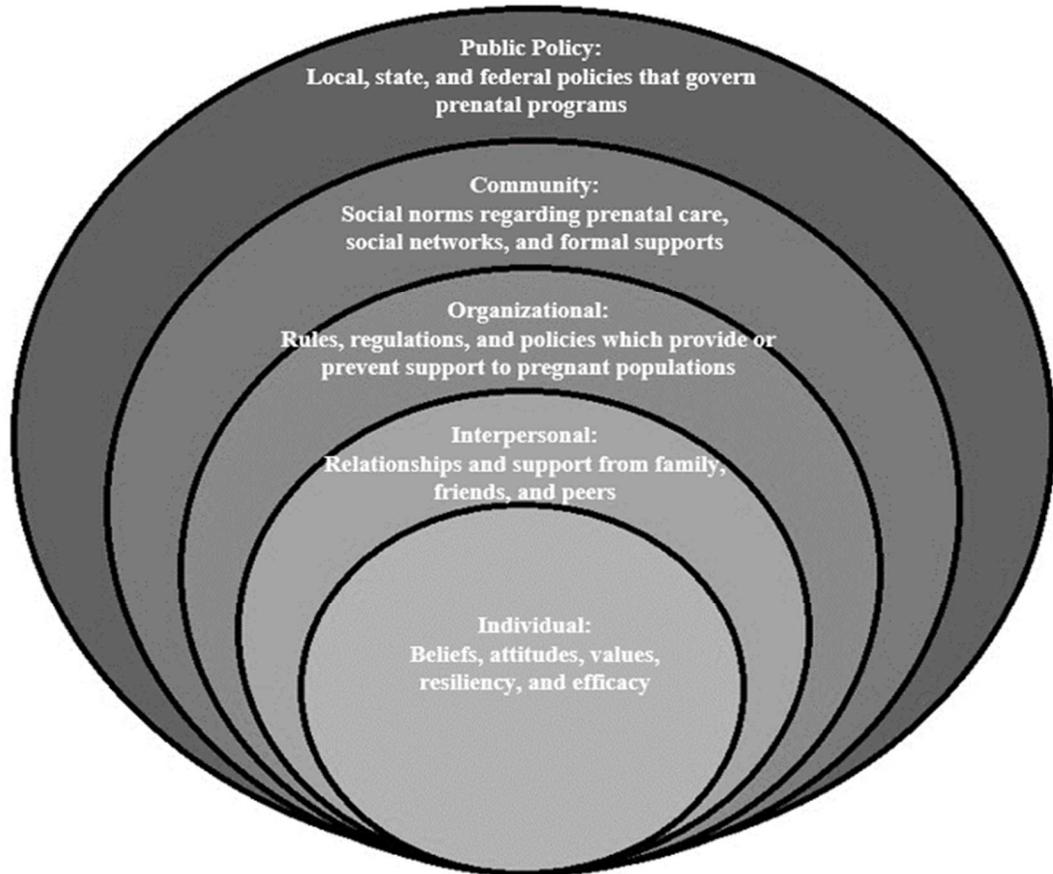
Note. Adapted from "Ecological Model" by McLeroy et al. In *Health Education*

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With the use of an ecological framework, the research questions were created to help understand the preferred types of psychosocial support across the five levels of influence as well as to identify barriers to support at specific levels which may interfere with the receiving of preferred support. The five levels of influence in the ecological model include (a) the individual level (i.e., beliefs, values, personal traits such as resilience and efficacy), (b) the interpersonal level (i.e., relationships with family members, friends, and peers), (c) the organizational level (i.e., the rules, regulations, and policies which provide or prevent support), (d) community (i.e., social networks, social norms, formal supports), and (e) public policy (i.e., local, state, and federal policies; McLeroy et al., 1988). The data generated by the RQs can be systematically categorized into these five levels of influence to determine which levels of influence are perceived by low-income unmarried women to buffer against stress during pregnancy, which levels have barriers, and which levels can be used by this specific population to reduce stress. The ecological framework can help guide future interventions in health education through research on low-income pregnant women by identifying the ecological levels which contribute to and buffer against prenatal stress. The relationship between the current study, the supporting literature, and the theoretical and conceptual frameworks will be discussed in more detail in Chapter 2.

Nature of the Study

The nature of this study was a qualitative narrative inquiry. Qualitative studies are used to discover meanings that individuals assign to their individual or societal problems (Creswell & Creswell, 2018). The purpose of this research was to discover the meanings,

experiences, and preferences of psychosocial support that are offered to and used during pregnancy by low-income unmarried women to buffer against perceived stress. Given the personal and interpretive element of the research purpose, a narrative inquiry provided an opportunity to collect written, spoken, and visual representations of the participants in the study in order to uncover common themes. Recalling the experiences that occurred during the prenatal period involves a degree of storytelling, which is vital to the narrative approach. Through the adherence to narrative qualitative design, the goal of the research was to share the stories of the preferred methods of psychosocial support among low-income unmarried women during pregnancy that are used to buffer prenatal stress. Narrative research has previously been used in pregnant populations to explore firsthand the experiences and preferences of the participants (Ali et al., 2018; Bigalky, 2018; McClean & Mitchell, 2018; Mitchell, 2016). The narrative approach was the best option for my research as this approach allowed the research participants to share not only the "what" of their story but also the "how and why" (see Patton, 2015). The narrative approach is a good fit for health education as the approach provides an opportunity to collect data that crosses the ecological levels of influence and includes cultural, psychological, and sociological meanings unique to the participants. The resulting themes will allow health educators to create interventions, curriculum, and health promotion materials that are specific to the target population.

In order to collect qualitative data regarding the availability, types, and application of psychosocial support perceived to be beneficial at buffering stress during pregnancy, I recruited unmarried women of childbearing age (21-45) and living in Iowa

to participate in this research. Inclusion criteria included (a) having given birth to a live offspring within the past 18 months, (b) self-identification as a participant in a government-based low-income program, (c) previous participation in prenatal care during her last pregnancy, and (d) participation in social media during the pregnancy. Recruitment took place in physical and online environments through an electronic and print flyer. Interested women were asked to contact me by telephone call, text, email, or through social media prior to the date of the focus group to verify that they met the inclusion criteria and to request any necessary accommodations (e.g., translation services, assistance with disabilities).

A convenience sample was used for the study. Convenience sampling has been previously used in research with low-income mothers for geographical proximity, availability during a specific window of time, and accessibility (Alhusen et al., 2016; Guerra-Reyes et al., 2016; Rhoades et al., 2016). Women must have been currently living in Iowa to participate due to the face-to-face nature of the focus group and the individual narrative interview methods. Using a convenience sample of unmarried women who meet the inclusion criteria allowed for replication in other states where similar groups of women are prevalent based on age, presence on social media, and participation in low-income government programs.

Focus groups were held in family-friendly public locations that are centrally located, such as public libraries or community buildings. Interviews were originally to be at the location of the participants' choice due to the sensitive nature of the topic and potential for a long interview time period; however, due to the COVID-19 pandemic, I

also offered phone interviews. Mothers were encouraged to make childcare accommodations for the interview period. Focus groups and individual interviews were audio-recorded and transcribed verbatim including all verbal and significant nonverbal communication.

Social media posts were transcribed verbatim as part of the narrative interview process. Participants were asked to review their social media posts which were published during their pregnancy for any original postings which, in their opinion, were generated in times of stress or in times of needing any type of support. Participants were asked to select up to five posts that occurred during their pregnancy, for a range of 0-5 posts. Participants shared the selected posts with me before or during the individual interview, and I photographed or saved the posts for transcription. Only original posts were photographed and transcribed. Comments left by other users were not used.

I used inductive narrative analysis to extract recurring themes from the data collected. Inductive narrative analysis consists of searching for themes and patterns in data in a way that individual pieces of information and evidence can be moved into a meaningful whole (Potter, 2013). Data were manually coded, although I considered coding with the assistance of Nvivo or Atlas.ti. Nvivo and Atlas.ti, which are types of software-assisted quality data analysis (QDA), based on their strengths and weaknesses.

Once the data had been transcribed, QDA software such as Nvivo or Atlas.ti could have been used identified common themes that emerged during transcription and coding (Soriano, 2013). However, QDA software can have accuracy issues when transcribing from non-English speaking populations and can shift the focus from depth to

volume, which may be counterproductive in narrative research which seeks to gain depth (Soriano, 2013). For these reasons, I chose not to use QDA software after reviewing the collected data. In order to ensure the accuracy of the collection, coding, and analysis, I conducted member checking. Member checking allowed the participants to view and verify the collected data and confirm the validity of the findings and interpretations (Creswell & Creswell, 2018).

Operational Definitions

Antenatal care: A combination of health education, risk identification, and prevention or management of pregnancy-related healthcare or existing diseases by healthcare professionals to women during pregnancy to ensure the best possible outcome for the mother and baby (WHO, 2018).

Antenatal period: The timeframe during which a woman is considered pregnant, beginning with conception and ending with birth (Rogers et al., 2018). This is also known as the prenatal period.

Convenience sampling: A statistical method of selecting participants for research who are easily accessible (Allen, 2017).

Cortisol: A stress hormone released through the adrenal gland during periods of perceived stress, which results in immediate physiological changes such as intensified breathing, increased blood-sugar levels, and increased oxygen to muscles (Scheyer & Urizar, 2016).

Ecological: Involving multiple levels of influence which are of equal importance including individual, relationships, community, and societal (Bronfenbrenner, 1989).

Focus group: An interview involving a small group of people who have

something in common (Allen, 2017).

Intervention: An activity or program designed and developed to be carried out by

healthcare professionals on a person or population to improve or promote health and

healthy living (WHO, 2015).

Low birthweight: A measure of weight immediately after the birth of fewer than

5.8 pounds or 2500 grams (March of Dimes, 2017).

Low-income: An individual or family unit whose income is less than twice the

federal poverty threshold (Department of Health and Human Services, 2019).

Maternal depression: Depression that occurs during the prenatal period and up to

one year postpartum. Mothers who experience the symptoms of major depressive

disorder as described by the American Psychiatric Association (2013):

> A depressed mood and/or loss of interest or pleasure in life activities for a least 2
>
> weeks and at least five of the following symptoms that cause clinically significant
>
> impairment in social, work, or other important areas of functioning almost every
>
> day - depressed mood most of the day, diminished interest or pleasure in all or
>
> most activities, significant unintentional weight loss or gain, insomnia or sleeping
>
> too much, agitation or psychomotor retardation noticed by others, fatigue or loss
>
> of energy, feelings of worthlessness or excessive guilt, diminished ability to think
>
> or concentrate, or indecisiveness, and recurrent thoughts of death. (p. 160).

Narrative interview: A method of qualitative data collection that emphasizes the

understanding of the participant, their story, and their experiences through the use of

open-ended prompts in order to gather the participants' construct of order and meaning (Allen, 2017). Narrative interviewing replaces questions and answers with storytelling.

Perceived support: An individual's perception of the quantity and quality of the identified physical, cognitive, emotional, social, or spiritual support (Giurgescu, et al., 2015b).

Perceived stress: An individual's perception of the quantity and quality of the stress event. Also known as subjective stress which refers to the personal reaction to the stressor (McGill University, 2019).

Prenatal stress: Stress that is experienced during the prenatal period (McGill University, 2019). Stress can be chronic or acute. Chronic prenatal stress is ongoing while acute prenatal stress is infrequent.

Preterm: Labor or birth of an infant which happens prior to 37 weeks of pregnancy (ODPHP, 2018a).

Psychosocial support: A collaborative blend of physical, cognitive, emotional, social, and spiritual care that occurs in clinical, interpersonal, and community settings (Downe et al., 2016; Legg, 2011).

Received support: The quality or quantity of support which is actually received (Crowley et al., 2018).

Social media: forms of electronic communication used for social networking and communication through which users belong to online communities (Baker & Yang, 2018). Examples of social media include Facebook, Instagram, and blogs where pregnant women share personal stories and seek advice and support.

Stress buffering: A protective quality that lessens the effect of stress on an individual's health and well-being (Rodriguez & Cohen, 1998).

Support gaps: Gaps in the amount of support received by an individual versus the amount of support desired (Crowley et al., 2018; High & Steuber, 2014).

Assumptions

Assumptions of the research included that participants would respond truthfully and honestly. Another assumption was that the experiences which were shared were accurate and comprehensive and provided an accurate depiction of the prenatal period. I also assumed that the target population would be accessible and willing to participate. A final assumption was that participants are honest about the inclusion criteria, including their age, participation in low-income programs, relationship status (unmarried), participation in prenatal care, participation in social media, and the number of months postpartum (18 months or less).

Scope and Delimitations

The scope of the research was be limited by the access to the population of low-income unmarried mothers who have given birth to live offspring in the previous 18 months, who live in Iowa, and who fell within the age range of 21-45 years old. The scope of the research was also be limited by participants' access to low-income government programs in the state of Iowa as participation in such programs is part of the inclusion criteria. No conclusions had been drawn and no associations had been identified.

Limitations

Due to the specific phenomenon of interest and methodological approach of the

research, the participant criteria were very specific. This in turn created a limitation of

possible participants. The inclusion criteria for the participants required participation in

multiple sources of data collection including focus groups, narrative interviews, and

sharing social media posts. The collection of social media posts required additional

retrieval work by selected participants and may have created barriers to participants who

lacked access to smartphones, computers, or other internet-enabled devices. The multiple

data collection methods may have created time challenges for participants who are

mothers without support systems who have busy or inflexible schedules. Participation

challenges may have also existed for individuals with physical or mental conditions

which prevented them from participating in the planned focus groups. Although I had

been previously employed and am well known in areas where recruitment will take place,

there were no current existing relationships of power or influence which would have

created an issue with a separation of roles.

A potential limitation of the study was the single-state, convenience sampling

methodology used for recruitment that may have yielded a participant pool which may

not be representative of the wider population. However, the income-based government

programs that the participant pool belongs to are offered on a national level using the

same socioeconomic guidelines for participation. Another potential limitation was the

lack of racial diversity based on geographic location, which may result in a homogenous

participant pool thus affecting the generalizability of findings to other ethnic or racial

populations. A final limitation was the accuracy of self-reported inclusion criteria and self-reported data.

Significance of the Study

The research filled a gap in understanding what types of psychosocial support received during pregnancy by low-income unmarried women serve as a buffer to perceived stress. The project was unique because I explored how low-income unmarried women were able to apply preferred methods of psychosocial support to limit the negative impact of, or buffer against, perceived stress experienced during the prenatal period. Previous research has focused on the impact of education and support during the prenatal period (Al-Ateeq & Al-Rusaiess, 2015; Feinberg et al., 2016) but has failed to identify which types of psychosocial support are perceived by low-income unmarried pregnant women as being most beneficial at buffering stress. Psychosocial support is a collaborative blend of physical, cognitive, emotional, social, and spiritual care which occurs in clinical, interpersonal, and community settings (Downe et al., 2016; Legg, 2011). During the prenatal period, psychosocial support methods span across the ecological model and include a variety of health education interventions like group prenatal visits, yoga classes, home visits from health educators, social workers, or community volunteers, group meditation, mothers' support groups, telehealth services, and access to income-based community programs such as Women, Infant, and Children (WIC) and Early Head Start (Doran & Hornibrook, 2013; McCurdy, 2001; McLeish & Redshaw, 2017; Snyder & Dinkel, 2019; Williams et al., 2017).

Vulnerability to stress during pregnancy can be enhanced by a lack of support across the levels of the ecological model including emotional instability, safety concerns, poor interpersonal relationships, and financial hardships, therefore potential successful interventions to prenatal stress should also span across the ecological model (Flanagan, 2017; Racine et al., 2019). Sharing data generated from the dissertation research may lead to the creation of collaborative prenatal care programs that incorporate the preferred method of psychosocial support for low-income unmarried women. Providing psychosocial support across the ecological levels through preferred methods could result in a reduction of prenatal stress in low-income unmarried pregnant women through the stress buffering process.

The positive social change resulting from the research would be increased health outcomes for mothers and infants through the buffering of prenatal stress and exposure to prenatal stress in utero. Supporting pregnant women who are unmarried regarding stress buffering practices will require health education of maternal support systems across the ecological model, including social supports, community and faith leaders, practitioners, and policymakers. Increasing the number of providers who offer, or refer to programs who offer, psychosocial support through health promotion during pregnancy will not only help mothers and infants but may also help change the culture of pregnancy-related mental health stigma in the United States. Furthermore, data from the research may invoke social change by providing information that assists in the development of health education and promotion programs preferred by low-income unmarried women to buffer stress during pregnancy by removing barriers to accessing such programs and by

educating these women on how to apply the psychosocial supports they already receive in an attempt to reduce negative health outcomes related to prenatal stress thus decreasing the health disparities between socioeconomic classes of pregnant women.

Summary

The experience of pregnancy is different for every woman. Stress during the prenatal period has a detrimental effect on both the mother and the offspring which can result in immediate and lifelong negative health outcomes (Bale, 2014; Glover, 2014; Soares-Cunha et al., 2018; Staneva et al., 2015). Lack of psychosocial support during the prenatal period may increase the effect of stress for low-income unmarried women and their unborn children (Cabeza de Baca et al., 2018; Darwiche et al., 2019; Gul et al., 2018).

Research has shown improved outcomes for pregnant women who receive psychosocial support during their pregnancy (Feinberg et al., 2016; Lilliecreutz et al., 2016; Scheyer & Urizar, 2016). However, low-income unmarried women are less likely than high-income married women to receive adequate levels of psychosocial support during pregnancy (Gul et al., 2018). This research aimed to explore which types of psychosocial support were perceived by low-income unmarried women to buffer against prenatal stress through thematic coding of data collected during focus groups and narrative individual interviews.

Chapter 1 is followed by Chapter 2 which provides an in-depth review of the scholarly literature that contributes to the research. Chapter 2 includes the literature

search strategy and a discussion of both the theoretical and conceptual frameworks.

Chapter 2 also reviews the key concepts which define the study.

Chapter 2: Literature Review

For most women, the prenatal period is one full of celebration and planning. Increasingly, however, women in their childbearing years are reporting levels of emotional distress which they find to be unmanageable (Gunja et al., 2018; La Marca-Ghaemmaghami & Ehlert, 2015). Although many women turn to their families and medical providers for needed psychosocial support during pregnancy, low-income women have less social support, higher rates of births to unmarried women, and lower or later use of prenatal care (Martin et al., 2018; Medicaid and CHIP Payment Access Confirmation [MACPAC], 2018; ODPHP, 2018b; OWH, 2018). Research continues to show increased risks for mothers when exposed to high levels of prenatal stress, including preterm labor, depression, complications during labor, and higher rates of Cesarean deliveries (Lilliecreutz et al., 2016; Lima et al., 2018; MACPAC, 2018; Merklinger-Gruchala & Kapiszewska, 2019; Staneva et al., 2015). Prenatal stress has also been linked to increased negative outcomes for the offspring, including low birthweight, emotional problems, and impaired cognitive development (Glover, 2014; Resch & Moehler, 2018; Soares-Cunha et al., 2018). Despite increased awareness of the harmful effects of stress on pregnant women and their offspring, the interventions provided by standard prenatal care in the United States have been unable to significantly decrease negative birth outcomes related to prenatal stress.

Recent research has concluded that women who receive psychosocial support during the prenatal period are less likely to have negative birth outcomes (Feinberg et al., 2016; Gabbe et al., 2017; Lilliecreutz et al., 2016; McLeish & Redshaw, 2017; Scheyer &

Urizar, 2016). There are, however, gaps in the research identifying discrepancies between the type of psychosocial support being offered to low-income unmarried women and the type of support they perceive as beneficial at buffering stress (Bloom et al., 2013; Edmonds et al., 2015; Hetherington et al., 2015). The lack of research may be in part due to the differences between received support and perceived support. The purpose of this research is to explore the preferences for psychosocial support of low-income unmarried women to gain an understanding of which methods are used to buffer against stress during the prenatal period. Through a better understanding of these preferred methods, health educators may be able to avoid support gaps in future interventions.

Chapter 2 includes a literature review that will focus on the elements of the RQs. I will expand on the terms and sources of current research, theoretical foundations and conceptual frameworks, and the key variables which justify and synthesize the research problem. To address the gap in the current research, electronic peer-reviewed articles published from 2012 to 2019 were searched.

Literature Search Strategy

In this literature review, my search strategy focused on the main and sub RQs, population, theoretical and conceptual frameworks, and methodology. I conducted the search using established electronic data sources and printed publications. Search sources included online and university libraries including Google Scholar, Liberty University, and Walden University. Sources consisted of PubMed, PsychINFO, EBSCO, SAGE, CINAHL, Medline, ProQuest, and Embase. Selected articles related to prenatal stress, birth and health outcomes, and the effects of social and psychosocial support were

retrieved and reviewed. Search terms used included both singular searches and combinations of the following keywords: *pregnancy, prenatal health outcomes, psychosocial support, prenatal social support, prenatal stress, pregnancy and poverty, pregnancy support, low-income pregnancy, low-income support systems, low-income unmarried mothers, barriers to prenatal support, prenatal health promotion, ecological model of support, narrative research on pregnancy, prenatal health education, types of prenatal support, social media support, narrative approach and ecological model, stress buffering theory, qualitative narrative research, psychosocial intervention,* and *prenatal stress intervention.*

Peer-reviewed journal articles were selected for original and synthesized data between the years of 2014 to present. The "find similar" feature was used on articles meeting search criteria. I reviewed over 100 articles and categorized them by key concept using Zotero. Seminal works were also accessed to support the theoretical and conceptual frameworks, including books and book chapters dating back to the origin of the theory. All search engines were used to search each singular and combination of key words. Saturation was reached when identical and combination key word searches through additional search engines yielded no new results within the search parameters. Subtopics emerged from published articles, including prenatal development of the fetus, prenatal stress, preterm birth, low birthweight, face to face prenatal support, online prenatal support, the importance of preferences, support gaps, positive impact of perceived support, socioeconomic disparities for pregnant women, and relationship disparities for pregnant women.

Theoretical and Conceptual Framework

Numerous studies involving stress and coping during pregnancy use the stress buffering theory or the ecological model. Despite commonalities in foundation, the previous research does not address the specific preferred types of psychosocial support used to buffer against stress during pregnancy. In the following paragraphs, I discuss the previously completed literature that contributes to the concepts of social support, stress, and pregnancy.

Stress Buffering Theory

The stress buffering theory asserts that supportive social relationships aid in buffering and coping with stressful life events and have the power to prevent negative health outcomes resulting from stressful episodes (Cohen & Wills, 1985). Social support received from family, peers, and community acts as a protective measure preventing stress-related impacts on health. The stress buffering theory has been used by multiple health researchers and practitioners to showcase the buffering ability of social support on health against stress (Dunkel-Schetter et al., 2011; Holt-Lunstad & Uchino, 2015).

Numerous studies support the stress buffering theory developed by Cobb (1976). The stress buffering theory has been used to explain stress mitigation from experiences ranging from employment termination to pregnancy complications, from illness recovery to bereavement (Cobb, 1976). According to the stress buffering theory, when social support is received and utilized by an individual, it serves as a buffer against life stress, regardless of the point of origin (Cohen & Wills, 1985). Social support received from interpersonal relationships, such as family and peers, has been shown to decrease the

amount of physiological and psychological impact caused by stress (Cohen & McKay, 2020).

The stress buffering theory has been used in several research studies of health behavior (Mandelbaum et al., 2020; Roth et al., 2018; Shishehgar et al., 2015; Wethington et al., 2015). The two ways social support have been shown to negate the effects of stress include (a) through the increase of resilience and coping in the individual and (b) through the reduction of reaction to the stressor (Rodriguez & Cohen, 1998). Although research has supported the basic constructs of the stress buffering theory, research has failed to support a one-size-fits-all correlation between basic social support and all sources of stress.

Research conducted by Shishehgar et al. (2015) supported the claims of the stress buffering theory when researchers concluded that stressful events experienced during pregnancy and the resulting adverse health effects were mitigated by social support provided by close family members. Of the 210 pregnant women who participated in the study and who reported pregnancy and maternal stress, a statistically significant amount reported a decrease when receiving support through the family domain. Shishehgar et al. also concluded that the amount of stress mitigation was greater when received from family members than from friends and community sources. Similar results were reported by Pires et al. (2013), where social support, specifically support provided by pregnant teens' mothers and partners, was shown to buffer against stress and reduce depressive symptoms.

Another type of stress researched using the stress buffering theory is parental stress associated with children's eating behaviors. Mandelbaum et al. (2020) examined not only social support but also social capital as buffering factors towards parental stress experienced as a result of emotional overeating in their children. Parental stress was described as stress resulting from everyday strain and conflict of being in a parental role. Results indicated that social capital served as a buffer to parental stress, while social support did not. These findings suggest that different types of stress may be resilient to basic social support and may require advanced resources to achieve buffering effects.

One of the foundational components of the stress buffering theory is that social support ameliorates the impact of stress on health-related outcomes. Roth et al. (2018) concluded that, despite the higher than normal levels of stress in the caregiver group, family caregiving of chronically ill caregivers served as a prosocial activity which negated the impact of increased stress on mortality of the caregiver. Despite having higher levels of depressive symptoms and perceived stress scores, caregivers had a 16.5% lower mortality rate than the non-caregiving group.

While numerous studies have shown the positive effects of social support on stress-related health behavior, non-supportive environments have also been shown to negatively affect an individual's ability to cope (Cohen, 2004). One important consideration is the difference between the types of social support, and whether the support is received social support or perceived social support. High and Steuber (2014) investigated support gaps that exist between received and perceived social support of infertile women. Armed with the understanding of the stress buffering theory, High and

Steuber discovered discrepancies in support perceived and support received, therefore

ultimately compromising the stress buffering effects for women struggling with

infertility. Brandstetter et al. (2017) also noted limitations within the application of the

stress buffering theory in patients with rheumatoid arthritis, which they attributed to

discrepancies between different forms of social support and the existence of support gaps

between anticipated and perceived support.

Building upon the foundational support of Cobb (1976) and Cohen and Wills

(1985), the goal of this research was to show which preferred methods of psychosocial

support received during the prenatal period were used by low-income unmarried women

as a buffer against perceived stress. The RQs were built upon the basic concepts of the

stress buffering model to gather data from low-income unmarried women that shows

which type of support is preferred and how they are able to use those methods to reduce

perceived prenatal stress. This research tested the stress buffering theory's claim asserted

by Cohen and Wills which claimed that social support, when used by an individual,

buffers against stress regardless of the origin. The data I collected through this research

allowed me to identify the point of origin of social support received during pregnancy

and the stress buffering effect felt by the recipient, which will either confirm or contradict

the importance of the originating source in the stress buffering theory.

The Ecological Model

The ecological model posits that health behavior is influenced by both individual

and environmental factors (McLeroy et al., 1988). Ecological models operate under four

basic principles: a) multiple levels influence health behaviors, b) levels of influence work

together, c) interventions which cross levels are most effective, and d) ecological models

should be tailored to a specific behavior (Sallis et al., 2015). The ecological model uses a

system of tiered levels, each of which represents an influential factor on health behavior.

While all levels of influence contribute to health behavior, interventions in health

education and promotion are most beneficial when using a blend of each of the influences

(Sallis et al., 2015). McLeroy et al. (1988) proposed that health behavior is more easily

sustained when interventions cross all levels of the ecological model.

The first level of the ecological model is the individual level and represents the

personal qualities of the individual. Innate traits, such as age, race, and genetics, represent

the individual level that cannot be modified or changed regardless of health behavior.

Knowledge, self-efficacy, and socioeconomic status are also represented at the individual

level however these traits represent behaviors that can be modified or changed (McLeroy

et al., 1988). The second level in the ecological model is the interpersonal level. The

interpersonal level is comprised of the social support system which influences health

behavior. Family, friends, peers, and workgroups are examples of social support systems

(McLeroy et al., 1988). The third level of the ecological model is the institutional level.

The institutional level consists of formal and informal rules, social institutions, and

organizational characteristics (Sallis et al., 2015). The institutional level affects how

systems work and how services are provided. The fourth level is the community level and

represents the relationships between organizations and institutions (McLeroy et al.,

1988). Influences at the community level include the built environment, community

leaders and programs, transportation, and businesses. The fifth and final level of the

ecological model is the public policy level. Factors of influence at the public policy level include local, state, national, and global laws and policies (McLeroy et al., 1988).

Ecological models have been used by health researchers for many years to provide understanding of how systems can affect pregnancy-related health behavior (Ashaba et al., 2017; Buzi et al., 2015; Connelly et al., 2015; Giurgescu et al., 2015b; Schaefer et al., 2019). Ecological models have also been historically used by organizations like the Centers for Disease Control and Prevention (CDC, 2019), UNICEF (Shefner-Rogers, 2013), the American College Health Association (2018), and the WHO (2019). Professionals and experts in health education and promotion rely on the theory-based framework of the ecological model to underpin preventions and interventions across the United States and the world.

Schaefer et al. (2019) researched the adaptation of pregnant women who had been exposed to intimate partner violence (IPV). Through an ecological approach, resilience was identified through the utilization of resources at the individual, interpersonal, and community levels. Pregnant and new mothers who participated in the study revealed coping and help-seeking attempts at the community levels through social support provided them with a level of hope for their futures, and both formal and informal relationships yielded social support which bolstered coping and resilience (Schaefer et al., 2019).

Ashaba et al. (2017) also examined the coping strategies of pregnant women across the levels of the ecological model. Although the stressor in the Ashaba et al. study was HIV status rather than IPV in the Schaefer et al. (2019) study, similar results were

found. Social support from family and friends at the interpersonal and community levels yielded more positive coping strategies, and the majority of pregnant women reported an increase in strength through the observation of mothers with similar circumstances (Ashaba et al., 2017). Though the sample size was small (n=20), the influence of community education and family/peer support supports the findings of other research using the ecological model and pregnant participants.

Giurgescu et al. (2015a) used an ecological model to guide the research investigating the impact of the neighborhood, built environment, social support, and coping on depressive symptoms of pregnant African American women. Giurgescu et al. hypothesized that social support and coping decreased depressive symptoms and mediated the effect of chaos in the built environment. The results of the study indicated that the built environment has an influence on depressive symptoms in pregnant women and that there is potential for social support and coping to buffer against the negative effects of built environments.

An ecological framework was used by Buzi et al. (2015) to examine challenges that compromised the health of 249 pregnant adolescents. Data were collected across four levels of influence: Individual, Interpersonal, Family, and Community. Bivariate analysis was conducted to identify which, if any, of the levels of influence were associated with depressive symptoms in the participants. Buzi et al. concluded that there are multiple levels across the ecological model which are statistically significant in influencing depressive symptoms in pregnant adolescents including limited contact with the baby's father, low levels of social support, and high levels of family criticism. One limitation of

this study is the low representation (19/249) of Caucasian mothers, limiting the generalizability of the study results.

Ecological models can also be used to address barriers to activity. Sub RQ1 involves identifying barriers to seeking out psychosocial support. Connelly et al. (2015) used an ecological approach to identify barriers to physical activity in pregnant mothers through a qualitative data collection of first-time mother's experiences. Despite an attempt to gather data across three levels of the ecological model (intrapersonal, interpersonal, and environmental), a correlation was only found at the intrapersonal level (Connelly et al., 2015). Intrapersonal correlates that served as barriers to physical activity during pregnancy included lack of energy, pregnancy-related illness, and lack of time due to work. Although not mentioned by the researcher, a potential argument could be made for institutional level and policy level, as it is the social norm for pregnant women to work full-time during their pregnancies in Australia where the study was conducted.

Through this research, I seek to provide support for the ecological model and the underlying assumption that health behavior, in this case stress reduction or management during pregnancy, is influenced by both individual and environmental factors. The RQs are designed to address issues of preferences across the ecological model and showcase the need for multiple levels of influence in interventions which are aimed at reducing perceived prenatal stress. The data from this research can thus provide support for the four underlying themes of ecological models which include showing multiple levels of influence, collaboration amongst levels, the effectiveness of multiple levels of influence, and the importance of targeting specific behavior (Sallis et al., 2015).

Together with the stress buffering theory, the ecological model should highlight preferences for psychosocial support which influence the health behavior of stress reduction during pregnancy. This research has an overarching goal of impacting the way health educators deliver prenatal health education to low-income unmarried populations. With the foundational support of the ecological model coupled with the stress buffering theory, this research aimed to provide data that would uncover preferred psychosocial support systems needed to improve health outcomes through stress buffering for low-income unmarried pregnant women and their offspring.

Literature Review of Key Concepts

The following section provides a literature review of the key concepts associated with the study. From the prenatal development of the fetus and prenatal stress to preterm birth and low birthweight, these terms provide a historical background into the literature that supports the study aims. Additionally, the following section will discuss types of prenatal support, the importance of preferences, support gaps, and disparities involving pregnant populations.

Prenatal Development of the Fetus

Fetal development describes how, during the antenatal period, a fetus develops and grows within the womb. From the moment of conception, fetuses are exposed to a myriad of environmental factors that influence their development. During development, epigenetic factors may interfere with fetal development (Faa et al., 2016). These can be broken down into two groups: maternal and fetal. In the early weeks of pregnancy, before a woman may realize she is pregnant, maternal influences include high-risk behaviors

include substances (medication, alcohol, tobacco), chronic diseases (diabetes, depression, high blood pressure), and prenatal stress (Faa et al., 2016; St-Pierre et al., 2016). Fetal influences include low birthweight, preterm labor, and other factors that lead to growth restrictions (Hunter et al., 2016).

Fetal programming and genetic imprinting are two processes derived from the Barker Hypothesis which states programming occurs during the prenatal period which results in permanent alterations to the brain which predispose the fetus to certain diseases later in life (Kwon & Kim, 2017). St-Pierre et al. (2016) and Resch and Moehler (2018) studied the effects of increased serotonin and cortisol on early fetal development. St-Pierre et al. (2016) reviewed the development origins of health and disease, which describes the interaction between maternal and fetal influences in early fetal development impact fetal growth and risk for disease in later life. Research showed that symptoms of depression experienced in the second trimester are associated with a reduction of methylation which aids in brain development (St-Pierre et al., 2016). The reduction in methylation alters the serotonin levels during brain development, which increases the fetus' vulnerability to disease later in life (Devlin et al., 2010; Philibert et al., 2006; St-Pierre et al., 2016). Resch and Moehler found similar results with high levels of prenatal stress and depression on cortisol levels. While cortisol is essential to fetal lung and brain development, high levels stress during pregnancy were shown to increase cortisol to unsafe levels, which has been associated with restriction in fetal growth, preterm labor, and low birthweight (Glover et al., 2009; Resch & Moehler, 2018; St-Pierre et al., 2016).

Prenatal Stress

Significant research has been conducted in the last decade in an attempt to understand how stress during pregnancy is linked to adverse health outcomes such as preterm labor, low birthweight, and cognitive and behavioral conditions across the lifespan of the fetus (Bublitz et al., 2016; Glover, 2015; Lilliecreutz et al., 2016; Lima et al., 2018; Staneva et al., 2015; Witt et al., 2014). Prenatal stress, as defined by McGill University (2019), is experienced during the prenatal period and can be chronic or acute. While acute stress is infrequent, chronic stress is ongoing. Shapiro et al. (2013) noted an important limitation to stress research which uses the life event approach, stating that "research…fails to capture relevant chronic stressors such as racism, domestic violence, and less severe daily hassles." The use of stress assessments which focus on perceived stress, however, more accurately measure an individual's actual stress level (Shapiro et al., 2013).

Health-related quality of life (HRQoL) is defined by the ODPHP (2019) as "a multi-dimensional concept that includes domains related to physical, mental, emotional, and social functioning." During pregnancy, HRQoL involves avoiding complications which cause risk to the physical, emotional, and social health of the mother and the fetus. The largest and most underdiagnosed complication of pregnancy in the United States is postpartum depression (Alhusen & Alvarez, 2016). Social support has a buffering effect on prenatal stress, and stress is an established risk factor for postpartum depression (Alhusen & Alvarez, 2016; Gabbe et al., 2017; Gul et al., 2018; McLeish & Redshaw, 2017).

Animal studies have continued to support the Barker hypothesis. Bale (2014) concluded that changes in germ cell epigenetics can result from a series of different types of parental stressors during the prenatal period include those which are transgenerational like famine or war. While genetic predispositions and life stress may influence disease, adding fetal exposure to prenatal stress creates an increased vulnerability to adverse health outcomes for the fetus later in life (Bale, 2014). Soares-Cunha et al. (2018) conducted research on pregnant rats and their offspring that were exposed to stress while pregnant. Much like the results of Bale, Soares-Cunha et al. provided evidence that offspring born to female rats who were exposed to prenatal stress (both chronic and mild) have lasting negative health outcomes. Both Bale and Soares-Cunha et al. conducted their research on animals, resulting in obvious limitations with generalizability; however, the use of animals allowed the researchers to control and manipulate the amount of stress experienced in order to weigh the outcomes of varying amounts of exposure.

La Marca-Ghaemmaghami and Ehlert (2015) reviewed the literature surrounding the physiological stress-response system known as the hypothalamic-pituitary-adrenal axis (HPA). Stressful situations which trigger emotions like uncontrollability, unpredictability, and threats, trigger the HPA in all humans, however, in pregnant women, maternal cortisol released by the HPA is able to cross the placenta and reach the fetus (Migeon et al., 1961). Despite numerous studies that correlate stress exposure with negative health outcomes, there remain inconsistencies in isolating which type of stressors result in the largest physiological reactions and thus are unable to pinpoint a

reliable association between psychological health and biological responses (La Marca-Ghaemmaghami & Ehlert, 2015).

Current research on stress caused by major life events during pregnancy includes the research on the effect of the 1998 Quebec ice storm on mothers who were pregnant during the storm and on their offspring after birth. Four research teams, King et al. (2012), Walder et al. (2014), St-Hilaire et al. (2015), and Laplante et al. (2015), studied the impact of the ice storm on the overall health of the offspring over several years. The research conducted by King et al. concluded that the maternal stress experienced during the ice storm in 1998 had lasting impacts on health behavior, including cognitive, behavioral, and motor development at ages four, five, six, eight, nine, and 11 years.

In a study conducted by Walder et al., (2014), researchers examined the offspring of 140 women who were pregnant during the 1988 Quebec ice storm. The researchers measured predictor variables including objective hardship, subjective distress, and trimester of exposure in correlation with scores from the Autism Spectrum Screening Questionnaire. Using a multivariate model, Walder et al. concluded that the prevalence of autistic traits increased with greater objective hardship and greater subjective distress scores. Additionally, the data indicated that the effect of objective exposure was greatest in the offspring of women who were in their first trimester during the storm (Walder et al., 2014). Offspring exposed to maternal stress resulting from the ice storm in the third trimester of pregnancy were found to have a vulnerability to severe eating disorders, according to the research conducted by St-Hilaire et al. (2015). The researchers analyzed data from 54 offspring who were 13 ½ years old at the time of the study. After

controlling for variables such as sex and body mass index, the data showed a correlation between trimester of exposure and heightened Eating Attitudes (EAT-26) Test results (St-Hilaire et al., 2015).

Another study was conducted by LaPlante et al. (2015) about storm-related stress on infant temperament. Information was collected measuring infant temperament at 6 months old. The data collected showed that subjective distress was positively correlated with negative infant temperament, and that pregnancy-related stress is associated with fussy/difficult temperaments in offspring (Laplante et al., 2015). A similar study on infant temperament, however, yielded different results when Tees et al. (2010) researched the temperaments of infants who were born to mothers who were pregnant during Hurricane Katrina. Statistical analysis was used to analyze the data measuring child temperament, maternal mental health, and maternal stress management. For the majority of measurements related to storm stress, there was no correlation with infant temperament. Maternal mental health, however, was associated with difficult temperament in offspring (Tees et al., 2010).

Preterm Birth

Preterm birth is considered a national health problem in the United States and the reduction of preterm births is a Healthy People 2020 goal (MICH-9.1; ODPHP, 2018a). Preterm birth occurs when a baby is born prior to 37 weeks gestation (ODPHP, 2018a). In the United States, rates of preterm birth and low birthweight continue to rise, causing health care professionals and health educators seeking preventative solutions (Martin et al., 2018; Shapiro-Mendoza et al., 2016; Vogel et al., 2018). The CDC recognizes the

important role of health promotion for pregnant women to help achieve positive health outcomes for both women and children, using interventions across the ecological model including individual, interpersonal, community, organizational, and policy influences (Shapiro-Mendoza et al., 2016).

Preterm birth continues to be an area of concern in health education and promotion due to the long-term impacts on individual and population health resulting from preterm birth (Morgan & Boyle, 2018; Raju et al., 2017; Schieve et al., 2016; Vogel et al., 2018). Preterm births can be classified based on length of gestation, common categories are known as extremely preterm (< 27 weeks), very preterm (< 32 weeks), moderately preterm (32-33 weeks), and late preterm (34-36 weeks). (Morgan & Boyle, 2018; Vogel et al., 2018). There are negative health outcomes associated with all levels of preterm birth including respiratory conditions, neurological conditions, feeding, hearing, and vision conditions, and behavioral, psychological, and social conditions (Morgan & Boyle, 2018; Raju et al., 2017; Schieve et al., 2016; Vogel et al., 2018). While there are many medical, nutritional, and sociodemographic causes behind preterm birth, research continues to support an association between prenatal stress and delivering before 37 weeks' gestation (Lilliecreutz et al., 2016; Lima et al., 2018; McDonald et al., 2014; Staneva et al., 2015).

In an effort to understand the evidence associated with preterm birth and the associations with stress, Staneva et al. (2015) conducted a systematic review of controlled-trial and cohort studies. The findings from 39 peer-reviewed articles supported the association of prenatal (antenatal) stress and increased likelihood of preterm labor.

Years later, in an eight article meta-synthesis prepared by Lima et al. (2018),

confirmation was provided that showed mothers who reported prenatal stress were 1.42

times more likely to deliver preterm than their cohorts after controlling for similar

demographic variables.

Similar results were recorded by Lilliecreutz et al. (2016) who discovered a

positive correlation between prenatal stress and preterm labor in Sweden. The researchers

used statistical analysis to uncover data that showed that prenatal stress during pregnancy

is more than twice as present in women who delivered preterm when compared with

stress levels in women who delivered full-term (Lilliecreutz et al., 2016). One limitation

was the inability to gather research on specific types or amounts of stress as the

researchers collected the information from medical records rather than participants,

although this collection technique eliminated concerns about selection bias. The literature

review completed by Schetter and Tanner (2012) mirrored the importance of including

type of stressor in the equation when associating risk of preterm birth. Their results

indicated significant risk from major life events, community-wide disasters, and chronic

smaller stressors on preterm birth, while smaller daily hassles had no consistent

relationship with delivering before 37 weeks gestation (Schetter & Tanner, 2012)

Hetherington et al. (2015) experienced similar limitations in a systematic review

and meta-analysis which yielded conflicting results of the association between social

support and preterm birth. Hetherington et al. were unable to state with statistical

significance that social support was inversely correlated with preterm birth, however,

they suggested the research was limited without measuring the buffering relationship

between social support and stress. Research conducted just one year earlier by McDonald et al. (2014) showed that psychosocial stress during pregnancy was an independent risk factor for preterm birth in late pregnancy, however, when women had mid to high levels of social support, psychosocial stress was no longer a risk factor for preterm birth at any stage in pregnancy.

Low birthweight

One of the major negative outcomes of preterm birth is low birthweight. Low birthweight is defined by The March of Dimes (2017) as a weight immediately after birth of fewer than 2500 grams or 5.8 pounds. The ODPHP (2018a) has identified low birthweight as a significant public health concern and has listed the reduction of low-birthweight births as Healthy People 2020 objective MICH-8.1. Much like the trend in preterm births, the incidence of babies born who are classified as low birthweight continues to rise in the United States (Martin et al., 2018). Low birthweight, among other negative pregnancy outcomes, contributes to over 40% of all neonatal deaths in the United States (Witt et al., 2014).

Low-birthweight infants have traditionally poorer health outcomes than babies born weighing more than 5.8 pounds (Cutland et al., 2017). The WHO has divided low birthweight classification into smaller subgroups: Very low birthweight (< 3.5 pounds or 1500 grams), and extremely low birthweight (< 2.3 pounds or 1000 grams) (WHO & Unicef, 2004). Infants born with low birthweight are greater than twenty times more likely to have complications that lead to death (Cutland et al., 2017). In addition to

increased risk at birth, low-birthweight survivors are more likely to develop chronic diseases and have neurological and developmental delays (Cutland et al., 2017).

Watkins et al. (2016) conducted a population study in England and Wales to investigate increased mortality rates in children and adolescents who were born with low birthweights. Their findings indicated children born with low birthweights were at greater risk for death than their normal-weight cohorts not only in infancy but well into their teens (Watkins et al., 2016). The data showed low-birthweight infants and children were more likely to die from failures to the nervous system (20%), the respiratory system (16%), and cancers (20%; Watkins et al., 2016).

The impact of being born with a low birthweight carries on beyond adolescence. Recent research by Jornayvaz et al. (2016) used data from 2,546 adult participants in Switzerland to draw comparisons between low birthweight and markers of resting glucose, obesity, leptin, and adiponectin. Using bivariate and multivariate analysis, Jornayvaz et al. were able to determine that low birthweight is associated with an increased risk of diabetes and obesity later in life. Possible limitations of this study included self-reported birthweights, which may involve reporting bias. Further research to solidify the correlations should include weight reporting from across the lifespan in an attempt to identify when the highest period of weight gain occurred.

Hack et al. (2005), Hack et al. (2009), and Taylor et al. (2015) followed a birth cohort of extremely low-birthweight offspring born in 1992 through 1995 at Rainbow Babies and Children's Hospital to gain an understanding of correlation between extremely low birthweight and behavioral outcomes. Hack et al. (2005) used logistic

regression analyses to compare the incidence of chronic conditions, functional limitations, compensatory dependency needs, and additional service needs between the children in the study and a control group of normal birthweight children. When compared to the control group, the extremely low-birthweight children had higher incidence of neurosensory impairments (cerebral palsy, hearing impairments, visual impairments), asthma, and mental and emotional delays than children of the same age born at a normal birthweight (Hack et al., 2005).

Four years later in 2009, Hack et al., used the same cohort to describe the prevalence of behavioral problems and symptoms of Autism in children born with extremely low birthweight. When compared with data from children of the same age who were born with normal birthweights, the children in the cohort had statistically significantly higher scores for attention deficit hyperactivity disorder ($p < .01$), generalized anxiety ($p < .01$) and autistic ($p < .001$) and Asperger's ($p < .01$) disorders (Hack et al., 2009). A similar study followed in 2015 by Taylor et al., which again found higher symptom severity scores in the extremely low-birthweight cohort than their normal birthweight comparison group. The longitudinal evidence from the extremely low-birthweight cohort shows professionals in health education the depth and severity of negative health outcomes as a result of low birthweight across the lifespan.

In the meta-analysis conducted by Lima et al. (2018), more low-birthweight children were born to women who reported higher levels of life stress than to pregnant women with low levels of stress. Schetter and Tanner (2012) also found evidence of the relationship between stress and low birthweight, concluding that chronic stressors were

two to three times more likely to be associated with low-birthweight deliveries in low-income women. Socioeconomic status is directly linked to birthweight, with low-income pregnant women being the most at-risk for delivering a low-birthweight baby (Martinson & Reichman, 2016). Social support systems offered through healthcare exists in many countries such as Australia, the United Kingdom, and Canada. The United States prenatal care system generally does not include a social support component (Martinson & Reichman, 2016). Despite lower income inequalities in Canada and Australia, low-income mothers have less risk of delivering a low-birthweight offspring than low-income mothers in the United States, providing evidence that social support may play a buffering role in income inequality (Martinson & Reichman, 2016).

Face-to-Face Prenatal Support

Psychosocial support is a collaborative blend of physical, cognitive, emotional, social, and spiritual care that occurs across the ecological levels (Downe et al., 2016; La Marca-Ghaemmaghami & Ehlert, 2015; Legg, 2011). Psychosocial support combines social relationships at the individual and interpersonal levels with structured community support and organizational prenatal care offered by physicians and other professionals. There has been an overall lack of research on psychosocial support as a buffer to stress, although a wealth of research exists on each of the individual components. The International Committee of the Red Cross (2017) calls psychosocial support "essential for maintaining good physical and mental health" (p. 8). Figure 3 highlights the individual components which contribute to overall psychosocial support.

Figure 3

The Equation for Psychosocial Support
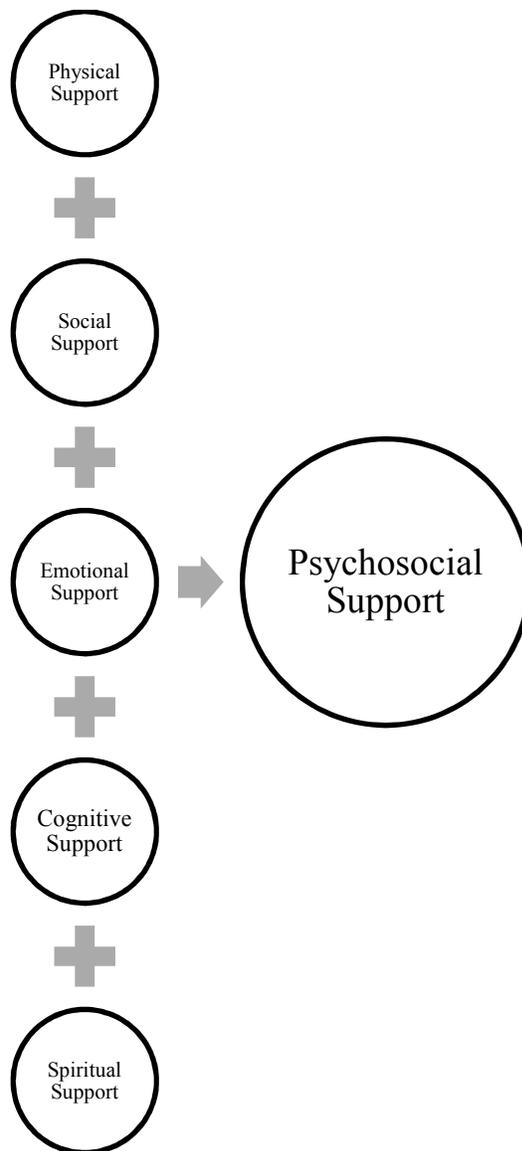
Note. Adapted from "Psychosocial Support" by Downe et al. In *BJOG: An International Journal of Obstetrics & Gynaecology*, *123*(4), 529-539. https://doi.org/10.1111/1471-0528.13819 (2016) Copyright 2015 John Wiley & Sons.

Psychosocial care encompasses psychological, social, and spiritual care for individuals who have health concerns (Legg, 2011). Primarily used in cancer patients, psychosocial care takes a holistic and collaborative approach through which patients receive informational and emotional support from healthcare providers. Collins et al. (1993) laid the foundation for the beginning of psychosocial care during pregnancy as a mitigator to stress in their research which examined the buffering effects of instrumental versus emotional support in 129 pregnant women. Collins et al. measured received support using a 4- section instrument designed for low-income women. The areas of support measured included (a) material aid, (b) assistance with tasks, (c) advice or information, and (d) listening while one expresses beliefs or feelings. The participants were then scored based on their satisfaction with support from the baby's father, their healthcare provider, and network resources. Collins et al. determined pregnant women who received and were satisfied with social support had better maternal and infant health outcomes, whereas women who were dissatisfied with the social support received had a greater risk for depression. Significant evidence was provided by the data to show a positive correlation between instrumental support and health outcomes more so than emotional support, however, all types of support received had buffering effects against depression. Additionally, Collins et al. ran a hierarchal regression analysis to examine the interactions between social support and stressful life events. The data revealed social support creates a buffering effect against depression caused by stressful life events. Though not referred to at the time of the study as psychosocial support, Collins et al. discovered the importance of a collaborative support model for pregnant populations

through their research. Figure 4 shows a side-by-side comparison of social support and psychosocial support.

Figure 4

Comparison of Social Support and Psychosocial Support

Social support is one of the main components of psychosocial support. In times of stress, women are more likely than men to rely on social support and social networks, and not surprisingly, women are more likely to benefit from received social support than men (Dunkel-Schetter, 2011). Lack of social support for women can be as significant as a risk factor for morbidity and mortality as commonly known risks such as obesity and high blood pressure (Dunkel-Schetter, 2011; Hostinar, 2015).

Social support has been shown to buffer the impact of stress on many health-related outcomes including diabetes distress, cardiovascular health, and health-related quality of life (Baek et al., 2014; Bowen et al., 2014; Gul et al., 2018). Baek et al. (2014)

discovered evidence that showed social support mitigated diabetic distress through a buffering process for adult participants with type 2 diabetes. Similarly, Bowen et al. (2014) provided information which was consistent with the hypothesis that "informational support consistently buffered the link between momentary stress and both ambulatory systolic and diastolic blood pressure" (p. 1442). HRQoL is also positively associated with high levels of social support in researched populations of pregnant women (Gul et al., 2018).

Social support received during the prenatal period has been found to impact and lessen the effects of stress on pregnant women (Ashaba et al., 2017; Giurgescu et al., 2015a; Giurgescu et al., 2015b; La Marca-Ghaemmaghami & Ehlert, 2015; Shapiro et al., 2013; Shishehgar et al., 2015). In a study conducted by Milgrom et al. (2019), women were followed from pregnancy until 24 months postpartum. Their findings indicated that lack of social support is strongly related to depression from pregnancy through the postpartum period and that the timeframe between 30 weeks in pregnancy until 6 months postpartum is a sensitive period where the role of social support is most beneficial to prevent feelings of depression (Milgrom et al., 2019). Likewise, data from the Milgrom et al. (2019) research concluded that social support has a mitigating effect on parental stress about daily life, and less of a mitigating effect on parental stress about the child.

One source of daily-life stress experienced by low-income women is neighborhood quality. Giurgescu et al. (2015b) selected 1,383 African American women who were new mothers to participate in research which measured neighborhood quality, perceived stress, and social support. The data collected from the participants indicated the

effects of neighborhood quality on perceived stress were buffered by social support and that the effects of social support on depression were buffered by perceived stress (Giurgescu et al., 2015b). Another conclusion of the research was that pregnant women who have lower neighborhood quality also have lower levels of social support and higher levels of perceived stress. Within the ecological model, neighborhood quality is influenced by the community, organization, and public policy levels of influence, all of which have a measurable influence on prenatal stress.

Giurgescu et al. (2015a) also examined the relationship between neighborhood quality and social support. The neighborhood environment was assessed for physical disorder, social disorder, and crime using objective and perceived measures in a study of 95 African American women in their second trimester of pregnancy in Chicago. Social support, avoidance coping, and depressive symptoms were measured using valid and reliable tools. Data was analyzed descriptive statistics, paired sample t-tests, and Pearson r correlations. Much like the results of the Giurgescu et al. (2015b) research, participants who had negative neighborhood perceptions had lower levels of social support, and those who reported higher levels of social support had lower perceptions of neighborhood quality. Additionally, perceived physical disorder, perceived social disorder, and perceived crime were all positively correlated with depressive symptoms and avoidance coping (Giurgescu et al., 2015a). Limitations of both studies, however, include a lack of generalizability to other racial groups.

Access to support across the ecological model may be challenging for some pregnant populations. As with the Giurgescu et al. (2015a) and Giurgescu et al. (2015b)

research, barriers to social support exist in some geographic locations. One alternate way to receive social support during pregnancy is through alternative methods such as group prenatal care, social media, and community-based pregnancy support groups (Mazzoni & Carter, 2017; McCarthy et al., 2017; McClean & Mitchell, 2018; Mitchell, 2016). Group prenatal care was first introduced in the early 1990s by a registered midwife for low-risk pregnant women. Mazzoni and Carter (2017) conducted research on group prenatal care (GPNC) after published reports indicated group participants had lower rates of preterm births and lower incidence of low-birthweight offspring. GPNC has been used with adolescents, pregnant women in the military, pregnant women with diabetes, and ethnic or racial minorities in an attempt to improve rates of breastfeeding, improve hemoglobin A1C levels, improved social support, and increased health education (Mazzoni & Carter, 2017). Due to limited GPNC usage, reliable data has not been obtained. Although randomized trials have been completed in some populations, additional research is needed with larger populations to avoid selection bias.

Online Prenatal Support

Another source of potential social support for pregnant women is social media and electronic support groups. The internet has been widely used for searching for pregnancy-related education, sharing pregnancy milestones, and seeking guidance related to pregnancy norms. Current research has shown tremendous growth in availability and preference for social media for mental health and social support (Baker & Yang, 2018; Guerra-Reyes et al., 2016; Hether et al., 2016; McCarthy et al., 2017).

Baker and Yang (2018) created a research study to validate the usefulness of social media as a source of social support for pregnant and postpartum women. Through an online link, they recruited 117 new mothers over a time span of 4 weeks. Participants responded to the survey from 64 zip codes across the U.S. and Puerto Rico. Of the women participating, 91.7% indicated their significant other as their main source of support, and only 2.5% reported missing social support, however 89% of the participants indicated they used social media to obtain advice, and 83.9% claimed their social media contacts served as a source of social support (Baker & Yang, 2018). The results of this research indicate that the internet and social media may be replacing traditional sources of support and may be a preferred method of social support for pregnant and postpartum women.

The findings provided by Baker and Yang (2018) indicate that a large number of mothers are seeking social support from social media, but they do not show what type of social support is being received, or how it is perceived by the woman. Hether et al. (2016) created an exploratory study to identify which types of social support were sought out on social media and what the quality of the support being offered was. Rather than surveying participants, Hether et al. monitored two public pregnancy forums which were often used to seek out support for original messages and the first 10 responses. Support seeking messages were coded into five dimensions: Informational support, emotional support, esteem support, network support, and tangible support. A total of 525 messages were coded during the study. The majority of original messages sought information (87%) and were closely met with responses (77%). The second highest need was

emotional support (49%), which was met with a 58% response. Network and esteem support were both sought after at 4% and were matched equally at 4%. The results indicate informational and emotional support are most in demand on pregnancy-related social media sites, and that site users generally receive the type of support they are seeking (Hether et al., 2016). This research provides health educators with an option for another form of communication and social support for pregnant women who do not have strong family or spousal support. Possible concerns for using social media for social support during pregnancy include concerns over the accuracy of information, barriers to internet access, and developing emotional connections with strangers.

Another source of electronic support for pregnant and postpartum women is through mobile phone apps. Concerned with potential barriers to the internet for low-income women, Guerra-Reyes et al. (2016) constructed a study of 10 low-income new mothers. The participants were interviewed and asked questions about their information needs. The four prevailing needs reported by the participants were (a) establishing breastfeeding, (b) breastfeeding problems, (c) general health and behavioral issues, and (d) topics that were too difficult or uncomfortable to discuss with care providers (Guerra-Reyes et al., 2016). The results of the qualitative data revealed that low-income mothers use several modes to gather information and support in the postpartum period depending on the need. Internet websites varied by educational level, with more highly educated mothers seeking professional or academic sites while less educated mothers preferred social support and online peer support groups. All mothers reported receiving information

and support from social media and blogs, while most mothers reported less usage of mobile phone apps after the prenatal period ended (Guerra-Reyes et al., 2016).

Health Educators can control for accuracy of the information on social media and curb concerns over advice from strangers to utilize social media outlets as a form of collaborative prenatal care through which psychosocial support is provided. One example of this would be through private social media groups where pregnant women are added by their health providers, such as the groups set up and researched by McCarthy et al. (2017). For this research, secret Facebook groups were set up by midwives who were paid for 7.5 hours per week to moderate the group. A total of 31 pregnant or postpartum women and four midwives participated in the research. The data revealed the primary reason for group participation was access to information in a timely fashion. The secondary reason for participation was relational continuity, that is, having a continuing relationship with a midwife with whom they have bonded. In addition to support received from the midwives, group participants also reported receiving peer-support from other mothers in the group. One limitation of this study is the nature of the participant selection, as all participants had prior relationships with the midwife.

Social norms, social networks, and formal supports all influence health behaviors in pregnancy at the community level of the ecological model. In 2010 in Columbus, Ohio, civic and public health leaders met to create a program aimed to reduce the number of infant deaths and to improve maternal and infant health outcomes (Gabbe et al., 2017). The result of the meeting was the creation of a community support group called "Moms2B" which met weekly in a local park to discuss areas of concern with local

pregnant women such as father involvement, medical concerns, prenatal care, access to

immediate needs (housing, food, infant supplies), plans for education and employment.

Screenings were done for stress, depression, social support, food security, intimate

partner violence, and adverse childhood experiences among others (Gabbe et al., 2017).

From 2011-2014, a total of 206 mothers attended at least one meeting. A majority of

participating women were high risk for adverse maternal and infant health outcomes

based on socioeconomic class, education level, and mental health concerns. The results of

the community-based support group included a decrease in infant deaths and an increase

in breastfeeding initiation (Gabbe et al., 2017). Social support and stress levels were not

measured for improvement.

At the community level of the ecological model, social norms related to prenatal

care have a considerable level of influence on pregnant women. Despite the current

norms, there has been an increase in the use of complementary and alternative medicine

(CAM) during pregnancy for women who experience high levels of stress (McClean &

Mitchell, 2018). Women who use CAMs during pregnancy are often seeking a prenatal

experience where they feel well-being and control, emotional well-being and

connectedness, and empowerment (McClean & Mitchell, 2018). McClean and Mitchell

(2018) used a purposive sample of 14 women who used a wide range of CAMs during

pregnancy to explore their reasons for selecting a CAM and how they embodied the

experience. The research findings indicate the choice by women to use a CAM during

pregnancy resulted from stress, feeling out of control with regard to the pregnancy, and a

need for more support than was available through regular methods of prenatal care

(McClean & Mitchell, 2018). In a similar narrative study by Mitchell (2016), pregnant women reported turning to CAMs as traditional medicine was not perceived to be supportive of individual experiences and lacking overall emotional support during pregnancy. Participants in the study revealed a need for an emotionally supportive relationship during pregnancy which they were not getting from midwives or other health professionals (Mitchell, 2016). The pregnant women who selected CAMS in the study felt increased anxiety and stress with traditional midwives who hurried or rushed them, whereas the CAM provider made one mother feel "protected from the stresses and worries of everyday life" (Mitchell, 2016). For high stress or already vulnerable women, CAM therapies may serve as mitigators to prenatal stress and anxiety from daily life.

Interventions such as the Moms2B program are community born and community-led under the management of health educators and providers, further proving that interventions should span the ecological model in order to meet the needs of vulnerable pregnant women. Ma et al. (2015) found a statistically significant relationship between weak social support from the community and the development of fetal oral clefts in the first trimester. While some women prefer GPNC, others may prefer a social media approach or a CAM therapy. Continued research needs to be done to generate data that support interventions designed by health education specialists which promote preferred methods of stress mitigation at the community level and across the ecological model.

The Importance of Preferences

There is a gap in the research which may at least partially be due to the discrepancies between perceived and received support. Areas of incongruence between

the type of psychosocial support being offered to low-income unmarried women and the type of support they perceive as able to mitigate stress may exist as a result of support providers not fully understanding the women's preferences (Bloom et al., 2013; Edmonds et al., 2015; Hetherington et al., 2015). Edmonds et al. (2015) attempted to close this gap by gaining an understanding of "how and why women came to participate in prenatal care or what women value and prioritize in prenatal care services" (p. 150). Through a series of focus groups and guided questions, low-income African American mothers shared their preferences and concerns about prenatal care. Several barriers to care were identified including insurance and transportation, lack of support, and fear (Edmonds et al., 2015). The participants preferences for prenatal care involved better relationships with providers, increased social support systems, and transportation vouchers (Edmonds et al., 2015). Lack of support was an underlying theme for the majority of the dislikes/concerns expressed in the research, and Edmonds et al. (2015) concluded "future efforts to address disparities will need to develop more patient-centered and relationship-centered models of maternity care" (p. 156).

The overall buffering effect of social support on stress depends frequently on how the support is perceived (Dunkel-Schetter, 2011). Working with vulnerable populations such as low-income pregnant women may lead to the disclosure of sensitive information. While there is significant evidence to support the need for psychosocial support to buffer the effects of stress during pregnancy, a gap exists related to the preferences for support across the five ecological levels. To obtain this type of data, special considerations need

to be made to ensure the protection of the participants, accuracy of measurements, and reliability of information as the majority is done through self-reporting.

As noted by Garg et al. (2016), decisions regarding health behavior are often made at the policy level of the ecological model, such as screening for social determinants of health as an attempt to improve the quality of healthcare provided to at-risk populations. At the policy level, considerations need to be made for the type of information which is being requested. Physicians and healthcare providers who are unfamiliar with the challenges of poverty or lack of social support may not be suited to inquire about these issues and could cause unintended harm to pregnant women (Garg et al., 2016). Rather than viewing prenatal care as a service provided in a medical office, consideration should be given to personal preferences of low-income women which may include establishing home visits, promoting health neighborhoods and community support, and collaborative psychosocial support in clinics which provide both informative and emotional support from doctors, nurses, health educators, and social workers.

Pregnant women, especially those who are experiencing prenatal stress or depression, do not generally volunteer the information during medical appointments, therefore providers must be routine in screening (Kingston, et al., 2017). While pregnant women reported being open to the idea of being screened, preferences for types of screening must be considered (Kingston et al., 2017; Kingston et al., 2015). Data from the Kingston et al. (2017) research indicated women were equally willing to share personal mental health information on both paper and electronic screenings, however, the

researchers indicated providing options and allowing the preferred method to be used may impact participation and disclosure.

Women who are high stressed or suffering from emotional or mental health concerns during pregnancy may avoid routine prenatal care for fear of judgment or embarrassment (Bayrampour et al., 2017; Jakobsen & Overgaard, 2018; Kingston et al., 2017;). Bayrampour et al. (2017) interviewed 15 pregnant women recruited from a mental health and maternity clinic in Calgary and found preferences for mental health screenings varied among participants. The thematic analysis uncovered several barriers to disclosing emotional problems ranging from fear of judgment to unfamiliarity about availability of support (Bayrampour et al., 2017). Another result of the research was that pregnant women may not understand the role of the care provider, and therefore withhold information about stress or lack of support, for example, one participant responded "If I talk…it would be in a professional way, medical things like that. But personal things, I don't think so" (Bayrampour et al., 2017).

Understanding barriers perceived by pregnant women with emotional concerns can help health educators increase public knowledge about prenatal stress and mental health and provide data for the construction of prenatal support interventions. Interventions that are designed at the community and policy level of the ecological model may not take into consideration the preferences or vulnerabilities of at-risk populations. Jakobsen and Overgaard (2018) explored the experiences of eight first time mothers and discovered discrepancies between the perceptions of the caregiver and the patient. The act of being referred to an intervention for at-risk or vulnerable populations itself can be

stress-inducing if the mother feels judged or stigmatized (Jakobsen & Overgaard, 2018). Health educators and prenatal care providers who incorporate preferences for care create a trusting and non-judgmental relationship which can improve intervention participation and outcomes.

Support Gaps

Xu and Burleson (2001) suggested that "perceptions of inadequate support may not stem directly from what one actually receives, but rather from the discrepancy between what one wants and what one sees oneself getting" (p. 540). This phenomenon is known as a support gap and has been researched regarding several women's issues such as infertility, pregnancy, and marital stress (Crowley et al., 2018; High & Crowley, 2016; High & Steuber, 2014). During pregnancy, perceived support refers to the pregnant woman's perception of both the quality and quantity of support received (Giurgescu et al., 2015b). Support can include physical, cognitive, emotional, social, or spiritual support and can come from any level of the ecological model (individual, interpersonal, organizational, community, and policy). Received support is the support which is actually provided to the pregnant mother (Crowley et al., 2018). This support also varies and can be offered from a myriad of people or resources in differing increments.

High and Steuber (2014) investigated the existence of support gaps involving women struggling with infertility. The study participants were 301 women between the ages of 18 and 45 who self-reported as infertile. Participants were asked to rate five types of support: Emotional, informational, esteem, network, and tangible on a five-point scale where 1 represented no desire or receipt at all and 5 represented desire or receiving a

great deal (High & Steuber, 2014). While the participants reported receiving the most amount of support from their spouses, the data were statistically significant for support gaps in spousal support, friends and family support, online support, and medical professional support in at least one category each (High & Steuber, 2014). From an ecological standpoint, this research was relevant as it uncovered the need for increased, adequate, matched support at all levels across the model. High and Steuber concluded their research by saying "Our results suggest that receivers experience several discrepancies between the support they desire and what they receive" (p. 176).

Infertility, much like prenatal stress, is a sensitive topic for most women. High and Crowley (2016) researched another sensitive topic for women: taboo marital stressors. The authors sought to expand upon the previous research of High and Steuber (2014) which investigated desired support by investigating support gaps in sought after support scenarios. High and Crowley measured three sources of support (friends, acquaintances, and online sources). Much like the taboo topic of prenatal stress and depression, participants in the study reported difficult topics in marriage including marital disappointment, sexual dissatisfaction, and financial difficulties. High and Crowley's data revealed "whereas the support people receive creates deficits compared with their desires, it yields surpluses relative to what they seek." These results highlighted the need for future research to focus on the support gaps which exist between the support people need and the support people seek, which inevitably creates confusion for support providers who may be unaware of what support is actually needed.

The gap in support gap research between desired, expected, and received support in pregnancy was short lived. Crowley et al. (2018) conducted a study to gain an understanding of how support gaps affect improvement and perceived stigma surrounding unintended pregnancy. Building upon the previous support gap research, Crowley et al. provided evidence that support gaps exist between desired, expected, and received support, and that support gaps influence how pregnant couples cope with unintended pregnancies. One valuable finding from the research is the effect of support on stigma. Crowley et al. concluded "stigma is not only a feature of the stressor, but also a perception that is influenced by the support people receive" (p. 10).

Pregnancy-related mental health stigma, both internal and external, is a growing concern and creates barriers to appropriate prenatal care (Alderdice & Kelly, 2019). Internal stigma refers to guilt and shame felt by pregnant women when they are unable to cope with their life stress. External stigma comes from the outer levels of the ecological model and can include medical professionals, family and friends, community, and even healthcare policies (Thornicroft et al., 2016). Whether the source is internal or external, the barriers created by stigma can interfere with a woman's ability to disclose her mental health concerns and seek appropriate interventions (Jakobsen & Overgaard, 2018). Continuing to build on the existing research on support gaps and stigma will provide health education professionals with important insight on how to shape health interventions and health education related to providing support for stigmatized populations.

Positive Impact of Adequate Perceived Support

Health education and promotion professionals work tirelessly on researching and creating primary prevention and early intervention programs to increase health outcomes for all populations. One success story using psychosocial support for low-income and unmarried prenatal and postpartum populations is the Nurse-Family Partnership (NFP) program. The NFP program uses a home visitation model where a nurse makes monthly home visits during the prenatal and postpartum period (up to 24 months after delivery) to provide social support and education to low-income and unmarried mothers. The NFP program has been credited with reducing incidence of child abuse, neglect, accidental injuries to children, reduction of repeat teen births, and improvement in cognitive outcomes in children born to mothers with mental health concerns (Coalition for Evidence-Based Policy, 2014).

McLeish and Redshaw (2017) interviewed 47 mothers who received peer support from one of ten peer support projects during their prenatal period. Using thematic analysis, McLeish and Redshaw uncovered two main themes: "Mother's self-identified needs" and "How peer support affects mothers." Lack of social support, emotional distress, stressful circumstances, and an unwillingness to be open with providers were all identified needs of the participants, while social connections, being heard, confidence building, stress reduction, feeling heard, empowerment, and having a "normal" mental health experience were shared as positive outcomes of the peer support programs (McLeish & Redshaw, 2017).

HRQoL is also positively impacted by increased levels of psychosocial support (Gul et al., 2018). In a study of 120 pregnant women in Pakistan, social support was shown to have a statistically significant positive correlation with HRQoL (p,.01), emotional wellbeing (p,.05), and physical functioning (p<.01) (Gul et al., 2018). Research conducted by Alhusen et al. (2016) consisted of data collected through an 11-item social support index used to measure perceived social support during pregnancy and data from the HPQ-II which measures health practices. The results indicated women who perceive more social support during pregnancy are more likely to participate in recommended health practices than women who perceive less amounts of social support (Alhusen et al., 2016).

Cohen and Janicki-Deverts (2009) concluded that the association between social relationships and health has "implications for both the basic understanding of social environments control cognition, behavior, and physiology and for prevention of disease and maintenance of good health" (p. 377). Interventions which involve social support from family members of individuals with chronic illness have been shown to have better outcomes on short and long-term health behavior and illness management (Martire & Helgeson, 2017). Likewise, interventions which consider determinants and influences at all levels of the ecological model and use a multilevel approach offer the best chance at success (Bauman et al., 2012; Sallis et al., 2015).

Socioeconomic Disparities for Pregnant Women

Low-income women are disproportionately affected by depression and have increased exposure to stressful events (Alhusen & Alvarez, 2016; Scheyer & Urizar,

2016). Unfortunately, lack of support also disproportionately affects low-income populations, creating a perfect storm for postpartum depression. (ODPHP, 2018b; OWH, 2018). Low-income pregnant women who participated in a study with Scheyer and Urizar (2016) provided evidence to support the idea that high levels of prenatal stress resulted in increased levels of maternal cortisol which was significantly associated with an increased risk of postpartum depression.

Low-income unmarried pregnant women face causes of stress unknown to their married financially secure counterparts. In a study conducted by Bloom et al. (2013), the main causes of stress reported by a sample of low-income pregnant women included financial stress, violence, isolation and loneliness, and lack of proper prenatal and psychosocial care during pregnancy. Using a qualitative approach, Bloom et al. (2013) also uncovered preferred methods and available resources for stress reduction, however, the data showed a support gap between what was desired and what was readily available. The evidence showed that while the participants were able to identify available resources for tangible support, supportive relationships with other women were most preferred to reduce stress and were lacking in the low-income communities they lived in (Bloom et al., 2013). Lange et al. (2017) disagreed with the findings from Bloom et al. after conducting a separate study of low-income mothers participating in the New Haven Mental Health Outreach for Mothers partnership. The results from the mixed-methods research indicated that many low-income women, despite receiving tangible support from benefits from programs like WIC, food stamps, and Temporary Assistance for Needy Families (TANF), were still unable to meet their basic needs (Lange et al., 2017).

Additionally, the experience of poverty itself "directly negatively impacted their ability to provide the quality of parenting they wanted to achieve" (Lange et al., p. 840).

From social support to self-care, it is evident that there are disparities and barriers facing low-income pregnant populations. Rhoades et al. (2016) discovered barriers preventing low-income women from practicing self-care during pregnancy. Thirty-two low-income pregnant women from a medical center in Georgia were recruited to participate in qualitative study aimed to examine perceptions, applications, and barriers to self-care. The results indicated barriers in finances, social support, and outside commitments specifically associated with low socioeconomic status prevented participation in beneficial and recommended self-care during pregnancy (Rhoades et al., 2016). Given this information, in an effort to reduce disparities for self-care in low-income pregnant populations, health education and promotion professionals should consider creating educational materials specifically aimed at low-income pregnant women that give examples of low or no cost self-care techniques.

Socioeconomic status is a concern in countries outside the United States as well. In recent research on pregnant women from China, social support was shown to mediate the association between socioeconomic position and depressive symptoms (Wei et al., 2018). In a large sample of 12,382 women, 2,282 women were identified as having depressive symptoms. Of those women, the majority has the lowest socioeconomic position of all the participants. Women in the highest socioeconomic position had the least percentage of women exhibiting depressive symptoms. The data also showed the strength of the buffering ability of social support was most evident in the lowest

socioeconomic position (Wei et al., 2018). These findings suggest social support is an invaluable tool for low-income pregnant populations, however, given the cohort primarily women of Chinese descent, the findings may not be generalizable to other ethnicities and cultures.

Relationship Disparities for Pregnant Women

Research has indicated the most preferred and effective method of support among pregnant women experiencing stress is spousal support (Crowley et al., 2018; Kashanian, et al., 2019; Mlotshwa et al., 2017; Razurel et al., 2017). For women who are unmarried, access to spousal support may be lacking. In a study of low-income Latina women, Cabeza de Baca et al. (2018) found a direct relationship between the presence or absence of a supportive partner and maternal depression. While spousal status did not have a direct effect on newborn health, women who did not have a participating partner reported higher levels of maternal depression (Cabeza de Baca et al., 2018).

Unmarried mothers have an increased risk of preterm birth as a result of higher levels of stress during pregnancy, according to research by Merklinger-Gruchala and Kapiszewska (2019). Women who have been rejected by the baby's father and those who do not know the identity of the baby's father are at an even higher risk of preterm birth (Merklinger-Gruchala & Kapiszewska, 2019). In teen pregnancies, the absence of the baby's father contributes to a higher risk of adverse birth outcomes (Shah et al., 2014). Partner support in teen pregnancies lowers the risk for low birthweight, preterm birth, and infant mortality (Lee et al., 2016; Shah et al., 2014).

In adult populations, partner support provides significant health benefits as well (Darwiche et al., 2019; Stapleton et al., 2012). Mlotshwa et al. (2017) interviewed women in Soweto, South Africa, a region where more than 50% of babies are born to unmarried couples. Despite community support and strong cultural acceptance for out-of-wedlock births, the participants still reported less incidence of stress and anxiety during the prenatal period when they experienced partner support, even if that partner was involved in an intimate relationship with someone else (Mlotshwa et al., 2017).

Unmarried single mothers do face increased risks when coupled with economic hardships. Taylor and Conger (2017) made note that high levels of financial hardship were linked to higher risks of depression, parental detachment, and child maltreatment in single mothers. The research conducted by Liang et al. (2019) supported these findings in their research, which showed depressive symptoms were twice as high in single mothers than in partnered mothers they interviewed. The single mothers who participated also were disproportionately low-income (as measured by welfare benefits), had higher levels of maternal stress, and lower levels of social support (Liang et al., 2019).

Of course, prenatal support can be provided by familial and peer relationships as well. Racine et al. (2019) conducted research to explore the associations between stress and social support during pregnancy. Racine et al. provided evidence that supported the positive effects of partner support, and even goes further to suggest that "increases in satisfaction with social and emotional support in one domain tends to promote increases in satisfaction across other support domains." This data suggests perceived support may increase across all sources even if the received support is generated from only one source.

Given this information, psychosocial support provided by health education professionals and clinicians may be able to close support gaps for unmarried pregnant women despite the absence of a spouse.

In the ecological model, psychosocial support can generate from a variety of levels. Shishehgar et al. (2015) provided evidence that family support, rather than partner support, served as the most influential type of stress reduction for pregnant women. Sampson et al. (2016) used community-based family service agencies as the main source of social support for a low-income pregnant population at risk for postpartum depression. The authors provided Problem Solving Therapy (PST) using a home visitation approach for low-income women at high risk for postpartum depression (Sampson et al., 2016). The study results indicated psychosocial support offered at the community level of the ecological model can serve as a mediator to risk factors for postpartum depression.

Summary

Adverse birth outcomes including preterm birth, low birthweight and negative health conditions for the offspring are national health issues. As researchers continue to study the causes and propose preventative solutions for all pregnancy-related health concerns, a spotlight has highlighted multiple benefits of social support as a method to decrease prenatal stress in vulnerable populations. At-risk populations, such as low-income unmarried women, may experience support gaps across the ecological model that may interrupt the stress buffering power of psychosocial support.

Research has continued to shed light on the need for understanding the preferences for prenatal psychosocial support of women facing socioeconomic and

relationship disparities. Barriers may exist for previously utilized interventions such as routine prenatal care and partner support for low-income unmarried women, therefore creating support gaps between perceived and received prenatal support. Other, more nonconventional types of support, such as community caregiving and peer-to-peer learning groups have shown to be effective in providing the types of psychosocial support perceived by vulnerable populations to be effective as buffering prenatal stress. This study helped fill the gap in the existing research by exploring the preferred method of psychosocial support used to buffer against prenatal stress in low-income unmarried women. Chapter 2 is followed by Chapter 3 that includes the methodology, research design, and procedures for the study. Chapter 3 also includes the role of the researcher, ethical considerations, and the data analysis plan.

Chapter 3: Research Method

The previous two chapters provided a detailed description of the experiences of pregnant women and the negative health outcomes associated with increased levels of stress. Chapters 1 and 2 also detailed the relationship between socioeconomic class, marital status, and psychosocial support available during the prenatal period. Additionally, the previous chapters explored the current research on the benefits of different sources and types of psychosocial support available during pregnancy and the impact on health outcomes for both pregnant women and their offspring.

Chapter 3 includes a narrative of the research design and rationale, the role of the researcher, methodology, instrumentation, data analysis, and participant selection logic. I will also discuss the procedures used for recruitment, participation, and data collection. Additionally, issues of trustworthiness and ethical considerations will be shared.

The purpose of this qualitative narrative study was to discover the meanings, experiences, and preferences of low-income unmarried women living in Iowa regarding psychosocial support provided across the ecological model, along with which levels of support (individual, interpersonal, organizational, community, and public policy) are preferred to buffer stress during the prenatal period. A qualitative narrative research design was appropriate for the research because such a design allowed the participants to share both oral and written stories of psychosocial support during pregnancy in a way that could not be quantified or ascribed depth and meaning through other research designs. The term *psychosocial* refers to the relationship between the individual and the environment, relationships, and community (Downe et al., 2016; International Committee

of the Red Cross, 2017). Narrative research encourages participants to share personal experiences to capture the meaning of not only what happened, but also the context in which it happened in their own words (Patton, 2015). Psychosocial support and psychosocial interventions also encourage sharing experiences to foster physical and mental health during difficult times (International Committee of the Red Cross, 2017). The chosen qualitative narrative design, therefore, shares a common goal with the research goal. Currently, there is limited research available about the preferences for psychosocial support as a buffer to stress in low-income unmarried women during the prenatal period. Therefore, focus on this specific area may advance the direction of health education and promotion related to stress during pregnancy for this population.

Research Design and Rationale

The study was designed to examine the experiences, meaning, and preferences of psychosocial support during pregnancy as a buffer to stress for low-income unmarried women. The main RQ for the study was What types of psychosocial support do low-income unmarried mothers need (based on identified preferences) to receive and use as a buffer to perceived prenatal stress?

Sub RQ 1: What barriers, if any, do low-income unmarried mothers encounter when seeking out psychosocial support during the prenatal period?

Sub RQ 2. How are low-income unmarried mothers able to apply the psychosocial support they have received to reduce perceived prenatal stress?

Qualitative research allows the researcher to explore how people translate their experiences and guides the formation and identification of multiple truths (Merriam &

Tisdell, 2016). Narrative qualitative research allows the researcher to collect language as data (Flick, 2018) and to gain several narratives from different perspectives and meanings of a similar experience, which are subjective (Merriam & Tisdell, 2016). A qualitative design was the best approach for this research because the goal was to gain an understanding of the experiences and perceptions of low-income unmarried mothers. Perceptions and experiences have individual meanings that are best conveyed through words, both written and oral, and cannot be captured through a quantitative or numerical approach (Flick, 2018).

Quantitative research is the best approach for data that are numerical or statistical in nature (Creswell & Creswell, 2018) and would be more appropriate if I had been attempting to answer a question about the number of times psychosocial support was offered during pregnancy, or what percentage of prenatal stress was buffered by received psychosocial support. The aim of the main RQ, however, was to understand what types of psychosocial support were needed by low-income unmarried women during the prenatal period. This type of data is subjective to the actual experiences and subjective meaning ascribed by the woman experiencing it and cannot be quantified.

Another possible research design that was rejected was mixed methods research. Mixed methods research is a combination of quantitative and qualitative data (Creswell & Creswell, 2018; Crosby et al., 2011). As previously discussed, the type of data sought after to answer the RQs and fill the gap in the literature was not numerical or statistical in nature, and therefore could not be satisfied through a mixed-method approach. As a result

of the need for depth and meaning in the requested data, and the lack of numerical or statistical data requested, the choice for the research design was qualitative.

Role of the Researcher

My role as the researcher in this study was that of a participant-observer. Prior to the data collection, this role involved designing interview questions that were broad enough to allow for a story to be told yet specific enough to lead to a central theme (see Flick, 2018). In qualitative narrative research, the researcher's role is to engage with the participants in the storytelling process. In narrative research, the researcher has a collaborative role with the research itself (Flick, 2018).

The research participants were mothers who shared personal experiences of psychosocial support and stress during a recent pregnancy (pregnancies occurring fewer than 18 months prior to the research start date). During the focus group portion, my primary role was to introduce the study to the participants, to build rapport and familiarize the participants with the researcher and research topic (defining psychosocial support), and to destigmatize the topic of stress during pregnancy. Questions asked during the focus group portion of data collection focused on introduction to the topic of psychosocial support and a small mix of questions derived from the RQs themselves (See Appendix A). Given the potentially sensitive nature of the topic (stress during pregnancy) which may have included sharing information that can be perceived as shameful or taboo, I worked to build rapport with the participants in order to collect rich and relevant data (see Newton, 2017). Using a researcher who is female and who is also a mother may have

helped build rapport quicker with the participant than using a non-mother or male researcher (Newton, 2017).

The role of the researcher in the narrative interview is to introduce a topic to the interviewee and stimulate the storytelling without influence (Flick, 2018). In narrative research, the role of the researcher is to listen and ask for clarification after the interviewee has finished, but not to interrupt the storytelling process (Flick, 2018). For the individual interviews, I used a combination of standard interview questions and storytelling questions to guide the interviewee along the topics of interest but also allowed for the interviewee to tell their own story. The interview guide included original researcher-developed questions, clarifying questions, and questions from the existing Maternal Social Support Index (MSSI) created by John Pascoe in 1988 (Pascoe et al., 1988), which is further discussed in the Published Data Collection Instrument section below.

I had no known personal or professional relationships with any participants in the target population. If at any time I had become uncomfortable with the information being discussed, I would have notified the participants of the need for a 5-minute break in questioning. I am a founder and administrator of the local social media group, Carroll Area Moms, that was used to share the electronic flyer for participant recruitment. The group has a co-founder and co-administrator who was not involved in the research and was available for group needs should any potential participant have felt a conflict of interest with group needs while participating in the study. One potential researcher bias was preexisting perceptions of the need for psychosocial support during pregnancy and

the ability of psychosocial support to buffer stress. This researcher bias may have impacted data collection had I pushed participants to generate a response had they been unable to answer a question. This bias was alleviated by using structured interview questions and verbatim transcription. There were no known power relationships. No other ethical concerns were known to exist by the researcher at the time of the study.

Methodology

In order to address the guiding questions of the research and fill the gap in the literature, I selected a narrative qualitative research approach. The qualitative methodology was selected to align with the research goal of exploring the meaning assigned to perceptions, experiences, beliefs, and behaviors of people in their natural environment (see Marshall & Rossman, 2014). This study focused on the experiences of psychosocial support and stress during the prenatal period for low-income unmarried women in Iowa. Moustakas (1994) outlined three characteristics for qualitative research: (a) focus on the wholeness of human experience, behavior, and knowledge; (b) gain understanding of the meaning and value of perceptions and experience; and (c) use human behavior and interpretations of experiences as important pieces of data. Moreover, Patton (2015) explained the importance of narrative qualitative research as a means to uncover not only the "what" of the participant's story but also "how" and "why." The narrative research approach used for the study was an attempt to understand the "what" (i.e., type of psychosocial support needed), as well as the "how" (i.e., understanding barriers that exist and how women apply the support) and the "why" (i.e., buffering effect on prenatal stress).

Other traditional methodologies that I considered and ruled out include:

- Ethnography: This methodology was ruled out as a specific culture was not the focus of the research. Some have argued that poverty is a culture (see Lune & Berg, 2016); however, I was not immersing myself into poverty to gather data.

- Historical: This methodology was ruled out as only information from the most recent pregnancy was considered as viable data, rather than information from all previous pregnancies (see Lune & Berg, 2016).

- Phenomenology: This methodology was reviewed and eventually rejected because I wanted to explore the individual life stories of women rather than shared life experiences. The research goal was to explore the different experiences of psychosocial support received rather than lived experiences of the same psychological support. Phenomenology focuses on the lived experiences of a shared phenomenon (Lune & Berg, 2016).

Previous research conducted with pregnant and postpartum populations has used a narrative approach with much success (Ali et al., 2018; Bigalky, 2018; McClean & Mitchell, 2018; Mitchell, 2016). Data collected from a postpartum population included their personal stories from pregnancy including attitudes of family members, doctors, and colleagues and shed light on the women's dissatisfaction with the amount of support offered during pregnancy (Ali et al., 2018). Research conducted by McClean and Mitchell (2018) used a narrative approach to explore women's accounts of CAMs during their pregnancies and found that the narrative approach helped uncover the meaning

assigned to the CAM and the pregnancy experience by each woman. Using a narrative approach to research psychosocial support and prenatal stress allowed each individual woman to share her personal story including the meaning she alone had assigned to her individual stress and support.

Participant Selection Logic

The study focused on a target population of unmarried low-income women in Iowa who are of childbearing age (21-45) who participated in prenatal care during their pregnancy. These women were also required to self-identified as low-income through participation in a government-based low-income program, had participated in social media during her pregnancy, and had given birth within the previous 18 months. Prescreen questions were asked to determine if interested participants met the inclusion criteria and to gain demographic information. All questions relied on self-report. A convenience sample was selected based on self-report of the inclusion criteria and availability to attend the focus group and follow-up individual interview. If recruitment had yielded a less than needed participant size, additional participants would have been recruited in additional physical and online locations. If recruitment had yielded more participants than needed, a random drawing would have been done for participants. If a participant had chosen not to complete the study, additional recruitment or additional selection from the prescreened participant pool would have been done.

In qualitative research, the sample size is based on data saturation, that is, the point in which adding additional participants will no longer yield new and significant data (Flick, 2018). There is conflicting information of when saturation will be reached in

narrative data; some authors claim saturation can be met with one participant (Creswell & Creswell, 2018), while others have indicated the number should be somewhere between 10 and 20 participants (Marshall et al., 2013). Given the narrative approach that underpins the research, the target sample size was between 5 and 15 participants. The study began once five participants had contacted me and would have continued up to 15 participants or until saturation is reached and no new data was being generated.

A convenience sample was used for the research. Previous research involving low-income mothers have employed convenience sampling for considerations of time, accessibility, and geographical proximity (Alhusen et al., 2016; Guerra-Reyes et al., 2016; Rhoades et al., 2016). Convenience sampling is a type of non-probability sampling where members of the target population are easily accessible to the researcher (Valerio et al., 2016). Convenience sampling has been beneficial in hard-to-reach communities such as those not familiar with research studies or rural populations (Valerio et al., 2016). Given the rurality of the state of Iowa where the research was conducted and the previous success with the target population, convenience sampling was the best choice for participant selection.

Instrumentation

Each participant was interviewed in a focus group and individual setting. During the focus group, audio recordings were taken using Rev Recorder on an Iphone and using Microsoft Dictate on a laptop. Field notes were taken in a notebook which mainly included nonverbal communication, pauses, and notes regarding when a new participant began speaking for clarification of the audio files. The use of audio recording during an

interview ensured accuracy of the narrative data being offered by the participants (Patton, 2015). Rev Recorder is a digital audio recorder that I downloaded for the purposes of capturing all auditory responses from the participants. Rev Recorder also subsequently transcribes the audio data. Microsoft Dictate was used as a secondary source for audio transcription. Microsoft Dictate does not audio record. There were minor discrepancies between the two audio recording transcriptions that were corrected through relistening to the Rev Recorder audio files.

Rev Recorder and Microsoft Dictate were also used for the individual interviews, as well as handwritten fieldnotes. Interviews were done via speakerphone with Rev Recorder engaged. Microsoft Dictate was open and running on a laptop within one-foot range of the speakerphone in order to capture the interview. Fieldnotes were taken to capture any pauses or inflections made by the participant. In narrative research, it is important to capture not only what is being said, but how it is being said as well (Patton, 2015).

Published Data Collection Instrument

The semi-structured interview guide created for the research was comprised of a combination of new, researcher created questions and the questions from the MSSI created by John Pascoe in 1988 (Pascoe et al., 1988). The MSSI is a self-report questionnaire containing 21 questions (see Appendix B) that measure a mother's social support (Pascoe et al., 1988). The type of supports measured by the MSSI includes individual, interpersonal, and community (Pascoe et al., 1988). The MSSI has received test-retest reliability and has demonstrated internal consistency and concurrent and

predictive validity when used in prenatal and postpartum populations (Pascoe & French,

1993; Pascoe et al., 1988; Quinlivan et al., 2004) and in low-income pregnant populations

(Pascoe et al., 2004). The questions from the MSSI helped gather the information

requested from all three of the RQs, highlighting psychosocial support needs, barriers,

and application of support.

Researcher-Developed Instruments

At the time of the study, a significant gap in the literature existed concerning

preferences for psychosocial support used to buffer prenatal stress in low-income

unmarried women across all levels of the ecological model. Therefore, along with the

questions of the MSSI, additional questions regarding available psychosocial supports

across the ecological levels as well as buffering stress were asked of the participants. The

interview guide, in its entirety, has been presented to a panel of experts – the dissertation

committee – for approval and the questions have previously been vetted with four women

who are familiar with low-income pregnant populations in January 2019 to validate the

questions and confirm they are easily understood and that they generate the data being

sought after. Changes and revisions were made, when necessary, based on the participant

responses and suggestions. Based on feedback, questions were divided into three

sections: Focus group, Individual interview; and Social media. A copy of the interview

guide is located in Appendix A.

Procedures for Recruitment, Participation, and Data Collection

Inclusion criteria for participants include unmarried women of childbearing age

(21-45) living in Iowa who (a) have given birth to a live offspring within the past 18

months, (b) self-identify as a participant in a government-based low-income program, (c)

participated in prenatal care during her most recent pregnancy, and (d) participated in

social media during her most recent pregnancy. Interested participants were asked to

contact the researcher via phone, text, or social media. During the initial contact with the

researcher, participants were asked to provide the best means on contact for the

notification of the focus group date and time. Upon arrival at the focus group, participants

were asked to confirm the inclusion criteria via self-report (see Appendix A) and were

asked to sign the informed consent.

Contact was made with facilities and organizations that offer services or programs

to low-income pregnant or postpartum women requesting a print flyer to be displayed on

their community board. Electronic flyers were shared on Facebook through the

researcher's personal page and in both public and private groups that are frequented by

women meeting the inclusion criteria such as but not limited to Carroll Area Moms,

Carroll Area Trade, Sell or Buy, and Carroll Area Access Television (CATV Channel 6)

social media page. Print flyers were hung in locations frequented by low-income

pregnant women or new mothers such as but not limited to Dollar General, McFarland

Clinic, St. Anthony Hospital, New Opportunities Family Development Center, and The

Community of Concern Food Pantry.

The flyer included inclusion criteria, the purpose of the research, and contact

information for the researcher. Once all interested participants had contacted the

researcher, the time and location of the focus group was set and shared. The researcher

had planned for up to 15 participants, and consideration was given for up to five focus

groups with each focus group having a minimum of three participants. During the initial contact, the researcher asked if any reasonable accommodations needed to be made (such as a translator, handicap accessibility, or other disability-related accommodations). Once five participants had contacted me, the first focus group was scheduled. Participants were told participation would result in a $10 Wal-Mart gift card after the completion of the individual interview. The $10 incentive card was given to each participant at the conclusion of the study. The incentive amount was selected as the study itself bears no benefit to the participant yet required a considerable time commitment from a population with limited resources.

The focus group was held in a centrally located public library space where privacy could be achieved. The focus group was scheduled for a maximum of 90 minutes, with the first 30 minutes consisting of consent forms, introductions, and questions. The following 60 minutes was an open forum with semi-structured interview questions. Data was collected through an audio recorder and a laptop. Field notes were also taken in a notebook. Breaks were scheduled prior to the discussion beginning where participants could use the restrooms and advised participants that they may use the restroom at any time they deemed necessary.

I reiterated the inclusion criteria and the purpose of the study. Participants were reminded that the focus group would be audio recorded and field notes would be taken. I took time to explain the importance of the informed consent and reiterated each participants' volunteer participation, at that they each had the right to stop participating at any time without penalty. The option for member checking was also presented and

explained to participants to ensure the accuracy of the data collected, transcribed, and analyzed. Member checking allows the participants to view and verify the data that was collected and confirm the validity of the findings and interpretations (Creswell & Creswell, 2018). I offered each participant a bottle of water and snacks (granola bars, dried fruit, and trail mix) at no cost. The snacks and extra water were placed in the middle of the table and the researcher made the participants aware that they could take more water and snacks during the focus group or at the conclusion of the group. I introduced myself to each participant using the pseudonym the participants selected. At the conclusion of the focus group, the participants were thanked for their time and an interview was set up within 30 days of the focus group. I provided an explanation of the social media posts that needed to be collected. A complete list of the focus group protocol is located in Appendix A. There were no participants who did not complete the individual interview or who were unable to schedule within 30 days, therefore no participants needed to be excused from the study.

The focus group used a semi-structured interview guide that allowed for group discussion on types of available psychosocial support, barriers to receiving psychosocial support, and ability to buffer stress. The questions were open-ended to allow for collaboration among the participants. When necessary, follow-up or probing questions were asked. The format of the focus group was casual with chairs arranged in a semicircle so that all participants to be in view of the researcher. Breaks were scheduled every 30 minutes to use the restroom. Light snacks and bottled water were provided. Since the nature of the research is narrative, the focus group served as more of an

icebreaker and opportunity to build trust and rapport between the researcher and the participants. This type of rapport is important when working with sensitive or stigmatized topics (Newton, 2017). Given the somewhat complex topic of psychosocial support that many participants may be unfamiliar with, time was spent in the focus group explaining the concept and answering questions participants had.

The individual interview times were scheduled with each participant who wished to continue at the end of the focus group. Participants were asked at that time to review their social media accounts and collect one to five original posts which occurred during their pregnancy that represent feeling stressed or seeking out psychosocial support. Participants had option of electronically forwarding screenshots of the posts to the researcher prior to the individual interview or having the researcher take photos of the posts during the individual interview.

The individual interview was to be located at a location of their choosing or at the same public location as the focus group, depending on the comfort level of the participant. Due to restrictions put in place by the State of Iowa due to COVID-19, social distancing was encouraged and public facilities were shut down. As a result, the individual interviews were held via phone, as no participants selected to be interviewed via Zoom videoconference. I recommended the participant find childcare for the interview period and provided information for a free childcare service. The allotted time for the individual interview was 3 hours. Breaks could be taken as needed. At the end of the 3-hour timeframe, an additional interview would have been set up within 10 days if the participant or the researcher had more information to offer or questions to ask. A

complete list of the individual interview protocol is located in Appendix A. Neither the participants nor the researcher found an additional interview to be necessary. The individual interview was also audio recorded for accuracy and transcription purposes. Field notes were also taken in a notebook. The individual interview consisted of open-ended questions that encouraged the participant to share her story in her own words, beginning with finding out she was pregnant. As a narrative researcher, my main function was to listen to the story without interruption, and to ask probing questions if the interviewee got stuck, and to clarify any details that may have required additional information (Flick, 2018; Newton, 2017).

Prior to the conclusion of the interview, photographs and screenshots of social media posts requested during the focus group were collected and discussed. Participants were asked questions during the individual interview about the social media posts they shared. The purpose of collecting these social media posts was to have visual validation of memories being shared and used as talking points during the narrative interview. Previous researchers have shown that mothers do use social media as a way to seek social support during pregnancy (Guerra-Reyes et al., 2016; Hether, et al., 2016; McCarthy et al., 2017), which is an important part of the individual story that may be overlooked with verbal recall alone.

At the end of the interview, I confirmed contact information for a follow-up time once transcription and analysis are complete for member checking. Member-checking was made available within 45 days of the conclusion of the individual interview to each participant via their preferred contact method. Member checking helps ensure the

accuracy of the data collected and the validity of the coding and analysis (Creswell &

Creswell, 2018). There was no information received from the member checking that

required amending the transcript. I also confirmed at the end of the individual interview

that the participant had access to a resource for physical or mental health care should they

feel distressed in the process of data collection.

Data Analysis Plan

In qualitative research, data analysis begins with transcription (Flick, 2018).

Transcription was done verbatim with the use of Microsoft Word Dictate, Rev Recorder,

and Otter.ai, with the researcher checking for errors along the way. Transcriptions were

checked against field notes from both the focus group and the individual interviews.

When discrepancies were found, the audio recording was considered the most accurate

source and manual changes were made to the transcripts accordingly. Social media posts

were transcribed verbatim from the participants descriptions of photographs, the text

included in the screenshots that are collected, and the answers to the social media

questions.

The conceptual frameworks of the stress buffering theory and the ecological

model provided the initial themes for the research: (a) Stress buffering theory: increased

resilience and coping with received support, (b) Stress buffering theory: reduced reaction

to stressors resulting from received support, (c) Ecological model: Individual-level

support, (d) Ecological model: Interpersonal-level support, (e) Ecological model:

Organizational-level support, (f) Ecological model: Community-level support, and (g)

Ecological model: Public policy-level support. Additional themes were identified through

line-by-line coding of transcribed narratives by the researcher and a third-party to

confirm accuracy and reliability. A summary of additional themes and their

corresponding RQs can be found in Appendix C.

I selected a third-party member who was familiar with qualitative narrative

research and data analysis after receiving Institutional Review Board (IRB) approval.

Participant confidentiality was maintained as all data was identified only with the

pseudonym selected by the participant. After transcription was complete, the researcher

and a third-party member analyzed the data individually using inductive narrative

analysis to check for common themes. Due to COVID-19 and state restrictions, the

researcher and the third-party member communicated via email and via videoconference

using Zoom (https://zoom.us/). The Zoom call was audio recorded using Rev Recorder

(https://www.rev.com/voicerecorder). During the Zoom call, the researcher and the third-

party member reviewed the themes that resulted from data analysis.

The transcriptions from the focus group, individual interviews, and social media

posts and photographs were coded using inductive narrative analysis. Themes were

extracted from the data through the process of searching for a meaningful whole. Social

media posts were themed based on the participants descriptions of them and the answers

to the social media interview questions in Appendix A. Each theme was discussed, and

both the researcher and the third-party member agreed on the common themes. Had the

third-party member and I disagreed on themes, both themes would have been included

with the data reported under each theme.

Using a third-party who is unfamiliar with the research to code alongside the researcher helps to establish inter-rater reliability (Elliott, 2018). For analysis of this data, any discrepancies between the researcher and the independent coder were addressed through discussion and subsequent member checking. Since translation services were not required from participants, and the volume of data was manageable, QDA software such as Nvivo or Atlas.ti were not used used to extract additional themes. Both the researcher and the third-party member were satisfied and in agreement with the emerged themes. Once all data had been transcribed and coded, contact was made with each participant for member checking to ensure accuracy and validity.

Issues of Trustworthiness

In qualitative research, issues of trustworthiness include confirmability, credibility, dependability, and transferability (Ravitch & Carl, 2020). In order to ensure trustworthiness, participants received a clear explanation of their participation options, including their right to refuse to answer questions and their option to leave the study at any time (Shenton, 2004). The purpose of the study, previous research conducted, and selected methodology was made clear previously in this document and did not change. Confidentiality and anonymity were of utmost importance and all participants were asked to choose a pseudonym for use during the focus group and to be used on transcribed documents. All research data will be kept on a thumb drive and audio and video recording devices that can be locked in a small safe. Data will be kept securely locked for 5 years following the study and will then be destroyed.

Credibility and dependability were achieved through the use of triangulation. Using multiple types of data collection (focus groups, individual interviews, and social media print collections) helped prevent errors by capitalizing on the strengths of each collection method (Shenton, 2004). Confirmability was achieved through the accurate coding of information, verified by member checks. Transferability was achieved by providing accurate information about the inclusion criteria, target population, and convenience sampling (Cope, 2013). Intracoder reliability was reached through the use consistent use of Inductive Narrative Analysis, a preferred method of coding for narrative research (Potter, 2013). Intercoder reliability was achieved through the agreement of themes by both the researcher and the independent third-party member (Elliot, 2018).

Ethical Procedures

Prior to the start of any data collection, I applied for and obtained approval from the IRB at Walden University. The approval number provided was 03-06-20-0653-617. I protected the confidentiality of interested parties and participants by allowing each party to use a pseudonym for data collection and focus group participation. The informed consent met IRB standards and was signed by all participants. As required by the IRB, the independent third-party coder was not provided access to any data collection processes, and all data sent to the independent coder was under the participants' pseudonym. The independent coder signed a confidentiality agreement from the IRB website prior to receiving any data. The confidentiality form is securely stored with the participants' informed consent forms in a locked file. I reminded all focus group participants of the sensitive nature of the issues being discussed and the need to keep the

discussion private between the participants only. All participants were informed of the nature of the study and the potential for harm. Participants were referred to the free clinics of Iowa for care should they need to seek services related to the study and prefer not to use their primary provider. Participants were also reminded involvement is completely voluntary and participation in the study was confidential and should not be shared.

Data collected were kept confidential and transcribed from audio and video using the chosen pseudonym. The list of pseudonyms and actual names was kept in a locked safe, and the researcher possesses the only key for access. All data (audio, visual, and transcribed) will be kept in the locked safe for a period of five years after completion of the study. At the end of five years, all data will be destroyed either through shredding or smashing.

Summary

In Chapter 3, an argument was made for qualitative narrative research design and methodology and the data collection method of narrative interviews based on previous research and current research aims. Ethical considerations and issues of trustworthiness were addressed and solutions were proposed. Chapter 4 includes a detailed review of the research study including information about the setting, the demographics, the data collection and analysis, and the evidence of trustworthiness. At the end of Chapter 4, the study results will be presented and the RQs will be answered.

Chapter 4: Results

The purpose of this qualitative narrative study was to explore the preferences of psychosocial support during pregnancy of low-income unmarried women. In Chapter 4, I will discuss the findings from both the focus group and six narrative interviews with unmarried low-income women from Iowa who had given birth within the previous 18 months. I used open-ended questions to gather data on (a) several preferences across the ecological model including social relationships, health interventions, community support, and local or state programs; (b) what barriers exist to receiving support; and (c) how the women use the supports to buffer against stress during pregnancy. I used a list of researcher-developed open-ended questions in combination with questions from the existing MSSI in the interviews to draw out the answers to the three RQs that underpinned this qualitative study. Although existing evidence supported the need for spousal support for pregnant women, absent from the literature was an understanding of preferences for support as a means of buffering stress of women who are unmarried during their pregnancy.

During and after data collection I kept a reflective journal to help with my understanding of the focus group and interview process and to remind myself of potential biases. The reflective journal also reminded me of subjects I needed to explore deeper in further interviews. Information from the focus group was included in this journal, and I referred to these experiences in the individual interviews that followed, allowing the mothers to build on the existing information.

After organizing the collected data by theme, I used narrative-type inductive analysis. Data reported in the narrative form represent the essence of the meaning provided by the participants during the interview process (Coulter, 2009; Creswell & Creswell, 2018). This chapter offers an analysis of key themes that emerged from the results of the focus group and the individual narrative interviews, which both centered on gaining a better understanding of the mothers' preferences and the use of informal and formal supports during pregnancy. This chapter is organized in sections that describe the research setting, participant demographics, data collection, and data analysis. I will also offer in this chapter evidence of trustworthiness and results.

Setting

The research study took place in West Central Iowa. I distributed a recruitment flyer on my personal social media pages, the social media page of a new mom's group, and in six other physical locations frequented by low-income populations and mothers. Potential participants contacted me by phone and by social media messaging to identify their interest in participating in the study. During the initial screening, I asked participants to choose a pseudonym that would be used for the remainder of communication and participation to preserve anonymity.

The focus group setting, a family study room in a public building, was selected based on the access and availability of the participants. This setting provided privacy, comfortable seating, wireless internet access, and low overall noise, that aided in the quality of the recording. There was a table with eight leather chairs on wheels surrounding a table. There was also conversation seating consisting of couches and

chairs. The room was in a public building, however, there was a door that could be closed for privacy and no windows. I had reserved the site in advance and only listed my last name on the door.

The original goal of the study was to use the selected setting for both the focus group and the individual interviews; however, due to the COVID-19 pandemic, the setting was closed by the state of Iowa just days after the focus group was held. The sudden and unplanned closing of all public spaces coupled with the risk of exposure to COVID-19 resulted in the individual interviews being held by telephone. Many of the participants did not have internet or data, so the phone calls were audio-only.

Demographics

The study consisted of six mothers from West Central Iowa. Convenience sampling was used in consideration of time, accessibility, and geographical proximity. Each of the mothers identified themselves as being low-income by their ability to qualify for local low-income programs such as WIC, Supplemental Nutrition Assistance Program (SNAP), and Medicaid. The participants answered additional demographic questions as part of meeting the inclusion criteria, including an age range from 21-45, unmarried marital status, residing in the state of Iowa, and age of the youngest child being less than 18 months. Table 1 depicts the demographics of the participants.

Table 1

Demographics

Participant pseudonym	Age	Marital status	State of residency	Age of youngest child	Low-income qualifying program
Layla	21-45	Unmarried	Iowa	3 months	WIC
Ness	21-45	Unmarried	Iowa	4 months	SNAP
Claire	21-45	Unmarried	Iowa	3 months	Medicaid
Madonna	21-45	Unmarried	Iowa	7 months	SNAP
Madelyn	21-45	Unmarried	Iowa	5 months	Medicaid
Darla	21-45	Unmarried	Iowa	9 months	WIC

Data Collection

For the data collection process, I interviewed six low-income unmarried mothers in West Central Iowa. Data were collected during the months of March and April 2020. The focus group data collection took approximately 60 minutes, with an additional timeframe for the opening and greeting, and was held on March 19, 2020. The individual interviews ranged 20-60 minutes in length and were held from late March through April 2020. I audio-recorded the focus group and the individual interviews using Rev Recorder and Dictate on Microsoft Word after gaining consent from the participants. Each participant was interviewed with the same protocol and interview questions initially. Due to the narrative nature of the interviews, some participants were asked probing or follow-

up questions (see Appendix A for protocol and full list of questions) to gain more in-depth information.

The focus group provided an opportunity for the participants to meet me and learn more about the study. Meeting face to face allowed the participants to build trust with me and become more comfortable with the interview process. The focus group questions allowed for collaboration when discussing available resources and barriers to support. The focus group consisted of a semi-structured open-ended interview guide (see Appendix A). Data collection occurred as directed by the IRB application with minor deviations as noted due to COVID-19 in the following paragraph. There was one focus group attended by all six participants and me. The focus group was audio recorded using Rev Recorder. Microsoft Dictate was simultaneously transcribing from my laptop, and I was taking field notes. The greeting and opening took approximately 15 minutes (see protocol in Appendix A), and an additional 60 minutes were used for data collection. At the end of the 75 minutes, I ended the focus group and scheduled times to meet again individually.

COVID-19 resulted in a mandatory shutdown of public meeting spaces in Iowa in late March. As a result, the individual interviews, which had been scheduled in the same setting as the focus group, had to be rescheduled as a phone interview. As such, the participants forwarded via email and social media messaging screenshots of their social media pages during which they felt were relevant to times of stress or support during their most recent pregnancy. After receiving the social media images, I arranged an interview phone call time with each participant. I had offered Zoom, Skype, and

FaceTime as alternate methods; however, there were barriers for the participants including limited data and internet availability, that resulted in the use of audio calls only.

The mothers were able to select times for their individual interviews that were most convenient to them. Three participants chose phone call interviews, most of which took place during the day hours on a weekday. One participant selected a weekday evening, and the remaining two participants selected times during the weekend. Despite my recommendations to set a time when the participant would be alone and able to fully devote her time to the interview process, it became immediately evident that four of the mothers were also caring for their children during the interview. One mother needed to end the interview and restart at a later time due to an unexpected visitor. Another participant placed me on hold while she put her child down for a nap, after which she returned and completed the interview.

The open-ended semi-structured interview questions allowed each participant to answer the question with a narrative approach. I encouraged the participants to share as much information as they felt comfortable sharing as it related to the topic being discussed. Questions were also asked from the MSSI (see Appendix B) during the individual interview. As with the focus group data collection, audio-recordings were captured using Rev Recorder, with live transcription being done by Microsoft Dictate over speakerphone, as well as field notes from me.

In addition to the focus group and individual interview data collection, I also collected information about social media posts provided by the participants from during their pregnancy. Each participant was invited to forward via private message posts that

they felt represented reaching out for support during pregnancy. I followed the social

media interview guide (Appendix A) for each social media post received. The data

collected were added to the interview transcript of each participant.

At the end of each interview, I thanked the participant and checked for any

additional questions or concerns. Each participant received a $10 Walmart gift card as a

thank-you for their time and participation. I reminded participants at the end of the

interview of the information from their informed consent and reassured them that their

identity and participation in the study would remain anonymous and confidential. Each

participant was provided with the information for the Iowa Free Clinics in the event they

felt they needed to seek care after participating in the study.

Following both the focus group session and the individual interview, the

recordings from Rev Recorder were transcribed and securely saved to a password-

protected account on Otter.ai (https://otter.ai/) and Rev Recordings, and also saved to a

password-protected file on my computer. The audio recording app, Rev Recorder,

provided a rough transcript of the recording. The Otter.ai transcripts were reviewed

multiple times and compared against the audio recordings, the Rev transcript, and the

Microsoft Word transcripts for accuracy and clarification between speakers. My field

notes were used to clarify speakers' responses and to add non-audible sounds that were

missed by the recording software such as pauses and sighs.

After completing the data collection with the six participants, a decision was

made not to solicit additional participants. In qualitative research, saturation is considered

a key concept. Saturation refers to the point in data collection where data becomes

repetitive and ceases to move in another direction or raise new questions (Flick, 2018).

After reviewing the completed transcripts, it was evident that saturation had been reached

for this study.

Data Analysis

The data collected from the focus group, individual interviews, and social media

collection were analyzed in four steps. The first step was transcription, followed by data

organization. The third step was developing key terms and phrases, followed by the final

step of using Inductive Narrative Analysis. The following paragraphs describe each of

these steps with more detail.

Step 1: Transcription

Data from the study were audio recorded by Rev Recorder and Microsoft Word

Dictate and transcribed by Otter.ai and by hand for accuracy. The audio recorded data

from both the focus group and the individual interviews were reviewed multiple times

and compared against what was captured by field notes, Rev Recorder transcription,

Microsoft Word, and the Otter.ai transcription. The focus group transcript was

transcribed as a whole and separated by participant response using the selected

pseudonym for the participant. The responses to the MSSI were recorded on the survey

form as well as in the transcript. The transcripts were completed within 48 hours of each

interview and filed for later data analysis.

Step 2: Organization

Organization was the second stage of data analysis. The data were organized by

categorizing them into categories from the conceptual framework. Next, the narrative

from each participant was organized based on their data. The original categories were as follows:

- Stress buffering theory: Increased resilience and coping with received support
- Stress buffering theory: Reduced reaction to stressors resulting from received support
- Ecological model: Individual level support
- Ecological model: Interpersonal level support
- Ecological model: Organizational level support
- Ecological model: Community level support
- Ecological model: Public policy level support

Step 3: Key Terms and Phrases

During the data analysis process, I was able to extract key terms and phrases from the transcribed data. These key terms, words, or phrases reflected common perceptions and experiences shared among the participants related to psychosocial support and stress buffering during pregnancy. In several cases, the key terms were word combinations or phrases that illustrated a need or concern. For example, Ness explained how she relied heavily on her mother to provide emotional support for her during pregnancy, even though she could not provide the financial support she needed. Ness went on to discuss how her mother had a hard time at first realizing that she wasn't calling to ask for money or resources and that she was only needing someone to talk to when she was feeling stressed about her financial situation. Several participants, Ness, Claire, Madelyn, and

Madonna talked about being unaware of resources that were available during pregnancy because they did not receive information until they gave birth.

Step 4: Inductive Narrative Analysis

Inductive Narrative Analysis was used to extract recurring themes from the data collected. Due to the nature and richness of the data, QDA software was not used and the data was hand-coded by the researcher and an independent member. The use of a third-party independent member was approved by IRB. This member was a local professional familiar with low-income pregnant populations but had no information about the topic of the study. The independent member was provided access to the audio recordings and transcripts from both the focus group, the independent interview, and the social media posts, however, only the selected pseudonym was used with this data. The participants' real identity was never provided to the independent member.

Themes and patterns that emerged from the data were moved into a meaningful whole and checked for accuracy and agreement between the two coders. Social media posts were coded based on the participants' descriptions of them only. The researcher and the independent member each individually coded the data and followed up with an audio recorded Zoom videoconference call where themes were discussed. The data analysis resulted in 12 themes related to preferred psychosocial support during pregnancy, barriers to seeking support, and the ability to apply received support to buffer stress. There were no discrepancies between myself and the independent member. Had there been a discrepancy, both themes would have been included. A summary of the themes, the corresponding RQ, and the supporting codes appears in Appendix C.

Evidence of Trustworthiness

A member checking process was used during the study at two different points. Member checking is the informant feedback and validation process in which participants are asked to view and verify the data that was collected to confirm the validity of both the findings and interpretations (Creswell & Creswell, 2018). During the focus group and the individual interviews, I summarized or restated the information provided by the participants to confirm the accuracy of the experience or feelings. Through agreement or correction and subsequent editing, if needed, the participants confirm the credibility of the study (Creswell & Creswell, 2018). All participants participated in this first portion of member checking.

The second member checking process was offered once the data was collected, transcribed, and coded. Participants were offered the opportunity to review a summary of the coded and analyzed data and offer comments on the accuracy of the data. The second member checking opportunity was made available to all participants via a Facebook message. One participant was interested and participated in this process. No edits or comments were received back from the participant. Through the process of these two separate member checking processes, credibility of the study was confirmed.

Transferability was accomplished by providing an overview of the research method, data collection process, and results from the data collected. The narrative approach was used to gain a deep understanding of the participants' preferences for support during pregnancy, and their ability to use support to buffer against stress. Each participant met the inclusion criteria for the study and was part of the target population.

Dependability of the study was gained by prescreening the interview questions and using a combination of both established questions from the MSSI and new researcher-developed questions. Participant bias was reduced by offering both the focus group and the individual interview, demonstrating there were no right or wrong answers and that all experiences were welcomed to be discussed. Researcher bias was reduced by using a second coder who was unknown to the study and the participants.

Confirmability was accomplished in the study by using multiple types of triangulation. Methods triangulation was achieved by utilizing three types of data collection methods: focus groups, individual interviews, and social media collection. Triangulation of sources was achieved by interviewing participants at two different points in time. Analyst triangulation and accuracy in coding was confirmed by using a third-party coder who was unfamiliar with the study and checked for alignment with the researcher. Theoretical triangulation was accomplished through using both the ecological model and the stress buffering theory. Selection bias was reduced through the process of recruiting from multiple areas and allowing all interested mothers to be part of the study.

Results

The study data resulted in twelve themes: Father of the baby, familial support, friend support, professional support, online support, lack of information from the doctor, lack of information about support, lack of transportation, seeking feedback from social media, applying pre-pregnancy coping skills, following the instructions from a professional, and reaching the end of their rope. The themes have been organized into

groups based on the interview questions used to solicit the relevant data and the corresponding overarching RQ.

Main RQ

Data collected from the six interviews answered the three RQs. The main RQ for the study was: What types of psychosocial support do low-income unmarried mothers need (based on identified preferences) to receive and use as a buffer to perceived prenatal stress? This question addressed the identified preferences for psychosocial support of low-income unmarried mothers living in West Central Iowa. To answer this question, I asked a series of open-ended questions from the interview guide. The core themes that emerged during the data analysis were (a) father of the baby, (b) familial support, (c) friend support, (d) professional support, and (e) online support. The main RQ corresponded with the following interview questions:

- Focus Group Question: Psychosocial support is a combination of many different kinds of support including physical, social, emotional, cognitive, and spiritual support. Tell me about a time you received one of these types of support during your pregnancy.

- Individual Question: Tell me about a time when you felt like you were supported during your pregnancy.

- Individual Question: If you were feeling stress and anxiety during your pregnancy, who could you go to for support?

- Individual Question: What community resources did your doctor's office make you aware of or refer you to for emotional support during pregnancy?

- Individual Question: If you were to become pregnant again, what types of
  support would you want to be offered to keep you from being stressed?

- Social Media Question: Tell me more about where and when you posted this?

- MSSI Survey Questions 1-18

Theme 1: Father of the Baby

All six participants responded with the common theme of wanting or needing
support from the baby's father when asked, "If you were to become pregnant again, what
types of support would you want to be offered to keep you from being stressed?" Ness
indicated "I wouldn't want to be single next time," and Madelyn concurred "I want to
have my baby's dad there to help me deal with things." Darla and Madonna both
mentioned they would want emotional support from the baby's father even if they broke
up during the pregnancy, while Layla and Claire made mention of the importance of
being in a committed, monogamous relationship with the baby's father as the one type of
support that would have the biggest impact during a future pregnancy. Ness also
answered the question "If you were feeling stress and anxiety during your pregnancy,
who could you go to for support?" with the answer "At first, my baby's father, even
though we broke up. That changed when he started a new relationship. I wish we could
have kept it cool because it made me feel like I wasn't alone in my pregnancy."

The social media question "Tell me when and where you posted this" also
brought up answers which involved themes surrounding support, or lack thereof, of the
baby's father. Ness had two social media posts that she posted after the breakup with her

baby's father. She indicated she posted them hoping he would see them and realize she needed his support. Ness said concerning one post:

I shared this photo of this location because it was our spot where we always used to go and hang out, and I commented about how I was there alone and needed company, I thought he might see it because we were still friends on Facebook.

In a social media post shared by Madelyn, she said:

I posted these sayings about being a single mom a lot when I needed to pump myself up or when I was sad thinking about my baby being raised by a single mom, not that I necessarily wanted him to think he needed to be there for me, but more to remind myself he chose to leave and that I was going to be okay even if I wished he was there for us.

Theme 2: Familial Support

All six participants chose to answer the focus group question "Tell me about a time you received one of these types of support during your pregnancy" and the individual question "Tell me about a time when you felt like you were supported during your pregnancy" with answers that involved family members. The most common answer involved reaching out to their mother or another female relative such as a sister, aunt, or cousin. No participants made mention of feeling supported by male family members, except for help with outside housework and auto repairs reported on the MSSI. Madelyn and Claire both indicated their relationships with their mothers were strengthened during their pregnancy, while the other four participants reported strained relationships due to unplanned pregnancies and tough financial situations. Ness answered both questions with

deep examples of times she had reached out to her mother for emotional support only to be met with resistance because her mom thought she wanted financial help. After a few calls, Ness finally convinced her mother that she just wanted to talk about what was bothering her and was not expecting her mother to solve her problems financially. Ness said, "After that call, she was more supportive and was better at just listening."

The MSSI questions (see Appendix B) asked specifically about contact and support from relatives. Participants were asked how often they see family members weekly and if that number was too high, too low, or just about right. Although the participants varied in the number of times they saw relatives per week, all participants except for Darla reported the number as "about right." Darla indicated the number of visits per week was "too high."

Theme 3: Friend Support

Friend support was a common theme for the individual interview questions "Tell me about a time when you felt like you were supported during your pregnancy" and "If you were feeling stress and anxiety during your pregnancy, who could you go to for support?" Two participants, Madonna and Layla, made similar comments about the importance of friends during pregnancy: "I could not have done this without my friends" and "I wouldn't have made it without my friends," respectively. Claire had a different experience, saying "I learned who my real friends were when I got pregnant, most of them ghosted me because I wasn't partying anymore." Claire also made a point to tell me the friends who stuck around were "friends for life" and ones who she depended upon

heavily for support. Madelyn said she only had a few friends, but they were always there for her if she was having a bad day.

Theme 4: Professional Support

Professional support was mentioned less than the other types, and perhaps it would not have been mentioned at all had it not been the subject of the interview question "What community resources did your doctor's office make you aware of or refer you to for emotional support during pregnancy?" Out of six participants, only one (Layla) mentioned receiving support from her doctor's office or community resources. Layla said she had received home visits from a HOPES worker referred by her doctor. While she enjoyed the visits in the first two trimesters of her pregnancy, the worker, according to Layla, "just quit her job for no reason when I was 7 months pregnant, and then I never got a replacement worker." Four other participants: Ness, Claire, Madelyn, and Madonna, found out about these programs after delivery and indicated they had wished they had known about the opportunity during pregnancy. All six participants responded they would like to have some sort of education/support group offered by nurses or social workers when asked, "If you were to become pregnant again, what types of support would you want to be offered to keep you from being stressed?", though all said they were unaware of any such programs in their area. All six participants had heard about or received services at one point from WIC, but only Darla and Layla used the services routinely during their pregnancy and considered it a source of support. All six participants felt WIC helped more during the postpartum period.

Theme 5: Online Support

Online support was also referred to as "Mom's Groups", "Facebook Friends", and "Tik Tok Followers" by the participants. While all six participants were involved in social media during their pregnancy, none felt it served as a type of support for them. Claire recalled, "I posted on Facebook all the time looking for advice but I just got emojis from friends and comments from *Karens*", a term for women who are nosy or opinionated. Madelyn and Madonna also used Facebook to join groups targeted to Moms but found the experience to be more about buying and selling items, couponing, or looking for good deals rather than emotional support. The focus group question "Tell me about a time you received one of these types of support during your pregnancy" led to a discussion about seeking out spiritual support online, with Claire stating "I don't go to church but there are some online groups who post spiritual stuff that I found helpful." Madelyn followed by adding "Sometimes I watch local church services on the internet but I haven't set foot in a church since childhood, watching those made me consider getting my baby baptized."

Sub RQ 1

Sub RQ 1 asked "What barriers, if any, do low-income unmarried mothers encounter when seeking out psychosocial support during the prenatal period?" The themes that emerged were (a) lack of information from the doctor, (b) lack of information about support, and (c) lack of transportation. Sub RQ 1 themes corresponded with the following interview questions:

- Focus Group Question: Going back to the definition of psychosocial support, think of a time when you were not able to receive one of them. Tell me more about that.

- Individual Question: Tell me about a time when you did not have access to psychosocial support during your pregnancy.

- Social Media: Tell me more about the type of response you got when you posted this?

Theme 6: Lack of Information from the Doctor

Two questions were asked at the focus group and individual interview that generated responses related to a lack of information from the doctor: "Going back to the definition of psychosocial support, think of a time when you were not able to receive one of them. Tell me more about that" and "Tell me about a time when you did not have access to psychosocial support during your pregnancy." Madonna recalled being given a packet of information that was outdated from her doctor. Claire said, "My doctor didn't seem to care at all about me, I was rushed in and out. I think it's because I was on Medicaid." As mentioned previously, Madonna, Claire, Madelyn, and Ness all indicated they received information from their doctor or medical team while in the hospital during childbirth that they felt should have been given to them at their first appointment. Ness recalled being provided information about HOPES and WIC at childbirth, while Madonna and Claire said they received only information about applying for a social security card, coupons, and samples of baby formula. All six participants mentioned they felt it was the responsibility of the doctor (and doctor's office) to provide them with

resources for local community programs, support groups, and other resources for pregnant moms. Madonna added, "How on earth is a first-time mom supposed to know anything about pregnancy if she doesn't have family or close friends who have been pregnant? That's why we go to the doctor!" Ness added, "There were many times during my pregnancy when I was stressed and wished I had a professional to talk to, but I didn't want to bother my doctor." Madelyn stated "The doctors are the ones who know this stuff exists, it seems like they only care about the office visit and not what happens in-between visits. No one ever asked me how I was coping with being pregnant."

Theme 7: Lack of Information About Support

The focus group question "Going back to the definition of psychosocial support, think of a time when you were not able to receive one of them. Tell me more about that" and the individual interview question "Tell me about a time when you did not have access to psychosocial support during your pregnancy" also generated a theme of lack of information about what the support was. Layla, who received resources from the HOPES program during her pregnancy, still felt confused about the role of her HOPES worker. She recalled that her worker stopped visiting during the 7th month of her pregnancy and then she did not get visits after that from anyone. She added, "It was nice to have someone come to me and someone to talk to about pregnancy, but it felt more like having a friend come than a professional." Layla said, "She brought me worksheets and we did breathing exercises and she knew I was stressed, but I don't think she ever mentioned that to my doctor." Five out of six participants had never heard of HOPES and were unaware of what the program was and how to receive services. All six participants had heard of

the WIC program either before or during pregnancy, but only Layla and Darla used the program regularly during pregnancy. Layla found the professionals at WIC helpful but still mentioned "The program is more suited to support moms after childbirth." Darla was also using the WIC program sporadically during pregnancy but agreed with Layla that she did not know the program was designed to support her during pregnancy. Darla discussed one visit with WIC: "It was repetitive. They took my weight and blood pressure and gave me food vouchers, but I didn't get the impression I was supposed to open up to them about how I was feeling." The remaining four moms had all heard of WIC as a resource but were unaware of what services WIC provided for pregnant moms.

The social media question "Tell me more about the type of response you got when you posted this?" also generated information that indicated the participants were not sure what specific type of support they were lacking during pregnancy. In reviewing old social media posts, each participant, at least once, mentioned that a post had been created or shared to seek support from someone in their life without having to ask directly for it. When Madelyn was asked this question about a post she shared about being 36 weeks and having swollen feet, she responded "Oh, you know, I was looking for encouragement and maybe for someone to say "you got this!" or something positive to cheer me on." Madonna also had a similar post about being pregnant and having swollen feet. When asked about it, she responded similarly to Madelyn "I just wanted someone to give me some encouragement, or even offer a foot massage. I don't know. It seems silly now but I guess at the time I was just feeling exhausted."

Theme 8: Lack of Transportation

In response to the individual interview question "Tell me about a time when you did not have access to psychosocial support during your pregnancy", the recurring theme was lack of transportation. All six participants spoke of the lack of public transportation available in their geographical area, as well as the lack of friends and family available to drive them to appointments. Darla mentioned transportation as a major barrier to continuing WIC services, stating "I live all the way across town from the WIC clinic and it was too hot to walk, they don't offer transportation or nothing so it wasn't worth it to go." Two participants had lost their driver's license, and only two of the six participants had vehicles. Ness and Madonna, who both had vehicles, said transportation was still an issue because of the cost of gas. Madonna added:

> I'm living less than paycheck to paycheck and there are no benefits from the state
> for gas money so a lot of times my tank would be on empty until I got paid again,
> I would just cancel my appointments until I got paid.

Transportation was not only a barrier to appointments but friends and family too. Claire commented that there were many times she wanted to just "go hang with friends or my sister… but had no way to get there so we would FaceTime, which really isn't the same." Darla remembered several instances where she just "wanted a frickin' hug" but didn't have a way to get to where other people were, "that was so depressing" she added, "especially when your hormones are all over the place and you can't even get to someone's house to get a hug."

Sub RQ 2

The second sub RQ for this study was "How are low-income unmarried mothers able to apply the psychosocial support they have received to reduce perceived prenatal stress?" The themes that emerged from Sub RQ 2 were (a) seeking feedback from social media, (b) applying pre-pregnancy coping skills, (c) following instructions from a professional, and (d) reaching the end of their rope. The following questions were related to Sub RQ 2:

- Focus Group Question: Going back to the definition of psychosocial support, think of a time when you were not able to receive one of them. Tell me more about that.

- Focus Group Question: Tell us about a time when you needed one type of support but received a different type, how did that make you feel?

- Individual Question: Share with me an experience from your pregnancy where you felt stress or anxiety, what made the feeling go away?

- Individual Question: When you felt stressed or anxious during pregnancy, what helped you out most to calm down?

- Individual Question: Tell me about a time when you learned how to calm yourself down if you were feeling stressed.

- Social Media: How were you feeling when you posted this?

- Social Media: How did the response to your social media post make you feel?

Theme 9: Seeking Feedback from Social Media

All six participants provided social media screenshots and answered the questions "How were you feeling when you posted this?" and "How did the response to your social media post make you feel?" Each of the women reported seeking support from a social media community, even if the responses came from people with whom they were not close. Darla said, "I just felt alone and wanted to get some likes, I mean, if people click on love instead of like that's even better." Ness said before pregnancy she rarely used social media, but "something just flipped like a switch and I was posting like crazy and waiting for people to comment. I actually reconnected with some school friends who I hadn't talked to in forever because they liked my posts." In response to the question, Madonna remembered using social media to build herself up, selecting images or quotes related to single parenting that made her feel empowered. "I was feeling like a real loser for getting pregnant by a lowlife so I searched online for empowering single mom posts and then shared them", Madonna recalled. Claire had forgotten about several of the posts she had made during pregnancy. While reviewing the posts she submitted, Claire said, "Wow, these make me look pretty desperate! I was clearly just looking for likes!" All six participants reported feeling good and having an increase in self-esteem when they received likes, loves, or positive comments on social media.

Theme 10: Applying Pre-Pregnancy Coping Skills

The individual interview questions "Tell me about a time when you learned how to calm yourself down if you were feeling stressed," "When you felt stressed or anxious during pregnancy, what helped you out most to calm down?" and "Share with me an

experience from your pregnancy where you felt stress or anxiety, what made the feeling go away?" generated a theme of applying pre-pregnancy coping skills. Common responses from the six participants included stressors such as work, relationships, loneliness, and financial concerns; coping strategies included napping, taking a long bath or shower, taking a walk, talking with friends, and eating. Claire mentioned her struggle with nicotine, stating "I smoked before I got pregnant, so it was really hard when I got stressed because I wanted a cigarette." She later admitted, "I did smoke while I was pregnant, but not nearly as much as before or after. I did not tell my doctor." Darla recalled one particularly difficult day at work, saying:

> Customers were just being so rude, and I think I was about 35 weeks pregnant and you know…. the hormones are all there…. and when I got home I ran a warm bath and sat there forever. I had to keep adding more warm water.

Theme 11: Following the Instructions from a Professional

In response to the individual interview questions "Tell me about a time when you learned how to calm yourself down if you were feeling stressed" and "When you felt stressed or anxious during pregnancy, what helped you out most to calm down?" of the six participants, only Layla reported learning new coping strategies from a professional, her HOPES worker. "My HOPES worker gave me a lot of worksheets on deep breathing and self-care so I did those things." Claire sought out online support from a popular meditation page that listed daily affirmations but did not consider this to be a professional source. "I don't know who runs the page at all. I don't think it's a doctor. It's just like one

quote a day that is supposed to be positive." Madelyn recalled her doctor mentioning

yoga at one of her appointments, saying:

> My doctor said to try yoga but I was really bad at it but I still tried. She told me
>
> yoga would be a good exercise to do while I was pregnant, but never really talked
>
> more in detail about it, it was just like she said that and then moved on.

Ness, Madonna, and Darla did not recall receiving any suggestions or advice during their

pregnancy from a professional that could have been used to reduce stress or cope with

anxiety.

Theme 12: Reaching the End of Their Rope

The final emerging theme came as a result of the following two focus group

questions: "Going back to the definition of psychosocial support, think of a time when

you were not able to receive one of them. Tell me more about that", and "Tell us about a

time when you needed one type of support but received a different type, how did that

make you feel?" Although all six participants indicated this research project was the first

time they had given any thought to the idea of psychosocial support or different support

needs, all six expressed a time in their pregnancy where they felt they had reached the

end of their rope. Claire recalled standing in the shower weeping "I would get so stressed

I would just stand in the shower and cry", to which Ness replied, "Sometimes you just

have to cry it out." While each of the participants mentioned the role of pregnancy

hormones at some point in their participation, they each had a moment in which they felt

their emotions had completely taken over. Darla said, "I don't know about you guys, but I

would just lose my shit. Like, one moment everything was fine and the next I'm crying to my best friend on the phone for hours." Madonna recalled feeling a similar way:

I would fall apart, literally. I would just collapse on the couch and think there was no way I could make it as a single parent, but somehow I would get up the next day and start over, what choice did I have?

Madelyn remembered having several "breakdowns" that would last for days, and one time even for a week or two:

I had no idea how I was going to afford a baby, and I know people were judging me like I should have thought about that before having sex, I was ashamed of myself and my choices. My sister reminded me that all babies are a blessing, so I tried to focus on that thought to get me through.

Summary

The purpose of this qualitative narrative study was to gain a deeper understanding of the preferences for psychosocial support of low-income, unmarried pregnant women, and to understand the ability of these women to use psychosocial support to buffer stress and anxiety. Chapter 4 provided the results of the research, including twelve relevant themes that emerged. This section provided participant demographics, data collection procedures, data analysis, evidence of trustworthiness, and results from participant involvement in focus groups, individual interviews, and social media submissions. Chapter 5 provides deeper insight into the study findings, limitations of the study, implications for social change, and recommendations for future research.

Chapter 5: Discussion, Conclusions, and Recommendations

In this study, I explored the preferences of low-income unmarried mothers living in Iowa. Void of the relationship security of a marriage, many new mothers find themselves looking for alternative means of psychosocial support. The narrative study allowed the participants to provide rich detailed descriptions of the types of psychosocial support they received during pregnancy and what types of psychosocial support they would have liked to have. The goal was to identify available themes and learn more about the mothers' preferences for psychosocial support, the support gaps that may exist, barriers to receiving support, and how the psychosocial support received buffered against perceived stress during pregnancy. Through a semi-structured narrative discussion, I was able to learn more about each participant's story rather than just the answers to the interview questions. I heard about the meaning of psychosocial support, how barriers to support impacted their lives, and how they used available supports to relieve their stress.

The use of narrative inquiry allowed for a variety of data collection types including a focus group, individual interviews, and the collection of social media posts. The data collection techniques were somewhat flexible and open-ended allowing for greater elaboration and storytelling by the participant. I was able to identify common phrases, words, concepts, and even full stories that gave way to common themes associated with the experiences of the participants. In this chapter, I will discuss my interpretations of the findings based on previously reported literature. In addition, I will offer a detailed discussion of the limitations of the study, the implications for social change, and recommendations for future research.

Interpretation of the Findings

This section describes themes that emerged from a combination of data collection processes: focus group interview questions, individual interview questions, and social media post analyses. The mothers responded to open-ended narrative interview questions about their preferences for psychosocial support across the ecological model and their ability to use these supports to buffer against stress during pregnancy. Cobb's (1976) stress buffering theory and Bronfenbrenner's (1989) ecological framework guided the development of the interview questions, data collection, and analysis process. Upon review of the results, three overarching themes emerged: (a) psychosocial support is needed across the ecological levels, (b) doctors play a pivotal role in educating low-income unmarried pregnant moms on available resources, and (c) coping skills used pre-pregnancy may need to be adjusted to buffer stress during pregnancy. The RQs that guided this study were as follows: What types of psychosocial support do low-income unmarried mothers need (based on identified preferences) to receive and use as a buffer to perceived prenatal stress?; What barriers, if any, do low-income unmarried mothers encounter when seeking out psychosocial support during the prenatal period?; and How are low-income unmarried mothers able to apply the psychosocial support they have received to reduce perceived prenatal stress?

Few previous studies have examined the preferences for psychosocial support in conjunction with stress buffering abilities in pregnant populations. These studies primarily found the most beneficial source of psychosocial support to be that of the baby's father or the woman's spouse. Therefore, the results of this study added to a gap in

the current literature by limiting participation to unmarried low-income women. Several

themes emerged during the focus group and interview process that helped explain both

the preferences for support across the ecological model when the baby's father or the

mother's spouse was not available for support, and the woman's ability to use these

supports as a buffer to stress and anxiety during their pregnancies. I analyzed the data

separately and coded it by emerging themes. The themes that emerged from the data

included support from the baby's father, familial support, friend support, professional

support, online support, lack of information from the doctor, lack of information about

support, lack of transportation, seeking support from social media, applying pre-

pregnancy coping skills, following the instructions of a professional, and reaching the end

of their rope.

Main RQ

The following was the first RQ for the study: What types of psychosocial support

do low-income unmarried mothers need (based on identified preferences) to receive and

use as a buffer to perceived prenatal stress?

Psychosocial Support

During data collection, it became apparent that the participants were unaware of

many types of available supports offered across the ecological model. As suspected and

confirmed by previous research, the most sought-out type of support was from the father

of the baby, even when the father was not involved in a relationship with the mother. This

supports similar findings from Lee et al. (2016) and Shah et al. (2014), whose studies

found the father's support to be the biggest factor in decreasing the amount of stress

experienced by mothers during pregnancy, as well as research conducted by Darwiche et al. (2019), Mlotshwa et al. (2017), and Stapleton et al. (2012), who concluded that even in the absence of a romantic relationship with the mother, support of the baby's father resulted in less incidence of stress during pregnancy.

Other types of prenatal support, such as family, friends, professionals, and online supports were also used by low-income unmarried mothers. In some cases, the participants were unaware of the types of supports that were available to them. In contrast to the study findings by Sampson et al. (2016), the majority of the women who participated in this study were unaware of the benefits of home visitation programs or that these types of programs even exist. Similar to the results provided by Shishehgar et al. (2015), the low-income unmarried mothers interviewed for this study did substitute family support for partner support, even when the familial relationships were strained. Nonconventional types of support such as community caregiving and peer-to-peer learning groups, that have proven to be beneficial in previous studies discussed in Chapter 2, were unfamiliar to the participants of this study. In the ecological model, levels of influence are not interchangeable; however, each level of influence can be equally important. These findings support the stage of the stress buffering theory that indicates social support serves as a protective measure to buffer stress, as the participants reported preferences for support from the father of the baby not only to reduce pregnancy stress but also to buffer against normal stressors such as work, hormones, and financial concerns.

Sub RQ 1

The following was the first sub RQ for this study: What barriers, if any, do low-income mothers encounter when seeking out psychosocial support during the prenatal period?

The Doctor's Role

As I reviewed the data from my study, it became obvious that the six participants received different levels of information, from health education to referrals for resources. Several participants agreed that information from their doctors regarding available psychosocial supports across the ecological model was neither timely nor accurate, that resulted in feelings of stress. Some commented that they were rushed through appointments or that the doctors were unapproachable due to their values. Layla said, "I'm not sure why I was always rushed through my appointments, I think they just do that with Medicaid patients because we don't pay them enough money", and Madelyn said, "I was afraid to discuss my feelings about pregnancy with my doctor because I know he is very pro-life and I didn't want him to think badly of me." All six women agreed that their doctors (or care team) had not provided them with enough resources or psychosocial support at any time during the pregnancy. To go a step further, the majority of mothers interviewed felt the doctors did not do an adequate job of asking about their mental health, their stress levels, or their needs beyond the basic prenatal physical ones. The findings from the current study are similar to those by Alhusen and Alvarez (2016), who opined that HRQoL is not discussed during pregnancy as it should be based on the predictive nature of postpartum depression.

As the participants answered the interview questions in the focus group setting, five out of six women reported being jealous of the one woman who was provided psychosocial support from her doctor (and care team). The five women indicated that they believed much of their stress during pregnancy would have been buffered had they had the same care as the sixth woman who received information during pregnancy about available community support and reported feeling supported by her medical team. This supports the data presented in Chapter 2 from Collins et al. (1993), who concluded that early psychosocial support offered through prenatal care mitigated episodes of stress during pregnancy. None of the women in the group reported being offered group prenatal care, which supports Mazzoni and Carter's (2017) research that indicated that although beneficial, group prenatal care has limited availability. It was evident after overhearing conversations between the participants after the focus group had concluded, and in answers to the individual interviews that took place after the focus group, that the women felt their doctors should provide more psychosocial support to them during pregnancy and that doctors should spend more time talking with pregnant women about their mental health during pregnancy.

Psychosocial support received during the stress appraisal process can be used to decrease the perception of the stressor and to increase feelings of resiliency and efficacy (Rodriguez & Cohen, 1998). The findings from this study indicate a lack of psychosocial support from doctors (who are at the community level of influence in the ecological model) created a barrier to stress buffering and resulted in a perceived increase of the perception of the stressor. Potential additional community level resources such as

HOPES, that would serve as a protective measure in the stress buffering theory, had the opposite effect when withheld by doctors, even if they were later discovered through another source. For example, the women who participated in either the HOPES program or the WIC program reported the perception of these programs as protective against decreasing the impact of stressors when referred by a doctor, whereas participants who had heard of these programs through friends chose not to participate in the programs and could not imagine the programs having a buffering ability against their stress.

Sub RQ 2

The following was the second sub RQ for this study: How are low-income unmarried mothers able to apply the psychosocial support they have received to reduce perceived prenatal stress?

Coping Skills

Despite the source of psychosocial support received by the participants during their pregnancy, most of the women relied heavily on their pre-pregnancy coping skills to buffer stress. The stress buffering theory provides evidence that social support received from family, peers, and community acts as a protective measure preventing stress-related impacts on health (Cohen & Wills, 1985), however, the women who participated in this study all reported a lack of ability to buffer stress. Each of the six mothers reported, despite receiving some type of psychosocial support, reaching the end of their rope. Definitions ranged from collapsing on a couch to crying in the shower to having weeks of hopelessness and shame. Rodriguez and Cohen (1998) concluded that support negates the effects of stress by either (a) increasing resilience and coping or (b) reducing the reaction

to the stressor. The women in this study dealt with a variety of stressors including work, relationships, and financial hardships. Through their sources of psychosocial support, which varied across the ecological model's levels of influence, although all reported reaching the end of their rope at one point or another, each participant also reported becoming more resilient, using phrases like "but somehow I would get up the next day and start over, what choice did I have?" or "focusing on the positive even when I couldn't stop myself from crying."

Limitations of the Study

There were limitations to the study. The six mothers who participated were all located within a 30-mile radius of one another making the results specific to a small geographical portion of West Central Iowa. The gap in research shows a lack of information about the preferences for psychosocial support in pregnant women, but this study was limited to types of psychosocial support the women of this specific region were aware of, rather than all types of psychosocial support. In other words, the women may have preferred types of support they were not aware existed due to the limitations of their geographical area. Due to time and financial constraints, the women were all in very close proximity to one another and perhaps only aware of locally provided psychosocial supports.

Additionally, the impact of COVID-19 should not be overlooked. The focus group was held immediately preceding the national pandemic shut down of public buildings, that forced the scheduled individual interviews to be moved to phone interviews. Lack of available data and internet services required the interviews to be

audio-only. An important part of narrative research is for the researcher to be part of the storytelling process, to act in collaboration with the participant (Flick, 2018). This was much harder to do over the phone. Part of the narrative data involves capturing facial features and body language that was impossible over a phone interview, this resulted in nonverbal data missing from the analysis. Although rapport was built during the focus group session, I would be naïve to assume that one hour was enough time to build the trust needed to share any shameful or perhaps taboo details in their stories (Newton, 2017).

For all participants, this was the first time experiencing a pandemic. I would be remiss if I did not consider the stressful impact of the pandemic on the overall data collection process. Four out of six mothers were caring for their children during the interview, that may have caused less interest in the interview process or breaks in thought processes due to the attention needed by the children. With the pandemic causing public places to close and public health encouraging social distancing, normal distractions for children like going outside to play or playing at the park were no longer available as resources. While the stories shared were deep and meaningful, the potential for missed information due to distractions was present.

<div align="center">**Recommendations**</div>

Recommendations for Action

The emerging data and themes from this study add new information about the psychosocial support needs for low-income unmarried mothers living in Iowa. According to the research findings, a lack of knowledge about, and access to, available psychosocial

supports can affect the ability of the mothers' ability to buffer stress during pregnancy. Many participants in the study were unaware of local psychosocial support programs or only became aware of them after delivery. All mothers expressed an interest in a pregnancy support group for meeting psychosocial needs, support needs, and educational needs about pregnancy and childbirth.

The first recommendation for action involves screening for psychosocial needs at the time of pregnancy diagnosis. The MSSI is one such screening. Checking for psychosocial needs during the first appointment opens the door for communication about the effects of stress on both the mother and the child. Medical staff should be prepared to discuss local options for psychosocial support for pregnant mothers who score low on the screenings.

The second recommendation is collaboration between prenatal medical staff and a social worker, health educator, or nurse who has completed education on the effects of stress on pregnant women and their offspring and the importance of psychosocial support during pregnancy. The role of this person would be to meet with the patient during the first prenatal visit to provide a list of local resources relevant to her specific needs captured on the screening. This person would also check for needs across the ecological model and discuss methods of coping and buffering stress.

A third recommendation is to establish a phone number for a social worker, health educator, or nurse who can answer questions about pregnancy-related stress and support and who can help set appointments with local resources if needed. The study findings indicate that low-income unmarried women are often overwhelmed during the initial

appointment and would benefit from a follow-up call from the office staff. Providing a phone number to call with questions that are not medical would also benefit pregnant mothers who are lacking psychosocial support.

A fourth and final recommendation is to check for psychosocial health and available support systems during each prenatal appointment. Either by the doctor or a social worker, health educator, or nurse, a check for psychosocial health and support is important. Psychosocial support and stress can change frequently and should be monitored like any other pregnancy precaution. Continuous communication about the impact and effect of stress during pregnancy should occur in a positive and not accusatory way, followed by referrals to available programs if needed.

Recommendations for Future Research

This study included low-income unmarried mothers in Iowa. Although the mothers were unmarried, several had casual relationships with their child's father. Previous research has shown support from the child's father is a preferred source of psychosocial support, therefore future research could involve only women who have no relationship at all with the child's father and who are not in another relationship. It would be beneficial to understand if preferences for support change when there is no close relationship with the child's father or another romantic connection.

Some participants in this study seemed unaware of types of psychosocial support other than friends and family and those provided at the time of childbirth by the hospital. The focus group proved beneficial as participants with knowledge of other types of psychosocial support shared their involvement, sparking interest from the participants

who were unaware. Future research should involve women from more than one geographical area to broaden the number of psychosocial programs that could be discussed. Since the women will be geographically distanced, the focus group may have to occur on a platform like Zoom.

The use of social media as a data collection type in this study was also beneficial, as some women who appeared to have forgotten their experiences during pregnancy were quickly reminded by looking back through their social media. I aimed to find posts that showed times where the women were reaching out for psychosocial support or being offered psychosocial support. The women in the study were given instructions on what to look for, however, some of the posts they chose to share did not fit the criteria. For future research, it may be a better fit to get permission from the participants to look through their social media yourself to get a better match to spark deeper conversations and reveal richer data.

Implications

Positive social change occurs when individuals achieve their goals and have an impact on others. Health education and promotion promote positive change by revealing opportunities that may be otherwise hidden. Through health education, individuals learn improved ways to care for themselves and others. Designing and creating interventions and materials that may impact the health of others is one way to create positive social change.

Unmarried low-income mothers in Iowa may already be facing limited sources of psychosocial support that can lead to increased amounts of stress. Previous research has

highlighted the need for psychosocial support, especially for at-risk women. Research has shown the negative health outcomes which result from high-stress pregnancies including preterm and low-birthweight babies. What research has not informed us of is what type of psychosocial support is preferred by unmarried low-income pregnant women and what type of psychosocial support these women can use to buffer their stress. The findings from this study show that unmarried low-income women need psychosocial support across the ecological model and do not rely on one type of support alone. Low-income unmarried women face barriers to receiving support including not knowing what support systems are available in their community until after childbirth. Their ability to buffer stress is then reduced to methods they used before they were pregnant that are not always successful.

Using the findings from this study, health educators can be prepared to meet with pregnant women during their initial prenatal visit and complete assessments about available support. Interventions can include providing psychosocial support, creating hotlines, or internet chat sessions where low-income pregnant women can connect with local health education professionals who can direct them to local resources or answer questions about stress and coping. All six participants in this study indicated they would have participated in a pregnant mom support group and would have benefitted from bringing in different speakers from childbirth experts to nutritionists to yoga instructors.

As health educators, we need to meet people where they are to make the biggest impact. The findings from this study show health educators where low-income unmarried pregnant women are at, what their preferences are, and what they are asking for to have

healthy pregnancies and healthy outcomes for their children. The findings from this study have the potential to restructure local prenatal care appointments to include psychosocial support and stress assessments. These changes may cause positive social change by helping women buffer stress during pregnancy resulting in fewer preterm births and low-birthweight babies.

Conclusion

After a review of the interview questions and transcript responses, the mothers' preferences for psychosocial support became clear. Each of the participants was interested in receiving additional psychosocial support across the ecological model, even if they could not describe exactly what they were looking for. Many of the participants desired psychosocial support from the baby's father even if they were not in a relationship with him. Although they described a preponderance of support available online, they described the support as "unhelpful" and offered by "a bunch of Karens," which is slang for women who are nosy or opinionated. Most mothers expressed a need for more available psychosocial support in the state, and for doctor's offices to provide a resource guide upon finding out they were pregnant rather than at delivery.

All participants were unaware of at least one program brought up by another participant during the focus group. As such, after the group ended many of the mothers were exchanging information about doctors and local programs. A few participants were overheard saying "I wish I had known about this sooner." It became evident that the participants who had more sources of psychosocial support were happy to refer the contact information to the other mothers.

During the individual interviews, many of the participants discussed again their lack of knowledge about psychosocial support programs that were already in existence and the need for a type of weekly support group for unmarried pregnant moms. All of the moms were surprised by the social media content they found during their pregnancy, stating they had "completely forgotten feeling that way" during their pregnancy.

This study allowed me to experience a day in the life of a low-income, unmarried, pregnant mother in Iowa. During this process, I learned that despite availability, not all sources of psychosocial support are well known to the women who need them the most. Psychosocial supports are designed to span the ecological model and act as a buffer during stress in the prenatal period. For many of these participants, stressful life events occurred every day. A need exists for doctors to utilize resources for health education and promotion during the prenatal period in a way that identifies prenatal stress and provides resources for matched psychosocial support. Although not all of the preferred methods of support currently exist in the areas where the participants live, the opportunity to create these programs does exist, and the research is currently available to support such development.

The continued increase of preterm births, low-birthweight babies, and negative health outcomes for both mothers and their babies is a reflection of lack of health education and resources during pregnancy for high-risk mothers including low-income unmarried women. Although the women in this study all spoke of the love they have for their children, none of the participants were exempt from what they feel was extreme stress or discomfort during pregnancy as a result of not being supported by a partner.

Mothers used words such as *alone, lonely, ashamed, tired, exhausted, and sad* when talking about their pregnancies. After reviewing pages upon pages of narrative data shared from the new mothers, I perceived a lack of support provided from the medical community (doctors, nurses, social workers, community workers) as part of standard prenatal care.

According to the WHO's Antenatal Care Model (2018), all pregnant women should be receiving psychosocial and emotional support as a routine part of quality antenatal care. These guidelines exist to improve health outcomes for both mothers and their offspring. Despite the recommendations, the six mothers who shared their stories with me all felt they did not receive adequate psychosocial or emotional support during their pregnancies.

The findings of this study also highlight the issues of stress and poor coping strategies among low-income unmarried mothers. There is a need to educate, promote, and normalize self-care and coping during pregnancy. Recognizing that no two mothers received the same amount of support across the ecological model provides an opportunity for health educators to capitalize on education in early pregnancy to determine the preferred method of support. Low-income, unmarried mothers are already at a higher risk for negative health outcomes and poor birth outcomes, therefore, strategies that match the psychosocial support needs of mothers during pregnancy with available supports should become a standard part of prenatal care appointments.

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Appendix A: Interview Protocol and Guide

Focus Group Protocol

1. Welcome/Greeting.

2. Discussion with the participants on the type of information that will be collected during the focus group.

3. Review of use of Audio Recording and note taking for transcription purposes.

4. Selection of Pseudonym and Making name cards.

5. Review the focus group rules process with the participants: Keep information confidential, respect others' ideas, take turns sharing information, respect time limit of the group./ Review of Limited Confidentiality due to nature of Focus Group.

6. Inform the participants that their participation in the focus group is voluntary, and they have the right to stop participating at any time.

7. Offer snacks and bottled water.

8. Have participants complete the demographic questions.

After the focus group:

1. Explain to the participant that the information obtained in the interview will remain confidential as stated in the Confidentiality Agreement.

2. Explain process for selecting and sharing social media posts with the researcher.

3. Schedule follow-up interview within 30 days.

4. Thank all participants for their time and participation.

Individual Interview Protocol:

1. Discussion with the participants on the type of information that will be collected during the individual interview.

2. Reminder of Informed Consent Form

3. Sharing of social media posts

4. Inform the participant that the interview will be audio recorded, and I will use the audio to accurately transcribe their responses. Field notes will also be taken in a notebook.

5. Inform the participants that their participation in the interview is voluntary, and they have the right to stop participating at any time.

6. Remind participant that Narrative interviewing is an opportunity to share their story without interruption. Interview Questions will be asked to guide them along.

After the interview:

1. Explain to the participant that the information obtained in the interview will remain confidential as stated in the Confidentiality Agreement.

2. Remind the participant of the process for member-checking.

3. Thank participant for their time and participation, explain mailing procedure for $10 gift card.

Prescreen Questions:

1. Are you a female currently residing in Iowa?

2. What is your age? (If participant chooses not to respond, an alternate question would be Are you between the ages of 21 and 45?)

3. Are you a current participant in a government-based low-income program? If yes, which one?

4. Have you given birth to a live offspring during the past 18 months? If yes, how long ago?

5. What is your relationship status? (If participant prefers not to respond, an alternate question would be Are you married?)

6. Did you participate in prenatal care during your last pregnancy? If yes, for how many months?

7. Were you active on social media during your pregnancy? If so, which site(s)?

8. What is your race or ethnicity? (Optional question)

Participant Signature: _____

Date Signed: _____

Researcher Signature: _____

Date Information Provided: _____

Meets Inclusion Criteria: YES   NO

Focus Group Questions:

1. (Intro/Ind) Share with us how you felt when you first found out you were

    pregnant

2. (Intro/Ind) Tell us about a time you felt stressed during your pregnancy

3. (Main RQ/Ecol) Psychosocial support is a combination of many different kinds of

    support including physical, social, emotional, cognitive, and spiritual support. Tell

    me about a time you received one of these types of support during your pregnancy

4. (SubRQ1/Ecol) Going back to the definition of psychosocial support, think of a

    time when you were not able to receive one of them. Tell me more about that.

5. (SubRQ1/SubRQ2/SB) Tell us about a time when you needed support but it was

    not available, how did you feel

6. (SubRQ2/SB) Tell us about a time when you needed one type of support but

    received a different type, how did that make you feel?

Individual Interview Questions:

1. (Narr) Tell me all about your pregnancy

    (Main RQ/Indiv) Tell me about a time when you felt like you were supported during

    your pregnancy

2. (SubRQ2/SB) Share with me an experience from your pregnancy where you felt

    stress or anxiety, what made the feeling go away?

3. (Main RQ/Inter) If you were feeling stress and anxiety during your pregnancy, who could you go to for support?

4. (Main RQ/Comm) What community resources did your doctor's office make you aware of or refer you to for emotional support during pregnancy?

5. (SubRQ2/SB) When you felt stressed or anxious during pregnancy, what helped you out to most to calm down

6. (SubRQ2/SB) Tell me about a time when you learned how to calm yourself down if you were feeling stressed

7. (Sub RQ1/Org) Tell me about a time when you did not have access to psychosocial support during your pregnancy

8. (Main RQ/PP) If you were to become pregnant again, what types of support would you want to be offered in order to keep you from being stressed?

Social Media Questions (for each shared post):

1. (Main RQ) Tell me more about where and when you posted this?

2. (SubRQ2/Ind) How were you feeling when you posted this?

3. (Main RQ/Comm) When you shared this on social media, what type of response or feedback were you needing or hoping to get?

4. (Sub RQ1/Comm) Tell me more about the type of response you got when you posted this?

5. (SubRQ2/Ind) How did the response to your social media post make you feel?

Probing/Clarifying Questions:

1. If you had a friend in that situation, what do you think would be the best way to help or support her?

2. How were you supported during that experience?

3. What do you want people to understand about how you felt in that situation?

4. What would you have changed about the way you were supported during pregnancy?

5. Tell me more about that time, what were you feeling?

6. Tell me how you handled that situation/feeling?

7. What worked the best for you in that situation?

8. What obstacles did you face in that situation?

9. If you had it to do over again, what would you change?

10. Tell me about another time that happened or you felt that way

Appendix B: MSSI

Instructions for Administering the Written Version of
Maternal Social Support Index (MSSI)

The Maternal Social Support Index may be used for clinical research or for obtaining a structured assessment of social support in clinical setting. Mothers should be asked to complete the questionnaire in a quiet, well-lighted area with someone available to answer questions that may arise. When the questionnaire is completed, the interviewer should quickly scan the questionnaire to look for missing or confusing responses. Scoring items on the MSSI are described on the last two pages. If mothers are pregnant for the first time (i.e., primigravida) when they complete this questionnaire, ask them if they ANTICIPATE anyone helping them with child care tasks after delivery – Questions 3, 8, and 9.
You may want to circle those items (3,8,9) to help primigravida mothers find the items as you discuss them.

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Revised April 2008

SCORING THE MATERNAL SOCIAL SUPPORT INDEX (MSSI)

ITEM	RESPONSE	POINTS	MAX SCORE
1 to 10	Mother Only	0	
	Mother and/or someone else	1	10
11	No car and no easy access	0	
	If own car or can get one in a few hours	1	1
12	If no relatives	0	
	One or more relatives and:		
	Mixed	1	
	More often	2	
	Less often	2	
	About right	4	4
13	One person	1	
	Two persons	2	
	Three persons	3	
	Four persons	4	
	Five persons	5	
	Six persons	6	
	More than 6 persons	6	6
14	No one	0	
	One person	1	
	More than one person	2	2
15.	No boyfriend or spouse	0	
	Boyfriend or spouse and:		
	Unsure or not sure (Write in)	1	
	Very dissatisfied	1	
	Dissatisfied	2	
	Satisfied	3	
	Very satisfied	4	4
16	No one	0	
	Talks with someone and:		
	Not sure (write in)	1	
	Very dissatisfied	1	
	Dissatisfied	2	
	Satisfied	3	
	Very satisfied	4	4

ITEM	RESPONSE	POINTS	MAX SCORE
17	No groups	0	
	Attend meetings less than once a month	1	
	Attend meetings about once a month	2	
	Attend meetings more than once a month	3	6
18	No committee	0	
	Yes committee	2	2
		Total	39

CLUSTER ANALYSIS:

The results of cluster analysis of all items in the Maternal Social Support Index suggests that the daily task sharing items may be grouped into two clusters. The child care items, numbers 3, 8, 9, may be scored as a single cluster as well as the nonchild care items, numbers 1, 2, 4, 5, 6, 7, 10. Each of these clusters may be scored separately and their respective associations with outcomes (dependent variables) such as parenting stress, examined independently.

Revised March 2000

Date Completed _____

MATERNAL SOCIAL SUPPORT INDEX (MSSI)

Please share with us the things you do in your home as a mother by answering the questions below. Check the answer you feel is true for you.

	No One	I Generally Do It	Generally Someone Else Does It	Someone Else and I Do It	Score
1. Who fixes meals?	_____	_____	_____	_____	[___] 1
2. Who does the grocery shopping?	_____	_____	_____	_____	[___] 2
3. Who lets your children know what is right or wrong?	_____	_____	_____	_____	[___] 3
4. Who fixes things around the house or apartment?	_____	_____	_____	_____	[___] 4
5. Who does the inside cleaning?	_____	_____	_____	_____	[___] 5
6. Who works outside around the house or apartment?	_____	_____	_____	_____	[___] 6
7. Who pays the bills?	_____	_____	_____	_____	[___] 7
8. Who takes your child to the doctor if he/she is sick?	_____	_____	_____	_____	[___] 8
9. Who sees to it that your children go to bed?	_____	_____	_____	_____	[___] 9

Maternal Social Support Index (MSSI)
Page 2

10. Who takes care of car
problems on short notice (if
appropriate)?

No
Car___   _____ _____ _____   [___]
                                         10

11. If no car, can you get one
in a few hours if needed?   Yes____ No_____   [___]
                                                          11

For the remainder of the questionnaire please <u>CIRCLE</u> the answer that is true for you.

12. How many relatives do you see once a week or more often?

0   1   2   3   4   5   6   7   8   9   10 or more

    Would you like to see relatives:

    More often   Less often   It's about right   [___]
                                                                   12

13. How many people can you count on in times of need?   [___]
                                                                13

    0   1   2   3   4   5   6   7   8   9   10 or more

                                                                [___]
14. How many people would be able to take care of your children for several hours   14
if needed?

    0   1   2   3   4   5   6   7   8   9   10 or more

14a. How many of these people are from your neighborhood?

    None   Some   Most

15. Do you have a boyfriend or husband?   Yes   No

    If yes, how satisfied are you with the talks that you have with your boyfriend   [___]
or husband?   15
    Very Satisfied   Satisfied   Dissatisfied   Very Dissatisfied

16. Are there adults, not including your boyfriend or husband, with whom you have regular talks?

    Yes   No

If yes, think about the person you talk with the most. How satisfied are you with talks that you have with this person? [____]
16

| Very Satisfied | Satisfied | Dissatisfied | Very Dissatisfied |

17. How often do you attend meetings of the following groups? [____]
17

A. Religious (e.g. church)	Don't Belong	Attend less than once a month	Attend about once a month	Attend more than once a month
B. Educational (e.g. school, parent groups)	Don't Belong	Attend less than once a month	Attend about once a month	Attend more than once a month
C. Social (e.g. bowling groups, scouting groups)	Don't Belong	Attend less than once a month	Attend about once a month	Attend more than once a month
D. Political (e.g. work for local candidate)	Don't Belong	Attend less than once a month	Attend about once a month	Attend more than once a month
e. Other	Don't Belong	Attend less than once a month	Attend about once a month	Attend more than once a month

18. Are you a member of any committee or do you have any other duties in any of your groups? [____]
18

Yes   No

Total Score [____][____]

Appendix C: Summary of Themes

Theme(s)	Research Question	Code(s)/Phrases
Support from the baby's father	What types of psychosocial support do low-income unmarried mothers need (based on identified preferences) to receive and use as a buffer to perceived prenatal stress?	"He didn't come to any of my appointments", "He never checked on me", "He didn't return my calls or texts", "He was physically there but not emotionally", "He doesn't really understand what it's like to be pregnant", "He ghosted me", "He said he wanted to be a dad but he wasn't around much", "I needed his help but he broke up with me", "He refused to be there for me", "I wish he would have helped", "All of the pressure was on me as the mother."
Familial support	What types of psychosocial support do low-income unmarried mothers need (based on identified preferences) to receive and use as a buffer to perceived prenatal stress?	"My mom would get upset when I called because she thought I needed money when I just wanted someone to listen", "My sister has kids so she was really helpful", "My family was upset I got pregnant", "I depended on my mom a lot", "My mom and dad let me move in with them", "My brother and his wife were struggling with infertility so the whole family was angry with me", "I know I disappointed them", "I got a lot of advice from my family", "My parents helped out a lot and understood how hard the pregnancy was on me", "I never realized how much I would need my family and it was hard living in a different state", "I asked my sister to help me with bills because I was so sick I couldn't work but she said no."
Friend support	What types of psychosocial support do low-income unmarried mothers need (based on identified preferences) to receive and use as a buffer to perceived prenatal stress?	"My friends all abandoned me", "My friends ghosted me once I couldn't party with them", "My friends didn't understand what I was going through", "My friends have no idea how hard being single and pregnant is", "I only had one friend who stuck around", "My friend was nice to my face but talked about me badly to our other friends", "All of my friends have babies so that was my biggest support system", "I have a lot of friends on social media but no one I could really talk to about what was going on"

Professional support	What types of psychosocial support do low-income unmarried mothers need (based on identified preferences) to receive and use as a buffer to perceived prenatal stress?	"I had a HOPES worker who would come to my house, that really made a difference for me", "I didn't know there were resources for moms during pregnancies", "I wish there was a support group for new moms where a nurse or doctor would cover important topics", "I went to WIC and I liked having the option to talk to professionals there", "I never even knew any of these programs existed", "I think our community needs parenting classes for pregnant moms", "I would like to have someone from my doctor's office who just calls once a week to check on me", "My doctor was the best, I have told my friend about him, he was very patient and I knew what to expect during delivery."
Online support	What types of psychosocial support do low-income unmarried mothers need (based on identified preferences) to receive and use as a buffer to perceived prenatal stress?	"I joined a mom's group on Facebook but it was just a bunch of *Karens*", I was in a local mom's group online and it was helpful, but just to read other people's stories, I never asked questions", "My hardest weeks were when I didn't have access to my online group, I felt so alone", "Online groups can be good or bad, I like that I can always find someone even in the middle of the night, but you never know if the person knows what they are talking about", "Online groups are great for finding deals on baby items, but not for support", "I would have liked if there was an online option to speak with a doctor or nurse or social worker, but I wasn't going to just talk to any random person about personal stuff."
Lack of information from the doctor	What barriers, if any, do low-income unmarried mothers encounter when seeking out psychosocial support during the prenatal period?	"My doctor just didn't seem to care I was leaking fluid but I was really scared", "My doctor's office wasn't very helpful, they seemed annoyed when I would ask questions", "I think because I was on free insurance they didn't care too much", "The nurse was helpful but the doctor always rushed me so I didn't ask many questions",

"The folder of information they gave me was outdated", "They didn't really tell me what to expect", "The doctor never asked me any questions about my mood, just the normal stuff about my body", "I was afraid to discuss my feelings about pregnancy with my doctor because I know he is very pro-life and I didn't want him to think badly of me", "In this town, the doctors don't listen to the poor patients, they just tell you what to do and don't really care about you as a person."

Lack of information about what the support was	What barriers, if any, do low-income unmarried mothers encounter when seeking out psychosocial support during the prenatal period?	"Other than WIC, I had no idea about other programs", "Even though I had been on anxiety meds before, I was never asked about needing mental health care during pregnancy", "I had no idea that there were pregnancy support programs."
Lack of transportation	What barriers, if any, do low-income unmarried mothers encounter when seeking out psychosocial support during the prenatal period?	"I don't have a car to get to appointments", "My town does not have public transportation", "I didn't have extra money to pay for a taxi", "I live all the way across town from the WIC clinic and it was too hot to walk", "I don't drive, I lost my license"
Seeking feedback from social media	How are low-income unmarried mothers able to apply the psychosocial support they have received to reduce perceived prenatal stress?	"I think I was on Facebook the whole 9 months, I would ask a lot of questions there", "I would go on TikTok and make videos", "When I would post pictures of my baby bump I would always get a lot of comments and likes and that made me feel better", "I shared a lot of stories from my pregnancy online and normally someone would ask me how I was doing", "I would post a lot of pictures but they all had filters so that made me feel better about my appearance and people would say I was pretty", "I follow pregnant celebrities and would comment on their stuff and sometimes they like my

comments and that would make me feel good", "I could always find someone awake on social media to talk to", "I always look for inspirational quotes on social media and then share them."

Applying pre-pregnancy coping skills	How are low-income unmarried mothers able to apply the psychosocial support they have received to reduce perceived prenatal stress?	"I've always used walks as a way to calm down, it just got harder to do when I was pregnant and it was hot out", "I took long baths before I was pregnant and that worked for a little bit while I was pregnant", "I smoked before I got pregnant, so it was really hard when I got stressed because I wanted a cigarette", "I ate my feelings away", "I had my best friend on speed dial", "Sleeping has always worked for me, so I just took a lot more naps."
Following instructions from a professional	How are low-income unmarried mothers able to apply the psychosocial support they have received to reduce perceived prenatal stress?	"My HOPES worker gave me a lot of worksheets on deep breathing and self-care so I did those things", "My doctor said to try yoga but I was really bad at it but I still tried", "I followed a meditation page online and I did the daily affirmations, it helped for a little bit."
Reaching the end of their rope	How are low-income unmarried mothers able to apply the psychosocial support they have received to reduce perceived prenatal stress?	"I would get so stressed I would just stand in the shower and cry", "Sometimes you just have to cry it out", "I was really hormonal and mean at times, but it helped to get all the anger out", "I feel like I had a lot of breakdowns during pregnancy, but afterward I wouldn't be so stressed and then it would all build up again."