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POSTPARTUM SOCIAL SUPPORT EXPERIENCES OF BLACK MOTHERS WITH  
DEPRESSION DURING COVID

By

Brooke D. DiPetrillo, MPH

A dissertation submitted to the faculty of  
Georgia State University at Atlanta  
in partial fulfillment of the requirements  
for the degree of Doctor of Philosophy in Public Health

Atlanta

2021

Approved by:

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Dr. Kathleen M. Baggett

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Dr. Brian Barger

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Dr. Betsy Davis



## ABSTRACT

**INTRODUCTION:** Social support is a protective factor against depression (Szkody et al., 2020). Current social support literature within the western epistemology of research failed to include the voices of Black mothers to provide a meaningful cultural context within which to view this protective factor (Spates, 2012). The COVID-19 pandemic has exacerbated adversities, including maternal depression, which is experienced disproportionately among Black mothers (Bailey & Moon, 2020; Farewell et al., 2020). Research within Black communities indicates the importance of social networks (e.g., extended kin) (Hunter et al., 2019). However, this literature does not focus on Black mothers living with depression during a pandemic. To address limitations in the social support literature, this study uses qualitative productive methods to bring forth cultural stories (McDonnell, 2014), and provide a richer context within which to view existing social support literature.

**METHODS:** Twelve Black mothers were drawn from a mobile parenting intervention study targeting maternal postpartum depression. Mothers independently took photographs, among which they presented the most important image during a group discussion. Three groups of mothers, three in each group, were brought together via Zoom to discuss their selected photograph relative to their social support experiences during the pandemic. Recorded transcripts from the orientation calls and productive group discussions were coded using open coding, to generate categories (Corbin & Strauss, 1990) and identify common social support foci (e.g., family, school) which informed the subsequent individual interviews. During individual interviews each mother created a cultural map of support as she: (1) examined direct quotes for each support grouping; (2) selected quotes that resonated the most with her experience; (3) provided a theme name for each group of quotes she selected; (4) ranked-ordered each theme; and (5) created a cultural map displaying each theme in the shape of her choice. Next, mothers created a Western-based ecological map to display the number, quality, and direction of support for social connections in their network (Hartman, 1978). Bronfenbrenner's (1992) social-ecological model, which provides a framework for viewing social ecologies was used to situate common and unique themes identified during the individual interviews. The result was an aggregated cultural map portraying the variability in strengths and struggles mothers experienced relative to social support during the pandemic. In contrast, the aggregated ecological map illustrated the number of mothers that identified various types of social connections (e.g., partner, church), the quality of those connections (e.g., strong, weak), and the directionality of support. After the cultural and ecological maps were separately aggregated, all participants were invited to view and discuss the two aggregate maps. Six mothers participated in individual feedback calls to discuss the similarities, differences, usefulness, and the resonant stories in each of these maps.

**RESULTS:** Nine categories of social support emerged from **productive group discussions** centered on participant-generated photographs including (1) characteristics of support systems; (2) identity as a mother; (3) impact of the pandemic on children and schools; (4) experiences of being sick with, and fearful of, COVID-19; (5) mental health and coping; (6) impact of the pandemic on work; (7) community service; (8) stressors exacerbated by a pandemic; and (9) systemic issues. **Individual interviews** generated 91 themes including 38 (42%) were related to villages and support systems (e.g., people, school, work), 20 (22%) pertained to the new normal (e.g., virtual platforms), 18 (20%) related to identity (e.g., being a mother), 12 (13%) pertained to coping mechanisms, and 3 (3%) related to negative experiences during the pandemic (e.g.,

financial hardship). **Ecological map data** that on average, participants reported 11.8 different connections (*range* = 6 – 16). Across maps, 32 (37%) of connections were family (e.g., relatives, partner), 30 (35%) pertained to community-based connection (e.g., work, church), 15 (18%) were related to personal friends, 7 (8%) pertained to therapeutic connections (e.g., social, mental health), and 2 (2%) were related to community resources (e.g., material supports). Overall, 57 (66%) of connections were positive and 29 (34%) were negative. A total of 66 (77%) were bidirectional and 20 (23%) were unidirectional. Participants who compared the **aggregated cultural and aggregated ecological maps**, reported that the cultural map portrayed the diversity of strengths and struggles that Black postpartum mothers experienced during the pandemic while the ecological map displayed the people with whom mothers could access support. Most mothers stated that the cultural map was a more authentic representation of their experiences relative to social support during the pandemic. All mothers reported that cultural maps and ecological maps could be used together to understand the complete story of how Black mothers define and experience social support during a pandemic.

**DISCUSSION:** Given the exclusion of Black women's voices in Western research and its conceptualizations, this is the first study to pair productive methods, which emphasizes cultural stories, with a Western eco-map assessment of social support to understand the culturally rich context of support for Black mothers living with depression during the pandemic. While findings indicate that some emergent themes identified in this study relate to themes in the existing literature (e.g., church, family), this study revealed that the social support experiences of Black mothers with depression during a pandemic are not monolithic. Rather their social support experiences are diverse and nuanced.

*Key words: social support, postpartum, maternal depression, COVID, African American*

## Acknowledgements

I wish to express gratitude to my mentor and advisor, Dr. Kathleen Baggett for her tireless support and thoughtful feedback every step of the way. I am a better writer, student, peer, colleague, and mother because of your encouragement and counsel.

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Thank you to the mothers who volunteered to be a part of this study and share their stories - the good, the bad, the heart-wrenching, and the inspiring. I am in awe of what you do each day and moved by your grace, compassion, and grit.

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## Researcher Positionality

My personal and professional experiences influenced my interest in maternal social support. First, I spent over a decade immersed in the development and implementation of community-based maternal and child health programs across the globe. Through these experiences, I observed and reflected upon the importance and influence of culture particularly when I interacted with communities and populations that looked different from me, had different belief systems, and experienced varying degrees of systemic and historical oppression. Some of my memorable experiences of support systems in different cultural contexts included witnessing the intimate and personal relationships between community-based health workers who supported mothers living with HIV in Nepal. I observed community volunteers who engaged with mothers and their families concerning reproductive rights and family planning choices in Rwanda. I also observed the collective empowerment embodied by a women-run village savings and loan program that provided financial support to entrepreneurial female head-of-households who were also mothers in Zambia.

I am also a mother and have first-hand experiences with helpful supports during pregnancy and postpartum and periods of isolation and loneliness during motherhood. However, I acknowledge that I have certain privileges and power as a middle-class, white, women living with a white partner with access to quality resources and supports that are not as easily accessible, if at all, to the minoritized groups that face discrimination and systemic oppression in this country. I was fortunate to have had the opportunity to pursue and obtain a Bachelor of Science in Marine Biology and a Master of Public Health. I was also fortunate to be a Graduate Research Assistant and Coach working for a remote parenting intervention, which began before the pandemic and continued during the pandemic, that allowed me to ask questions about social support in the context of the current pandemic. The participants included in this research were part of my caseload during the Mom and Baby Net (MBN) program (Baggett et al., 2020) where I served as their virtual coach engaging with them on a weekly basis over video conference calls to discuss the program and their child's developmental milestones. Since I had worked with most of the participants in this study as a coach, I had already established some rapport which may have enabled me to bear witness to the personal experiences of these mothers especially those that I am unable to identify with.

There was an important conversation with a study participant that I feel obligated to mention. This participant asked if I had an African American on my dissertation committee which I responded that I did not. While I did explore consulting with some African American faculty members, I was unable to identify an African American faculty member with whom I had a relationship and whose area of research aligned with the objective of this study within the timeframe I had to complete the dissertation. Moving forward I will continue to seek counsel and advice from faculty member and peers who can help ensure that I authentically and respectfully represent the viewpoints and perspectives of group of mothers with whom I do not share the same racial identity. Additionally, this same participant voiced concerns that this study might portray a singular dimension of an uneducated, poor, and low-resourced Black women thereby reinforcing negative and harmful stereotypes of Black women and Black mothers which is not at all the intent or the purpose of this study. While this study utilizes and presents selected quotes to illustrate the participant's experiences in their own words, I have taken extra caution to use concise quotes and omit conversational jargon that is common in interpersonal dialogue but may distract readers from the meaning within the quote or perpetuate any negative stereotypes of

Black women. My hope and wish are that final product reflects truth and authenticity and that is respectfully draws attention to the importance and significance of Black mother's voices.



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## Chapter 1: Introduction

African American women unduly face various barriers and structural oppression stemming from racial, gender, ethnic, and cultural discriminatory practices and systems that obstruct their ability to achieve optimal levels wellbeing during pregnancy and postpartum which have intensified during the COVID-19 pandemic (Chambers et al., 2020). While the COVID-19 pandemic has disrupted the lives of nearly everyone, the immediate and long-term effects of this pandemic have disproportionately impacted people of color, especially Black women (Garcia et al., 2020; Gur et al., 2020). Current research shows that the COVID-19 pandemic exacerbated challenges that African American women experiencing structural oppression faced prior to the pandemic (e.g., sustaining employment, accessing quality healthcare, living in safe, affordable communities) (Garcia et al., 2020; Gur et al., 2020; Park et al., 2018).

Recent estimates suggest that rates of maternal depression increased during the pandemic in association with pandemic-driven social isolation, fear and anxiety around COVID-19 spread, and disruptions to supportive services and social connections (Diamond et al., 2020; Farewell et al., 2020; Ollivier et al., 2021; Sahin & Kabakci, 2020). Research conducted internationally has examined postpartum health and maternal support, during the COVID-19 pandemic. Global research conducted with postpartum women during the pandemic reveals mothers reported experiences and concerns related to sleep exhaustion (Albanese et al., 2020), breastfeeding, body image, mood, partner support, and giving and receiving empathy (Aston et al., 2020).

However, few studies utilized a methodological framework and instruments that allowed participants, especially underrepresented, and excluded populations, to contribute to current definition of *social support*, in their words in the context of a pandemic. Social support has traditionally been defined as the provision of categorical types of support (e.g., emotional), from

different sources (e.g., family), or through inter-personal relationships with the intention of benefiting the recipient (Shumaker & Brownell, 1984). Because the voices and experiences of women of color are often excluded from mental health research, this limits how social support is defined and understood relative to the needs of Black women with depression (Spates, 2012). There is a need for research that emphasizes the voices of Black postpartum women to improve our understanding of their postpartum social support needs to inform the development of ecologically valid social cultural interventions to address these needs.

### **Maternal Depression and Disparities in the Pandemic**

Depression is a common, treatable medical illness that negatively impacts how people function (American Psychiatric Association, 2013). Mothers who experience depression before, during, or following childbirth may experience sadness, low energy, or guilt, related to the baby's birth and role as a mother, (American Psychiatric Association, 2013; DelRosario et al., 2013; Stewart & Vigod, 2016; Wisner et al., 2013). It is estimated that 1 in 8 women experience depressive symptoms postpartum (Bauman et al., 2020). It should be noted that this population estimate does not represent an equitable distribution across race and ethnicity.

Socioeconomically disadvantaged women of color experience depression rates that are three to four times higher than the general population (Chaudron et al., 2010). Risk factors associated with an increased likelihood of a mother experiencing depression include previous undiagnosed and untreated depression and anxiety disorders, low levels of social support, a conflicted relationship with a romantic partner, and a history of intimate partner violence (Norhayati et al., 2015; Wisner et al., 2013). In addition to these risk factors, women of color, particularly Black women, disproportionately experience adversities (e.g., financial instability,

lack of employment, and systemic discrimination at the workplace) compared to White women that can elevate depression (Frye, 2020; Keefe et al., 2016).

Prior to the pandemic, there were notable racial disparities in the incidence of maternal depression with the highest rates experienced among women of color who also experience socioeconomic disadvantage (National Center for Health Statistics, 2016). Resulting from *systemic oppression*, the systems and structures that employ practices that disadvantage African Americans (Feagin & Bennefield, 2014), Black women diagnosed with depression had a more severe case and less access to intervention compared to White individuals with depression per the World Mental Health Composite International Diagnostic Interview (Bailey & Moon, 2020; Kessler & Ustün, 2004; Woodward et al., 2013). Due to *institutionalized oppression*, the historical pattern of mistreatment towards people of color that manifests has an intricate network of systems and policies that disadvantages African Americans (Wyatt-Nichol & Seabrook, 2016), across systems (e.g., financial, employment, education), Black women are more likely to live below the federal poverty line (U.S. Census Bureau, 2015). Additionally, Black women are more likely to have limited access to high quality education resulting in lower levels of educational attainment compared to White individuals (Grote et al., 2007). As a result of systemic discrimination experienced by African American women prior to and during the pandemic, Black postpartum women with depression are underdiagnosed, inadequately serviced, and their voices are nearly excluded from research. The voices and socio-cultural experiences of Black postpartum women who experience depression need to be elevated to understand and meet their needs and protect against depression.

Pandemic-related stressors and barriers further increase disparate rates of depression and decrease access to supportive services and intervention. Emergent data from the current



pandemic indicates the impact of physical distancing, social isolation measures, and COVID-19 related morbidity and mortality are associated with higher self-reported mental health issues (e.g., anxiety, depression) compared to levels reported prior to the pandemic (Czeisler et al., 2020; Diamond et al., 2020). Pandemic-driven structural barriers are also associated with elevated depression levels among Black mothers. During the pandemic, it has been shown that compared to White women, Black women are more likely to report a negative association between the onset of the pandemic and their employment and concerns relative to accessing quality health care, healthy foods, medication, and other essential items to care for the baby and children (Gur et al., 2020). It is vital to understand the perspectives of Black mothers with depression to ensure that social services and interventions are designed to accommodate their needs and provide adequate and culturally appropriate supports for these mothers.

### **The Crucial Role of Social Support for Postpartum Wellbeing in Pandemic**

Social support plays a crucial role in postpartum wellbeing by protecting against emotional distress and is associated with improved parenting practices and child developmental outcomes (Taylor & Conger, 2017) and stronger parent-infant interactions (Kotchick et al., 2005). Evidence shows that social support confers protection against stress and depression (Maguire-Jack & Negash, 2016; Szkody & McKinney, 2019). However, there has been little attention to social support experiences of Black postpartum mothers during pandemic, including protective effects and changes or losses that threaten well-being.

A notable approach to studying social support centers on examining characteristics of social networks. There is evidence that the degree and strength of social connectedness within a network provides emotional support to offset the impact of stress and isolation, promotes healthful behaviors and optimizes wellbeing through a myriad of supports available within and

across social connections (Dias et al., 2018; Thomson et al., 2015). A study conducted with older African Americans revealed that individuals who reported regular contact with close family members and friends and frequent emotional support were less likely to exhibit symptoms of major depressive disorder (Taylor et al., 2015). Additionally, among older African Americans who reported regular support from family members and their church also reported fewer depression symptoms and lower levels of emotional distress (Taylor et al., 2015). Another study that measured subjective aspects of informal supports (e.g., friends, family) among elder African Americans found that dimensions of supportive relationships (e.g., closeness, conflict) were more valuable in understanding the association between interpersonal relationships and mental health than objective measures of support (e.g., frequency of contact, quantity of connections) (Nguyen et al., 2016).

Related to the structure and function of social networks is the concept of *social capital*, broadly defined as the intricate channels of resources that foster supportive relationships and skills cultivated by diverse social networks which function in a specific way among African American families and communities (Hunter et al., 2019). Historically African American families have benefited from strong networks of *extended kin* (e.g., relatives, close friends, community members), church, and a broader community (Dilworth-Anderson, 1992). Research with African American families found that Black children were more likely to be connected to an extended network that surrounded their family, including their church and neighborhood, and more likely to have close relationships with their cousins compared to White children (Fletcher et al., 2006). The extended familial network of African Americans plays a critical role where blood and *fictive kin*, defined as individuals considered family members but are not blood relatives, collectively engage in childcare activities (e.g., establishing rules, caregiving,

disciplining) (Hunter et al., 2019) and contribute to a strong intergenerational kinship network that fosters social capital and social skills that members can use outside of the network to optimize wellbeing and thrive (Burton & Jarrett, 2000).

Because the structure and functionality of supportive networks are important relative to African American's mental health, it is imperative to understand if the pandemic has disrupted or altered perceptions of the function of those networks and nature of supportive relationships. Given that African American families are more likely to live in multi-generational households and benefit from extended kin networks, efforts are needed to examine if the composition and function of these relationships and networks were changed or lost because of pandemic-driven physical distancing protocols. A proven effective approach to contain the spread of COVID-19 infection is physical distancing and social isolation (Chu et al., 2020), which may perpetuate the disproportionate negative effects of COVID-19 on the health and wellbeing among African Americans, particularly Black women (Yancy, 2020). Privileged individuals with adequate resources can distance themselves socially while also maintaining vital connections through virtual platforms to work remotely, engage with medical professionals (e.g., telehealth), and participate in virtual social activities.

Underrepresented and historically oppressed Black populations who were already experiencing obstructed access to transportation, health services, and employment opportunities are less likely use virtual platforms to work remotely, access the supports they need, and interact socially compared to affluent Whites (Yancy, 2020). Further exacerbating these inequities are systematic barriers inhibiting access to reliable internet connections among socioeconomically disadvantaged populations and rural communities that inhibit access to telehealth visits and services (Haley & Benatar, 2020). Other studies found that supportive social services that relied

on home or office visits prior to the pandemic lacked the technology, infrastructure, and resources to transition from in-person to remote visits which disproportionately impacted families living in under-resourced settings compared to social service providers operating in advantaged and higher-resources areas (Park et al., 2018; Ukoha et al., 2021). During the pandemic, many health service providers shifted to telehealth visits, particularly among affluent, White populations with health insurance. However, little is known about how telehealth services are accessed and used, and the benefits of telehealth on health outcomes, particularly if these virtual services lessened or intensified health inequalities among Black populations (Burroughs et al., 2021).

Disparate access to high-speed internet at home was an issue prior to the pandemic and one that became more pronounced during the pandemic especially as health and social services, employers, schools, and social events transitioned from in-person to virtual platforms (DiMaggio & Hargittai, 2001; Nguyen et al., 2021). Research conducted during the pandemic uncovered many lower income households still lack access to devices including smartphones or computers inhibiting virtual access to services and social events using the internet. Among individuals in households earning \$100,000 or more annual 63% had internet access at home and owned a smartphone, laptop, tablet, or desktop compared to 23% of individuals in households earning less than \$30,000 a year (Robinson et al., 2015; Vogels, 2021). As the enduring effects of the pandemic resulted in long periods of social and physical isolation from family, friends, and other supports, novel approaches are needed to understand how Black postpartum mothers with depression engaged socially and accessed the supports they need during the pandemic.

Few studies incorporate and integrate quantitative and qualitative approaches to understand the experiences of Black postpartum women with depression. Most social support

measures and instruments were developed to examine social support that have traditionally been operationalized by and used among predominantly White populations outside the context of a pandemic (Heitzmann & Kaplan, 1988; Lakey & Cohen, 2000). An evolving dimension of social support research is the study of *interpersonal social relationships*. Social relationship research aims to explore interpersonal and dynamic processes inherent in bi-directional social interactions relevant to support and well-being by employing quantitative and qualitative methods including questionnaires, direct behavioral observation, and individual stories or accounts (Reis & Collins, 2000).

Limitations of current social support research involve research focused on social relationships and networks that used either a quantitative or a qualitative approach, but rarely use mixed-methods approaches and thereby fail to capture the multitude of dimensions and processes germane to support and social interactions particularly among underrepresented cultures (Reis & Collins, 2000). Current methodologies fail to incorporate approaches that are sensitive to culture and context which excludes the opinions, experiences, and views of Black mothers with depression relative to social support during the pandemic (Coles & Pasek, 2020). To explore and examine the authentic voices and experiences of Black mothers with depression, alternative methodologies are needed to re-conceptualize the construct of social support in a culturally and contextually sensitive manner inclusive of different ways for women to share their experiences through imagery, personal accounts, and discourse that give rise to an expanding understanding of supports.

### **Productive Method and Culture**

While some traditional methods of collecting and interpreting data from surveys, interviews, and focus group discussions have examined culture relative to a particular

phenomena of interest, the findings often distilled and presented through the lens of the researcher (McDonnell, 2014). Therefore, there is a need for an innovative approach to authentically incorporate and elevate the voices of Black postpartum mothers with depression and understand their social support experiences and needs in the context of the current pandemic. An emerging methodology, *productive methods*, developed by Terrence McDonnell (2014) was used to explore and raise the voices of marginalized and stigmatized individuals. For example, productive methods was employed in Ghana to elevate the voices of Ghanaians living with HIV or living in communities where HIV rates were high to understand the impact of an AIDS campaign and collectively create a more impactful message that resonated with Ghanaians impacted by this disease. Productive methods is a promising approach to understand and elevate the voices of Black women with depression

Productive methods employ various qualitative methodologies (e.g., group discussion, observations), to uncover and define shared meanings within a group relevant to a specific issue. The root of this methodology is engaging a group of similar individuals in an interactive process to examine, explore, and understand how culture influences action and how a group arrives at a collective meaning concerning a topic (McDonnell, 2014). This approach is well-suited for qualitative studies that foster dialogue and collaboration to document how groups of similar individuals work together to assign meaning to an object or experience and to systematically measure the impact of culture. Research questions guided by a productive methodological approach should be flexible and employ multiple methodologies to engage a group in a collaborative effort and observe the group dynamic resulting in a shared and collective meaning relative to a social phenomenon.

For example, productive methods may include participant-generated photographs (Mathison, 2009) to highlight personal experiences from the perspectives of the participant rather than the researcher soliciting a specific perspective to advance an agenda or methodological rigor (Hartmann et al., 2020). Individual reflection and group discourse relative to these participant-generated images is a productive way of generating a participant-led narrative where the researcher observes and facilitates the process of participants creating a shared meaning relative to social support during the pandemic (McDonnell, 2014). Research shows that photographs taken from the perspective of participants prior to any other methodologies can stimulate rich discussions, generate new information that may not be revealed with other methodologies, and gives ownership over the narrative and content to the participants (Van Auken et al., 2010). Productive methods can also incorporate Western approaches such as the ecological mapping (eco-map) to understand the composition and nature of a social ecosystem (Hartman, 1995; Manja et al., 2021). The eco-map collects qualitative and quantitative data that assesses multiple dimensions of supports, relationships, and networks and can generate data which can be triangulated with other data sources to enhance and enrich the understanding of a particular phenomenon or lived experience (Manja et al., 2021).

Structural oppression has created many inequities (e.g., maternal depression diagnosis and treatment), which impacts minoritized and under-resourced women disproportionately. Given emerging evidence mental health issues are increasing during the pandemic and well-established evidence of the protective nature of social support, the current pandemic is a unique opportunity to explore how social support is defined and experienced among Black postpartum mothers with depression. To my knowledge , there are no published studies of productive methodological

approaches to understand and contextualize how social support is defined and experienced among Black postpartum mothers with depression during the pandemic.

### **Study Purpose and Research Questions**

There is near absence of the voices of historically underrepresented Black mothers with depression, relative to their definitions and experiences of social support through culturally sensitive measures. Prior to the pandemic Black mothers disproportionately experienced depression and had limited access to interventions and services which has been exacerbated during the current pandemic. As the pandemic continues to disproportionately impact individuals of color, there is a unique opportunity to understand how Black mothers with depression who have been excluded from the literature define and experience support in this context.

The purpose of the study is to identify social support assets, gaps, and needs of Black postpartum mothers who are depressed. Such information is crucial for developing future interventions that address the social support needs of Black postpartum mothers to protect against depression in pandemic. A productive methods approach was used, including participant-generated photography, group discussions centered on the photography, and individual mapping interviews. The following research questions will be addressed:

**RQ1:** What are the social support categories that emerge through productive group discussions centered on participant-generated photography relative to how Black mothers with depression experience social support during the pandemic?

**RQ2:** Expanding on these emergent social support categories what are the collective social support themes identified through the construction of individual cultural maps of maternal social support during a pandemic among Black mothers with depression.



**RQ3:** In contrast to cultural mapping, what are the characteristics of maternal social ecosystems relative to Western research epistemology of ecological mapping which yields number, type, quality, and directionality of social connections?

**RQ4:** What are the similarities and differences across cultural and ecological maps of support? How do these maps expand the construct of social support among Black postpartum mother with depression during a pandemic?

## **Chapter II: Literature Review**

During the pandemic, a growing body of research has emerged on postpartum issues related to maternal mental health, elevated anxiety, and stress levels driven by disruptions in health services and uncertainty resulting from isolation, loneliness, social exclusion, and fear of exposure to the virus (Farewell et al., 2020; Kumari et al., 2020; Ollivier et al., 2021). Among these studies, mothers reported and shared their concerns regarding feeling abandoned by health-care providers and excluded from COVID-19 information and services as little was known concerning vaccine eligibility among pregnant and breastfeeding women initially (Ollivier et al., 2021). Some research found that postpartum mothers used online platforms to connect virtually with friends and family, and socialize with other moms or support groups to cope with the isolating effects of the pandemic (Kumari et al., 2020). None of these studies employed productive methodologies to capture the authentic voices and experiences of systemically oppressed Black postpartum mothers with depression relative to how they define and experience social support during the pandemic.

### **Maternal Depression: Prevalence, Symptomology, and Disparities**

Depression is one of the most common illnesses affecting women during pregnancy and postpartum in the United States with prevalence rates from 10 – 50% depending on the population and depression screening or diagnostic instrument used (Bodnar-Deren et al., 2017; Haight et al., 2019). A recent study found that the rate of maternal depression diagnosed at birth increased seven-fold between 2000 - 2015 and that maternal depression diagnosed during delivery increased in 27 states and among all sociodemographic classes in the U.S. (e.g., diagnoses performed with ICD-9 classification, Clinical Modification diagnostic and procedural codes) (Haight et al., 2019). Women experiencing depression may report disturbances in their

sleeping patterns, general disinterest, low energy levels, irritability, anxiety, and sadness (Reid & Taylor, 2015). The effects of depression have detrimental impacts on maternal health and mother-child relationships (Slomian et al., 2019). Evidence suggests that maternal depression is associated with higher levels of parenting stress and harsh parenting practices (Galbally & Lewis, 2017; Taraban et al., 2017). Mothers who experience depression are less likely to demonstrate maternal sensitivity and exhibit lower levels of attachment with their infant resulting in lower quality mother-infant interactions (Kotchick et al., 2005; Taraban et al., 2017).

Minoritized, low-income, women of color are more likely to experience depression symptoms (e.g., Edinburgh Postnatal Depression Scale (EPDS)) (Cox et al., 1987) and are less likely to obtain support or treatment when compared to non-Hispanic, White women (Dolbier et al., 2013; Ertel et al., 2011; Maxwell et al., 2019). One study reported that 12% of White mothers experience postpartum depressive symptoms based on screening instruments (e.g., EPDS, PDSS) (Gaynes et al., 2005) compared to 38% of mothers of color based on self-reported depressive symptoms (Centers for Disease Control and Prevention, 2008). Some scholars believe that depression rates among Black women are underreported or misrepresented as most postpartum depression research used screening instruments focused on women and mothers from advantaged families, who were partnered, belonged to secure and stable families, and maintained stable relationships with a health professional (Keefe et al., 2018).

Systemically oppressed individuals are more likely to encounter barriers including access to mental health treatment and services, access to quality education, and forming secure relationships with formal service providers resulting from systemic racism which has devalued the lives of women of color and created structural barriers that inhibit their ability to achieve optimal wellbeing (Gany et al., 2006; Grote et al., 2007; Riolo et al., 2005). While maternal

depression has been examined prior to the pandemic, is important to consider this illness and the disparities associated with depression in the context of the current pandemic and extended periods of isolation and loneliness, which are associated with poor mental health outcomes particularly among historically oppressed women.

### **Maternal Depression during Covid**

Since COVID-19 had a global impact, several studies explored maternal postpartum mental health outcomes during the pandemic in Turkey (Oskovi-Kaplan et al., 2021), Spain (Mariño-Narvaez et al., 2021), China (Liang et al., 2020), Israel (Pariante et al., 2020), and Mexico (Suárez-Rico et al., 2021). Studies examining maternal depression (with EPDS clinical cut-off 10) with postpartum women in Canada (Cameron et al., 2020), Belgium (Ceulemans et al., 2020), and Italy (Zanardo et al., 2020) found evidence that maternal depression and anxiety levels were elevated during the pandemic. These studies report an association between elevated levels of depression with fear of contracting COVID-19, social isolation, and physical distancing measures employed to curb the spread of the disease. In Guangzhou, China, depression rates at 6 – 12 weeks postpartum were estimated at 30% (Chinese version of Edinburgh Postnatal Depression Scale (EPDS), clinical cutoff point of 10) (Liang et al., 2020). An Italian study found that 44.2% of the study sample reported depressive symptomology (e.g., EPDS score  $\geq 12$ ) after giving birth during the pandemic compared to maternal depression rates between 10 – 16% which were reported by women 3 months postpartum prior to the pandemic (Ostacoli et al., 2020). This study also reported that a protective factor against depression was the perception of support from healthcare providers and staff (Ostacoli et al., 2020). Daily disruptions, discontinuation of services, and changes in how mothers interact with health care providers (e.g.,

telehealth) warrant further investigation concerning maternal health and accessibility and adequacy of critical maternal support (Diamond et al., 2020).

For many, stay-at-home mandates enhanced feelings of loneliness and isolation and were associated with increased family stress levels and strain as the uncertainty of the pandemic lingered while families strived to optimize the health and wellbeing of their infant (Diamond et al., 2020). Social isolation measures employed by local and state governments to slow the spread of COVID-19 including physical distancing, shelter-in-place orders, and self-quarantine are believed to be associated with elevated anxiety levels and isolation (Davenport et al., 2020). Postpartum mothers who were isolated or quarantined in areas more severely impacted by COVID-19 reported higher levels of depressive symptomology and stress compared to postpartum mothers isolated in areas less impacted by COVID-19 (Spinola et al., 2020). While this evidence suggests that depression levels are elevated during the pandemic, there is little research concerning how the pandemic is impacting the mental health of Black mothers (Hessami et al., 2020).

African Americans not only contract coronavirus at higher rates compared to Whites (Gur et al., 2020) but are also more likely than Whites to experience comorbidities (e.g., hypertension, diabetes, asthma) related to systemic racism that prolong COVID-19 related illness and may result in death (Bailey & Moon, 2020). Historically oppressed Black women frequently work in high-risk jobs that involve caretaking which increases their risk of exposure and contracting the disease (Walton et al., 2021) and are less likely to have adequate healthcare making them more susceptible to die from COVID-19 (Lopez et al., 2020). Socioeconomically disadvantaged families of color are also less likely to have access to internet and the devices that connect to different virtual platforms thereby limiting their access to healthcare services and supports

compared to White families (Anderson & Perrin, 2018). While current research suggests connections between pandemic-driven social isolation measures, and declining maternal mental health, research capturing the perspectives and experiences concerning social supports among Black postpartum women with depression living in the U.S. is underdeveloped.

### **The Protective Role of Social Support**

Interpersonal, social interactions and supportive relationships are indisputably vital to an individual's general mental and physical wellbeing (Umberson et al., 2010). While social support is relevant to nearly all aspects of human functioning, it is of particular interest concerning parental health and practices because social support is believed to protect against the effects of stress (Maguire-Jack & Negash, 2016; Szkody & McKinney, 2019) and depression (McManus & Poehlmann, 2012) which may confer protection for parent-child interactions (Zhang et al., 2019) and strengthen parenting efficacy (Anglely et al., 2015). Additionally, higher levels of perceived social support from friends, family, and others are believed to protect against elevated mental health concerns among pregnant women (Khoury et al., 2021). The consequences of social exclusion and limited social support are also well-documented.

Socially isolated mothers with limited access to parenting resources, were more likely to experience mental distress (Miller-Loncar et al., 1998), and employ harsh parenting practices (Maguire-Jack & Negash, 2016). While there is substantial evidence in the literature concerning the association between positive and supportive relationships and lower levels of maternal depression (Reid & Taylor, 2015) and in fostering mental and physical wellbeing (Sarason & Sarason, 2009), studies all show that not all support is equivalent. For example, while support from a romantic partner and from friends and family were associated with lower maternal depressive symptomatology among married, cohabitating, and single women, support from an

intimate partner played a stronger role in lessening the effects of maternal depression for married and cohabitating mothers relative to support from friends and family (Reid & Taylor, 2015).

Among younger mothers, partner support (e.g., child's father) protected against the effects of parenting stress, while support from the maternal grandparents was associated with more responsive parenting behaviors (Lee et al., 2019; Lee et al., 2020). However, younger mothers who experienced depression, reported fewer benefits from the general support provided by the maternal grandparents. These findings indicate that social support is more complex and multifaceted than just the type and source of support particularly among young mothers with depression within the first year postpartum (Lee et al., 2019; Lee et al., 2020). Despite evidence that supportive connections and resources play a protective role relative to maternal health and parenting outcomes, there is limited knowledge concerning the role of culture and context regarding interpersonal relationships particularly among Black mothers with depression.

### **Shift to Understand Critical Dimensions of Social Relationships**

Earlier research focused on a global construct of support that was typically enumerated, but current research efforts have shifted to focus on the mechanisms and processes underlying interpersonal bi-directional connections that enriches our understanding of support within the context of a dynamic relationship (Cutrona & Russell, 1990; Green & Rodgers, 2001a). Notwithstanding the extensive body of evidence of the benefits of social support, emerging research expands upon the associations between support, health and behavioral outcomes to explicate social support mechanisms (Saltzman & Holahan, 2002). Understanding the significance of culture is vital to appreciate the importance of social support particularly as this construct is examined through the lens of historically oppressed Black women (Biggs, 2017). It

is important to understand the historical domains of support and supportive relationships relevant to Black women and their culture.

### **Critical Dimensions of Support in Black Culture**

There is a wealth of information that has examined domains of support within African American culture (Dilworth-Anderson, 1992; Hunter et al., 2019; Hunter et al., 2012). However, little is known concerning if previously identified and studied domains were disrupted or altered during the pandemic. Relevant domains of support relative to Black culture are discussed as they have historical and cultural significance, but also because it is unknown if the structure and functions of these domains were preserved, modified, disrupted, or lost during the pandemic relative to the experiences of Black mothers with depression.

### **Social Networks and Social Capital**

Social networks are characterized by the social and cultural micro-ecosystems which connect individuals and their families and support the mobilization of resources to meet a need of which have a specific functionality among African Americans (Hunter et al., 2019). It is imperative to understand the family and community structure among Black populations, which has been influenced by the harmful and hostile environments created by slavery and institutionalized racism. As described in the literature, Black culture is deeply rooted in kinship networks, church and faith, and a strong bond with the community (Hunter et al., 2019). Historically, and prior to the pandemic, the African American family structure and organization was centered around multi-generational households with extended family members to support one another in a safe and caring environment (Dilworth-Anderson, 1992; Ruggles, 1994). Research demonstrated that multi-generational households reported higher levels of practical, monetary, and emotional support provision, but it is unknown if these intergenerational family



structures within African American households maintained their functionality during the pandemic (Gilligan et al., 2020). Another important aspect of African American culture is mutual aid and communal efforts which emerged as enslaved, African Americans worked collectively to escape slavery and survive oppressive systems (Dilworth-Anderson, 1992). As described in the literature, the evolution of collective efforts within the Black community includes shared roles and responsibilities with respect to childrearing (e.g., “child-keeping,” discipline, rule setting), preparing and sharing meals, social events, and the creation of folk art (e.g., quilting) (Hunter et al., 2019; Ugarriza, 2006). Systemic oppression and structural racism influenced the emergence of these shared activities and collective roles within the extended Black family unit to ensure survival and the ability to thrive in an unwelcoming and unjust society.

Another unique aspect of traditional Black communities are *fictive kin*, who are considered family members despite a lack of a biological relation (e.g., non-blood relatives) (Dilworth-Anderson, 1992). For many, extended and fictive kin networks, which are grounded in mutual aid, is integral in fostering the well-being and security of the Black community and meeting the needs of lower-income family members, elder relatives, and parents and is often the preferred mechanism of support over formal services (Dilworth-Anderson, 1992; Green & Rodgers, 2001b). Many Black communities are diverse with respect to household income levels, social and spiritual characteristics, and community membership (Hunter et al., 2019); and it is common practice for members of Black neighborhoods to seek and access supportive connections within and outside their immediate community irrespective of social mobility, race, ethnicity, and religious denomination (Hunter et al., 2012). The literature also shows that many African Americans, influenced by a culture of reciprocity and mutuality, are more likely to seek emotional support from family members than other sources which is perceived as fostering

individual autonomy and independence (Dunkel-Schetter et al., 1996). This type of support seeking behavior has allowed many African Americans to engage with a network to mobilize resources and supports from members with whom close emotional bonds are formed which cultivates healthy support-seeking behaviors and independence (Dilworth-Anderson, 1992; Ryan & Solky, 1996).

Of importance is understanding how Black women, particularly mothers, experience support relative to their mental health needs. Relative to Black mothers, a seminal qualitative study found that among low-income African American women experiencing poverty, a stable and supportive social network was a vital to their ability to manage the daily stress of living in poverty and be an effective parent (Belle, 1982). Additionally, high levels of maternal social support, particularly from an intimate partner, and supportive networks have been shown to attenuate the effects of neighborhood instability and mental distress relative to positive maternal parenting practices (Amankwaa, 2003). The current research demonstrates the supportive role of social networks for improved mental health and wellbeing among African Americans, but efforts are needed to understand if social network mechanism have maintained their functionality during the pandemic or if pandemic-driven isolation measures have eroded these networks or produced stressful environments leading to conflicted connections particularly among the networks of Black mothers.

### **Conflicted Social Network**

To date, research has focused on positive and stable social connections within a network, however it is relevant to consider the implications of other types of relationships including conflicted social connections relative to health and wellbeing. For example, mothers who experienced unsolicited advice, demands from others, and criticism on her parenting practices,

were more likely to feel irritated and demonstrate low self-confidence thus inhibiting maternal responsiveness to her infant's needs (Miller-Loncar et al., 1998). There is some evidence that the influence of stressful relationships is experienced differently across families of different ethnicities. One study found that despite reports of higher levels of intimate partner support, African American mothers also reported a higher rate of stressful or conflicted interpersonal interactions within their social networks compared to mothers in White and Hispanic families (Miller-Loncar et al., 1998). It has also been shown that subjective aspects of interpersonal relationships (e.g., closeness, level of conflict) enhanced the understanding of the association between interpersonal relationships and mental health among elder African Americans (Nguyen et al., 2016). The structure and function of social networks tell one part of the story regarding how mothers define and access supports. Other critical dimensions of social networks and the connections within them are harder to see and grasp as they refer to social roles, identities, or sources of inner strength and faith that may be enhanced through these networks but are also important aspects of related to the associations between Black culture and support.

### **Church and Faith**

Religion and a strong spiritual connection are central to African American culture, and promoting social connectedness, and the provision of support (Ugarriza, 2006). There are numerous examples in the literature of African American women harnessing the power of prayer to cope with emotional distress and depression (Amankwaa, 2003). For many, the Black church provides solidarity, and an extensive network of emotional and material support to meet the critical needs of its members but also fosters unity and community action around civic and human rights issues that are important to the local community (Mays et al., 1996; McRae et al., 1998). Since faith and spirituality are central to many Black women's social roles and identity,

examining dimensions relative to faith and identity may shed light on how Black women seek, acquire, and utilize various supports to meet health and parenting needs which may have changed during the pandemic

### **Identity and Social Roles: Strong Black Women**

A significant symbol within African American culture is the image of a strong Black woman, one who can single-handedly manage life's challenges without consideration of the physical and mental toll on herself which may impact how Black mothers with depression seek mental health support within their networks (Amankwaa, 2003; Bronder et al., 2014). Among Black mothers experiencing depression, there is some evidence that mothers reported seeking help from formal (e.g., professional) and informal sources (e.g., friends, family), however the most striking finding was the manifestation of African American culture which had a strong influence on the depression coping skills employed by Black mothers (Amankwaa, 2003). African American mothers with depression reported the mechanisms they employed to manage their depression including surrendering to their faith. Additionally, the literature illustrated that Black mothers also underscore personal and cultural barriers to addressing depression including aspiring to be the ideal, strong Black woman, subscribing to myths that depression only impacts White, middle class women (Abrams & Curran, 2009), and withholding information about their depression from people in their closer inner network (Amankwaa, 2003; Cricco-Lizza, 2008).

This iconic image of a stoic Black woman has restrained African American women who experience depression from accessing and utilizing formal and informal supports and from externalizing emotions that are culturally associated with weakness and vulnerability (Atkins, 2016). Culturally sanctioned roles associated with being strong and soldiering on in the face of obstacles has led many African American mothers to internalize a superwoman persona and

sustain unrealistic expectations of themselves instead of accessing supports to promote their mental and physical wellbeing (Liao et al., 2019; Watson-Singleton, 2017). Given that the pandemic has created a stressful environment for everyone, it is imperative that we utilize novel approaches to consider how culture influences how historically oppressed and misrepresented Black mothers with depression view themselves as women, mothers, and members of their community and hear their voices related to their experiences and needs particularly during a pandemic.

### **Productive Methods to Draw Attention to Black Mothers' Voices**

Although depression rates are highest among Black women, they are less likely than white women to access intervention or be represented in research (Grote et al., 2007; National Center for Health Statistics, 2016). Consequently, there is a striking need to use innovative approaches to elevate the voices, experiences, and needs of minoritized, and systemically oppressed Black women (Atkins, 2016; Keefe et al., 2016; Maxwell et al., 2019). To date, few studies have explored the relationships between, depression and social support needs of Black mothers in the current COVID-19 pandemic. To address this gap, this study used a productive methods approach, to examine the authentic experiences relative to Black culture, social support assets and needs as described and defined by Black postpartum women with depression (McDonnell & Vercel, 2019). Productive methodology offers a flexible and adaptive mechanism for these mothers to tell their story and lived experiences in their own words and in the context of their culture while also being transparent regarding the topic of interest in this study which is social support during a pandemic.

In the current study, productive methods provide a rigorous, yet flexible method allowing researchers to identify authentic perspectives of participants independent of methodological

artifacts from traditional, Western designed instruments. From the onset, participant-generated photographs (Mathison, 2009) were used to focus on the personal experiences of Black postpartum women regarding social support during the pandemic from the participant's perspective rather than the researcher soliciting a specific perspective to advance an agenda or the traditional understanding of methodological rigor in research (Hartmann 2020). Productive methods is a rigorous, multi-method, iterative and reflective process wherein participant-generated photography, individual reflection and group discourse relative to these participant-generated images is a productive way of generating a participant-led narrative. The researcher then observes and facilitates the process of participants creating a shared meaning relative to important aspects of social support during the pandemic (McDonnell, 2014).

Research shows that photographs taken from participants' perspectives before other methodologies are employed (e.g., interviews, surveys) stimulates rich discussions, generates new information, and gives ownership of the narrative and content to the participants (Van Auken et al., 2010). This study also used ecological mapping (eco-map), a Western assessment of the number, type, quality, and directionality of support within a social ecosystem (Hartman 1995; Manja 2021). The eco-map is a subjective and objective tool that assesses multiple dimensions of social connections and resources and produces data that can be merged with other data sources to enhance and enrich the understanding of a particular phenomenon or lived experience (Manja 2021). Through productive methods, participants identify and define cultural themes and relevant aspects of social support to generate a cultural map of support juxtaposed with a traditional map of social connections to examine where these two maps converge and diverge.

## Summary

Black women disproportionately experience depression and the negative impacts of COVID-19 on health and economic outcomes. Social support is believed to protect against the damaging effects of depression on maternal health and wellbeing and parenting outcomes, but emerging data shows that social support is also an important factor helping individuals and families endure pandemic-driven isolation and vulnerabilities. Productive methods is an innovative approach that draws attention to culture and while this method is useful independent of context, employing productive methods during the pandemic offers a unique opportunity to elevate the voices of historically underrepresented Black mothers with depression. This study engaged the voices of Black mothers to expand our understanding of their views of social support using both Western research epistemology and productive methods. There is no known research that utilized a productive methodological approach with photography, groups discussions, and individual interviews to expand up on the definition of social support and the functionality of social ecosystems among Black postpartum women with depression during the pandemic.

### Chapter III: Method

Productive methodology is an emerging qualitative multi-method approach that allows researchers to explore a particular issue and the shared meanings among a group of individuals that identify with one another (e.g., group of postpartum mothers). Guided by productive methodology this study engaged Black postpartum mothers in the creation of a *cultural object* defined as something that has importance and meaning to a group (McDonnell, 2014). To explore the construct of social support relevant to Black postpartum women with depression during a pandemic (Coles & Pasek, 2020; Hartmann et al., 2020).

To accomplish this, the current study, included participant-generated photo-imagery related to maternal social support experiences (Guillemin & Drew, 2010), productive group discussions (McDonnell & Vercel, 2019) centered on these images, and individual interviews (Graves, 2017) to further understand and elevate the voices and needs of Black postpartum mothers with depression during a pandemic. A concept mapping analytic approach was used to identify emergent cultural themes representing social support experiences of Black postpartum mothers with depression during a pandemic. Using these themes, visual portrayal of a diverse continuum of qualities and experiences relative to social support among Black postpartum mothers with depression during a pandemic was created (Conceição et al., 2017).

Through this approach, concept mapping was used to visually demonstrate how the current study expanded upon a traditional conceptualization of social support. By starting with participant-generated photographs and productive group discussions on the meanings within those images relevant to maternal social support during a pandemic, individual concept maps were created that portrayed the culturally specific social support themes and the connections between those themes that were the most important to each participant. The purpose of utilizing



productive methods and a traditional approach (e.g., eco-map) was to expand upon the current knowledge and conceptualization of social support and integrate the voices and experiences of Black postpartum mothers who have habitually been misrepresented in the literature (Coles & Pasek, 2020). This study's heuristic value was to inform intervention and assessment of maternal social support, particularly for Black women.

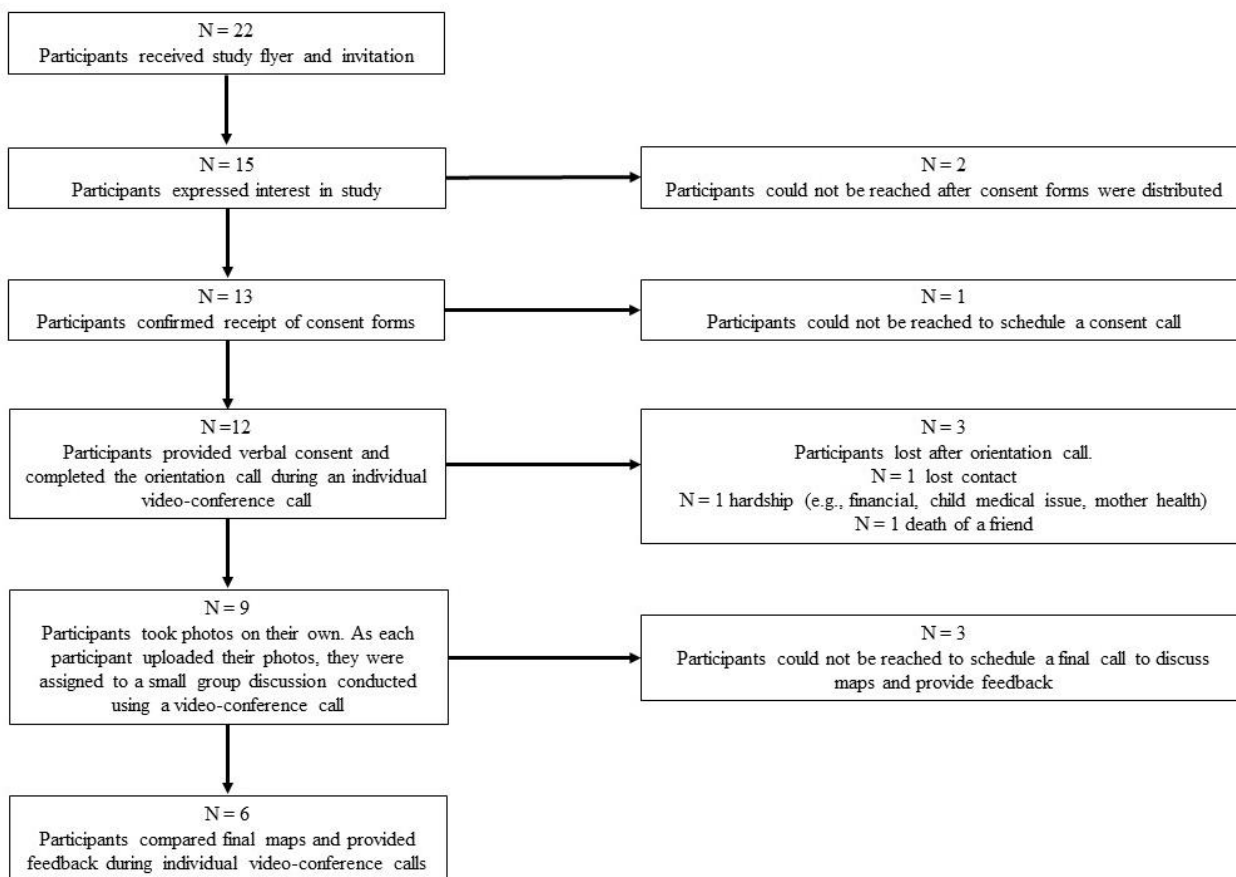
### **Study Participants**

Institutional Review Board (IRB) approval (see Appendix A) was sought from Georgia State University. After IRB approval, participants were contacted through email and text message who completed a parenting intervention and consented to being contacted concerning future research opportunities (see Appendix B). This study engaged a convenience subsample of 12 Black mothers drawn from a larger study that examined the efficacy of a parenting intervention targeting maternal depression and parent practices to optimize infant developmental outcomes (NIH/NICHD R01 HD086894; (Baggett et al., 2020). This current sample size was selected to optimize participant's comfort levels and allow participants to engage freely and safely within a virtual environment. Participants of the original parenting intervention study were mothers of infants aged 0–12 months, obtained a score above the clinical cut off for depressive symptoms on the Patient Health Questionnaire-2 (PHQ-2) at screening, were at least 18 years of age, spoke English, and lived in the local metropolitan area of a large southern city in the U.S. (Baggett et al., 2020). Mothers were excluded from the parenting intervention if at screening, they reported a history of psychotic illness (e.g., clinical diagnosis), resided in a homeless or domestic violence shelter, they or their infant were receiving intensive medical treatment, or if mothers were not the legal guardian of their infant (Baggett et al., 2020).

## Participant Flow

Twenty-two mothers received a flyer (see Appendix B) and invitation to join the study through email and text message. Twelve participants provided verbal consent during a video-recorded informed consent call and completed an orientation call through videoconference. Of those, nine individuals participated in a group discussion and an individual mapping interview through a recorded video conference call. A total of six participants completed a final individual feedback call through videoconferencing. See Figure 1 for the flow of participants in this study from recruitment through study completion.

**Figure 1. Participant Flow Chart**



## Sample Description

The 12 participants included in this study ranged in age from 31 – 41 years with a median age of 33.5 years. The number of children living at home ranged from one to six with a median of three children. All participants identified as Black/African American. Sixty-six percent (n = 8) of participants reported having a significant other and 33% (n = 3) reported that they did not have a significant other. Sixty-seven percent (n = 8) participants had not completed college, and of these 63% (n = 5) had never attended college. Thirty-three percent (n = 4) of mothers completed college. Forty-two percent (n = 5) of mothers reported working full-time, 33% (n = 4) of mothers worked part-time, 17% (n = 2) of mothers were not working but were looking for employment, and 8% (n = 1) of mothers were not working by choice. Sixty-seven percent (n = 8) of participants lived at or below the 138% Federal Poverty Guideline. See Table 1 for the socio-demographic characteristics of the study participants. At the completion of the prior intervention study (e.g., Mom and Baby Net) in the last 12 – 24 months, 2/3 (67%) of participants obtained a depression score in the non-clinical range (e.g., none to few symptoms of depression) and 1/3 (33%) of the participants obtained a score within the mild or moderate range of depression severity.

**Table 1. Demographics of Study Sample**

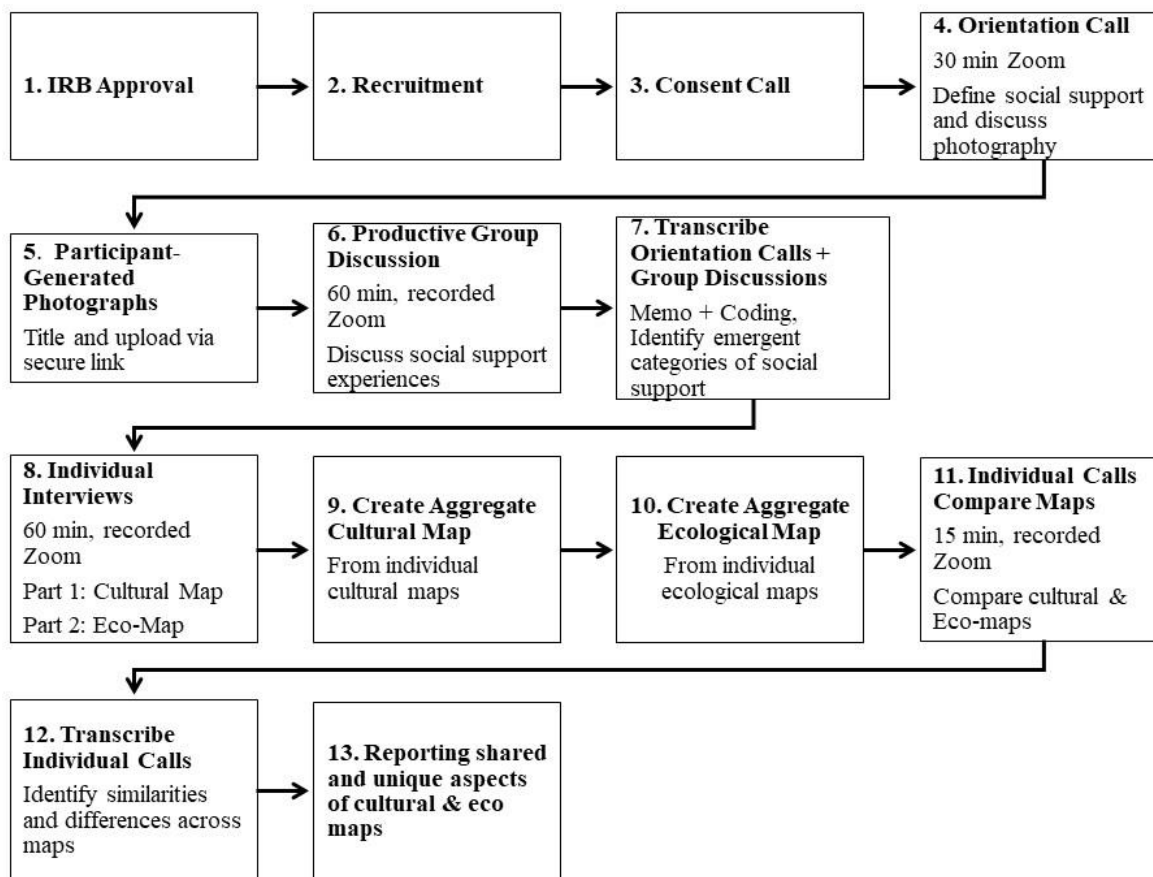
<b>Variable</b>	<b>Value</b>
Maternal age in years, mean (SD); range	34.4 (3.2); 31.0 – 41.0
Number of children in the home, mean (SD); range	3.1 (1.6); 1.0 – 6.0
Maternal race (Black) % (n)	100.0 (12)
Maternal ethnicity (Latinx) % (n)	0.0 (0.0)
Maternal employment (not working) % (n)	25.0 (3)
<i>Looking for employment % (n)</i>	17.0 (2)
<i>By choice % (n)</i>	8.0 (1)
Maternal education (< college degree) % (n)	41.7 (5)
Maternal relationship (has a significant other) % (n)	66.7 (8)
Household income, % (n) (<= 138% Federal Poverty Guideline) % (n)	66.7 (8)

## Study Procedures

### Informed Consent

Interested and eligible participants who responded to the study invitation and flyer were emailed a study consent form to review (see Appendix C). Following the receipt of the consent forms, a 30-minute Zoom call was scheduled and recorded to discuss (1) purpose of the study, (2) study consent form and procedures, and (3) and mother's availability and willingness to participate in the study. Informed consent was ensured by reading the entire consent form together and pausing after each brief section to ask participants to share their understanding. Mothers were encouraged to ask question and all questions were answered availability for this study. Following the completion of the call participants were asked to provide verbal consent.

**Figure 2. Study Procedures Flow Chart**



### **Participant Orientation to Productive Methods Process**

Within two weeks of completing the informed consent call, participants joined a 30-minute virtual group orientation call recorded through Zoom (see Appendix D). During this call, the theme of social support was discussed. Participants were asked to describe what social support during the pandemic meant to them in their own words. It was also discussed that while social support has several different meanings each participant should use the words they feel best relates to their understanding of and experiences related to social support during the pandemic. The process of taking photographs illustrative of what social support meant to the participants during the pandemic was discussed. Participants were asked to provide examples of pictures they

might take to illustrate their personal experiences of social support relative to their needs during the pandemic. Participants were encouraged to take photographs of something that was meaningful to them and their story as it relates to social support, however they defined and experienced this term.

During the orientation call, expectations were established concerning safe and appropriate techniques for taking photographs in public settings. The following questions were discussed: What is an appropriate way to approach someone when you want to take their picture (if applicable)? What types of situations or images should be avoided? (Wang & Pies, 2004). These questions enabled participants to prioritize their safety and minimize risks when pursuing photography in a community or public setting if relevant to the story they wished to share. To facilitate the process and ensure that participants felt comfortable taking photographs, participants were encouraged to share their ideas regarding social support during a pandemic and their plans to take photographs that depicted their perceptions of social support during a pandemic.

Participants were asked to give each photograph a short title containing one to five words and to specify the image that best represented what social support meant to them. Participants were encouraged to avoid taking photographs of the faces of other individuals. Mothers were provided a demonstration of how to upload the images using a secure Dropbox link and then sent a secure link to upload their final photographs. After the images were uploaded, participants initials were used to connect the photographs to the participant. After the images were uploaded, participants received a short Qualtrics survey requesting their permission to use photographs for research or publication purposes. All participants in this study provided written permission for

use of their photographs for research or publication purpose. Recordings were transcribed using MAXQDA.

### **Generation of Participant Photographs as Stimuli**

Participants were given five days to independently take and submit at least five digital photographs using any device they preferred. Participants labeled each photograph with a short title and uploaded them to a GSU Dropbox folder using a secure link that was emailed or texted to them. The photographs served as stimuli for the subsequent productive group discussions relative to the aspects of social support that are important, distinct, and common among Black mothers with depression during the pandemic.

### **Productive Group Discussion of Social Support: Photograph Stimuli**

Within two weeks after participants submitted photographs that best represented their perspectives and experiences related to social supports during the pandemic, participants were assigned to one of three small groups based on their availability and scheduling convenience. Each of the virtual groups, consisted of three participants and were conducted via Zoom. Discussions, modeled after the original study that employed productive methods (McDonnell, 2014; Taylor et al., 2004) ranged from 40 – 60 minutes and were recorded for later transcription (See Appendix E). Productive group discussions were centered on the participant-generated photographs that mothers selected, which portrayed how they defined and experienced social support during the pandemic (see Appendix F for participant-generated photos selected for group discussion). Each mother prioritized a photograph for sharing, which was displayed to the group as a cue for discussion. Participants were asked to share the short photograph title, and why they chose the title. Each participant was asked the following questions as they presented their image to the group: What do you see here? What do you want others to see here? What does this

photograph mean to you? (Wang et al., 2004). During the group discussion, participants were encouraged to share their story in their own words and even though they presented a single image to the group, each participant was free to reference any of the other photographs they took as illustrations of their personal stories and experiences particularly when it was helpful to expand upon the definition of support.

After each group member presented their photograph and the group discussed their experiences and meanings related to social support, a random number generator was used to randomly select nine photographs among all the participant-generated photos uploaded that were not selected for group discussion to share during each of the three productive group discussions (see Appendix G for randomly selected photographs). Participants were shown three images at a time on a single screen. Three images were portrayed at a time as most mothers (e.g., seven out of nine) participated on the group discussion calls using their mobile phones which had a smaller screen therefore projecting three images at a time ensured that the participants were able to clearly see each photograph.

For each screen shot that contained three images, group members were asked to respond to the following questions: What do you see across these images? What looks the same? What looks different? What is the story here? A fundamental aspect of this discussion was cultural identity and the elements of culture that influence individual and collective experiences and meanings about social support to elevate the voices of Black postpartum mothers with depression whose perspectives are often misrepresented in the literature (Coles & Pasek, 2020; McDonnell, 2014). This process continued until participants discussed all nine images. Productive group discussions focused on the reoccurring themes that emerged across the photographs and how



these themes influenced a culturally appropriate conceptualization for support relative to Black postpartum women with depression.

Recordings of the productive group discussion were transcribed using MAXQDA after each discussion concluded. Following transcription, the following steps were employed to explore the data and inform subsequent procedures: (1) data exploration commenced with initial transcript examination and the creation of memos in each transcript to group maternal comments into *broad comment types* (e.g., global categories), (2) open coding of each transcript using the broad comment types during a line-by-line review of each transcript to highlight important areas in the transcripts for coding utilizing the participant's own words as an initial step to identify more specific *social support topics* (Corbin & Strauss, 1990), and (3) group these social support categories by similar shared content focus (e.g., school, work, family) and context (e.g., good or bad experience) resulting in emergent *social support categories*. These emergent categories were identified but left unnamed to allow mothers to generate names for these groupings using their own words.

### **Individual Interviews to Construct Individual Cultural and Ecological Maps**

Individual interviews were conducted through a recorded Zoom call lasting approximately 45 minutes. Each interview was divided into two parts including the (1) creation of an individual cultural map based on the emergent social support categories generated from the preliminary open coding of orientation calls and productive groups discussions, and (2) the creation of an individual ecological map relative to western epistemic approaches and conceptualizations of social ecosystems.

### ***Individual Interview: Cultural Map of Social Support***

During a recorded Zoom call that lasted on average 45 minutes, direct quotes defining the emergent social support categories described above were presented to inform the development of individual cultural maps of support (see Appendix H – for quotes). Individual cultural maps were created wherein each mother: (1) examined direct quotes associated with each emergent support theme, selected the most important quotes to her, named each grouping of selected quotes (i.e. maternal theme), and ranked each maternal theme (1 = most impactful); (2) created a cultural map displaying each maternal theme in the design (e.g., Venn diagram, pyramid) of her choice. After the maternal themes were ranked and ordered, participants created a visual map using these categories in whatever shape they selected.

Creation of the cultural maps was a collaborative effort where one the maternal themes were named and rank ordered participants were asked to think about how they wanted to display these themes visually to tell a story. While participants reflected on their story, examples of different shapes and maps (e.g., Venn diagrams, pyramids) were displayed to give mothers an idea of how they might create a map using their themes. After viewing as many different choices as the mother requests, she was asked to select a design that she wanted to use to display her themes. If the design did not look right once the themes were added, mothers could select another design. Mothers were asked what colors they wished to use for certain themes, and if they wanted to make certain themes bigger to reflect a greater importance. Mothers were also asked the order in which they wanted the themes to be displayed or grouped in the final design.

The final product was an individual cultural map of social support that represented the most salient aspects and elements of support identified and defined by the mother. The final individual cultural map represented aspects of support and the relationship or connectedness

between or among these aspects that are important and significant to them, grouped in categories and given a name using the mother's own words and definitions. After the individual mapping call, cultural maps were emailed to each participant to verify the information or make any edits or changes to the final maps. Participants responded in writing with any changes that they wished to make to the themes, design, order of the themes in the design, or any content or wording within the themes. Changes were made based on the written request of mothers and then revised versions of the map were emailed to the mothers to review and verify that the map was presented accurately. This process continued until mothers said that they no longer had any edits or comments for their map in which case it was considered the final version.

### ***Individual Ecological Map (Eco-Map)***

Following the cultural mapping exercise, in a recorded Zoom call that lasted on average 30 minutes, participants completed an ecological mapping assessment. At the start of the interview, the ecological mapping process was described and instructions for creating an eco-map were provided (see Appendix I). Microsoft word was used to create a visual of the ecological map for each participant. The data and information in the recorded interview were used to generate the eco-map visual depiction of each maternal ecosystem and populate the eco-map scoring sheet to quantify aspects of social connections relative to the number and type connections, quality of connection, and directionality of support for each connection (Hartman, 1978).

Following the original instructions for creating an individual ecological map (Hartman, 1978) Microsoft word was used to create a circle at the center of a blank document to depict the mother (see Appendix I for eco-map template). After the participant identified herself in whatever way she preferred to describe herself, the ecological mapping process focused on

connections inside and outside the household. Per the original instructions for creating an eco-map, the ecological map template included circles with common connections including spouse/partner, extended family, school, friends, recreation/leisure, spirituality, work, and social services (e.g., WIC, TANF) (Guttentag et al., 2014; Hartman, 1978) (see Figure 2). There were several blank circles enabling participants to add as many connections as they liked.

Participants were asked to designate the quality of each existing connection as follows: (1) positive or (2) negative (e.g., weak, stressful, conflicted). Other connections were labeled as (1) wishful connections are ones that do not exist but a mother desires; and (2) no connection which is a connection that does not exist, and the mother does not desire it (Guttentag et al., 2014; Hartman, 1978). Directionality was indicated by arrows delineating the flow of support and resources including one way (e.g., arrow pointing in one direction) or bidirectional (e.g., arrow point in both directions). See Appendix I for the interview guide with eco-map domains and definitions.

Personal identifiers were omitted, and participants were encouraged not to use any names or identifying information when speaking about the connections in their network. Following the interview, ecological maps were shared with each participant to verify the information and to make any changes or edits to the final map if they chose. After completing the eco-map interview, data were reviewed to ensure that the ecological map was accurate. Data were entered into the eco-map scoring sheet to consolidate the data from the individual ecological maps.

### **Creating Aggregate Cultural Maps**

Following the completion of the individual cultural maps of social support, data from the individual maps were aggregated to create one cultural map of support across mothers.

Themes identified by mothers in their individual maps were initially examined relative to similar or common words used to describe each theme (e.g., COVID, children, work). Maternal comments associated with each individual theme were also examined relative to similarities across context regarding where interactions occurred or the systems in which interactions or supports are experienced (e.g., school, home, work). Once common words, foci, and contexts were identified, labels were applied to each of the 91 themes, providing the same label name to maternal themes containing common focus and context.

To provide a framework for the newly merged, theme names for mothers' individual and collective experiences of social support, Bronfenbrenner's (1992) social ecological model was then used to situate these themes within the systems level that was most representative of the new theme name. This model was chosen as one that is one of the most influential frameworks represented in the literature, frequently used and cited, and because framework aligns with the emergent social support categories that naturally flow from the microlevel (e.g., intrapersonal) to the macrolevel (e.g., systems) (Neal & Neal, 2013; Noursi et al., 2021). The social ecological model allowed for creating an aggregated map to reflect the different system levels present in maternal comments, while preserving the diversity of authentic stories told by mothers using productive methods. Bronfenbrenner's model structure was selected for comparison with the eco-map given both structures map relations at the individual level within different microsystems of social support connections. Bronfenbrenner's model, however, extends the eco-map view to examine, from mother's own words, the larger surrounding context, including the pandemic, that influences the individual and microsystem levels.

To create an aggregated cultural map of support, the following was considered, did the theme, and associated maternal comments, represent: 1) the individual level (e.g., mother); (2)

the microsystem level which reflects comment aspects that have a direct impact or relationship (e.g., positive or negative) with the individual (e.g., family, school, church); (2) the mesosystem of interaction which reflects how the context and the theme focus interact (e.g., mother's child at school), (3) the exosystem level which reflects how the context of these foci are impacted by the surrounding environmental and social context (e.g., pandemic); and (4) the macrosystem level which reflects how the context around these foci are influenced by broader cultural systems (e.g., attitudes, perceptions).

### **Creating Aggregate Ecological Maps**

An aggregated ecological map was created from the same template that each participant used to create their individual ecological maps. To aggregate the ecological map the following steps were used: (1) counting and recording the total number of connections across each type of connection (e.g., family, friend); (2) counting and recording the number of positive and negative connections in each map (3) counting and recording the direction in which support is provided or received (e.g., mother gives, mother gets, mother gives and gets) for each connection type; (4) creating a summary table where each row represented an individual map to summarize the total number of connections, total number of connections by type (e.g., family, friend), by quality (e.g., positive, negative), and by direction (e.g., one way, two way) across all maps. Using this summary table, the same template used to create individual maps was populated to reflect the total number of connections, type, quality, and direction of supports within each circle, with a circle representing a single connection type across mothers. After each circle which represented one connection type was populated with the aggregated total of connections by quality and direction a color-coding system was applied to quickly differentiate between predominately strong, bi-directional (e.g., green circles), connections with variability across both quality and

direction (e.g., blue circles), and unique connections with varying levels of quality and direction that were not included in the original template by added by mothers to their respective maps.

### **Individual Calls to Compare Cultural and Ecological Maps**

An aggregated ecological map was created by using the same template that each participant used to create their individual ecological maps. Within each circle, representing a type of connection (e.g., friend, family) an aggregate summary was added to reflect the total number of participants that identified this type by quality and direction. Directionality of support was represented by the following categories: (1) mother gives support, (2) mother gets support, and (3) mother both gives and gets support relative to each connection. Connections were color coded where green represented stronger connections, blue indicated connections with greater variability relative to quality and direction, and yellow indicated that a mother populated a blank circle with a specific connection that was not included in the template.

After the aggregation of the cultural map and the eco-map, the nine participants who completed the individual mapping call were invited to join one final individual call to review and compare the two aggregated maps and share feedback or comments on the study findings and process. The purpose of these individual discussions was to reflect on the presentation of the collective data and discuss the similarities and differences between the collective cultural and ecological maps. During these calls participants were asked to respond to five questions: (1) did mothers see their personal story of support accurately reflected in the aggregated cultural map; (2) did mothers see their personal story of support accurately reflected in the aggregated ecological map; (3) which of the two maps did mothers identify more with relative to their experiences of support during a pandemic; (4) what similarities did they notice in how the two maps tell the story of social support; (5) what differences did they notice in how the two maps

tell the story of social support; and (6) how should these two maps be used to best to better understand the authentic social support experiences of Black postpartum mothers during the pandemic (e.g., together or separately).

## **Measures**

### **Demographics**

Demographic information was extracted from the Mom and Baby Net (MBN) dataset (NIH R01 HD086894-01A1) pre-assessment surveys which utilized the Family Profile Report Form to collect socio-demographic data. The following data were extracted from the pre-assessment surveys, maternal age, ethnicity, race (federal reporting categories), marital status (single or never married, separated, divorced, married, living together, or widowed), number of children, a maternal education level (multiple categories ranging from less than high school to postgraduate), maternal employment (full time, part-time, maternity leave, looking for a job, not working by choice, disabled), and combined household income (13 categorical ranges).

### **Maternal Depression**

Mom and Baby Net study inclusion criteria included mothers who screened positive for depression using the Patient Health Questionnaire depression scale (PHQ-9) (Kroenke et al., 2001). PHQ-9 scores assess depression severity and range from 0 to 27, with severity ranges from minimal (0 – 4) to severe (20 – 27). PHQ-9 scores were extracted from the MBN post-assessment survey to report descriptive statistics regarding depression severity.

### **Ecological Map (Eco-Map) Domains**

Ecological maps were coded using traditional domains per the original development and design of this assessment. Traditional ecological map domains that were coded for this study included (1) type of connection (e.g., family, school, church); (2) quality (e.g., positive,



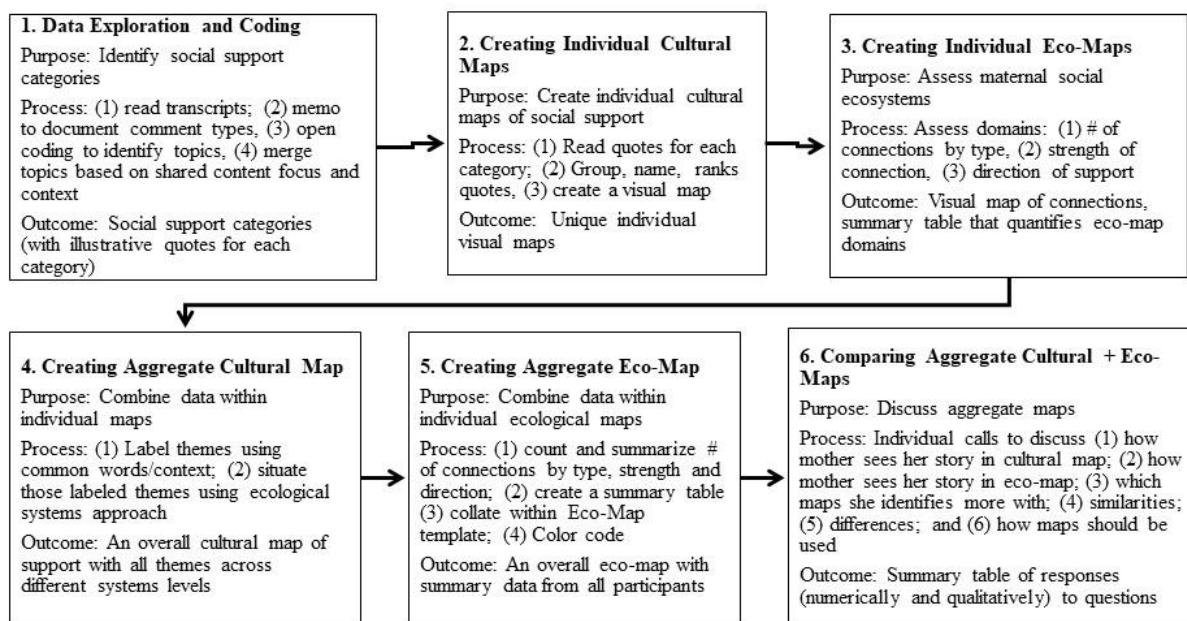
negative), and (3) directionality of support and resources (e.g., one-way, two-way) (Hartman, 1978).

As a cultural caveat, current social support literature is primarily influenced by Western epistemic approaches (Almeida, 2015) that have led to social support conceptualizations that better reflect individuals of dominant culture and ethnicity (Coles & Pasek, 2020; Spates, 2012). Existing social support measures, such as the eco-map above are more easily described within the traditional Measures section above. The proposed cultural mapping or assessment of social support, which is unique in the literature, is part of the productive process and, therefore, described below in the analytic approach for this process.

### Analytic Approach

This study's analytic process (see Figure 3) incorporated concept mapping as a participatory and visual process to elevate Black postpartum mothers' voices and their viewpoints relative to social support during a pandemic.

**Figure 3. Analysis Plan Flow Chart**



An objective of productive group discussions is to encourage Black mothers to identify and define shared meaning and unique elements related to their culture as it pertains to accessible supports and supports that are inaccessible and desired relative to the needs of Black mothers with depression during a pandemic to inform the development of a concept map. The analytic process for this study is described relative to each research question posed.

**Research Question 1**, focused on identifying emergent social support themes for each mother based on mothers' own words. First, was the preliminary identification of broad social support categories (e.g., pandemic, depression, social support) that related to the research questions from orientation calls and productive group discussions by transcribing and creating memos across transcripts to *identify possible broad types of social support* among mother's comments. Second, using open-coding processes on transcripts, to identify specific aspects of social support (e.g., strong supports, unreliable supports, needs, assets) to identify *possible social support topics* important to mothers. These broad social support topics were related to specific aspects of support that could later be merged and collapsed under a larger category based on similar words and meaning within the definition. Lastly, was the process of merging social support topics, based on similarities in the comments and similar words or phrasing with the definition of the social support topics (e.g., family dynamics, impact of COVID, health and wellbeing) and context within which the comments were made (e.g., single mom, working mom) to *create emergent social support categories* for each mother.

**Research Question 2**, focused on creating individual cultural social support maps using each mother's emergent social support themes as the basis of individual interviews. The steps to address this question included allowing each mother to: a) examine her collective comments brought into discussion; b) select the comments most resonant to her; c) regroup comments if

necessary to fit her view; d) name the theme related to each newly grouped set of comments; e) rank order her themes in terms of importance to her life, and f) structure a visual of how her social support themes best reflect her life.

**Research Question 3**, focused on creating individual ecological social support maps. The steps included: a) conducting individual eco-map assessment interviews with mothers; and b) collecting, mapping, and summarizing within the eco-map structure, the number, type, quality, and direction of support flow for various social support connections named by each mother.

**Research Question 4**, focused on identifying mothers' views of similarities and differences in cultural and eco-map representations of social support, steps included: a) creating an aggregate cultural social support map using the themes and associated comments across all mothers by ordering themes and comments according to Bronfenbrenner's (1992) ecological systems and identifying similarities in themes and comments to create an overall group summary of social support within an aggregated table and visual cultural map; b) creating an aggregate ecological social support map by integrating connections identified in mothers' eco-map network to create an overall group summary of social support within an aggregated table and a visual eco-map; and c) conducting individual calls with mothers, viewing together the aggregate cultural and ecological social support maps. Ecological mapping allowed mothers to report on different aspects of support connections and support systems that align with the levels and systems presented in Bronfenbrenner's (1992) ecological framework. Questions focused on understanding each mother's view of similarities and differences between the two social support representations, as well as maternal preference in social support representation. A summary table of mothers' views on each question, with representative comments, was created. Pseudonyms were used to protect identity when referencing or using maternal quotes.

### **Human Subjects Protection**

This research was governed by strong moral and ethical principles and a commitment to transparency regarding the study methodology as detailed in this chapter. Study participants received a copy of the informed consent electronically and in the mail to review on their own and during the informed consent call. Verbal consent was obtained and recorded for each participant prior to starting any study activities. The informed consent follows the GSU IRB guidelines and template and includes an explanation of study activities and procedures, risks, benefits, privacy and confidentiality, compensation, and the right to voluntarily withdraw. The risks to human subjects participating in this study were minimal. Study participants were 18 years of age or older and had been screened for stressful life or medical conditions including schizophrenia, substance abuse, or homelessness.

Participants who completed the parenting program and who did not endorse any of these situations, and who provided consent to be contacted regarding future research opportunities met the eligibility for this study. Participants were encouraged to share what they felt comfortable sharing regarding their personal story, and they always had the option to skip sections or stop participating at any time. Participants were treated with respect and dignity while preserving their identity and the confidentiality of information they shared in this study. All video recordings and photographs were erased once the study and data analysis are complete to further minimize and risks associated with confidentiality.

## Chapter IV. Results

### Research Question 1

The first question asked what are the social support categories that emerge through productive group discussions centered on participant-generated photography relative to how Black mothers with depression experience social support during the pandemic? To address this research question, three main steps were employed: 1) initial transcript examination to group mother's statements into broad comment types using memos, 2) open-coding of transcripts using broad comment types to identify and categorize comments into social support topics discussed by mothers, and (3) identifying emergent social support categories by grouping social support topics identified in previous open-coding process. Through this process, nine categories of social support emerged from productive group discussions centered on participant-generated photographs including (1) characteristics of support systems; (2) identity as a mother; (3) impact of the pandemic on children and schools; (4) experiences of being sick with, and fearful of, COVID-19; (5) mental health and coping; (6) impact of the pandemic on work; (7) community service; (8) stressors exacerbated by a pandemic; and (9) systemic issues.

#### *Initial Transcript Examination*

Initial qualitative analysis was initiated with reading all transcripts from individual orientation calls centered around participant's definition of social support and productive group discussions focused on participant-generated photographs of experiences related to social support during the pandemic (Elo et al., 2014). Data exploration began by creating memos within each transcript noting salient comments by mothers reflecting how they view and experience social support during pandemic. A total of 262, in-document, memos were created and categorized relative to *six primary comment types*. Through reading transcripts these comment types

emerged to document communalities in the general focus of each comment (Khandkar, 2009).

Table 2 below presents the six primary comment types and their defining characteristics.

**Table 2. Broad Comment Types (n = 262)**

<b>Broad Comment Types (i.e., Label)</b>	<b>Type Description</b>	<b>Type Frequency</b>
1. Support Characteristics	Descriptions of negative changes to support systems (e.g., job or support loss) or positive changes (e.g., connecting more, more time with kids), or lack of support	91
2. Support Meaning	Description of various aspects and defining characteristics of support	68
3. School and Children	Descriptions of interactions with schools and teachers, experiences with quarantine, missing school days, testing at school, during pandemic	35
4. COVID	Descriptions of symptoms, testing procedures, impact, health complications and perceptions related to COVID	30
5. Identity	Descriptions of maternal identity, role of mother, what it means to be a mother during the pandemic	28
6. Stressors	Descriptions of stressful events (e.g., death, financial hardship, homelessness, systemic racism)	10

*Note.* Support characteristics = descriptions of various aspects of social support systems and relationships as it relates to both positive and negative experiences across different foci (e.g., school, work, family). Support meaning = descriptions of mother's definition of social support during the pandemic in her own words. School and children = descriptions of the pandemic's impact on the children, mother's interaction with her children, children's relationships with the school and mother's relationship with the school. COVID = descriptions of experiences related to being sick, symptoms, health complications, testing, and quarantine. Identity = descriptions related to mothers' identity as a mother and caregiver during the pandemic. Stressors = descriptions of various stressors experienced during the pandemic. Type frequency indicates the number of memos within each broad comment type label.

### ***Open Coding of Transcripts***

Open coding of each transcript used the broad comment types above to highlight important areas in transcripts for coding. This process allowed for possible merging of comments across transcripts to begin building an initial cohesive picture of social support topics of importance to mothers. Social support topics emerged based on common words, similar phrasings, and frequencies of mention across transcripts (Khandkar, 2009). Table 3 below

presents the emerging social support topics, their defining characteristics, and their relation to the broad comment types (i.e., labels) presented in Table 2 above.

**Table 3. Social support topics identified through open coding (n = 36)**

<b>Social Support Topics</b>	<b>Link to Table 2 Types</b>	<b>Definition</b>	<b>Example</b>	<b># Coded Segment</b>
New Normal	1. Characteristics	Adapting or to post-pandemic life	“feel like it’s the new normal” “just learning how to adapt”	4
Everything is virtual	1. Characteristics	Using virtual platforms	“they had a virtual party”	14
Freedom - getting away	1. Characteristics	Being free or wanting to get away	“wanting to go as far away” “freedom...being able to express yourself”	6
Missing Outside	1. Characteristics	Social activities that mothers miss	“I love people and I miss it” “you miss the social support of social outings”	14
Having fun	1. Characteristics	Activities that mothers look forward to	“everybody would love a vacation”	10
Lost support	1. Characteristics	Losing a support	“unemployment ran out” “we lost a lot of networking”	4
Lack of partner support	1. Characteristics	Mother does not have support from a partner	“your significant other it's not their responsibility to uh you know to take care of a child that's not theirs”	2
Not enough support	1. Characteristics	Mother did not have enough support	“I found out I didn’t have enough friends” “I used to have a lot of social support but now I don’t”	10
Something good came	1. Characteristics	Types of supports or experiences that were positive and came about during the pandemic	“I started a business in this space” “stimulus payment helped people”	8
Not reached by services	1. Characteristics	Service disruption during pandemic	“companies.....they wasn’t doing they job if they was working from home”	2
Athletic/Sports	1. Characteristics	Connection to sports and athletics	“sports that to me speaks to community”	2
Church/Faith	1. Characteristics	Connection to church, faith, prayer,	“church community”	9
Work	1. Characteristics	General reference to experiences with work	“I was working full time”	4
Paid v unpaid	1. Characteristics	Work that pays for COVID related leave and work that does not pay for COVID related leave	“they wasn’t gonna pay me for it” “worked from home”	5
Work less/quit	1. Characteristics	Experiences working fewer hours or quitting	“I had to leave my job”	10
Mental Health	1. Characteristics	Mention of mental health in general or the importance of mental health to mother	“its good for your mental”	8
Worry/Sad/ Stress	1. Characteristics	Times when mothers felt worried or stress	“I just started crying again” “I feel like I worry more”	4
Motivation	1. Characteristics	Sources of motivation or encouragement for mothers	“It’s good to get encouragement from others” “I love my kids...they what motivates me”	3
Coping	1. Characteristics	Coping mechanisms, ways to cope	“music help me cope”	5



			“I do my little poems....take a picture....I used to do this when I go through depression”	
Types of Support	2. Meaning	Different types of support: financial, emotional, material	“they gave us pampers and pads” “I keep a few people in case I need assistance with bills” “give em a call and make sure they are okay” “my husband have em [child] sometimes”	5
Partner Support	2. Meaning	Positive supports from a significant other	“my family and friends” “my go to people” “well I got my parents” “advocating for Black mom’s through my community service”	41
Village	2. Meaning	Description of mother’s village, and the people in those villages		7
Community	2. Meaning	Connection to a specific community or group		9
Virtual School	3. School/ Children	Experiences with virtual schooling	“they been attending virtual school”	3
Benefits of School	3. School/ Children	Supports that schools provide	“her school has been a big support system”	10
School failures	3. School/ Children	Tensions and feeling unsupported by school	“sometimes the internet would go and they would count them as absent”	6
Disconnected with school	3. School/ Children	Mothers cannot interact with the school or their children’s teachers like they want to	“we can’t go in the school building anymore”	8
COVID	4. COVID	Experiences of being sick with COVID or caring for someone who is sick with COVID	“my son now suffering with COVID”	5
Daily Struggles	4. COVID	Daily impact of pandemic, social distance	“a lot of things we don’t do because of social distancing”	9
Fear	4. COVID	Fear of getting COVID or losing anyone to COVID	“it’s really serious...people and babies too that’s dyin from it” “I don’t want to put my son in daycare because...I’m scared”	51
Identity	5. Identity	Role of the mother	“bein a mother...we just try our best” “me as their primary care...I take them to the doctor” “black women and hair”	5
Black woman	5. Identity	Identification as a Black woman	“Momma need time to herself” “Hair-braiding is self care”	9
Mommy Self-Care	5. Identity	Importance of maternal self-care	“an activity where we can incorporate learning”	8
Keep Kids busy	5. Identity	How mothers keep kids busy, safe, entertained	“my lights being cut off” “me going through the experience of homeless” “they called the social worker on me”	8
Stressor	6. Stressors	Stressful event or experience		5
Bad birth experience	6. Stressors	Traumatic birth experience during pandemic		

**Note.** Social support topics = name/brief description given to each specific topic. Link to Table 2 = links the topics identified in memos from Table 2. Definition = defines, describes each support topic. Example = illustrative quotes that characterize each support topic. # of coded segments = frequency of phrases or sections in the transcripts that were coded within each support topic.

### ***Emergent Social Support Categories***

From the 36 social support topics above, comments within topic area were viewed to determine larger comment groupings based on similar content focus and context (Khandkar, 2009). The properties listed in Table 4 below were created from common words (e.g., mother, COVID sick, school systems, children, mental) in the definitions for the social support topics (see Table 3).

**Table 4. Emerging Social Support Categories (n = 9)**

<b>Categories: Social Support During Pandemic</b>	<b>Properties of Category</b>	<b>Direct Quotes (e.g., examples of participants' words)</b>
Category 1 (being a mother)	Role of mother Mothers finding time to take breaks and take care of themselves Being a Black woman Parenting during pandemic/keep kids busy	"...you still a single mom...if your significant other it's not their responsibility to...take care of a child that's not theirs" "mommas need outlet sometimes"
Category 2 (mental health/coping)	Taking care of mental health Managing fear, worry Ways that people cope Finding motivation Feeling sad Mention of mental health	"music helps me cope through the pandemic" "I think I pray more than I ever prayed before" "I feel like I worry more" "It's good to get encouragement from others"
Category 3 (experience of being sick or fear of COVID)	Sick with Covid Daily impact of wearing a mask, social distancing Fear of getting Covid or of family getting Covid	"my son suffering with COVID but he has diabetes" "I don't even want to put my son in daycare because...I'm scared" "I got really really really sick with Covid"
Category 4 (support systems)	Supportive people Virtual support Types of support provided or exchanged Changes or losses of support Lack of support/unreliable Community	"when people come together...to help each other" "I used to have a lot of social support but now I don't" "everything is virtual"
Category 5 (e.g., impact of pandemic on children going to school)	Virtual schools Benefits of schools Disconnect with schools Tensions with school over testing and quarantine	"where do you bring your kids if you have them home and they're not in school that's open" "It's been hard for me to let my kids go back to school" "school had to shift. A lot of people are virtual" "we can't go into the school building anymore"
Category 6 (employment/work)	Working less Unpaid leave if mom or child gets sick with Covid Leaving the workforce Continuing to work during pandemic	"they not gonna pay me for being out cause it's not me that got the COVID, it's my son." "I would love to go to work but I know it's not a good timing right now" "I had to take off work"
Category 7 (e.g., types of community/service)	Service to one's community Sorority	"I'm a big into advocating for Black moms through um my community service."
Category 8 (e.g., stressors exacerbated)	Going through a lot Hardship Crisis Struggles	"I went through an episode with my lights being cut off." "me going through the experience of homeless for 8, 9 months...with kids." "a lot of people have had a lot of struggles"
Category 9 (e.g., systemic issues)	Systemic injustice	"I don't trust the medical system being a Black woman"

**Note.** Categories = larger grouping of categories which are identified in this table (e.g., being a mother) but were presented as unnamed categories to participants during the individual interview. Properties = topics from previous table that were grouped to form the category. Quotes = illustrative quotes for each category.

This grouping process resulted in the identification of nine possible social support categories whose names herein serve only an illustrative purpose. Category names *were not presented* to mothers during their individual mapping interviews to allow mothers to define these categories using their own theme names. The direct quotes defining the emergent social support categories served to inform the development of individual cultural maps of support described below. Based on this results presented above, the social support categories that emerged through productive group discussions centered on participant-generated photography, relative to how Black mothers with depression experience social support during the pandemic, included the following nine categories: (1) maternal identity; (2) mental health; (3) fear of COVID, (4) interactions with their support systems; (5) relationship with their child's school; (6) ability to work; (7) ability to give through service; (8) experiences with stressors; and (9) experiences with broader systemic issues.

## **Research Question 2**

The second research question asked what are the collective social support themes identified through the construction of individual cultural maps of maternal social support during a pandemic among Black mothers with depression. To address this research question, two primary steps were employed: (1) through individual interviews, quotes associated with the *unnamed* categories in Table 4 were presented to mothers to: a) select important quotes to them; b) group these quotes how they chose; c) provide a name for the groups of quotes they created; and d) rank order each grouping of quotes in terms of importance to them (see Appendix H for the full set of quotes); and (2) create unique individual visual maps using the named and ranked social support themes. Through this process, individual interviews generated 91 themes that were related to villages and support systems (e.g., people, school, work), the new normal (e.g., virtual

platforms), identity (e.g., being a mother), coping mechanisms, and negative experiences (e.g., financial hardship).

### ***Grouping, Naming, Ranking of Social Support Themes***

By bringing the unnamed comment categories presented in Table 4 above into individual calls with mothers, mothers were given space to provide, in their own words, their view of social support structure and theme names. See Appendix J to the social support themes named and ranked by each mother during the first part of the individual mapping interview (e.g., cultural mapping activity). Participants identified, named, and ranked a total of 91 themes during the individual mapping interviews. This information was used in the subsequent aggregating of the cultural maps across mothers within Research Question 4. Pseudonyms were used herein and throughout to protect identity.

### **Creation of Individual Cultural Social Support Maps**

To create individual cultural maps, each mother examined their named and ranked themes and arranged them in the order, shape, color, and size of their choosing to best tell the story of their personal experiences of social support during the pandemic. Individual cultural maps were created using PowerPoint slides and the design the mother's choice to arrange and present the named and ranked themes (e.g., list, pyramid, Venn diagram). See Appendix K for cultural social support maps for the entire sample. Through the productive process of mothers identified and named themes and were able to tell a story with those themes that they reported reflected their personal experiences of social support during the pandemic. To expand upon the social support categories identified in the productive group discussions, individual interviews that included cultural mapping generated 91 themes including 38 (42%) were related to villages and support systems (e.g., people, school, work), 20 (22%) pertained to the new normal (e.g.,

virtual platforms), 18 (20%) related to identity (e.g., being a mother), 12 (13%) pertained to coping mechanisms, and 3 (3%) related to negative experiences during the pandemic (e.g., financial hardship).

### **Research Question 3**

Research question three stated: In contrast to cultural mapping, what are the characteristics of maternal social ecosystems relative to Western research epistemology of ecological mapping which yields number, type, quality, and directionality of social connections? concerned the characteristics of maternal social eco-maps relative to the number, type, quality, and direction of supports among connections in a maternal ecological map assessed during individual ecological mapping interviews. Resulting from the individual ecological mapping activity, data from the maps were used to determine: (1) the number of different types of connections (e.g., family, friend, work) in the mother's current network, (2) the quality of that connection (e.g., positive, negative), and (3) the direction of support or resources (e.g., mother gives support, mother receives support, mother both gives and receives support) for each connection. From this data, individual eco-maps template presented in the methods was used. Through this process, 86 connections were identified, the range of connections across maps was 9 – 16, most mothers identified positive and bidirectional supports within the family connections and community-based connections categories. Regarding wishful supports, those that are not in the maternal network but are desired the highest number was reported relative to community-based connections. See Appendix K for maternal ecological maps for the entire sample.

### ***Aggregate Eco-Map Variables***

To address this research question ecological maps were completed and aggregated based on the category of the connection category including: (1) Family (e.g., partner, relative/nuclear,

extended, ex-partner); (2) Community-Based (e.g., church, school, recreation, work (paid and unpaid); (3) Personal Friend (e.g., friends and acquaintances); (4) Therapeutic (e.g., professionals within social services, mental health, health care provider, pediatrician); and (5) Community Resources (e.g., community agencies, material and financial supports). These categories of connection types can be arranged from the microlevel (e.g., individual) to the macrolevel (e.g., systems). Table 5 below summarizes the distribution for the total connections and for each connection category.

**Table 5 Aggregate Eco-Map Variables Summary ( n = 86)**

Connection Categories	N(%)	Mean (SD)	Median	Mode	Range
Total # Connections*, **	86 (100)	9.56 (3.94)	9	6	6 – 16
1. Family Connections	32 (37)	3.56 (1.81)	4	4	1 – 7
2. Community Based Connections	30 (35)	3.44 (1.33)	3	1	2 – 6
3. Personal Friend Connections	15 (18)	1.67 (1.41)	1	3	0 – 4
4. Therapeutic Connections	7 (8)	0.67 (0.71)	1	0	0 – 2
5. Community Resource Connections	2 (2)	0.33 (0.5)	0	1	0 – 2
Total # Positive Connections	57 (66)	6.33 (2.55)	7	7	3 -10
Total # Negative Connections	29 (34)	3.22 (2.49)	2	2	0 – 7
Total # Bidirectional Connections	66 (77)	7.33 (3.50)	6	5	3 – 14
Total # Unidirectional Connections	20 (23)	2.22 (1.64)	2	1	0 – 5

*Note.* Family = partner, relative/nuclear, extended, ex-partner. Community-Based = church, school, recreation, work (e.g., paid and unpaid). Personal Friend = friends and acquaintances. Therapeutic = professions within social services, mental health, health care provider, pediatrician. Community Resources = community agencies, material, and financial supports. Positive = strong, good connection. Negative = stressful, conflicted connections. Bidirectional = mother gives and receives support. Unidirectional = mothers gives support or mother receives support. \* = missing connection and desired (e.g., wishful) totaling 15 connections. \*\* missing connection but desired (e.g., wishful) totaling 8 connections.

Data in Table 5 above show that that for the 86 connections across all eco-maps, that on average mothers reported ten connections in a single map, with the most common number of connections reported as six. On average mothers reported 4 (2%) of family connections, 3 (1.3%) of community-based connections with a mode of 1, 2 (1.4%) of friend connections with a mode of 3, less than one therapeutic connection, and less than one community resource connection.

## Type and Quality of Connections

In addition to the total number of connections by connection category, ecological mapping data was also used to examine the quality of the connection defined as positive or negative for each connection category. The results of this analysis are presented in Table 6 below.

**Table 6 Type and Quality of Connections (n = 86)**

Connection Categories	N(%)	Mean (SD)	Median	Mode	Range
<b>1. Family Connections</b>	<b>32 (37)</b>	<b>3.56 (1.81)</b>	<b>4</b>	<b>4</b>	<b>1 – 7</b>
<i>Positive*</i> , **	27 (84.38)	3.00 (1.5)	3	2	1 – 6
<i>Negative</i>	5 (15.62)	0.56 (0.88)	0	0	0 – 2
<b>2. Community-Based Connections</b>	<b>30 (35)</b>	<b>3.44 (1.33)</b>	<b>3</b>	<b>1</b>	<b>2 – 6</b>
<i>Positive*</i> , **	14 (46.67)	1.56 (1.13)	2	2	0 – 3
<i>Negative</i>	16 (53.33)	1.78 (1.20)	2	1	0 – 4
<b>3. Personal Friend Connections</b>	<b>15 (18)</b>	<b>1.67 (1.41)</b>	<b>1</b>	<b>3</b>	<b>0 – 4</b>
<i>Positive*</i> , **	8 (53.33)	0.89 (1.36)	0	0	0 – 4
<i>Negative</i>	7 (46.67)	0.78 (0.97)	1	0	0 – 3
<b>4. Therapeutic Connections</b>	<b>7 (8)</b>	<b>0.67 (0.71)</b>	<b>1</b>	<b>0</b>	<b>0 – 2</b>
<i>Positive*</i> , **	6 (85.71)	0.67 (0.71)	1	1	0 – 2
<i>Negative</i>	1 (14.26)	0.11 (0.33)	0	0	0 – 1
<b>5. Community Resource Connections</b>	<b>2 (2)</b>	<b>0.33 (0.5)</b>	<b>0</b>	<b>1</b>	<b>0 – 2</b>
<i>Positive*</i> , **	2 (100)	0.22 (0.44)	0	0	0 – 1
<i>Negative</i>	0 (0)	0 (0)	0	0	0

*Note.* \* = n(%) of bidirectional connections (e.g., mothers gives and receives support). \*\* = n(%) of unidirectional connections (e.g., mother gives or mother receives support). Family = partner, relative/nuclear, extended, ex-partner, \* = 28 (49), \*\* = 0 (0%). Community-Based = church, school, recreation, work (e.g., paid and unpaid) \* = 14 (25%), \*\* = 1 (1.7%). Personal Friend = friends and acquaintances. \* = 7 (12.3%), \*\* = 0 (0%). Therapeutic = professions within social services, mental health, health care provider, pediatrician \* = 4 (7%), \*\* = 1 (1.7%). Community Resources = community agencies, material and financial supports \* = 0 (0%), \*\* = 2 (3.5%). Positive = strong, good connection. Negative = stressful, conflicted connections.

Relative to family connections, the most commonly reported number was four and the most commonly reported number of positive family connections was two. Among community-based connections the most reported number of connections in this category was one with among which the most reported as positive were two. For personal friends the most reported number of



connections were three with the most common number of positive friend connections as zero.

Most mothers did not report therapeutic or community resource connections.

### Wishful Connections

Ecological map data also shows the distribution of wishful connections by connection category. Wishful connections are those that mothers did not currently have in their networks but desired as presented in Table 7.

**Table 7 Wishful Connections by Connection Category**

Connection Categories	N(%)	Mean (SD)	Median	Mode	Range
<b>1. Family Connections</b>	32 (37)	3.56 (1.81)	4	4	1 – 7
Wishful	5 (33.33)	0.56 (0.73)	0	0	0 – 2
<b>2. Community-Based Connections</b>	30 (35)	3.44 (1.33)	3	1	2 – 6
Wishful	9 (60.00)	1.00 (0.70)	1	1	0 – 2
<b>3. Personal Friend Connections</b>	15 (18)	1.67 (1.41)	1	3	0 – 4
Wishful	1 (6.67)	0.11 (0.33)	0	0	0 – 1
<b>4. Therapeutic Connections</b>	7 (8)	0.67 (0.71)	1	0	0 – 2
Wishful	0 (0)	0 (0)	0	0	0
<b>5. Community Resource Connections</b>	2 (2)	0.33 (0.5)	0	1	0 – 2
Wishful	0 (0)	0 (0)	0	0	0

*Note.* Wishful = connections that do not exist but are desired. Community-Based = church, school, recreation, work (e.g., paid and unpaid). Family = partner, relative/nuclear, extended, ex-partner. Personal Friend = friends and acquaintances. Therapeutic = professions within social services, mental health, health care provider, pediatrician. Community Resources = community agencies, material and financial supports.

Table 7 shows that the most commonly reported number of wishful connections totaling one was for community-based connections (e.g., work, church). Most mothers did not report a wishful connection.

### Research Question 4

The fourth research question asked what are the similarities and differences across cultural and ecological maps of support? How do these maps expand the construct of social support among Black postpartum mother with depression during a pandemic? This question was addressed by 1) creating aggregate cultural and eco-maps across mothers to bring into

interviews; and 2) interviewing six mothers to understand similarities and differences across aggregate cultural and eco-maps. All mother identified with both the aggregated cultural and aggregated ecological map. A total of 4 (67%) identified more with the aggregated cultural map. All mother identified differences across the two maps and how they can be used to better understand social support among Black mothers during a pandemic.

### ***Aggregate Cultural Map of Social Support***

From the 91 themes identified, named, and ranked by mothers (see Appendix L), the initial merging of maternal comments, relative to common focus and context, was undertaken. See Appendix M for the characteristic comments related to the social support themes identified and ranked by mothers. Maternal comments were viewed relative to common focus and context and the name applied to each comment. For example, the bolded “New Normal” theme was linked to several maternal themes and comments by identifying all comments reflecting changes, such as “everything is virtual” or some aspect of adjusting to a new way of life now under COVID. Overall, eight merged theme names were identified across the 91 individually named themes by mothers which are presented in Table 8 below.

**Table 8. Number and Frequency of Themes by Ecological Framework Level**

<b>Theme</b>	<b>N</b>	<b>%</b>	<b>Ecological Level</b>
1. Being a Mother	17	19	Individual
2. Coping	12	13	Individual
3. Support Systems	17	19	Microsystem
4. Work	7	8	Microsystem
5. Faith	3	3	Microsystem
6. School	11	12	Microsystem
7. New Normal	21	23	Mesosystem
8. Bad Experiences	3	3	Macrosystem

Viewing the newly named themes, representing common focus and context within Bronfenbrenner’s (1992) ecological five systems, Table 9 displays the ecological framework and

the various levels which grouped themes within a structure conducive to building an aggregated cultural map.

**Table 9. Bronfenbrenner's Ecological Theory Model (Bronfenbrenner, 1992)**

<b>Level name (e.g., systems)</b>	<b>Description</b>	<b>Interactions</b>
Individual	Innermost level from which all other systems orbit or interact	
Microsystem	Individuals or groups that have direct contact with the individual (e.g., immediate environment)	Arrows to represent interaction across mesosystem
Mesosystem	Relationships between the individuals and groups represented in microsystem	Arrows within Mesosystem level
Exosystem	External environmental factors that indirectly impact the individual	Arrows across the Macrosystem
Macrosystem	Elements of culture that influence the individual and the environments that surround the individual (e.g., values, beliefs, laws, policy, culture)	Arrows across Exosystem

Once grouped into Bronfenbrenner's system level model, illustrative quotes were added to the aggregated map to contextualize each of the systems and levels using descriptions of experiences in the mothers' own words. See Appendix M for characteristic comments related to the maternal social support themes.

Using the newly defined themes names from (see Appendix L) and illustrative quotes from the mother's individual cultural maps a visual map utilizing Bronfenbrenner's (1992) social-ecological model was created. The inner most layer includes the mother (e.g., individual level) and examples of topics identified by mothers illustrative of maternal identity and their role (e.g., practice self-care, protect kids). The subsequent layer relates to support systems and the

positive aspects of supports (e.g., work, faith) that mothers defined and described relative to their support systems and navigating a post-pandemic life (e.g., New Normal). Followed by a layer that represented the struggles experienced by mothers relative to the same dimensions of support systems in the previous layer (e.g., work, faith) but compounded by the impact of COVID which relates to the exosystem. The exosystem layer (e.g., external environment) is represented by the impact of the pandemic illustrated by the title “COVID Impact” to demonstrate the influence of the pandemic (e.g., New Normal, Struggles) on the relationships between mothers and various aspects of their social support systems. The outmost layer of the model includes systemic issues experienced by mothers that were exacerbated by the pandemic (e.g., macrosystem). The aggregated cultural map can be seen in Appendix N.

### ***Aggregate Eco-Map of Social Support***

As referenced in the methods, following the individual ecological mapping interview, a summary table was created to count and document the number of connections in each individual map and the number of connections by category (e.g., family, personal friend), quality (e.g., positive and negative, and direction (e.g., unidirectional, bidirectional) to summarize the data across all maps. See Appendix O for the aggregated ecological map.

### ***Identifying Similarities and Differences in Social Support Maps***

To identify how mothers differentially viewed the aggregate cultural and ecological maps of social support, interviews with six mothers were undertaken, asking the following six questions: (1) does the mother see her story in the aggregated cultural map; (2) does the mother see her story in the aggregated ecological map; (3) which of these maps does the mother identify more with; (4) what similarities exist between the two maps relative to how they explain or describe social support; (4) what differences exist between the two maps relative to how they

explain or describe social support questions; and (5) how can these maps be used to better understand social support among Black postpartum mothers? Table 10 below summarizes mothers' responses to these questions and provides indication of how mothers viewed the two different social support maps.

**Table 10. Similarity and Difference Summary Table (n = 6)**

<b>Question</b>	<b>Responses</b>	<b>Representative comments</b>
1. Does the participant see her story in the aggregated cultural map?	100% (n = 6) identified with the aggregated cultural map	“That there's other people like me. That I'm not in this alone. That there's other people in the world that's going through the same thing or can relate to what I'm going through” (“Angelica,” age 34)
2. Does the participant see her story in the aggregated ecological map?	100% (n = 6) identified with the aggregated ecological map	“Cause the network is strong and I have a strong network and I can see myself in all the....yeah I can relate to just about every bubble” (“Angelica,” age 34)
3. Which of these maps does the mother identify more with?	67% (n = 4) identified more with the cultural map 17% (n = 1) identified equally with both maps 17% (n = 1) identified more with the ecological map	“The [cultural map] is like being a mother because it's like your mental health....coping with self-care, as far as it kind of relates to me with being a mother village strength and support systems navigating through the new normal and it impacts struggles. It's like the systematic like everything to come together as one. You're mental health along with being a mother is trying not to go crazy. Trying not to lose your mind. You have to struggle with the kids. You have to struggle with how to get them back at school. How to get COVID test for them” (“Tatiana,” age 32)
4. What similarities exist between the two maps relative to how they explain or describe social support?	67% (n = 4) commented that both maps describe some aspect of social support 33% (n = 2) could not identify similarities	“I think the topics are there and I think the topics each of the quotes [from cultural map]...will fall into one of the topics [eco-map]... “the first one [cultural] talks about experiences and the second one [eco] are maybe like the players...they're both social support but the players are individual people where the [cultural] one we went over first give more of a narrative of what is actually happening” (“Monica,” age 41)
5. What differences exist between the two maps relative to how they explain or describe social support questions?	100% (n = 6) described differences that pertained to the cultural map described experiences and the eco map provided several connections	“They are different because of the systemic issues one is the issues that you have illustrated on one but one doesn't have the systemic issues on it. ...They both illustrate different scenarios. Being a mother and getting through COVID and everyday issues as a Black woman” (“Ruby,” age 31) “One map [cultural] is more of a conversation or more like quotes or telling how you feel and the other one [eco-map] is more of a telling how many people or how many support systems you have” (“Angelica,” age 34)
6. How can these maps be used to better understand social support among Black postpartum mothers	67% (n = 4) use maps together to tell the complete story/build on one another 33% (n = 2) use maps separately, they serve different purposes	“This map [eco-map] is telling us that we have a lot of support systems that some of us have strong support system some of us don't have any support system at all” (“Tatiana,” age 32) “They should be used together as a whole. Because some people have more on one map then they do on the other one” (“Ruby,” age 30) “..together, the first one [cultural] explains the struggles, and the second one [eco-map] is who you can lean on” (“Justine,” age 38)

The quotes in Table 10 are examples of how mothers interpret the aggregate data within the maps and how they see themselves and their stories authentically represented in these maps. All mothers (n = 6) identified with both maps. Four (67%) mothers identified more with the cultural maps. Four (67%) of mothers identified similarities across the map relative to how the two maps portray some aspect of social support and that they identified overlap across types of connections (e.g., work, school, church). All mothers spoke about the differences they observed across the two maps of which they described as the cultural map representing a narrative of their experiences and the ecological map portraying the number of people in a network. Four (67%) mothers noted that they believed the two maps should be used together to explain the context within which support is experienced relative to the cultural map combined with the and the quantity and quality of a maternal social network portrayed in the ecological map. Regarding the research questions concerning the similarities and differences across these maps and how they expand upon the social support construct mothers identified with both aggregated maps and were Mothers identified specific features of the cultural maps that contextualized their experiences in their own words. Despite ecological maps lacking context and illustrative quotes, mothers found utility in this map to identify connections quickly and efficiently with whom to contact in time of need.

## Chapter V: Discussion

The goal of this study was to employ productive methods to identify cultural themes of support, utilize a western approach to examine the characteristics of maternal social networks, and explore where these two approaches converge or diverge relative to how support is understood and experienced among Black postpartum mothers with depression during a pandemic. This study is one of the first studies to use productive methods to draw out the cultural support experiences of Black postpartum mothers with depression during a pandemic.

Through productive discussion centered on the participant-generated photography, nine social support categories emerged relative to characteristics of support systems, maternal identity, the impact of the pandemic on children and schools, being sick and fearful of COVID, mental health, working during the pandemic, giving back to the community, stressors, and systemic issues. Through culturally mapping mothers named their own themes of which fell into eight distinct themes that can be situated from the proximal to distal levels relative to the mother and utilize the mother's own word and descriptions of support experiences including being a mother, coping through pandemic, support systems, work, faith, school, new normal, and bad experiences. Ecological map data uncovered that mothers report strong, positive, and bidirectional supports among family, mixed positive and negative supports relative to community-based connections (e.g., church, school), and wishful connections (e.g., do not exist but desired) also related to community-based connections. Mothers reported that the cultural map portrayed the diversity of strengths and struggles that Black postpartum mothers experienced during the pandemic while the ecological map displayed the people with whom mothers could access support.



The perceptions of postpartum depression among women of color (Keefe et al., 2016) and the postpartum social support experiences among mothers of color (Negron et al., 2013) have been examined, but studies using productive approaches to elevate the voices and emphasize the experiences of Black mothers with depression during the pandemic relative to supports are lacking. This study took place during the Covid pandemic and, as such, provides a view of an environmental stressor within which social support resides for Black mothers who are disproportionately affected by adversities that exacerbate maternal stress and depression (Chambers et al., 2020; Gur et al., 2020). Findings from this study illustrate how productive methods can be used to authentically incorporate the voices of Black mothers and to utilize multiple approaches that generate information and provide a richer cultural context of maternal social support that would otherwise be excluded or misrepresented (Hartmann et al., 2020) (Coles & Pasek, 2020).

### **Photographs and Productive Discussions**

Participant-generated photography was used to stimulate discussions relative to maternal social support experiences. Images have been used in other studies to visually portray personal experiences as either a stand-alone image or to support a narrative (Mathison, 2009). Many of the participants in this study struggled initially to identify pictures that best captures their experiences. This may be in part as social support can be hard to define and it may be hard to capture interpersonal dynamics particularly those that involve multiple dimensions of support such as the interaction between having to quarantine and having to take unpaid leave at the same time. In the end, mothers were able to tell their story using images that they took and titled relative to their experiences which did in fact stimulate discussion and build solidarity as many mothers shared experiences and perspectives.

While an image may represent a powerful story, the value of using images presented by mothers in their words was the connection and solidarity created in each group. Mother's expressed interest and compassion as their peers shared stories of strengths (e.g., a hobby turning into a business) and loss (e.g., losing jobs, friends that did not show up). Additionally, mothers appreciated being able to live vicariously by exploring the images of their peers especially photographs related to enjoying life and escaping the physical and social restrictions placed on them by the pandemic. Since this study was conducted during the pandemic, images were shared one at a time through a virtual platform which presented a challenge when trying to examine a theme or similarities across multiple images. In the future, when it is safe to convene small groups, all images could be displayed in person to allow participants to see a larger collection of photographs and perhaps move the images around to tell a story.

One striking finding relative to the images that were taken and presented during the group discussion is that some of the images selected did not reflect some of the more intimate experiences that participants shared during the individual calls. One participant spoke at length about her terrifying experience of being separate from her child at birth and having social services called on her to investigate her for child abuse and neglect. This mother chose not to share this story during the group discussion, but her story was shared through quotes of which nearly all mothers identified with regarding to mistrust and mistreatment in the medical system among Black women. Another participant disclosed during the individual interview that she experienced homelessness during the pandemic of which she mentioned several times during the individual interviews but not during the group discussion nor did any of her images reflect this story. These examples may demonstrate that mothers might have been unwilling to share these personal stories with strangers with whom they had not built trust. However, since productive

methods employs multiple methods there were other ways for their stories to be discreetly and privately shared with the group (e.g., illustrative quotes) allowing these important stories to be brought to light without compromising the identity or privacy of individuals who many not be ready to share such stories with peers whom they do not know.

### **Individual Cultural Mapping**

The individual cultural mapping process was personal and revealed mothers' connections to their identity, needs particularly related to self-care, and their supportive assets. Through cultural mapping mothers identified and defined the aspects of support that were the most important to them in an unstructured space using their own words. Many mothers shared experiences related to their role of being a mother particularly how that role changed during the pandemic. For example, mothers bonded over concerns of how to keep their children safe, do the best they can with limited resources, and keep their children safe and entertained. Individual cultural maps reflected feelings of powerlessness when faced with the threat of COVID which was particularly elevated when mothers were confronted with limited options regarding testing at school, virtual schooling, and schools supports that did not meet their needs or align with their belief systems. Mother's experiences with school systems that emerged through the cultural mapping process are supported by the literature. Evidence suggests that compared to White mothers, Black mothers were more fearful, on average, of COVID and distrustful of school COVID procedures and were more likely to select home-based learning and care for their children (Radey et al., 2021). Of note, is that these experiences related to struggles and tensions were reflected in the ecological mapping where mothers had the option to identify a positive or negative connection. An important distinction is that the ecological maps did not provide a

cultural context particularly related to feelings of powerlessness mothers expressed or interactions with schools that worsened tensions.

Another important element of support that was identified during individual cultural mapping pertained to coping, self-care, and mothers finding time to take breaks which is closely related to maternal identity. While mothers were concerned with the health and wellbeing of their families and children, nearly all mothers mentioned some aspect of taking care of themselves and recognizing the importance of their mental wellbeing which was a central component of several individual maps. In the literature the iconic image of the strong Black woman (SBW) is defined as a multi-faceted construct that includes, self-silencing, autonomy, and self-deprivation that has evolved over time enabling African American women to armor themselves against systemic racial and gender-based oppression (Davis & Jones, 2021; Jones et al., 2021). Affirmation of the SBW schema is associated with lower levels of perceived emotional support and elevated psychological distress (Watson-Singleton, 2017). Evidence suggests that women who endorse the SBW schema are more likely to have fewer coping strategies including self-empathy (e.g., self-care) and lower utilization of group supports and social networks among African American women (Liao et al., 2019). However, findings from this study illustrate that perhaps some mothers can view themselves as strong but also deserving of support particularly when it comes to their mental health. All mothers discussed mental health and coping in way that was open and unbridled suggesting that they did not feel shame in terms of attending to their mental wellbeing.

Three interesting stories emerged from the individual cultural maps that were not identified in individual ecological maps relative to strengths and assets. Two mothers described the strengths relative to their respective support systems. One mother, who referred to social

support as her, “support system” repeatedly described a system she had in place with her mother and cousins where they took turns and worked in shifts to support one another during the pandemic when schools closed, children were diagnosed with COVID, or the mother had to work. This support system ensured adequate childcare especially when this mother worked and when children who were sick or exposed to COVID were required to quarantine was a systematic approach to how his mother ensured that her parenting and personal needs were met. However, there is not a way to reflect the interaction of the individuals in this support system in an ecological map.

Related to support systems and describing assets within those systems, one mother described her process of diligently building a solid network of external supports to meet specific needs as they arose which she described as her “go-to” people, none of which were familial ties. Of interest, is that if a “go-to” person was unavailable or no longer able to provide assistance, this participant re-assessed her network and found a new “go-to” person with whom she could access support. This mother employed a continuous practice of cultivating and building a network of non-kin ties to meet their needs which did not emerge in her individual ecological map. Another interesting story that emerged was a mother who described her experience of cooking with her children to engage with them at home and introduce and fun, healthy, and educational activity. This mother recorded videos cooking with her children which she posted on various social media outlets and eventually turned into a private Facebook group where she connected virtually with other mothers who enjoyed cooking with their children. Through these videos and online presence this mother became connected with a company that promotes direct sales of cooking utensils and supplies and eventually became a representee for this company. This example illustrates the journey of a mother who sought new ways to engage with her

children when schools closed and new ways to connect with adults over a shared interest to finding an additional source of income. This is another example of an experience that served as a valuable source of maternal support that was created during the pandemic and may not have existed outside the context of a pandemic. Furthermore, the rich narrative surrounding this unique experience is not represented in this mother's ecological map.

### **Aggregated Maps**

Productive methods allowed mothers to provide content relative to specific experiences that contextualize inter-personal dynamics within these social relationships and the socio-cultural environment in which those relationships exist. These experiences expanded upon and enriched the data provided in ecological mapping which is limited to the quantity and strength of connections and directionality of resources. An interesting element of the aggregated cultural map was that it showed the continuum of positive and negative experiences related to the same support categories (e.g., work, school, faith) to not only contextualize the experience but demonstrate the variability across dimensions of support within the context of a pandemic. Social support literature focused on African Americans has shown that understanding the positive and negative interactions related to interpersonal relationships among network connections was vital to understand the association between social relationships and mental health among African Americans more so than objective measure of the quantity of social connections (Nguyen et al., 2016). However, measures employed to assess maternal social support, including studies conducted within Black communities typically employed either a qualitative or quantitative approach and rarely use methods that triangulate maternal experiences with the size and composition of a maternal social networks. Productive methods, including cultural mapping, can therefore be utilized to better understand important qualities and aspects of a support systems

using methods that underscore the depths of these narratives and then connect those experiences to social support connections in an ecosystem to strengthen existing supports or build supports to address specific needs.

This study's findings suggest that the function of maternal networks is important relative to maternal needs, particularly among under-resourced mothers. It is important to note that not all mothers had negative experiences related to social support during the pandemic. But among those that shared their struggles, productive methods offered a space where mothers could share and document their story using photographs, dialog, and maps that provided a richer description relative to their struggles and how mothers overcame their struggles. Several mothers reported seeking specific types of supports such as financial and material supports (e.g., food, clothes) from community-based organizations more often during the pandemic. Relative to losses and changes in networks, one participant, who sought financial support during a period where she was unable to work as she was caring for a child who had contracted COVID, was left shocked, disheartened, and embarrassed when that organization failed to follow through with the financial assistance they had promised. This mother subsequently cut ties with that support and ultimately sought the financial assistance that she needed from her sister who proved to be a more reliable resources. Productive methods were able to capture this dynamic which provides a richer context around a pandemic-driven stressor (e.g., unpaid leave), an unreliable resource, and a resolution where a mother was able to access another supportive connection in her network and overcome this period of temporary financial instability. Of note, is that this mother did not identify this community connection within her ecological map although she did identify her sister. Hence, this story would have gone unreported if only an ecological map had been employed.

Another interesting finding from this study was in relation to participant's connections to their faith and church. Several mothers in this study indicated that they had a strong and supportive connection to their church and that the church community is a source of strength and support particularly during the most challenging moments of the pandemic. But many mothers also reported they had a conflicted (e.g., stressful, weak) relationship with their church. In one instance a mother removed the church circle all together from her ecological map as she could not find the right word to describe this connection and then it became too painful for her to discuss further. The findings from this study diverges from the literature with respect to the variability of the strength of the connections between Black mothers and their churches. Black churches have long been havens for Black people to escape discrimination and injustice, celebrate Black culture and heritage, and provide resources to church members who have been systemically excluded from public institutions and society (DeSouza et al., 2021).

For many, faith, and spirituality, conferred support even though several participants reported feeling disconnected from their church even prior to the pandemic. One mother spoke about the significance of faith during her childhood and that she believed she would raise her children in the church to honor her heritage. As this mother grew older, she found that while she still connected with the history, solidarity, and strength afforded by the Black church she felt that the church did not reflect her current values and had not embraced other progressive issues germane to Black identity (e.g., gender equity, gender identity, sexual orientation). This disconnect between historical Black churches and progressive issues has been discussed in the literature which asserts that Black churches are at a critical junction of re-evaluating the spiritual needs and interests of diverse constituents in search of a Black church that reflects modern culture and values (Barnes, 2014; Glaude Jr, 2010). Productive methods including mapping



allowed mothers to expand upon their connections to their faith more than their church.

Comments related to church gave rise to experiences of positive supports and strength afforded by one's faith. However, when creating ecological maps mothers that indicated that they had a conflicted relationship with their church did not disclose the source of conflict, only that the conflict occurred prior to the pandemic. There is an opportunity to employ productive methods to dive deeper into the nuanced relationships that Black mothers with depression have with their church of which the current study just scratched the surface.

One aspect that of support experiences that only emerged during the cultural mapping process was related to hardship and systemic injustices. There is not an opportunity or space for experiences such as financial hardship, homelessness, or systemic racism to emerge from the ecological map. However, during the productive group discussion and cultural mapping these experiences were vocalized. In general, participants believed that the medical system has failed Black women and mothers. The findings suggest consensus among the mothers who had experienced or witnessed systemic injustice and mistreatment towards Black women and mothers within the medical system prior to and during the pandemic. It is well documented that medical mistrust, particularly among African Americans, is deeply rooted in the historical and systematic mistreatment of African Americans which later led to advances in medical science that benefited everyone else (Jaiswal & Halkitis, 2019). Among Black women it has been shown that mistrust in the medical system is associated with the perception that the medical needs and symptoms of Black women have not been validated and moreover that Black women have been disrespected by healthcare providers (Cuevas et al., 2016).

Relative to Black mothers' birth experiences, this study illuminated a personal recount of a negative postpartum experience from a well-resourced Black mother who faced discrimination

by the hospital staff during a routine postpartum visit where staff separated the mother from her newborn for an extended period. This mother attributed her negative experience to her being young, single, and Black and therefore stereotyped as an unfit mother. While there is substantial evidence of the disparate health and birth outcomes among Black women (Braveman et al., 2021; Taylor, 2020), few studies expose and validate the personal experiences of Black mothers and the impact of systemic racism during pregnancy and postpartum care. One review found a strong association between racial discrimination within the medical system and negative birth outcomes (Alhusen et al., 2016). Future research should investigate the personal accounts of Black mothers with healthcare providers during prenatal and postpartum, especially during the pandemic, when many mothers were isolated during the birthing experiences and lacked birth advocates or witnesses to systemic maltreatment and culture within the medical system that disproportionately disadvantages Black women and their babies. This mother's personal story, which was not experienced in the same way by other mothers, was validated by expressions that there is general distrust of the medical system among Black women. It is vital to note that while this mother shared a lengthy personal account of mistreatment during birthing experience no aspect of this story or her relationship with the medical system emerged from her ecological map. Hence this is another example of a story that would not have been reported or accurately represented the experience of this mother without the use of productive methods and cultural mapping.

An important element that emerged from the ecological map are the wishful connections which are the connections that do not exist in a mother's current network, but mothers desired. There was considerable variability in terms of the types of connections that mothers indicated they wished they were connected. The majority of mothers who labeled wishful connections identified community-based connections related to work, church, school, or recreation. For

example, some of the mothers who were unable to work during the pandemic expressed a desire to be connected to co-workers and employment while others wished that they had more time to connect with recreational activities (e.g., bowling, travelling). This aspect of wishful connections did not emerge during the cultural mapping process so this aspect of ecological mapping may be a unique aspect of the ecological map that could be juxtaposed with the needs, assets, strengths, and struggles portrayed in the cultural map.

### **Heuristic Benefit and Implications for Practice**

Resulting from the current literature which has largely excluded the voices and experiences of Black women, there is little information on how Black women define their strengths, assets, and needs especially in the context of the pandemic which has been shown to exacerbate stressors that were already evaluate due to systemic and structural racism (Hartmann, 2020; Coles & Paske, 2020). The productive method process that generated cultural maps provides a rich cultural context within which Black mothers experience both strengths and struggles relative to supports during the pandemic. Additionally, the productive methods process employed in this study allowed for multiple opportunities for mothers and researcher to connect and build trust relative to their experiences and truth. Because this study was focused on the authentic experiences and perspectives of Black women, one participant felt comfortable sharing her thoughts that she hoped this study would not perpetuate unfavorable stereotypes that all Black mothers are struggling. This participant disclosed that while she shared many of the experiences and beliefs as the other participants that she also had unique experiences, qualities and aspects related to her support system that differentiated her from the group. Another mother shared she felt heard by her peers and valued the opportunity to connect with other mothers who shared her views and experiences such that the process was cathartic to her.

These comments demonstrate value in productive methods in that participants felt ownership over their narrative and that their voices were elevated regarding the topic of interest, social support, but that they were also heard relative to the process and their participation in this study. As mothers reported that they connected with both maps, and they saw their stories and voices accurately reflected in both maps indicates how productive methods can be used in conjunction with other methods and instruments. In general mothers connected with the authenticity of their experience and their narrative as portrayed in the cultural map which incorporates illustrative quotes in their own words instead of academic jargon that might not reflect the words, they use to describe their experiences. However, the mothers also identified with the ecological maps as a more objective assessment of the number and size of their network. Irrespective of the number of connections or even the number of strong positive connections, mothers viewed themselves as strong and supported which suggests that pairing a cultural map with an ecological map provides a full, authentic narrative of strengths, struggles, experiences, assets, needs, and number and function of maternal social support systems as told by both maps.

An objective of this study was to determine how to use cultural maps that portrayed Black mothers' narratives relative to their social support experiences paired with a western, objective ecological maps that quantify the number of connections and strength of relationships within a maternal social ecosystem. The participants in this study believed that these two maps should be used together to understand the complexity of how Black mothers' needs and experiences. Hence future interventions or programs that seek to utilize or strengthen Black postpartum mother's networks relative to their needs, should first examine their needs and experiences using a productive approach where mothers can voice what is most important and relevant to them and use a version of the ecological map that allows mothers to visualize their

current social networks. Future interventions and programs can use both maps to understand the nature and function of Black postpartum mother's social ecosystems and incorporate culturally appropriate terminology relative to maternal experiences and needs. Relative to some of the concerns that participants expressed related to the mistrust of the medical system interventions and programs that utilize referrals and resources can use the productive process employed in this study to understand the inherent distrust in the medical system to tailor references that are inclusive of include Black and female healthcare service providers as advocates for health and wellbeing who also understand and relate to fears, concerns, and systemic mistreatment of Black women. Several mothers commented that this process validated their experiences and feelings and that they found solidarity and support among the other Black mothers with whom they share experiences which is a form of social support. Future interventions and programs should consider a mechanism that allows program or study participants to connect and support one another.

### **Limitations**

One limitation included constraints on time and resources which did not allow for a larger sample size. Additionally, while using a virtual platform allowed this study to engage and connect with mothers wherever they were, in-person group discussions may have fostered a different collaborative atmosphere particularly regarding discussing photographs and maps which were hard to view on a single screen. Future studies could examine the social support experiences inclusive of mothers that were assigned to the treatment arm of parent intervention. Findings would then allow for a comparison of the experiences and definitions of social support among both groups of mothers – those assigned to the control-arm and those assigned to the intervention arm of the parent intervention. It is important to note that the smaller sample size employed in this study allowed for intimate group discussions and multiple interactions between

the study participants and me which strengthened the relationship and generated additional data collection activities. This study focused on maternal voices and experiences. Future research should consider the unique perspectives and experiences of other types of caregivers such as fathers and grandparents. While this study concentrated on Black mother's voices, it is vital that future research address the void in perspectives and experiences of other women of color including indigenous, Latinx, and Asian mothers. The current study provides important knowledge to the field concerning how Black mothers with depression operationalize their supports relative to their experiences of strengths and struggles, individually and collectively, and how a deep cultural narrative enhances our understanding of social supports in the context of a pandemic.

### **Conclusion**

Black postpartum mothers who experienced depression voiced varying perspectives relative to how they defined and experienced social support during the pandemic. Notably the mothers in this study vocalized their experiences, both positive and negative relative to the structure and function of their supportive systems. Mothers in this study had a strong connection to their identity as a mother and their experiences and perceptions of the importance of protecting their children but also carving out time to practice self-care. Mothers identified numerous strategies for coping and the importance of taking care of their mental health. While not as common, some shared negative experiences related to systemic injustices and the financial hardship that they experience and how these experiences influenced their perception and definition of social support during a pandemic. While others described various assets such as the process for building and maintaining strong networks to meet their needs. In this study, mothers identified strong, positive, bidirectional supports among family connections. Moreover, mother

identified both positive and negative support relative to community-based connections and consequently this is category of support where mothers reported the highest number of wishful (e.g., desired connections). In sum, the maternal social ecosystems and experiences of Black postpartum mothers are unique and complex and should take into consideration the rich cultural narratives surround this experiences along with an objective measure of accessible supports within an ecosystem.

Given the lack of representation of Black women's voices in Western research, this is the first study to use productive methods to integrate cultural stories paired with a Western ecological mapping assessment of social support to understand the culturally rich context of support for Black mothers living with depression during the pandemic. Productive methods can continue to elevate the voices of underrepresented populations and advances research that is culturally and contextually sensitive that seeks to challenge and expand upon what we know. While findings indicate that some emergent social themes identified in this study relate to themes in the existing literature (e.g., identity, church, family), this study revealed that the social support experiences of Black mothers with depression during a pandemic are not uniform. Instead, the social support experiences of Black mothers with depression during a pandemic are diverse and nuanced.

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## Appendix A - IRB Outcomes Letter



### INSTITUTIONAL REVIEW BOARD

Mail: P.O. Box 3999      In Person: 3rd Floor  
 Atlanta, Georgia 30302-3999      58 Edgewood  
 Phone: 404/413-3500      FWA: 00000129

May 13, 2021

Principal Investigator: Kathleen M Baggett

Key Personnel: Baggett, Kathleen M; DiPetrillo, Brooke; Olwit, Connie; Patterson, Alexandria

Study Department: School of Public Health

Study Title: Understanding maternal social support experiences and social ecosystems during the pandemic using photo-imagery and eco-mapping

Review Type: Expedited Category 5, 6, 7

IRB Number: H21599

Reference Number: 365271

Approval Date: 05/13/2021

Status Check Due By: 05/12/2024

The Georgia State University Institutional Review Board (IRB) reviewed and approved the above-referenced study in accordance with 45 CFR 46.111. The IRB has reviewed and approved the study and any informed consent forms, recruitment materials, and other research materials that are marked as approved in the application. The approval period is listed above. Research that has been approved by the IRB may be subject to further appropriate review and approval or disapproval by officials of the Institution.

It is the Principal Investigator's responsibility to ensure that the IRB's requirements as detailed in the Institutional Review Board Policies and Procedures For Faculty, Staff, and Student Researchers (available at [gsu.edu/irb](http://gsu.edu/irb)) are observed and to ensure that relevant laws and regulations of any jurisdiction where the research takes place are observed in its conduct.

Federal regulations require researchers to follow specific procedures in a timely manner. For the protection of all concerned, the IRB calls your attention to the following obligations that you have as Principal Investigator of this study.

1. For any changes to the study (except to protect the safety of participants), an Amendment Application must be submitted to the IRB. The Amendment Application must be reviewed and approved before any changes can take place.
2. Any unanticipated problems occurring as a result of participation in this study must be reported immediately to the IRB using the Unanticipated Problem Form.
3. Principal investigators are responsible for ensuring that informed consent is properly documented in accordance with 45 CFR 46.116.
  - A Waiver of Documentation of Consent has been approved for this study in accordance with the requirements set forth in 45 CFR 46.117 c.
4. A Status Check must be submitted three years from the approval date indicated above.
5. When the study is completed, a Study Closure Form must be submitted to the IRB.

All of the above-referenced forms are available online at <http://protocol.gsu.edu>. Please do not hesitate to contact the Office of Research Integrity (404-413-3500) if you have any questions or concerns.

Sincerely,



Joshua Hinkle, IRB Member

## Appendix B – Recruitment Procedures

### Recruitment Phone Call

1. The recruitment flyer (see below) will be sent to all moms who have completed the parenting intervention and agreed to be consented regarding future research opportunities



### What does social support mean to you?

You are invited to join a research study to share your story in your own words. We want to learn about:

- Your experiences with social support during the pandemic
- What social support means to you
- What your social connections look like

This study will take about 4 hours over a two-month period. As a part of this study, you will:

- Take photographs related to support.
- Engage in a group discussion to talk about the photographs.
- Participate in an individual interview to map out your social connections.

If you are interested in joining this study, please contact:

Brooke DiPetrillo at [bbarnes7@gsu.edu](mailto:bbarnes7@gsu.edu) or 770-913-6832



2. If a participant has completed the post assessment and provided consent to be contacted concerning future research opportunities, the Researcher will call them using the phone numbers on record.
  - a. *Hello [insert mom's name]. This is Coach [name]. We worked together on Mom and Baby Net. You let us know that you wanted to be contacted if there were future studies going on. Do you have about 10 minutes to talk about a new opportunity and see if you are interested?*
  - b. *If no because mom indicates she is not interested "I understand. If you change your mind and decide later that you would like to learn more about this study, please feel free to contact me. Thank you for your time."*
  - c. *If no because mom can't talk right now "I understand. Let me know the best time to reach you and I will call you back. Thank you."* Researcher will call mom back at the time mom selects and continue with script.
  - d. *If yes: continue with script. "The purpose of this research study is to understand how you experience social support during the pandemic. By this I mean, we want to learn about what types of relationships and resources that have been helpful or not helpful*

*during the pandemic. We want to hear from you in your own words if your needs have been met during the pandemic and if so, what was that like. If some needs were not met, we want to hear about those too. Let me stop here and see if you have any questions about what social support is or this research? [pause to answer questions].*

*This study will have two main activities. The first is that you will take some pictures on your own that show your personal experiences with social support needs, gaps, strengths, and barriers of support during the pandemic. Then there will be a group discussion with 3 – 4 other people where everyone will talk about one photograph that is the most important to them. The group will have a chance to talk about social support in general and share common experiences and differences. After the group discussion, there will be an interview where you and I will talk about your current social environment. You will have a chance to describe in as much detail as you choose about who you connect with on a regular basis, what kinds of relationships are important to you, what kinds of relationships are stressful and not helpful but still a part of your environment, and what has changed during the past year after the pandemic started. The goal is to make a visual map of your social system. What questions do you have? Is this something you are interested in participating in?"*

- e. *If leaving a voicemail: "Hello [insert mom's name]. This is Coach [name]. We worked together on Mom and Baby Net. You let us know that you wanted to be contacted if there were future studies going on. I was calling to see if you had 10 minutes to talk about a new research opportunity and see if you are interested. Please call me back at this number when you get a chance. Thank you."*

### **Recruitment Email/Text**

3. If Researcher is unable to get in touch with mom via phone call or has only been able to leave a voicemail, the following message will be shared through email and text message for mothers on the researcher's caseload who have complete post assessment.

*Hello [insert mom's name]. This is Coach [name]. We worked together on Mom and Baby Net. You let us know that you wanted to be contacted if there were future studies going on. I was calling to see if you had 10 minutes to talk about a new research opportunity and see if you are interested. The purpose of the study is hear your story about how you get support during the pandemic. We also want to learn more about your social environment and the important relationship in your life as well as some relationships that might not be so helpful. This study will involve taking some pictures, participating in a group discussion to talk about those pictures and hear from the group about their experiences with social support during the pandemic. Lastly, there will be one individual interview to map out your social connections including relationships that are helpful and others that might not be so helpful but that you are still connected to. Is this something you might be interested in? If this sounds interesting to you, please respond to this email, or call me at [call back number] and let me know so we can schedule a Zoom call to discuss the study and answer your questions. Thank you!*

4. Explain sending consent forms

*“I will email you a copy of the consent form. This document will explain in detail the purpose of the study, what you will be doing in the study, and how we will keep your information safe. We are taking necessary precautions to keep you, your family, and our staff healthy during the Coronavirus pandemic. During the study we will connect using Zoom – an app that allows us to have a video call. We used Zoom during Mom and Baby Net but if you need a refresher or if you need help reinstalling the app let me know and I will send you the instructions. I will also mail a hard copy of the consent form. Are you getting mail as usual? Can you confirm your mailing address? What questions do you have? The next step is to schedule a Zoom call to talk about the Consent forms after you receive them. Please let me know when you will be available next week for about 30 minutes to go over the form, talk about the study, and answer any questions you have?”*

Researcher will confirm email and mailing address and record the date and time of the scheduled zoom Consent Call.

## **Appendix C - Informed Consent**

Title: Understanding maternal social support experiences and social ecosystems during the pandemic using photo-imagery and eco-mapping

Principal Investigator: Kathleen Baggett

Student Principal Investigator: Brooke DiPetrillo

### **Introduction and Key Information**

You are invited to take part in a research study. It is up to you to decide if you would like to take part in the study. The purpose of this study is to hear your experiences with social support during the pandemic. We also want to learn more about your social connections. Your role in the study will last about 4 hours over up to three months.

You will be asked to take pictures about how you experience social support during the pandemic. Then you will join a small group to talk about the pictures and what the pictures mean. Lastly, you will participate in an interview to talk about your social connections. The risks of being in this study include someone may see information you share over the internet for this study by accident.

This study is not meant to benefit you. However, you might enjoy sharing your story with your peers. Overall, we hope to gain information about how mothers of color experience social support during a pandemic and how maternal and child health services can work better with mother's social networks.

### **Purpose**

The purpose of the study is to hear mothers' experiences with social support during a pandemic. We also want to learn about the social connections of mothers. You are invited to take part in this research study because you just finished the post assessment of the Mom and Baby Net Program and you gave consent to be contacted for future research opportunities. A total of 15 people will be invited to take part in this study.

### **Procedures**

If you decide to take part, you will be asked to complete the following.

**Week 1 – 3:** Consent Call (30 minutes, Zoom): A researcher will have a video conference call with you to read the consent form. You will follow along on your own copy. The researcher will ask you to say what you understand about the study. A researcher will answer any questions you have. You will be asked to give verbal consent to participate, then a orientation call will be planned.

**Week 3 – 5** Orientation Call (30 minutes, Zoom): Within 1 week of finishing the consent call, you will connect to a recorded video conference call using the meeting id and password given to you. If you do not have zoom on your phone or computer, a researcher will help you install the free program before the call. During the orientation call you will learn about the study topic. You



will learn how to take pictures about how you experience social support during the pandemic. Pictures may be of things, people (no faces), or places if they mean something to you, and they are related to how you experience social support.

The researcher will ask you to share your thoughts about this topic. Then you will discuss the types of pictures to take for this study. For your safety, the researcher will ask you to think about the duties you have when taking photographs in public. You will think about situations that should be avoided. The pictures you take should be related to social support and mean something to you.

If you want to take a photograph of a person, then the photograph must not include faces. Photographs cannot include anyone's face or anything that would identify that person. Photos cannot include images or activities that are illegal. The researcher will give you instructions on how to safely upload your photographs to a secure Dropbox folder. Photographs will be briefly stored in Dropbox until the group discussions are done. Then all photos will be erased. Photographs will only be saved if you give consent that your images may be used for other research purposes. After you upload your photos you will get a link to a short survey where you have the choice to give consent for us to use your photos for research or not.

**Week 6 – 7:** (Photographs on your own, 1 hour) After you finish the orientation call, you will have up to two weeks to take 5 photographs on your own. After you take the photographs, you will save them on Dropbox using a secure link (1 hours, self-guided).

**Week 8 - 11:** Group discussion (1 hour, Zoom): Within 2 weeks after the photos are saved to Dropbox you will join a small group discussion with 3 – 4 of your peers. The discussion will take place over a recorded video conference call. You have the choice to turn your video on or off depending on what feels right to you. You will be asked to use your initials instead of your full name. Each group member will pick and present one photo that is important to them and best shows how they experience social support. Group members will discuss the photos and the story across all the images.

**Week 10 - 13:** Individual Eco-Map Interview (1 hour, Zoom). Within 2 weeks of finishing the group discussion, you will connect to zoom for a recorded video conference call. You will have the option to split the call into two 30-minute calls if that is easier for you. You will talk about the types of social connections you have. Some of these connections might be positive and some might be negative. You will talk about what happens when you get together with different people.

The researcher will make a map of your connections as you speak. The researcher will give you a copy of this map to review. If anything is wrong on the map, another call will be scheduled to make changes. You will keep a copy of the final eco-map.

As part of Mom and Baby Net you did surveys. In these surveys, you gave information about yourself and your family. We will ask your written permission to contact the study PI to get information about your:

- age,

- ethnicity,
- race,
- education,
- work,
- income,
- relationship,
- mood (PHQ9 score)

Any information we use from the Mom and Baby Net surveys will not have your name on it.

### **Risks**

There are possible risks in any research study. We want you to know what they are and the steps we take to protect against them.

Everything on the Internet is at risk to be seen by someone. There is the chance that someone who is not supposed to see information about you will accidentally see it. Any information you give us will not have your name on it but will be marked by your initials and a number. Although recordings will be labeled with initials and numbers, video conference calls may allow someone to identify you. All photographs and recordings will be saved in a password protected file using a secure Internet.

During group discussions participants will be asked to keep information shared within the group private. Group members will be asked to not share anything with anyone outside of the group. You will have the option to turn your video off.

No injury is expected from this study, but if you believe you have been harmed, contact the research team as soon as possible. Georgia State University and the research team have not set aside funds to compensate for any injury.

### **Benefits**

This study is not designed to benefit you personally. However, some people enjoy sharing their story. Some people enjoy talking with a group of their peers. Overall, we hope to gain information about mothers' social support experiences and needs during a pandemic so that social services can provide better support to mothers and babies in the future .

### **Alternatives**

The alternatives to taking part in this study is to not take part in this study.

### **Compensation**

You will earn \$50 if you complete both the group discussion and the individual interview. If you choose to drop out of the study after the group discussion is complete but before you complete the individual interview you will earn \$25. Compensation will be given via Venmo, Cash App, or Amazon gift card.

### **Voluntary Participation and Withdrawal**

You do not have to be in this study. If you decide to be in the study and change your mind, you have the right to drop out at any time. You may skip questions or stop participating at any time. You may refuse to take part in the study or stop at any time. Whatever you choose, you will not lose and benefits or services that you receive.

### **Confidentiality**

We will keep your records private to the extent allowed by law. The Student-PI (Mrs. DiPetrillo) and approved researcher team members will have access to the information you provide. Information may also be shared with those who make sure the study is done correctly (GSU Institutional Review Board).

We will use study numbers and your initials instead of your name on study records. The information you provide will be stored on password- and firewall-protected computers. We will use a code sheet to identify the participants which will be stored in a password-protected file on a locked computer. The code sheet will be deleted at the end of the study.

All photographs and recorded video conference calls are stored on a secure Dropbox file using a secure internet connection and will only be accessible to the Student-PI and assigned research team members. All photographs will be deleted after the study is complete unless you can give permission for photographs to be used for other research purposes. After the study is finished, all recordings will be deleted.

During group discussions other group members may see your face if you choose to turn your video on or they may recognize your voice. You will have the choice to turn off the video. We also ask that participants use their initials instead of their name. While the researcher does not have complete control over the confidentiality of the group discussion, before the discussion begins, participants will be asked not to reveal any information shared during the discussion with anyone else. When we present or publish the results of this study, we will not use your name or other information that may identify you. You will not be identified personally.

### **Contact Information**

Contact the Student-PI Brooke DiPetrillo at [bbarnes7@gsu.edu](mailto:bbarnes7@gsu.edu) or 770-913-6832 if you have questions, concerns, or complaints about the study. The IRB at Georgia State University reviews all research that involves human participants. You can contact the IRB if you would like to speak to someone who is not involved directly with the study. You can contact the IRB for questions, concerns, problems, information, input, or questions about your rights as a research participant. Contact the IRB at 404-413-3500 or [irb@gsu.edu](mailto:irb@gsu.edu).

### **Consent**

You have a copy of this consent for your records. If you do not have any more questions and you agree to be in the study, please say that you agree to be in the study.

## **Appendix D - Consent and Orientation Calls**

### **Phone Calls**

#### **After Consent Scheduling Call**

1. Mail & email Consent form
2. Record date and time of zoom call in excel spreadsheet

#### **Consent Call (30 minutes)**

##### **Day Before Scheduled Consent Zoom Call**

1. Call or text mom to confirm that she received the consent form in the mail and email
2. Confirm time of call for next day
3. Reschedule the call if needed and update participant excel spreadsheet

##### **During Consent Call (Recorded on Zoom)**

1. Inform participant that Zoom call is being recorded
2. Confirm mom has a copy of the consent form with her (either hard copy or email copy)
3. Review each section of the consent form with mom following along on her own copy.  
Pause after each section to ask participant what questions she has.
4. *“Are you still interested in participating?”*
  - a. If yes: *“Great! Please give your verbal consent that you understand the consent form and that you volunteer to participate in this study.”*
  - b. If no: *“I’m sorry to that hear that. Can I ask why you changed your mind?”*
5. Explain Zoom Orientation Call
  - a. *“The next step is to schedule a 30-minute orientation call where we will talk about the next steps and the different parts of the study in more detail. You will be asked to take 5 pictures on your own for this study. During the orientation call we will talk and define social support, how to take pictures safely, what types of pictures you will be taking, and instructions on how to upload the pictures when you are ready. We will also talk about the group discussion and how we will be using Zoom for that call. I will go over the functions and features of Zoom that we might be using during the group discussion. We can talk about any questions you have as well. This call will take about 30 minutes and we will connect on Zoom When will you be free for about 30 minutes next week so we can schedule this next call?”*

#### **After Consent Call**

1. Save recorded consent call to the secure GSU Dropbox
2. Update participant excel spreadsheet to mark that consent has been provided

## **Orientation Call (30 minutes) (Recorded Zoom Call)**

### **Day before scheduled orientation call**

1. Send participant a reminder via text
  - a. Remind her of the date and time of Zoom call
  - b. Remind her of zoom meeting ID and password

### **Day of orientation call**

1. Remind mom that the Zoom call is being recorded to make sure that all participants get the same information
2. *“Today we are going to be talking about the different parts of the study and the study topic which is social support during the pandemic. Let me know at any time if you have questions. Overall, we are interested in hearing from you in your own words how you experience social support during the pandemic. Social support can mean different things to different people. Think about things that you need and have those needs be met. Maybe there is something that you need that you are not getting. Can you give me an idea of what social support means to you – in general and give a few examples?”* Researcher will confirm that mom has a general understanding of the topic and answer any questions that she might have.
3. *“After this call you will be asked to take 5 pictures, on your own, using whatever device you like.”* Researcher to confirm that mom has a device that can take digital photographs.
4. *“These pictures should show an image that means something to you about how you experience social support during the pandemic. The pictures could be of a need, a gap, a barrier, or a source of strength. Or maybe it is something personal to you. For example, you might take a picture of an empty parking lot which may be an example of how people no longer get together in person because of the pandemic. The pictures that you take should mean something to you and should help tell your story. Pictures can be of objects or things, places, or even people but no faces. We need to make sure that we keep everyone’s identity private so please do not take any pictures where anyone can be identified or recognized, even your own children and family. Can you give me an example of some pictures that you might take?”* Researcher will let mom explain a couple of pictures that she could take to confirm that mom understand the topic and how the pictures will be used.
5. *“We also want to make sure that you are safe when you are taking pictures especially if you want to take pictures in a public space. Please keep in mind that pictures of illegal activity and of anyone’s face will not be allowed in this study. If you do want to take a picture of someone else because it is important to you, can you walk me through how you would approach someone? How would you take the picture to make sure that we won’t be able to see their face or anything else that might identify them? Can you think of any*

*situations or images that should be avoided? If you ever feel unsafe or are not sure, then it is best to find another picture to take where you feel safe. What questions do you have about taking pictures for this study?*

6. Tell participant that after this orientation call she will have up to two weeks to take 5 photographs. The photographs will be uploaded to a secure password-protected GSU Dropbox folder (See Appendix B). The researcher will share the link with her via email and text so that when she is ready to upload, she has the link. Written instructions will be provided. Researcher will also share the Zoom screen and do a quick demo of how to upload photographs using the Dropbox file link. Participants will be asked to label their photographs with their first and last initial and a short title to describe the image. For example, “BD-home alone.”

7. Explain that the participant will select one photograph that is the most important to her or best shows how she has experienced social support during the pandemic to present and discuss during the group discussion. Explain that she will have a chance to see the pictures that her peers select as well. Explain that group discussions will take place within three weeks after everyone has uploaded their photographs. Group discussions will take place over Zoom and the expected amount of time is up to 1 hour. Explain that the purpose of the group discussion is to see what experiences people have in common and what experiences are different as they relate to social support during the pandemic. Confirm that participant is comfortable sharing photos with peers and ask her what questions she has about the group discussion.

8. Explain that photographs will be deleted as soon as the group discussion is over. After participants upload their videos to the GSU Dropbox folder they will receive a short Qualtrics survey link via email and text (See Appendix C) to provide consent to use their photographs for other research purposes including publication. If participants provide their consent, they will be asked how they want to receive credit for their work such as their full name or their initials or some other way.

9. Summarize the call and ask what questions the participant has. Thank participant for her time and conclude call.

### **After Orientation Call**

1. Update participant excel spreadsheet with date and time of orientation call

2. Create a reminder in the calendar to signify the two-week period. Send mom text message reminders to take and upload photographs 3 days, 7 days, and 14 days after the orientation call.

3. Text script to mom: *“Hello [mom name]. Hope you are doing well. Please remember to take 5 photographs that show how you experience social support during the pandemic. Once you are done you will upload your photographs to this link [insert link.] The target date to upload all 5 photographs is [insert date.] Please contact me at [email, phone*

*number] if you have any questions or if there is anything I can help with. Thank you and looking forward to seeing your photographs!*

4. Confirm that all photographs have been uploaded and that they are labeled properly with mom's initials and a short title. If not labeled as instructed, researcher will contact mom to confirm the title for each image. If any participants have the same initials, then Researcher will ask for a middle initial or the researcher will assign a number to the participant for example (RD-1, RD-2).

5. After all photographs have been uploaded, the researcher will send text messages and emails to participants to confirm availability for the group discussion. Researcher will randomly assign participants to a group. Each group will receive a text message asking for their availability over the next three weeks for the group discussion. *"Hello [name]. Thank you for uploading the photographs. I am excited to hear your story and learn more about what these pictures mean to you. The next step is for you to pick the one picture that is the most important to you that you will share with a group during a group discussion. Each group member will pick one of their photos to discuss and share with the group. Please let me know when you will be free over the next few weeks. Please block off at least one hour for this activity. Do any of these dates or times work for you? [insert three dates and times]. Please respond with a yes or no for each date. If no, let me know the best day/time for a 1 hour Zoom call. When everyone in your group has responded I will confirm the date/time of the group discussion. Thank you!"*

6. Confirm group discussion dates and times and respond to each participant with the date, time and Zoom link for the call.

## **Appendix E - Productive Group Discussions**

### **Day before group discussions**

1. Confirm the date and time of the group discussion. If members are not available or if there are schedule changes, try to reschedule the group discussion for all members or assign member to another group discussion.
2. Confirm Zoom link information
3. Remind participants that they have the option to use video or not during the group discussion. Remind participants to change their name to their initials. If they need help with this the researcher can show them how to change their name on their Zoom profile.
4. Remind participants to try to find a quiet space and use headphones or earbuds to keep the information shared in the group discussion private.

### **Group Discussions (1 hour)**

1. Welcome participants and remind them that the Zoom call is being recorded
2. Remind participants that they can choose to enable their video or turn it off. Ask participants to make sure that they display their initials instead of their name.
3. Remind participants that to protect everyone and to keep all information confidential that no one is to share any information that is shared during the discussion with anyone outside of this group.
4. Follow group discussion procedures (Appendix D)

### **After the group discussion**

1. Save the recording to the secure GSU Dropbox
2. Update participant excel spreadsheet to record that group discussion is complete
3. Reach out to each participant and schedule the final individual interview via text or email. *“Thank you for being a part of the discussion this past week and for sharing your story. The final step is an individual interview with me over a recorded zoom call. During this call we will talk about the types of social connections that you have and what kind of support you give and get from these people. You will be in charge of how you define a social connection and what that connection means to you. We will also talk about what needs you have that are not being met and if any of your connections are stressful or not so helpful. With this information we will create a map of your social connections. At the end of the study, you will get to keep the map that we create. This*



*call make take up to 1 hour to complete. We can also schedule 2 separate 30 minute calls if that works better for you. When are you are available the next week to schedule this interview? What questions do you have about this interview?"*

4. Transcribe the recorded discussion

## **Group Discussion – Facilitator Guide**

### **Welcome**

Allow participants to join one a time from the Waiting Room. As participants are joining remind them that they have the option to turn off the video if they choose and to use the rename function so that it displays their initials. Also remind participants that the group discussion is being recorded.

**The discussion facilitator will provide instructions to the interviewee to not say anyone's name or reveal anyone's identity who is not on the Zoom call such as family members, friends or any other contacts.**

*Thank you for joining us today. There are few ground rules before we begin.*

- 1. There are no right or wrong experiences here just differing points of view. Please be respectful of what others share today even if you do not agree. It is up to you how much you wish to share but we hope that you will find this to be a safe space to speak your truth and share your story in your own words.*
- 2. Try not to speak at the same time so that we can hear everyone. If this happens, I might intervene to assign an order so that everyone has a chance to share.*
- 3. If there happens to be any noise in the background, please mute yourself until you are ready to say something.*
- 4. Questions are always allowed. You can ask questions at any time. You may unmute yourself and ask a question or raise your hand or type a question into the chat function. I am happy to show you how to use these functions now if that would helpful.*
- 5. Can anyone think of any other ground rules that we need to talk about before we begin?*

### **Purpose**

*Today each of you will have a chance to share and present one photograph that you have picked which you think is the best example of how you experience social support during the pandemic. During group discussion we'll be talking about what each of these photos mean and what we see across the photos. During this discussion, I really want to hear your voice, your story, and your experiences in your own words. I am interested in learning from you. I keep using the word social support because this is the term that has been defined for us all. You may have a different way of talking about support and that's okay. Use whatever words feel natural and comfortable to you even if they are different from the words that I may have been using.*

*Even though you will only show the one photograph that you picked as the most important to you, you can always note or talk about other pictures that you took*

*especially if something comes up during the discussion where you think it would be helpful to look at that picture. Feel free to share experiences about social support during the pandemic even if there is not a picture of what you want to say.*

*I will share my screen so that I can show each picture one at a time. I will also show all the pictures at one time so we can look at what we see across all the photos. Everyone will have a chance to present the one picture they chose and be a part of a discussion. As a group we can talk about the experiences that we share and the experiences that might be different. I will be on mute and I will turn my camera off while the discussion is going on. Does anyone have any questions?*

The researchers will only intervene if the discussion stops, if anyone is being disrespectful or disruptive, if participants are speaking at the same time, or if the conversation would benefit from a helpful prompt or probe. I will turn off my camera while the discussion is going on.

*Let's get started. Volunteers will go first or researcher will select someone to go first. As you present your photograph tell us the name or title that you gave this picture, what it means to you and what you see here. What do you want others to see here as it pertains to your needs and how you access or engage with social support?*

After the presenter is done discussing the image and the group has had a chance to talk a bit the researcher will ask the group to come up with a short title or a name for this photograph. Then the next person in the group will follow the same process above to present and share their selected photograph.

After each group member has shared their one photograph, the researcher will display three random photographs from each of the groups so members will be able to see images from the other groups as well. The researcher will ask the following questions:

- What do you see across these images?
- What looks the same across the photos?
- What looks different across the photos?
- What is the story here?

Facilitator may ask the following prompts or probes as appropriate:

- What is really Happening here? Is something happening here that is specific to your experience with social support and your community? Is there something about your community's social and cultural norms that are shaping what is really happening? How would you explain what is happening to someone who is not a member of your community? How would you explain what is happening to someone who serves your community?
- How does this relate to the available social support services and programs you know about or currently participate in?

- Tell us a little more about why you took this picture? Is there a specific aspect of the situation that we should discuss?
- What do you want others to know about the strengths, assets, concerns, or gaps in this image relative to social support and your community?

### **Individual Interviews**

#### **Day before scheduled interview**

1. Confirm date/time of interview and reschedule if necessary
2. Remind mom to find a quiet space and to use headphones or earbuds for privacy

#### **Individual Interviews (Recorded Zoom, 1 hour)**

1. Welcome participant and remind her that this is a recorded Zoom call
2. Follow Interview Guide (Appendix E)

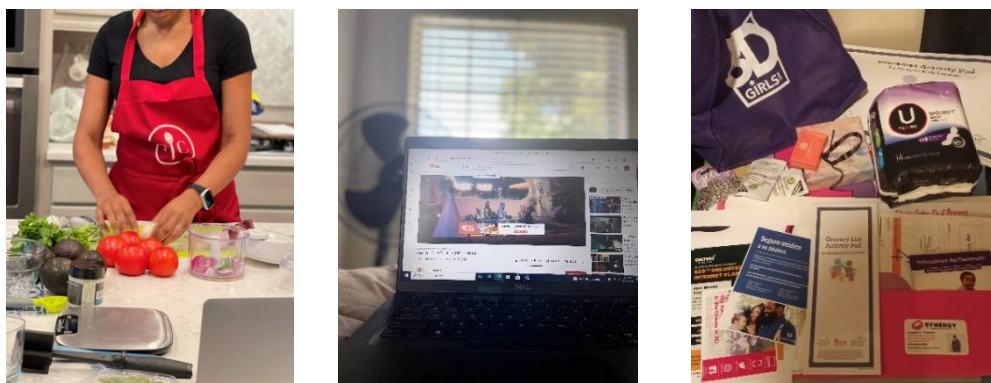
#### **After Interview**

1. Update participant excel spreadsheet
2. Save recorded interview in GSU Dropbox
3. Transcribe interview
4. Use data from interview to create a visual map
5. Share map with participant to confirm correctness and accuracy and make modifications as necessary

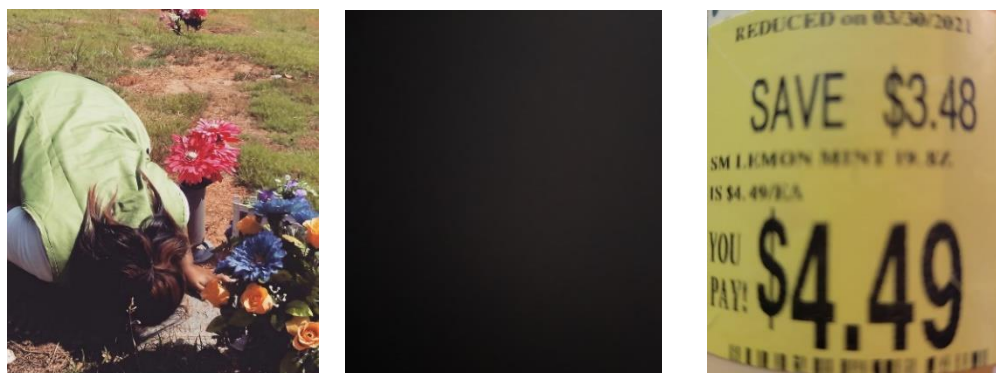
## Appendix F – Participant-Generated Photographs



*Note. Group 1. Left: “Rehabilitation,” KR. Middle: “Support teaching daughter new things,” DM. Right: “Broken,” TW.*



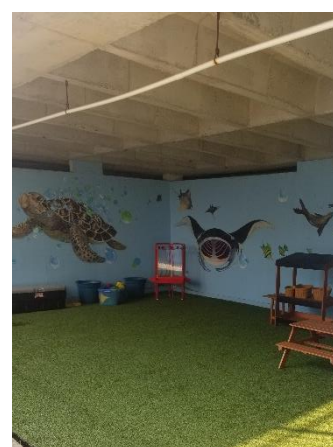
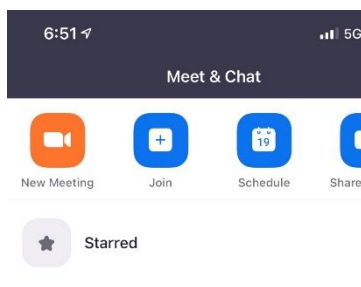
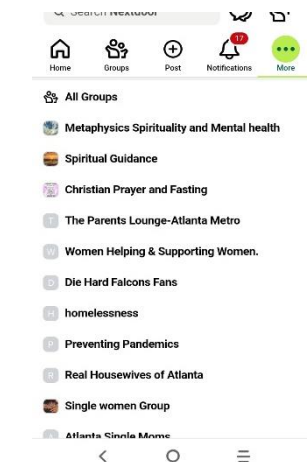
*Note. Group 2. Left: “Pampered chef cooking,” MC. Middle: “Magic in music,” ES. Right: “Community pop up party,” SH.*



*Note. Group 3. Left: “Pain,” DS. Middle: “Lights out,” KJ. Right: “Mark down,” KJ. KJ presented two photographs.*



## Appendix G – Randomly Selected Photographs for Group Discussion



**Note.** Top Row (Left to Right). “Family good times” (ES). “On journey to happiness” (ES). “Peace at St. Pete” (ES). Middle Row (Left to Right). “Happy school days” (SH). “My go to group” (SH). “Special Playoff” (SH). Bottom Row (Left to Right). “Faith” (KR). “Outdoor activity that support learning” (DM).

## Appendix H - Quotes Examined During Individual Mapping Interviews

### GROUP 1

1. I just started cryin again....and he [child] was like "mommy"... "are you gonna be okay?" ....and I'm like I'm a have to because if I can't be strong for ya'll... who's gonna be strong for ya'll..?
2. But me as a parent still at the back of my mind I'm like I failed you, like I really failed you [the kids]
3. Like let me suffer, not my child. I don't want my child to suffer just let me suffer.
4. I'm usually always doing stuff for other people or I doing stuff for my kids. I never really do anything for myself
5. ... sometimes mommy needs a break
6. Mommas and daddies are important too....acknowledge the mommas and the daddies
7. Mommas need outlet sometimes. Momma need a time to herself sometime and we don't normally get that ...you can still be a single mom if you in a relationship and the...person that you're in a relationship with you... don't have kids with them....but you still a single mom because your significant other... it's not their responsibility to... take care of a child that's not theirs.
8. ...navigating through social support and trying a find what navigation works best for me as a single mother
9. I have my braid appointment coming because I know that how much time it takes particularly for Black women to do our hair
10. First of all, hair braiding is self care.

### GROUP 2

1. ...I would probably take a picture that says 'no hospitals.' ...I don't trust the medical system being a Black woman
2. ...it effected it because of the pandemic because they were able to use it as an excuse....I was advised that if I did not check into the hospital cause I didn't want to go to the hospital because I just I've had bad experiences.
3. ...plus having my daughter in kinda you guys stereotype...I got profiled based on certain...I was isolated and luckily I paid for a midwife and...a doula and my midwife was there and they tried to keep my daughter they called social services on me.

## GROUP 3

1. ... my daughter she's keep coughing...Like and it's like dry...like it hurts
2. ... the only thing I do hate about them thinkin that every time a child sneeze or cough is COVID
3. I understand it's it's really big but don't say every time you hear a sneeze and a cough it's COVID. It can ... be a runny nose.
4. ...it was when my whole entire family was had contracted COVID
5. ...yeah my son now suffering with COVID. I just had a daughter that had COVID. She got over it. Now my son suffering with COVID but he has diabetes.
6. ...we're testing em every Monday and so whatcha you want me to take my child to school to get it and then once you test em they get it [COVID]?
7. ... my oldest son he has asthma and... he knows that his immune system is not like mine. Where it it'll attack me and I can get through it but if it attack him it's gonna attack him harder
8. ...everybody feel like it's...a joke and it's not. It's really serious like you have people and babies too actually that's...dyin from it
9. I don't even want to put my son in daycare because you know I'm scared...

## GROUP 4

1. ...and they [children] miss school. A lot of days they miss it because of they miss days every week...they missin days, and I'm like it's not my fault
2. ...when they was doin was virtual...some of the kids didn't have no devices some kids...had devices but some of em didn't have like the internet and stuff. Sometimes the internet would go out and they would count them as absent
3. well I got my parents to watch em but sometime I have as me as their... primary care I have to take them to the doctor... my daughter she has to go get a COVID because...she has sore throat and low-grade fever so they won't let her back in school
4. One of the counties in Georgia they were sayin that the teachers are workin hard like pretty much like kids who have to quarantine they can't come to school so the teachers teachin both uh in class lessons plus a more of virtual
5. ...some schools are close in the middle of the day...one school called and said hey we need ya'll to come get ya'll children by lunch time. They didn't want them to go to lunch. They didn't want the children to go to another room...This was a school in Douglassville
6. children need social... they need to be able to social socialize too because they're stuck in the house
7. So where do you bring your kids if you have them home and they're not in school that's open
8. ...learnin is gonna be little challenging especially at her age since because they study mouth movement and repeat
9. when with the social support all the kids was basically in the house during the pandemic you know they didn't have no where to go.

## GROUP 5

1. ...people took for granted that the kids got lunch from school and then like when it was the pandemic well who 'gonna feed the kids...who'sgonna watch the kids while they at home doing virtual learning and the parents have to work?
2. ...we realize now how much we depend on our schools like and how much the kids ...and the parents need the schools to be open and operational
3. I want to have her here at home you know to do face I mean...virtual but she gets distracted so easily...with tv, the snacks, her brother so it's like I don't know....which one I want to do [virtual or inperson school]
4. She's at school from like 7:30 ish to 6PM or 8 to 6:30 so she spends a lot of time in this place and this is really a big social support
5. ...you have to sign up for it you have to sign em up for it [the kids to get tested at school]. But I don't want them mm mm don't touch my child unless I'm there.
6. ...when I did send him back to school they told me that they was gonna call DFCS on me... so you actually tellin me send my child to school, let him get sick and then he's able to stay at home then after he get sick. He could bring it [COVID] home to the whole house
7. .... So they the... principal is like she had to have a COVID test and.. then that's fine but explain these things to us before so we a know ahead a time.
8. They [the school] don't ... see it from a mother's point of view

## GROUP 6

1. Social support means support from others, as you can confide in
2. Help
3. I say connections...if I talk to someone they lead me to the right connection for the support that I need.
4. I think of like family support system or like you know uh a village. Like people who are helping you in life.
5. Just friends, and what that looks like particularly since we're not able to go out.... And for me social support is like where my people and how do I still get, stay engaged with them.
6. ...social support during the pandemic...when people come together...to help each other ...find jobs or help each other financially helping with food and make sure they're okay during the pandemic
7. I call these my go to people...I always find 2-3 people that I can go to if its an organization or um a friend that I met or a church member... I always keep a few people that I can call in case ...I need some assistance with...bills or ...someone to talk
8. ...I think about support like in everyday life and like with your kids, with health, jobwise like if you wanna go back to school...basically help like in the within the community not just within just one person but... within the community just like cause like a lot of help that is needed...you wouldn't know that unless...you livin it
9. ...people around you supportin what ever the idea for things that you have goin on...people who you are social with...everyday surroundings like family, close friends... even after doctors
10. Social support to me is uh anything to help you make it socially like to function...like um maybe friends, spousal support to counselling
11. Networking, I love networking
12. ...like my village



## GROUP 7

1. It changed, cause I used to have a lot of social support but now I don't
2. ... The rental thing that's going on... was good for a lot of people because... people lost their jobs.... The stimulus payment helped people get outta binds
3. The pandemic showed how much you really need like a support system
4. ... my Church just finally opened up but he's not even opened up full time. It's like every other week.
5. ... it's so different because we can't go into the school building anymore.... I'm involved and I want to be involved but I can't get outta of my car
6. ... it's like when you talk face to face you're feel more comfortable than it's like you feel you it's like you feel um more relief
7. ... not being able to be around your family as much as you want to. Not being able to travel places
8. ... like sometimes you might need a hug and you can't get a hug. You can talk about getting a hug... it's never the same feel in their energy hug
9. you wouldn't know, ... you can say oh well they don't need this but you're not living in this situation so you wouldn't understand... Like a lot of people have had a lot of struggles
10. ... if you probably did more studies with more people ... you probably get a clue of like what is all is needed especially in the lower income urban community.
11. ... seen people sleeping in their cars, kids you know.... It didn't affect everybody... so everybody have their own you know outlook and stuff but... I didn't experience homelessness, but I know a lot of people that did or fell short
12. ... so a lot of stuff wasn't getting done right because they wasn't adhering to... the guidelines that they would as if they was... in the office.
13. ... you just learn how to adapt with the new like the new world that we live in.
14. because you kinda miss the social support of the social outings and just kinda things feel normal versus being isolated with one

## GROUP 8

1. ... unemployment ran out literally
2. ... I couldn't get CAPS because the [employer] wouldn't say that I worked there. Like they wouldn't give me a paper stating just stating like my hours or what I make every it was just difficult....
3. ... I sent her over my light bill... and she was like "ok great I got it," ... a week and half when I went back to work my son called me and he was like "momma our lights are off." and I'm like "... I sent over you know the bill to the lady and she said that... she was gonna take care of it. He was like "well the lights are off" and so I... logged onto my account for GA Power and they said that it has been disconnected because no payment had been made
4. ... one of my friend just passed... They don't have food banks you can't go to food banks like you used to
5. ... and me going through the experience of homeless for 8, 9 months almost a year with kids.... I didn't have no help. I was by myself trying to figure out how my kids gonna eat the next day
6. ... when the pandemic hit... a lot of jobs you know wasn't paying or you had to be off work and you couldn't go in the store and buy somethin that you wanted for full price. So you had to get somethin that was like basically marked down half price or a discounted price
7. ... everything is just falling apart during the pandemic and that's how I feel about everybody with social support everybody losing jobs, you losing medical benefits losing basically everything
8. I found out I didn't have enough friends. I have nobody.
9. ... during the pandemic when we really lost a lot of networking

## GROUP 9

1. We swung by and they gave us pampers, and pads, and things that momma can need besides just baby needs momma needs too
2. ...by the time I get ready to go work my mom be gettin off work
3. So I had to ask my sister for help
4. ...well it was um my cousins, so I don't have any siblings...but I have a group of cousins like we're really close like siblings...a few of my co workers and... my husband
5. ...my husband haveem [child] sometimes. Like I go to the gym in the morning and he goes to the gym we like take turns
6. ...that tight circle it was it was more personal but that other circle it was more virtual and a little personal
7. ...luckily...I had someone to advocate both during the pandemic and knew the rules of the hospital
8. I didn't need a support really because by that time I went back to work I had a system in place
9. ... it looks different but it's the same people around um. Matter a fact, they're around a little bit more since the pandemic.
10. I'm thinking about me and my experience like I started a business in this space [during the pandemic] and it was like such a natural fit

## GROUP 10

1. And with my job it wasn't paid...it's not going to be paid and I felt like I'm gonna be struggling cause I had to be out for 2 weeks.
2. ...you know some jobs they'll honor the fact that you have to stay at home with your kids cause you're the you're a single mother or you're single parent.
3. ...my youngest son got COVID and I...away from work. I got an email yesterday saying...they n gonna pay me for bein out cause it's not me that got the COVID, it's my son. I
4. I work at the school that they [children] attend you know they're more understanding...they don't want to spread COVID...they don't want to close the school at all period ... if you have to take off the 10 days and it's COVID related they will pay you.
5. If I was workin I be havin to quit my job.
6. ...as for that the only thing I am missing that I normally don't get, is working.
7. I wouldn't be able to attend work if she had a fever and then couldn't attend school
8. I used to go to work, but now since the the workin is not you know like it used to be everybody's social distancing
9. ...cause I, I would love to go to work but I know it's not a good timing right now and it's not good for the kids

## GROUP 11

1. ...when I was going through certain situation and I used to do my little poems and I'd take a picture and I'll write me a little story about it. I used to do this when I used to go through depression. I maybe take a picture and then I... go back on the picture and be like this the day I was going through some issues
2. ...music helps me cope through the pandemic
3. And why I say the sky is because no matter what you're going through no matter what the situation is you can always look up in the sky and keep your head held high.
4. ...going to the park makes me happy like just getting out the house so yeah physical health
5. I think I pray more than I ever prayed before you know.....And so and so I you know you need your faith
6. ...like I be going outside to get air. Or like if I'm going through stuff. Sometimes I need to go outside...sitting in the house for too many days then I get depressed.
7. During the pandemic it just showed you like how a lot of times you need your faith to get by.
8. Or keep them mind...above sea level
9. ...for our mental health like we do need you know to socialize and you know we need to interact with each other
- 10....guide them through this pandemic you know keep them keep them mentality you know strong
- 11....I felt like before the pandemic hit everything was good. I didn't have to worry as much and I feel like now cause of the pandemic I feel like I worry more

## GROUP 12

1. ...to have fun just to you know be free for a while, ...yeah look like somebody's just enjoyin life
2. ...maybe once you goin...through trials, once the storm is over, yeah you get a little peace and you go out and have a fresh breath of air
3. ...relaxin you know where you can like just calm and ease your mind
4. ...wanting to go as far away, leave. get away
5. ...let's get in the car and just ride cause that's what I like to do a lot....Get in the car and ride we don't have a destination
6. ...it's like I just wanna just get up and get out cause I'm tired of seein the same scenery over and over in my house
7. and then the final one is at the beach which represents like freedom and kinda bein able to express yourself.
8. picture of the park seems like openness and freedom
9. Especially if its encouragement. It's always good to get encouragement from others also to encourage yourself too
- 10.I say kids, I love my kids. They...would keep me going, they what motivates me

## GROUP 13

1. school has had to shift a lot of people are virtual
2. now how do we re-imagine how we do church. um whether its virtually on Facebook live or you know moving outdoors
3. I am on Zooms all day. I'm Zoomed out.
4. virtual you know praise and worship
5. a lot of people are being able to work remotely,
6. like not even just meetings but...when the pandemic first hit like with family we would get on the Zoom calls so we could see each other
7. ... I'm just thinking like, cooking is also something I've done during the pandemic for social support doing like cooking videos with my kids and...Facebook groups... That's been like activities for me to not only...meet new people but also provide something educational for my kids.
8. Marco polo which is an app I use to stay connected with my friends
9. Social support also has been like kinda social media like I follow some like moms things
10. Meet and chat, this is what we did through the pandemic, this is how we um got stuff done through social media through our phones
11. I love next door most and I use the citizen app so when I need to know something
12. These are groups that she's joined but uh for community and its like here's things that she's interested in, things that she's...wanting to be a part of and technology is able to create social outlet

## GROUP 14

1. ...but it's so different because we can't go into the school building anymore... yeah I'm involved and I want to be involved but I can't get outta of my car. I can't get out to do the stuff.
2. ...pandemic going on it's so its like you gotta do a mask and get the temperature you can't really enter the classroom can't enter the school can't see your kids can't eat lunch with them you gotta schedule appointments just to eat lunch with your own kids
3. ...sports that's to me speaks to community
4. ...definitely something that can bring people together is athletic events
5. Church community is something that I think is... important to a lot of people
6. ...is basically like our Church is tryin to come together pray you know. We come to pray. Pray together stay together.
7. Black sororities they continue on, it's a lifetime... We have meetings, we put on events, we do things here for the community
8. I'm a big into advocating for Black mom's through um my community service.

## Appendix I Eco-Map Interview Guide

### Introduction

*Interviewer: Now we are going to move to the Eco-Map interview. This interview will include questions about your relationships or connections with other people, or groups, or maybe even places. Together we are going to create an eco-map. To do that, first we'll start by talking about the people that live in your current household. I'll ask you to provide a gender and age for those people but no identifying information like a name. Then we will start talking about connections outside of your household. I have a page of examples of common types of connections that you might have like family, friends, and church/faith. There are also blank circles where you can add other types of connections. For each connection you will indicate the strength of the connection as either (1) positive (e.g., strong positive, helpful supports and communication) or (2) negative. Negative connections may be weak (e.g., little support and little or infrequent communication); stressful (e.g., no support, little communication and the interactions are stressful and cause anxiety or worry); (4) conflicted (e.g., good and bad elements to this connection). There might also be connections that are missing which could be either (1) wishful connection (e.g., connection that you do not have or never had but would like); or (2) no connection (e.g., you are not connected to this person, group or service and you do not want to be connected to it). You will also indicate for each connection if communication, resources, and support go in one direction or is two-way or mutual. What questions do you have about this activity?*

***During this interview, the interviewer will not say anyone's name or reveal anyone's identity. If either the participant or interview accidentally uses a name or identifying information, this information will not be included in the transcription.***

***The interview will now share her screen to a pre-populated Word document with circles indicating connections and will complete this document as the mother is describing her social ecosystem.***

### 1. Identifying Connections

*Interviewer: For this activity, think about the people or groups of people in your life that you spend time with. Think about people that support you, and people who you support. Think about who has your back. Also think about the people or groups of people that you do not enjoy being around or maybe they stress you out, but they are still in your circle in some way.*

*As you identify each connection, I will add them to map one at a time. We will start with some common connections but if those do not apply to you then we'll note that in the diagram.*

**During this exercise, the interviewer will write down the type of connection inside the circle (e.g., mother, friend, doctor) omitting any personal information (e.g., full name, phone number, address).**

Probing questions:

1. Who's got your back?
2. Where do you get support from?
3. Who do you give support to?
4. Who stresses you out?
5. Who are you really close with?
6. Who are not close with but still runs in your circle?
7. Is there anyone that you do not enjoy being around? Is there someone that you try to avoid?
8. Is there anyone that you miss? Maybe someone or something you do not see or talk to as much anymore?
9. Any supports or connections that you do not have or that you have never had that you want?

## 2. Nature of the Connection

### a. Quality

*Interviewer: Now let us talk about strength of your connections. Here are some examples of strength:*

#### Positive

*Strong*                      Reliable, trustworthy, dependable, stable, healthy, consistent, responsible, honest, relationship is clearly defined, helpful, meaningful relationship

#### Negative

*Weak*                         Inconsistent, role or relationship not clearly defined, limited contact or limited connection, may go long periods with no contact, could describe a stranger or acquaintance

*Stressful*                    Causes stress and anxiety, maybe needs are not being met, might be associated with emotional distress

*Harmful*                     Harmful, fighting, arguments, hurtful, painful, may be abusive (e.g., physical, sexual, emotional, financial, verbal) [Probe: Ask about any attempts of this individual to control their life, thrive off conflict and negativity, compulsive lying, manipulation, rarely believes in you, attempts to turn people against you, diminish your power, does and says things that make you question yourself (*\*if harmful is selected, mother will be referred to appropriate resource, and a mandated report will be made if there are concerns related to a child*)

#### Missing/Non-existent

*Wishful*                      This is a connection that does not exist because it has changed, was lost or never existed and mother would like to be connected to this person, group or service

*None*                      The connection does not exist. No connection and mom does not want to be connected to this person, group or service (no line)

### **b. Directionality**

*Interviewer: Please describe the direction of your relationship. By this I mean do you feel that most of the time you are the one giving (one way) or do you feel it's pretty even between what you give and what you get (even if what you give is not the same as what you get)? Or would you describe the direction another way?*

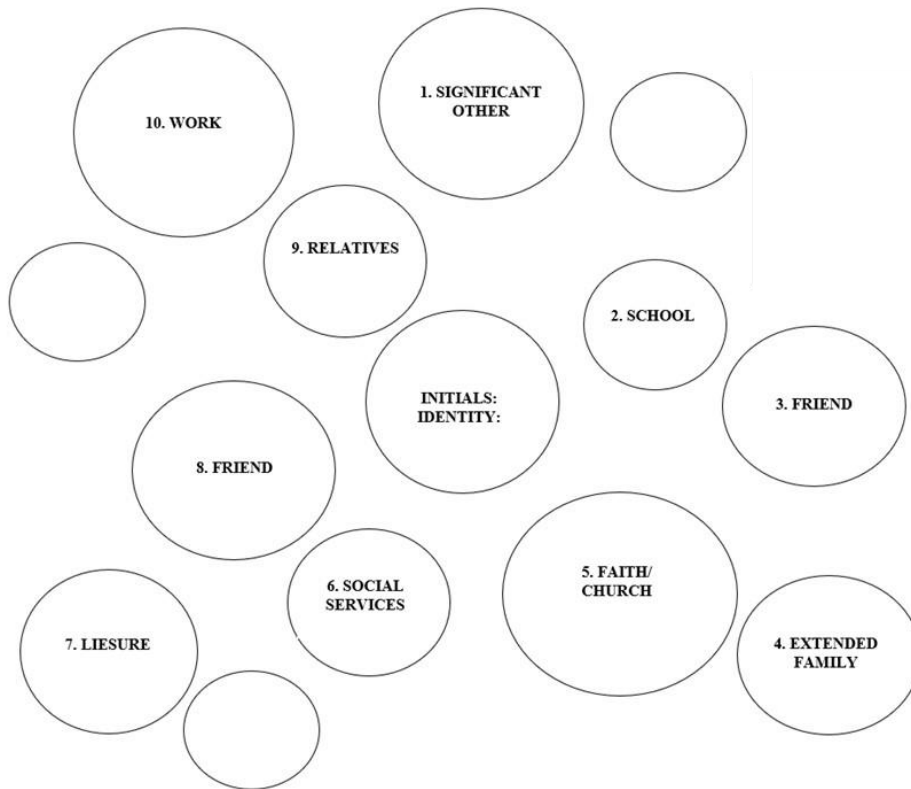
**One Way**            In this relationship the participant mostly gives support OR mostly receives support but NOT both. This relationship is not mutual.  $\longrightarrow$

**Two Way**            In this relationship both parties give support and receive support. It is mutual and the support goes both ways but the type of support might be different For example, you might get emotional support but you give instrumental support.  $\longleftrightarrow$

*Interviewer: Is there anything else you would like to say about the connections or relationships that we talked about today? [If yes, make the note in the appropriate section].  
If not, then I would like to thank you for sharing this information with me. Next, I will review everything you shared with me and then I am going to edit the map that we started today. Once the map is complete, I will email it to you so that you have a copy for yourself but also to make sure that the map looks right to you. If something is not right, let me know and I will correct it. Thank you so much for your time today.*

<b>Strength</b>	<b>Demarcation in Map</b>
Positive	—————
Negative	- - - - -
Wishful	- . . . - . . . -
No Connection	
<b>Direction</b>	
One way (e.g., mother gives OR mother receives)	$\longrightarrow$
Two way (e.g., mother gives and receives)	$\longleftrightarrow$

## Ecological Map Template (Hartman, 1978)



*Note.* Example of the original eco-map template as portrayed in Hartmann, 1978. This template was created using Microsoft word to be able to add a small amount of content inside each circle (e.g., connection type).

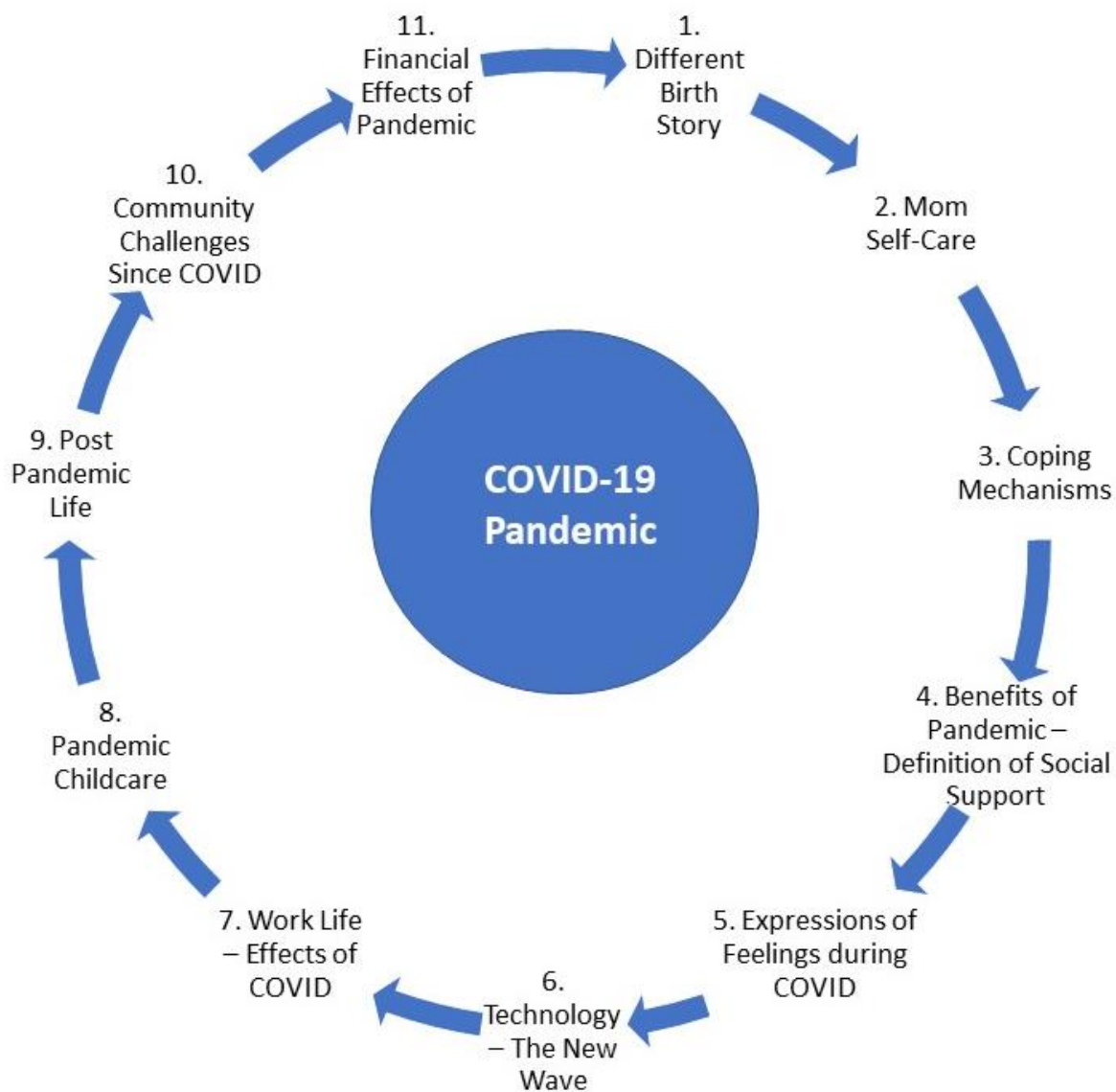


### Appendix J – Themes Named and Ranked by Mothers (n = 91)

Pseudo-nym	Social Support Categories Named and Ranked by Participants (1 = most important).												
Kalia	1. Navigating new normal because of Covid (Everything is virtual)	2. Balance: self-care, being a mother	3. Village support – community within a community that you can depend on	4. School community supports	5. Coping through Covid & Ways to relax, live in moment	6. Polarization in workplace	7. Fear of Covid						
Justine	1. Being a mother	2. Self-Care	3. Change Covid had in our everyday life	4. Make it make sense - school during Covid	5. Support during Covid	6. Support during pandemic - people who have been there	7. Community - getting together to get through pandemic	8. Effects Covid had on working parents	9. Ways people use to cope through pandemic	10. After the pandemic, what people are looking forward to	11. New way of life - virtual aspect of going through pandemic		
Denise	1. Social Support – having people to support you, help	2. A tired mother – single parent, father not doing his part, no support system	3. Trying best to stay safe – school wants to test kids	4. Trying to make it through the pandemic.	5. Trying to adapt not having social support that you used to have. Trying to adapt to new world	6. Pandemic effects on communication– can't be normal, Zoom to communicate, and for schools	7. Pandemic symptoms, people judging you always have Covid (can't sneeze)	8. Down bad – point in life where you have nothing	9. Bad experience overall during pandemic	10. Pandemic during school – kids can't go in school	11. Feeling Free –have fun, enjoy being with kids.		
Callie	1. Different birth story	2. Mom self-care	3. Coping mechanism	4. Benefits of pandemic - definition of social support	5. Expressions of feelings during Covid	6. Technology - new wave	7. Work life - effects of Covid	8. Pandemic childcare	9. Post pandemic life	10. Community challenges since covid	11. Financial effects of Pandemic		
Monica	1. Covid and family – how do I protect my family Anxiety/Fear/ stress of kids, families getting sick, dying	2. Impact on physical, mental, emotional health	3. Defining social support: How you engage with your people & Covid's negative impact on	4. Educational options in Covid era: impacts school	5. Selfcare – taking a break, tending to myself, centering me	6. Community service - value in supporting others							

			social support										
Angelica	1. Momma Hero - someone who can do it all	2. Being a parent - give and take	3. Do I work: darn if I do, darn if I don't	4. Unpredictable moments - never know what's coming	5. A happy place	6. A different life - ups and downs during Covid	7. Undecided school - school system failure	8. Community	9. Social connections	10. Unpredictable - being normally sick			
Kenzie	1. It's me - as a person, I live for my kids	2. Much love - if we need help, just help	3. Different types of motivation	4. Working but not getting paid	5. 360 Fit - selection of people in your circle that can help you	6. Mental health - everybody copes differently. You're strong but sometimes you need help.	7. Covid impact	8. No clue - school have no clue what parents go through	9. No entries - should be able to come to school in person	10. Hard mealtimes - without school it's a burden to families to feed children	11. Socializing impact	12. We need hands on each other	13. Find the right church that fits you
Tatiana	1. Coping with emotions - take control of emotion, keep strong through Pandemic	2. Single Mom Struggles - Single working moms	3. Benefits of social support - helping others, coming together	4. Struggle of Covid - wear mask, social distancing, everything is outside, a lot has changed	5. Keeping faith alive - stay strong, pray for healing and that nobody gets Covid	6. Virtual reality - everything is virtual, video calls, can't go inside	7. Missing outside - miss hanging out with friends, being in public	8. Covid scare - that you test positive, that a loved one has Covid	9. Entertain kids - keep kids off tv and iPad, keep them active	10. Schools don't care - mark you absent if you're online, unexcused absence	11. Loss - someone died from Covid		
Ruby	1. Social support from social distance - support we get & need but it's virtual	2. Getting through the pandemic - feel worried, need to slow down	3. Fun and faith - connecting with fun activities, faith	4. Sacred child - my child is my gem; I don't want anything to happen to my child	5. Child's play - social awkwardness in children not being able to play with one another	6. No child left behind - virtual connection to school	7. Pandemic peace - still in pandemic, finding your way through it	8. Pandemic woes and whoa's - good and bad things came of pandemic	9. Virtual vitality - connecting virtually through apps	10. Happy hour - parents need a break	11. Making decision to go back to work or not, how to work during pandemic		

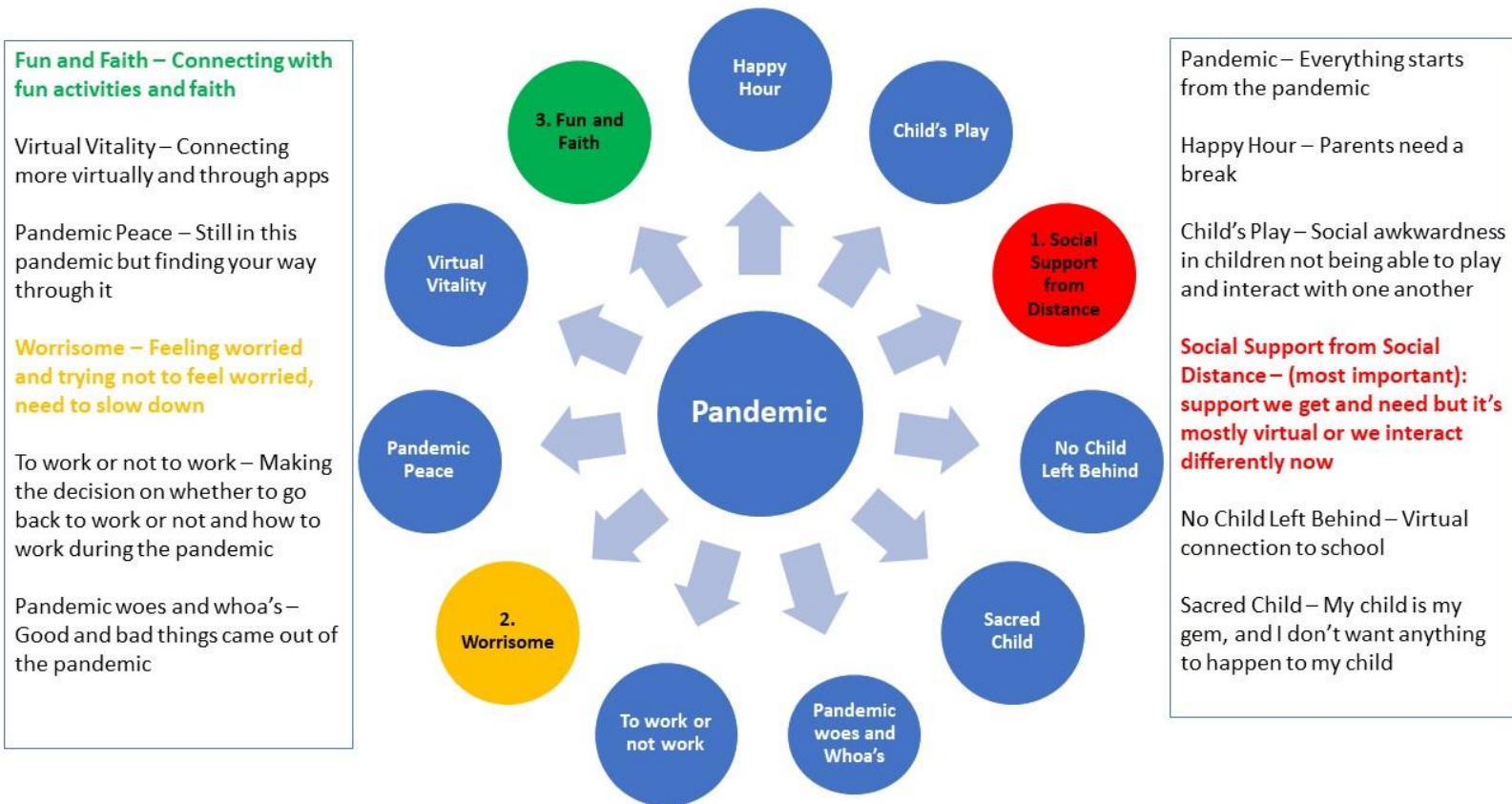
### Appendix K - Individual Cultural and Eco-Maps



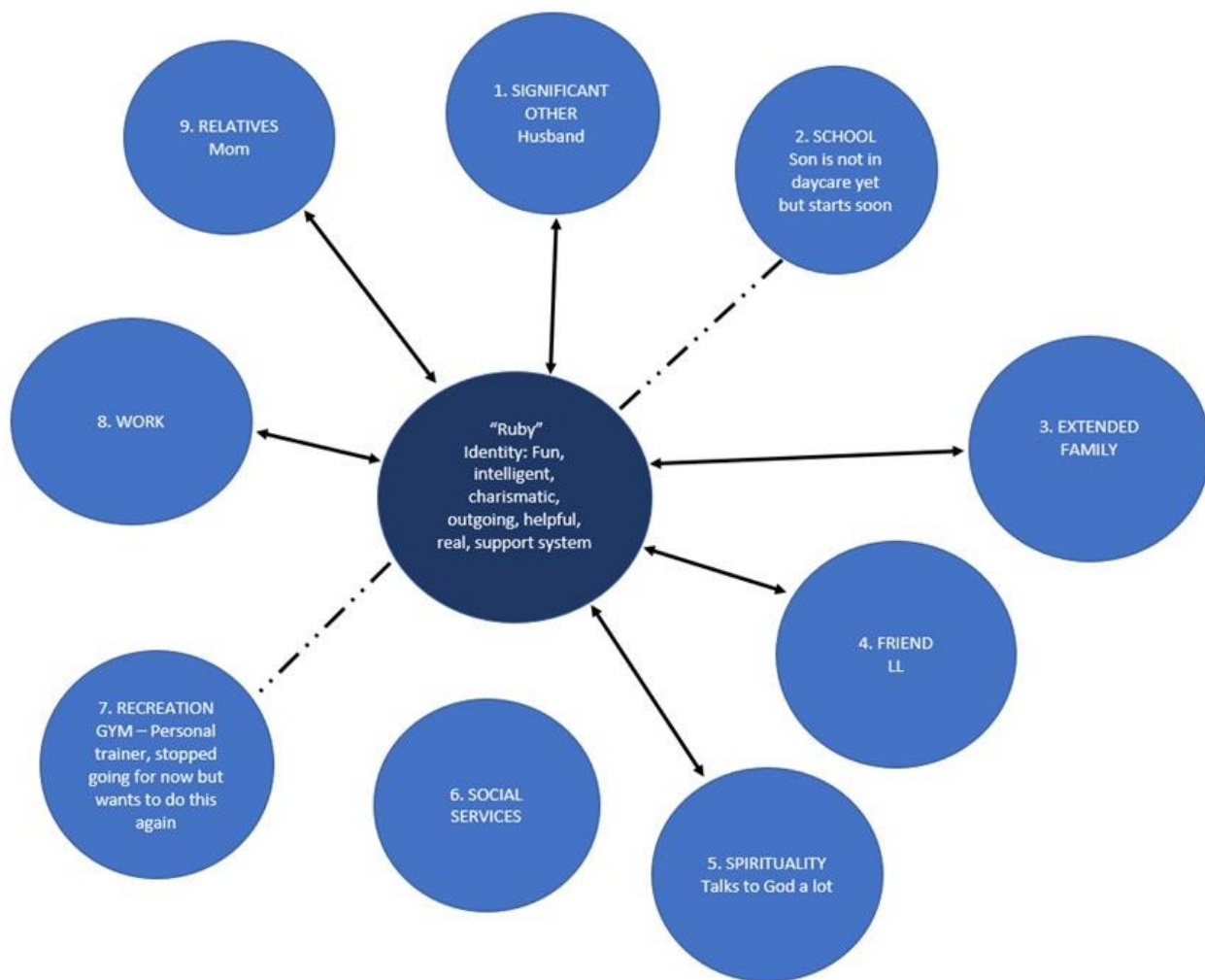
*Note.* Cultural Map for “Callie” showing the themes identified, named, and rank-ordered orbiting around the pandemic.



*Note.* Ecological Map for participant "Callie. Map represent the number of total connections, connections by type (e.g., family, work), strength (e.g., positive, negative), wishful and the direction where support flows.

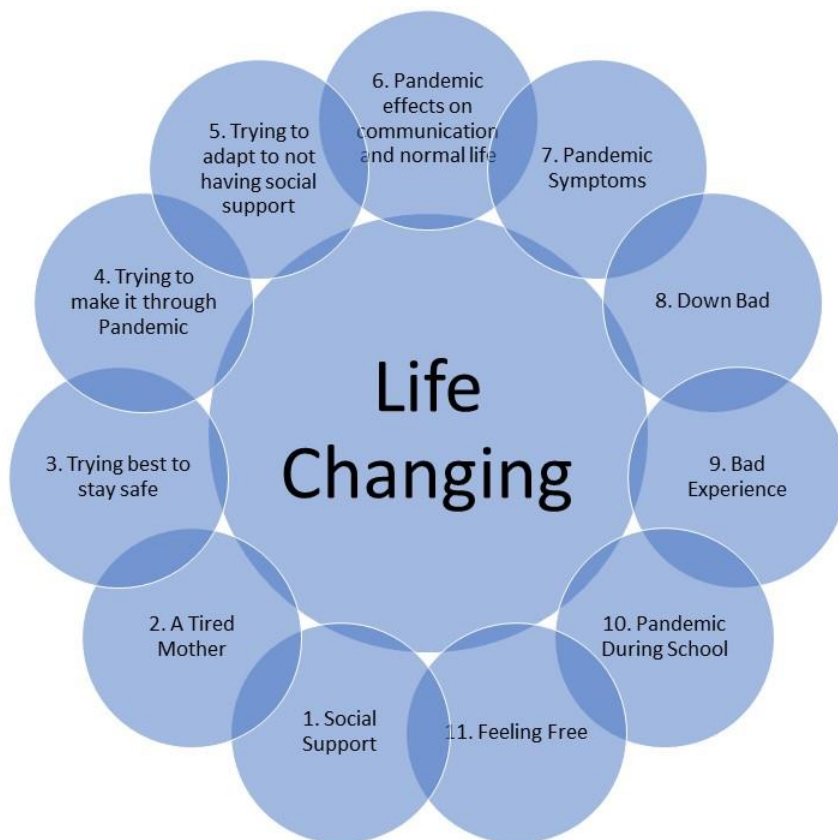


*Note.* Cultural Map for “Ruby” which shows the themes identified, named, and ordered by the mother in terms of those most impactful to her. Descriptions of each theme are provided in the two boxes one on each side of the map.



*Note.* Ecological Map “Ruby.” Map represent the number of total connections, connections by type (e.g., family, work), strength (e.g., positive, negative), wishful and the direction where support flows.

1. **Social Support** - Having people to support you, having help
2. **A tired mother** – Single parent, the father is not doing his part, no support system
3. **Trying best to stay safe** – school wants to test kids
4. **Trying to make it through the pandemic** – ways of helping them get through the pandemic
5. **Trying to adapt not having social support that you used to have. Trying to adapt to the new world we're living in**
6. **Pandemic effects on communication and how we live normal life** – can't be normal, we have to Zoom to communicate. Zooms for schools
7. **Pandemic – symptoms**, people judging that you always have COVID (can't ever sneeze or cough)
8. **Down bad** – point in life where you didn't have nothing.
9. **Bad experience overall during pandemic**
10. **Pandemic during school** – a lot of kids can't go in school
11. **Feeling Free** – have fun, enjoy being with your kids.



*Note.* Cultural Map “Denise” which shows the themes identified, named, and ordered by the mother in terms of those most impactful to her. Descriptions of each themes are provided in the box on the left side of the map.

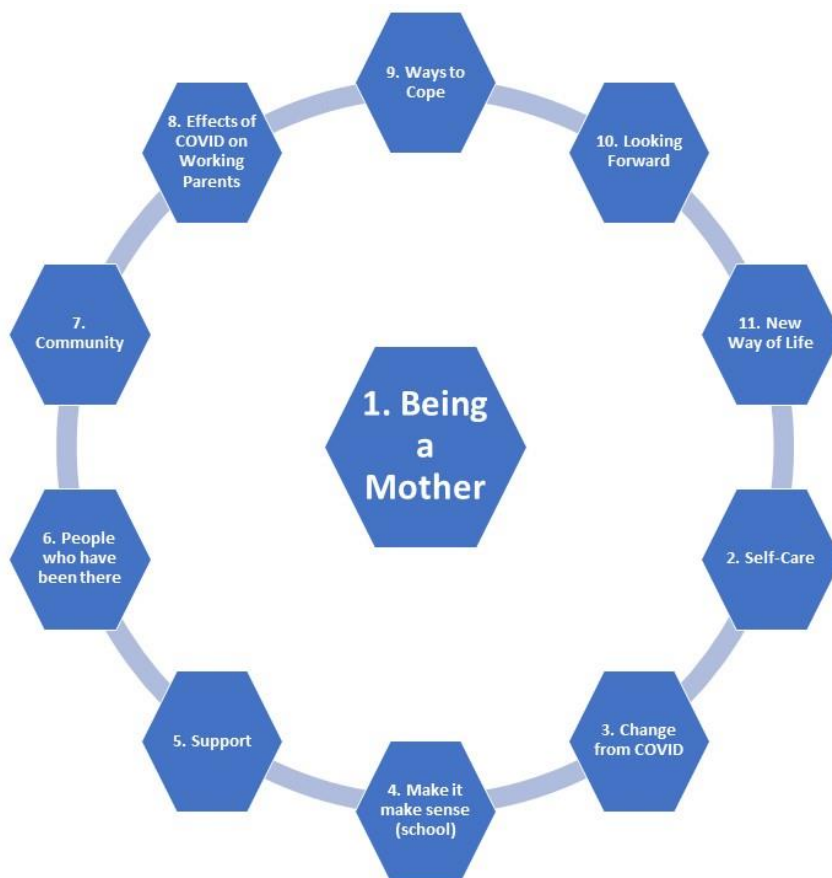




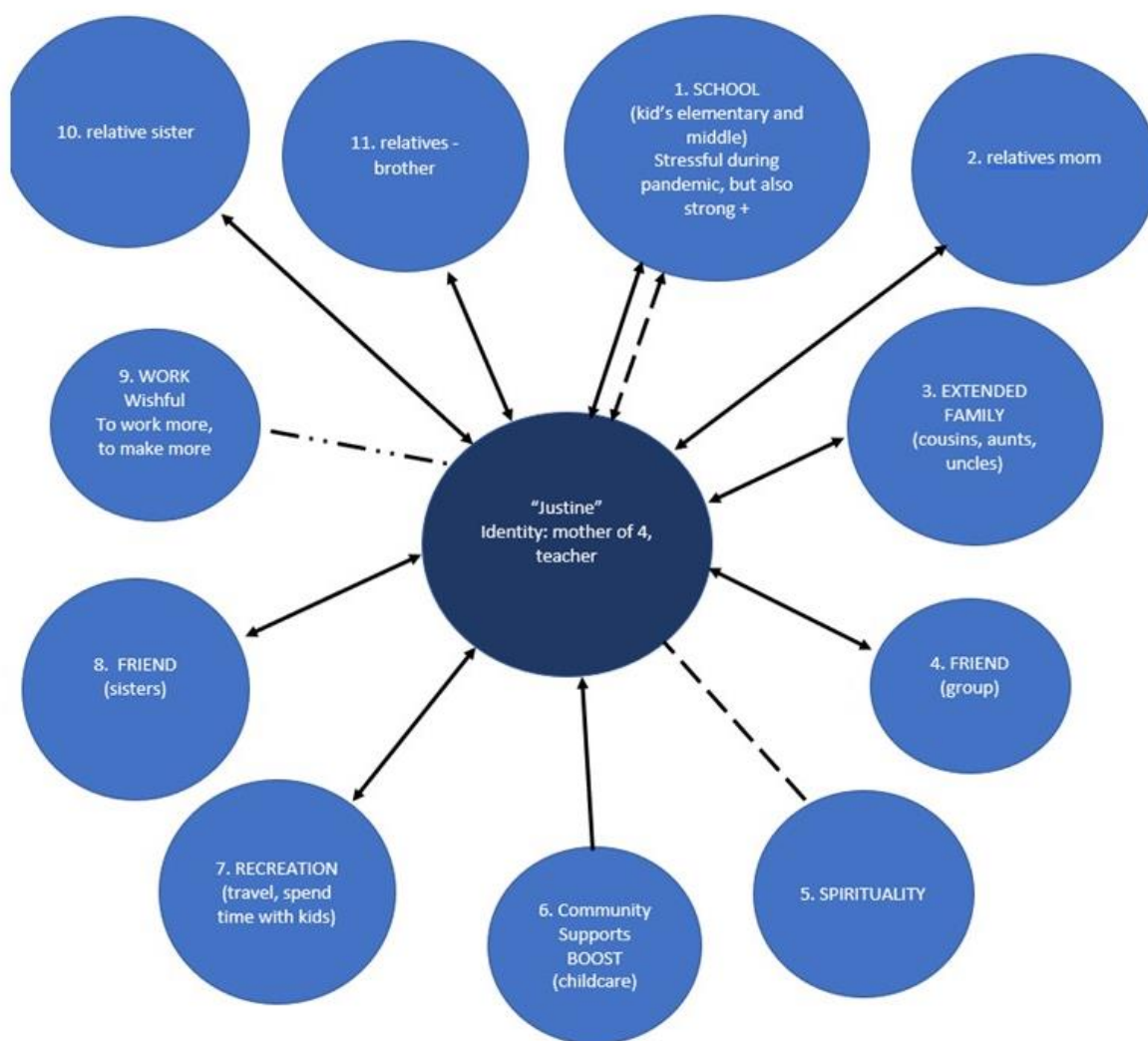
*Note.* Ecological Map for "Denise." Map represent the number of total connections, connections by type (e.g., family, work), strength (e.g., positive, negative), wishful and the direction where support flows.



1. Being a Mother – How you feel about your child
2. Self-Care
3. Change that Covid has had in our everyday life
4. Make it make sense – School during Covid
5. Support During the Pandemic
6. Support from people who have been there during the Pandemic
7. Community – Getting Together to Get Through the Pandemic
8. Effects COVID had on Working Parents
9. Ways People Use to Cope Through the Pandemic to Keep their Mind Right
10. After the Pandemic – What People are Looking Forward to
11. New Way of Life - Virtual Aspect of Going Through the Pandemic

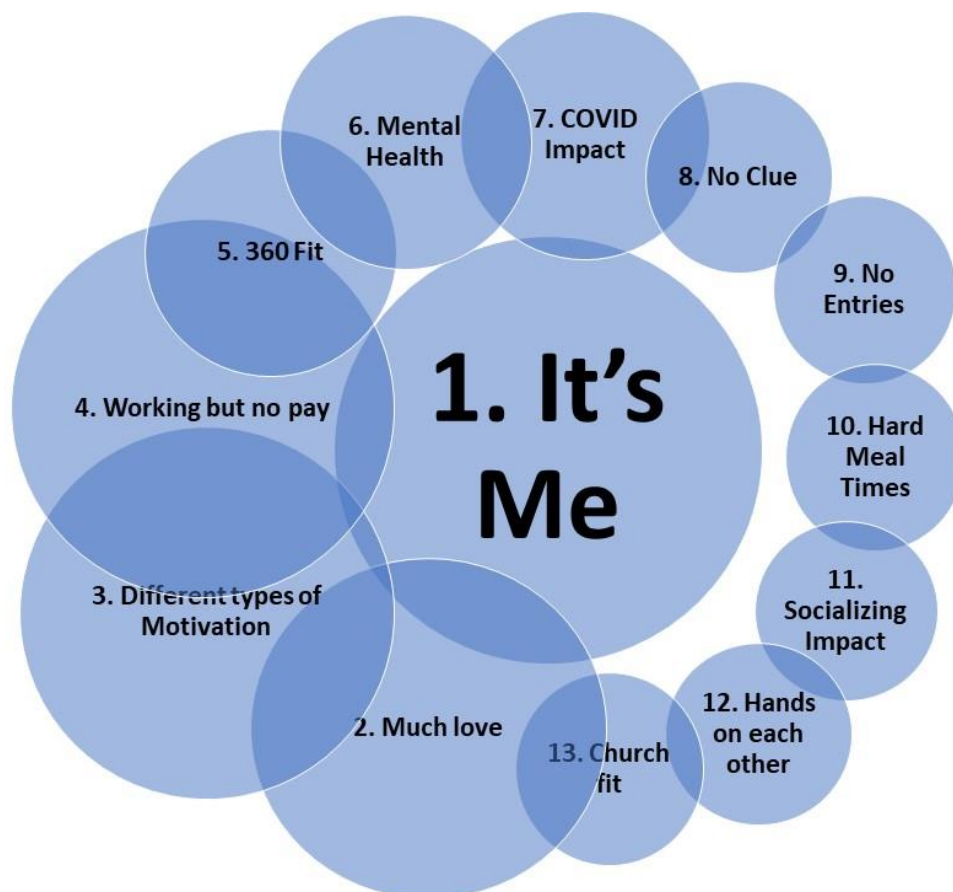


*Note.* Cultural Map for “Justine,” which shows the themes identified, named, and ordered by the mother in terms of those most impactful to her. Descriptions of each themes are provided the left side of the map.

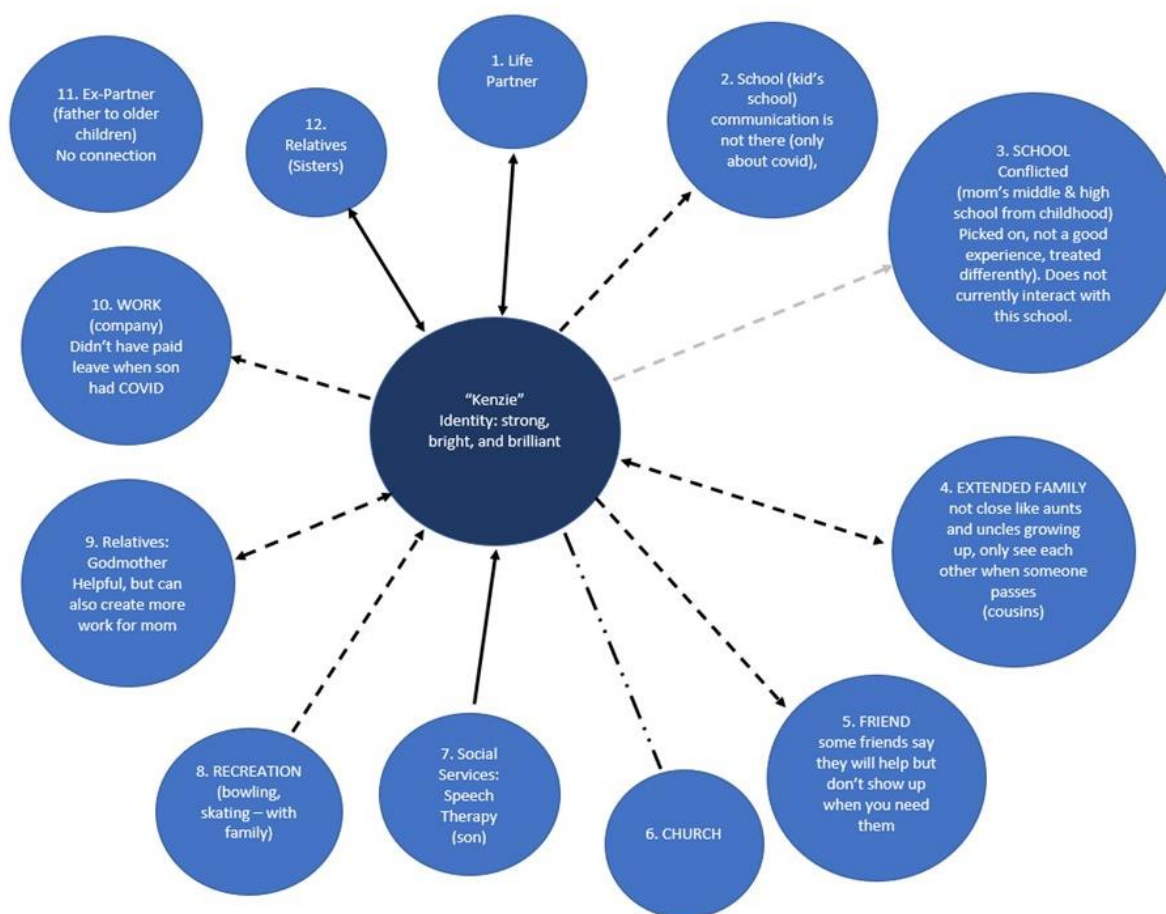


*Note.* Ecological Map “Justine” which shows the number of total connections, connections by type (e.g., family, work), strength (e.g., positive, negative), wishful and the direction where support flows.

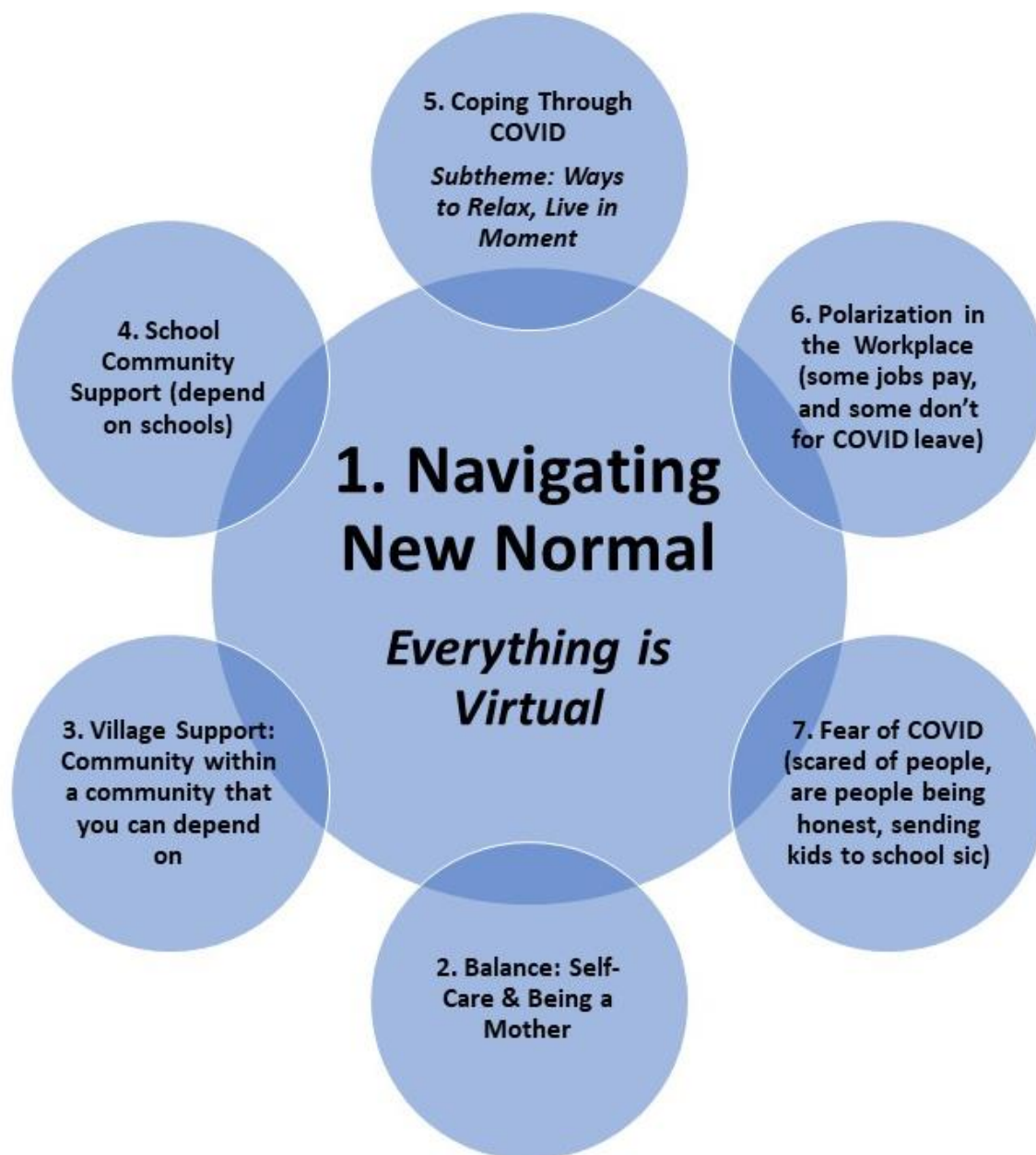
1. It's Me – as a person, I live for my kids
2. Much love—if we need help, just help
3. Different types of motivation
4. Working but Not Getting Paid
5. 360 Fit – you have a selection of people in your circle that can help you
6. Mental Health – everybody copes differently, You know you're strong, but sometimes you need help. You're not alone.
7. COVID Impact
8. No Clue – schools have no clue what parents go through
9. No Entries - should be able to come to the school in person
10. Hard Meal Times - without school it's a burden to families to feed children
11. Socializing Impact
12. We need hands on each other
13. Find the right Church that fits you



*Note.* Cultural Map “Kenzie” which shows the themes identified, named, and ordered by the mother in terms of those most impactful to her. Descriptions of each themes are provided the left side of the map.

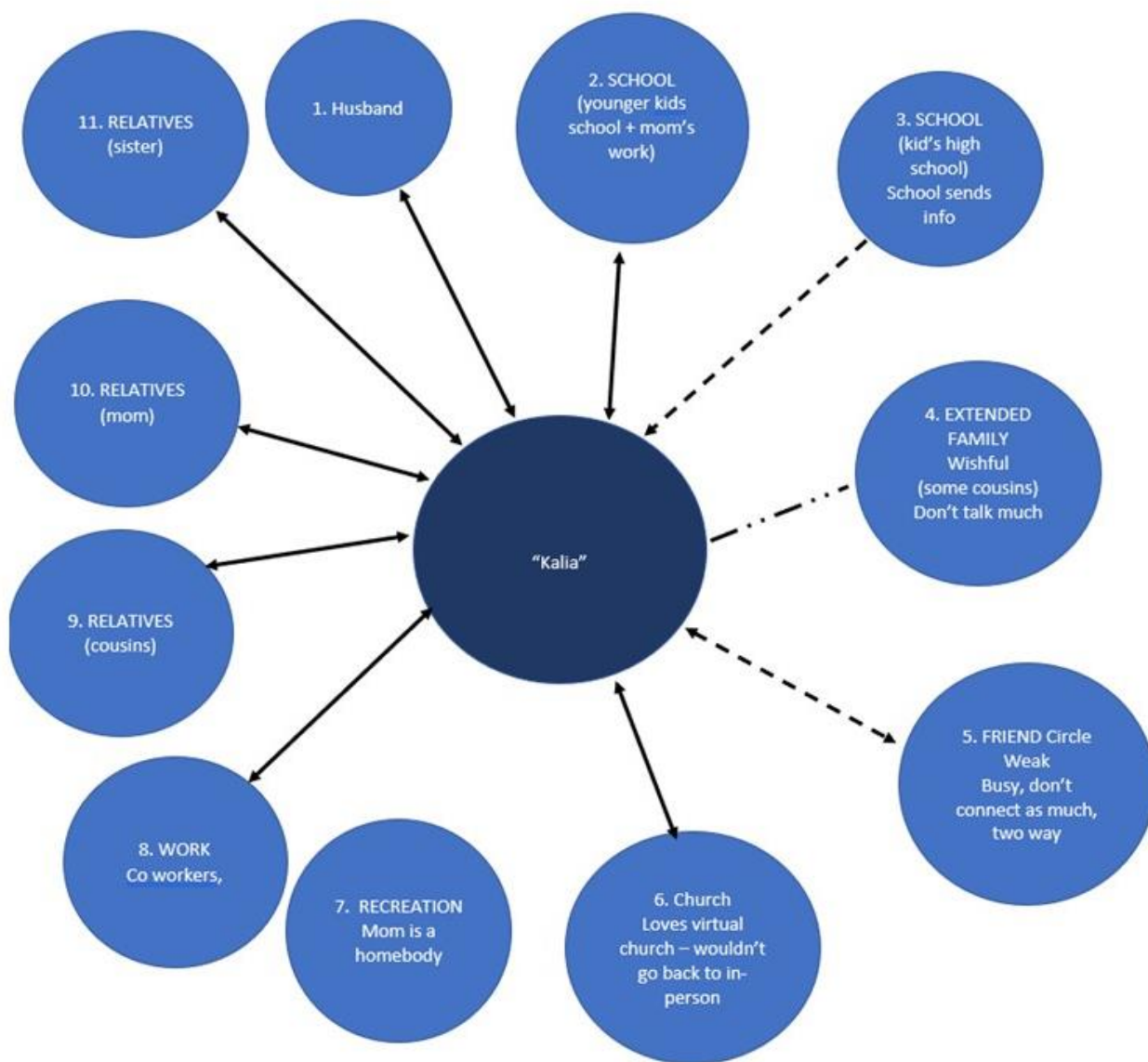


*Note.* Ecological Map for "Kenzie" which shows the number of total connections, connections by type (e.g., family, work), strength (e.g., positive, negative), wishful and the direction where support flows. The light gray link to her childhood school indicates a story mom told about a former negative connection from her childhood.



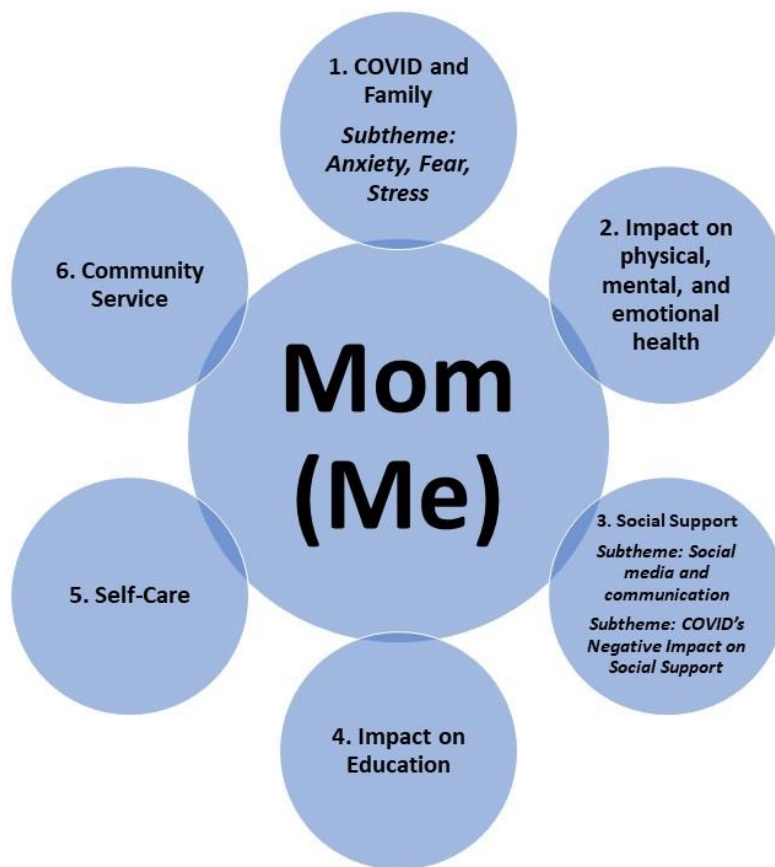
*Note.* Cultural Map “Kalie” which shows the themes identified, named, and ordered by the mother in terms of those most impactful to her.



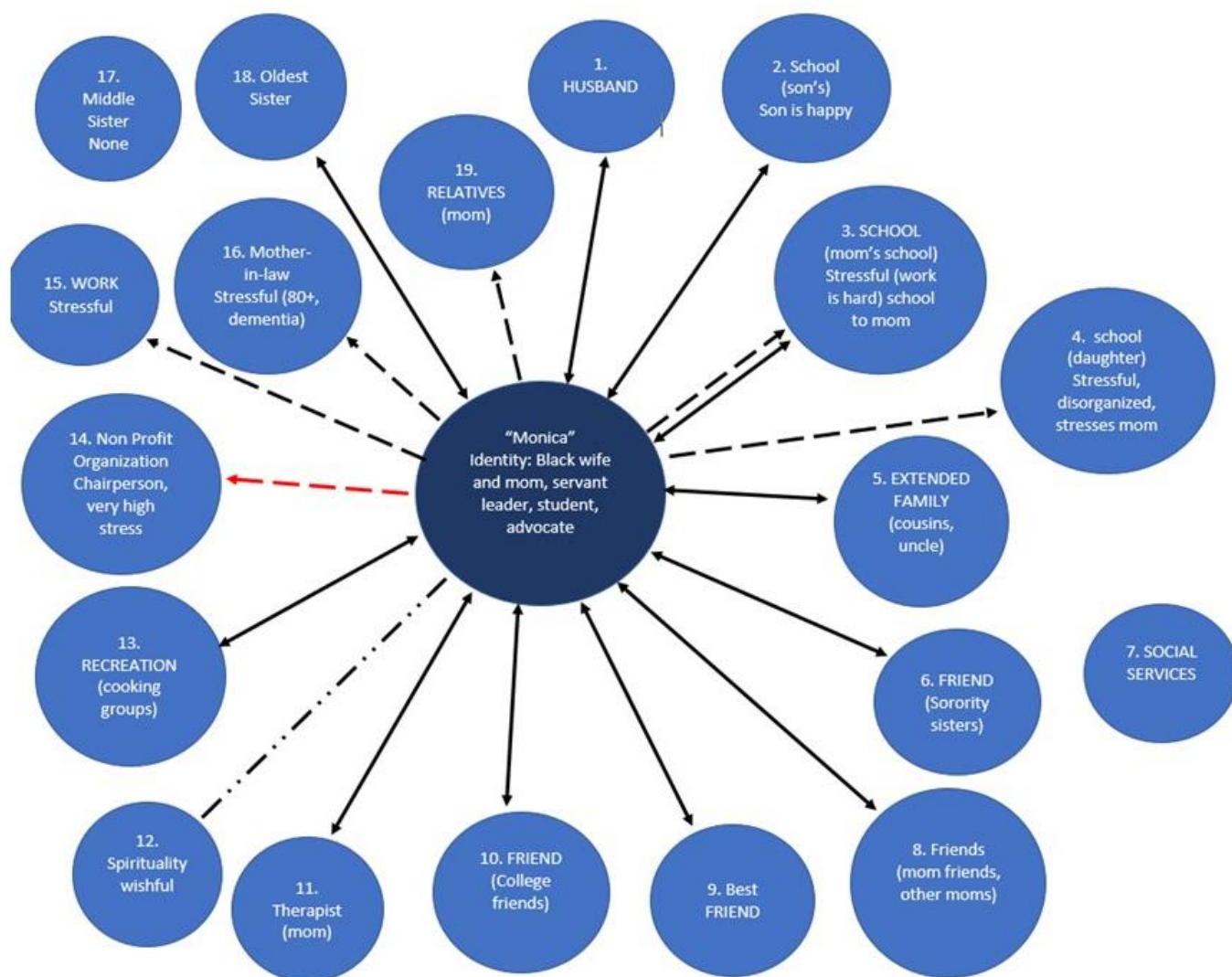


*Note.* Ecological Map “Kalia” which shows the number of total connections, connections by type (e.g., family, work), strength (e.g., positive, negative), wishful and the direction where support flows.

1. COVID and Family – How do I protect my family?
  - a. *Subtheme: COVID Anxiety – Fear and stress of our kids and our families getting sick or dying*
2. Impact on physical, mental and emotional health
3. Defining Social Support (System)
  - a. *Sub theme: How you engage with your people: Social media and communication*
  - b. *Subtheme: COVID's Negative Impact on Social Support*
4. Impact on Education – How COVID Impacts School
5. Self Care – Taking a Break and Tending to Myself.
  - a. *Subtheme: Vacation and Travel*
  - b. *Subtheme: Needing a Break*
6. Community Service - Find value in creating social support for others



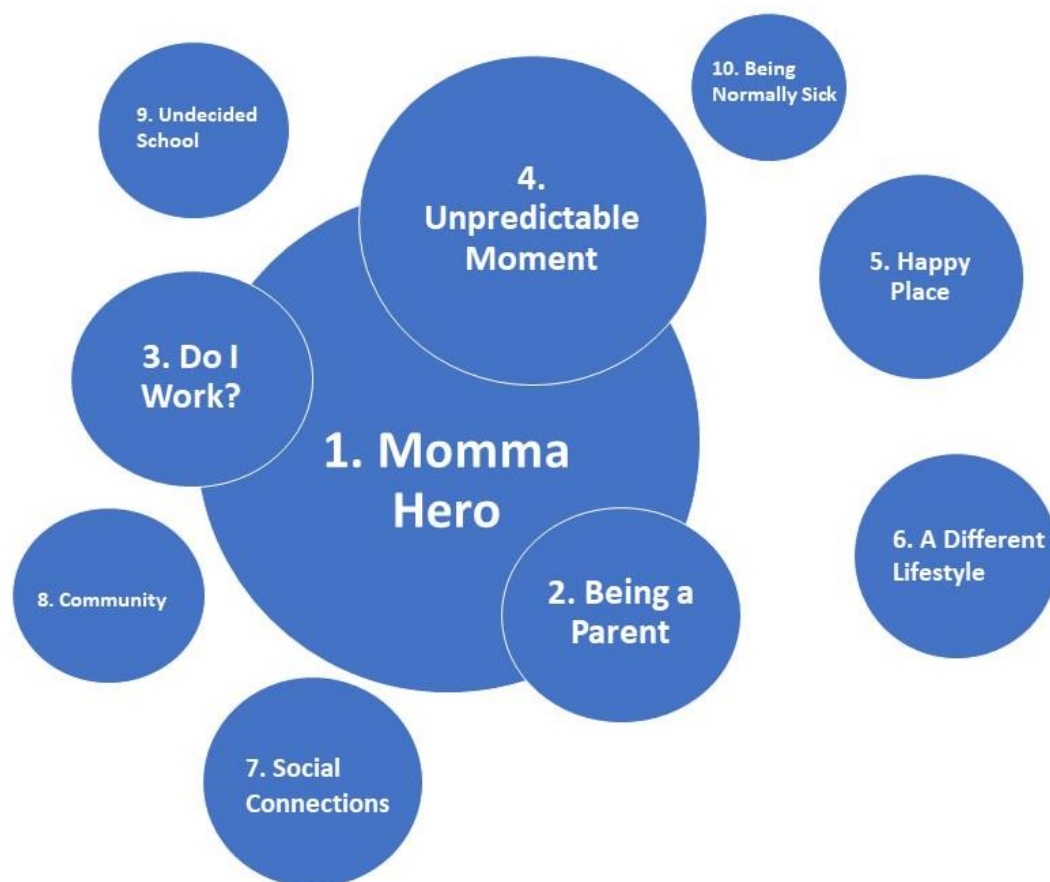
*Note.* Cultural Map for “Monica” which shows the themes identified, named, and ordered by the mother in terms of those most impactful to her. Descriptions of each themes are provided the left side of the map.



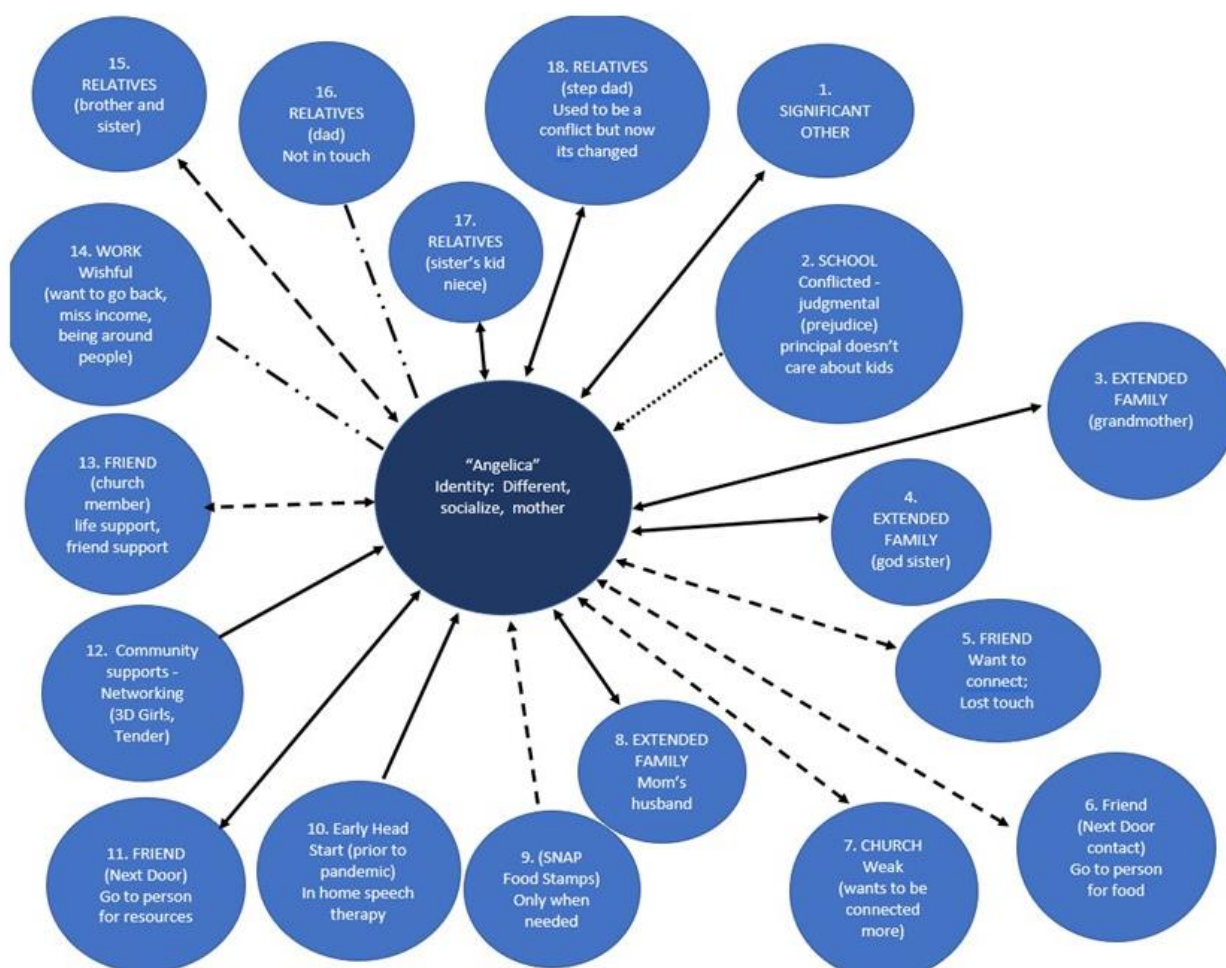
*Note.* Ecological Map "Monica" which shows the number of total connections, connections by type (e.g., family, work), strength (e.g., positive, negative), wishful and the direction where support flows. The red dash line indicates an extremely stressful contact.



1. Momma Hero – Someone who can do it all
2. Being a Parent – Give and Take
3. Do I work - Darn if I do and darn if I don't
4. Unpredictable Moment – You never know what's going to come up
5. A Happy Place – Doing things that make you happy/feel good
6. A Different Lifestyle – Ups and downs during COVID
7. Social Connections – Support I need
8. Community – Church and Sports
9. Undecided School – School system failure
10. Unpredictable – Being Normally Sick (it's not always COVID)

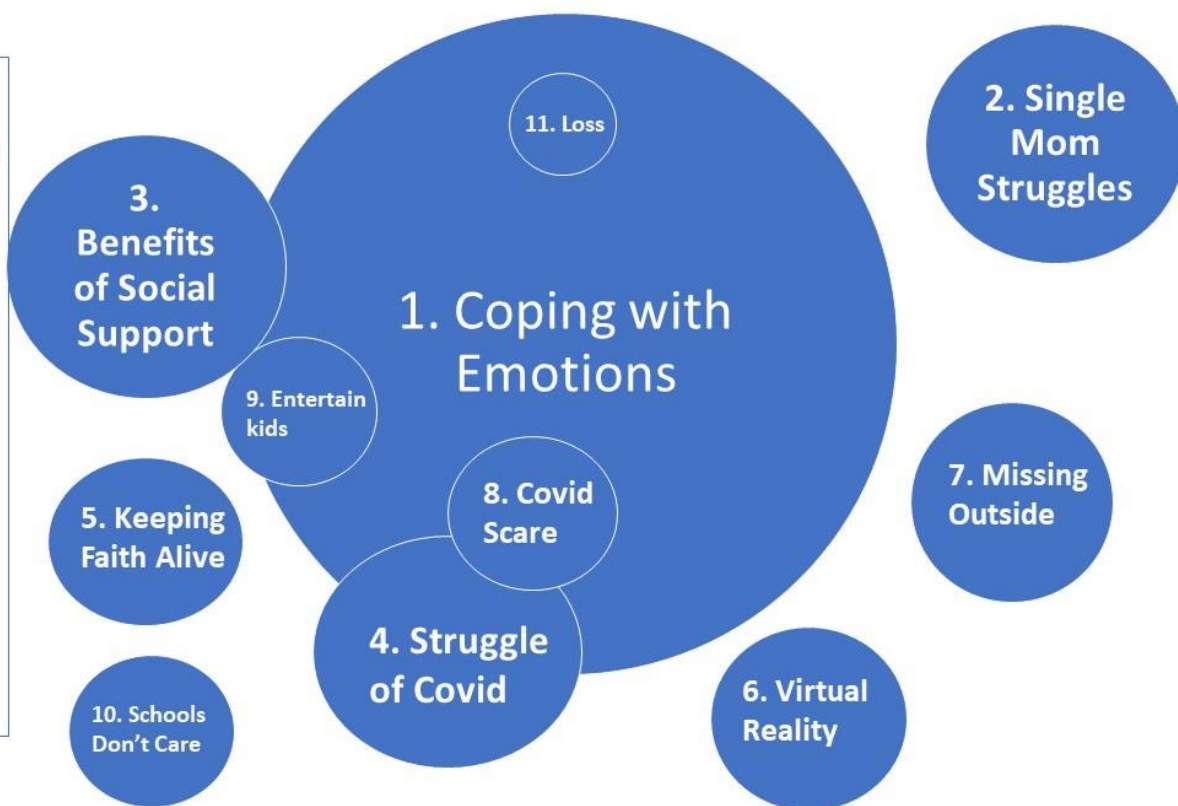


*Note.* Cultural Map “Angelica” which shows the themes identified, named, and ordered by the mother in terms of those most impactful to her. Descriptions of each themes are provided the left side of the map.

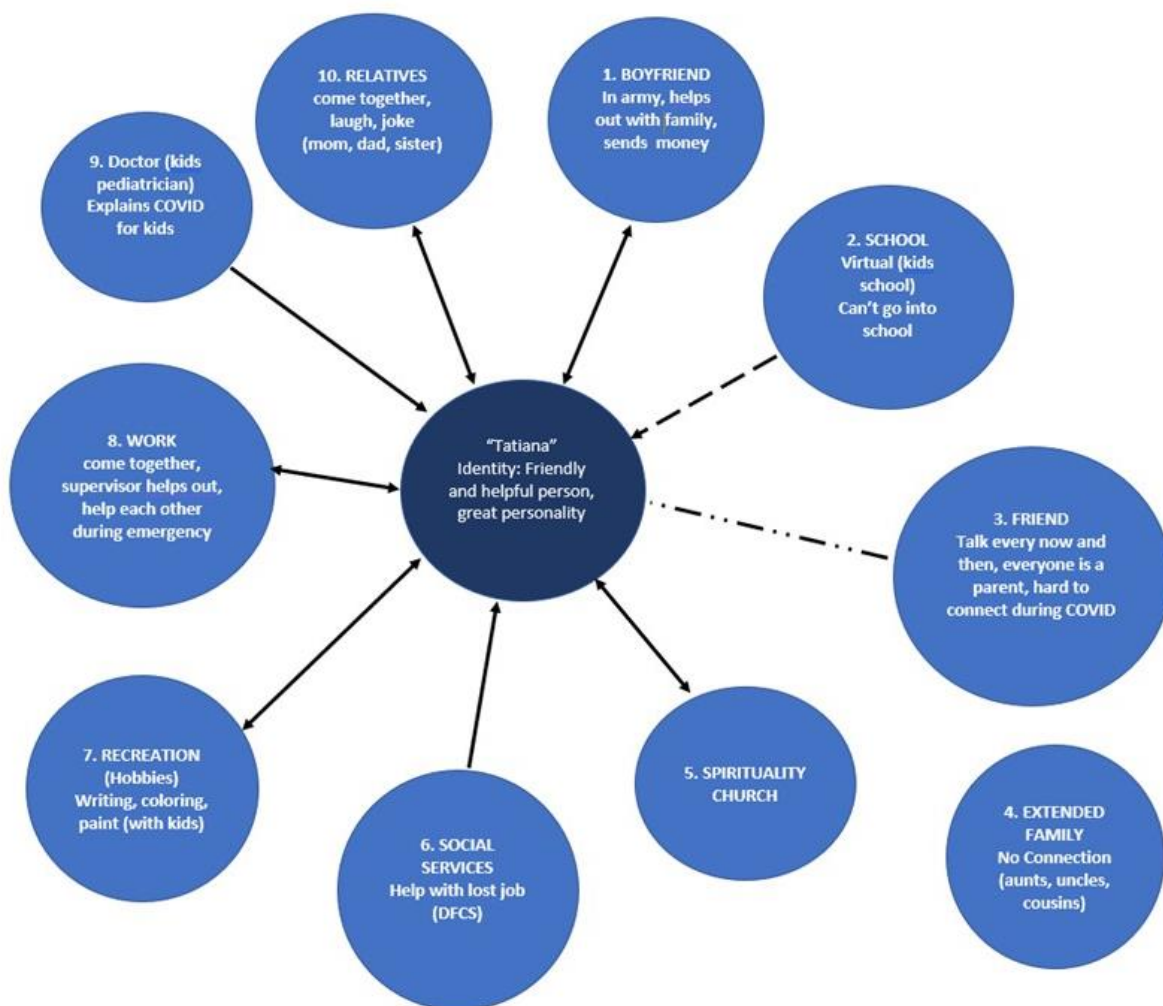


*Note.* Ecological Map "Angelica" which shows the number of total connections, connections by type (e.g., family, work), strength (e.g., positive, negative), wishful and the direction where support flows.

1. **Coping with Emotions** - Take control of emotion, keep strong through Pandemic
2. **Single Mom Struggles** – Single working moms stay at home with kids and work less hours
3. **Benefits of Social Support** – helping others out and coming together
4. **Struggle of COVID** – Wear a mask, social distancing, everything is outside, a lot has changed
5. **Keeping Faith Alive** – Stay strong and praying for healing for sick and that nobody gets COVID
6. **Virtual Reality** – Everything is virtual, video calls, can't go inside
7. **Missing Outside** – missing going outside, hanging out with friends, and being in public
8. **COVID Scare** – Scared that you might test positive or that a loved one has COVID
9. **Entertain kids** – keep kids off tv and iPad and keep them active
10. **Schools Don't Care** – still mark you absent if you're online, unexcused absence even until children are tested
11. **Loss** – Someone died from COVID



*Note.* Cultural Map “Tatiana” which shows the themes identified, named, and ordered by the mother in terms of those most impactful to her. Descriptions of each themes are provided the left side of the map.



*Note.* Ecological Map "Tatiana" which shows the number of total connections, connections by type (e.g., family, work), strength (e.g., positive, negative), wishful and the direction where support flows.

**Appendix L - Themes by Mothers with Ecological Framework Labels (in BOLD)**

Pseudo-nym	Social Support Categories Named and Ranked by Participants (1 = most important).												
Kalia	1. Navigating new normal because of Covid (Everything is virtual) <b>NEW NORMAL</b>	2. Balance: self-care, being a mother <b>BEING A MOTHER</b>	3. Village support – community within a community that you can depend <b>SUPPORT SYSTEM</b>	4. School community supports <b>SCHOOL</b>	5. Coping through Covid & Ways to relax, live in moment <b>COPING</b>	6. Polarization in workplace <b>WORK</b>	7. Fear of Covid <b>NEW NORMAL</b>						
Justine	1. Being a mother <b>BEING A MOTHER</b>	2. Self-Care <b>BEING A MOTHER</b>	3. Change Covid had in our everyday life <b>NEW NORMAL</b>	4. Make it make sense - school during Covid <b>SCHOOL</b>	5. Support during Covid <b>SUPPORT SYSTEM</b>	6. Support during pandemic - people who have been there <b>SUPPORT SYSTEM</b>	7. Community - getting together to get through pandemic <b>SUPPORT SYSTEM</b>	8. Effects Covid had on working parents <b>WORK</b>	9. Ways people use to cope through pandemic <b>COPING</b>	10. After pandemic, what people are looking forward to <b>NEW NORMAL</b>	11. New way of life - virtual aspect of going thru pandemic <b>NEW NORMAL</b>		
Denise	1. Social Support – having people to support you, help <b>SUPPORT SYSTEM</b>	2. A tired mother – single parent, father not doing his part, no support system <b>BEING A MOTHER</b>	3. Trying best to stay safe – school wants to test kids <b>SCHOOL</b>	4. Trying to make it through the pandemic. <b>COPING</b>	5. Trying to adapt not having social support that you used to have. Trying to adapt to new world <b>NEW NORMAL</b>	6. Pandemic effects on communication– can’t be normal, Zoom to communicate, and for schools <b>NEW NORMAL</b>	7. Pandemic symptoms, people judging you always have Covid <b>NEW NORMAL</b>	8. Down bad – point in life where you have nothing <b>BAD EXPERIENCE</b>	9. Bad experience overall during pandemic <b>BAD EXPERIENCE</b>	10. Pandemic during school – kids can’t go in school <b>SCHOOL</b>	11. Feeling Free –have fun, enjoy being with kids. <b>NEW NORMAL</b>		
Callie	1. Different birth story <b>BAD EXPERIENCE</b>	2. Mom self-care <b>BEING A MOTHER</b>	3. Coping mechanism <b>COPING</b>	4. Benefits of pandemic - definition of social support <b>SUPPORT SYSTEM</b>	5. Expressions of feelings during Covid <b>COPING</b>	6. Technology - new wave <b>NEW NORMAL</b>	7. Work life - effects of Covid <b>WORK</b>	8. Pandemic childcare <b>BEING A MOTHER</b>	9. Post pandemic life <b>NEW NORMAL</b>	10. Community challenges since covid <b>SUPPORT SYSTEM</b>	11. Financial effects of Pandemic <b>WORK</b>		
Monica	1. Covid and family – how do I protect my family Anxiety/Fear/ stress of kids, families getting sick, dying	2. Impact on physical, mental, emotional health <b>COPING</b>	3. Defining social support: How you engage with your people & Covid’s	4. Educational options in Covid era: impacts school <b>SCHOOL</b>	5. Selfcare – taking a break, tending to myself, centering me <b>BEING A MOTHER</b>	6. Community service - value in supporting others <b>SUPPORT SYSTEM</b>							

	<b>BEING A MOTHER</b>		negative impact on SS <b>SUPPORT SYSTEM</b>										
Angelica	1. Momma Hero - someone who can do it all <b>BEING A MOTHER</b>	2. Being a parent - give and take <b>BEING A MOTHER</b>	3. Do I work: darn if I do, darn if I don't <b>WORK</b>	4. Unpredictable moments - never know what's coming <b>NEW NORMAL</b>	5. A happy place <b>COPING</b>	6. A different life - ups and downs during Covid <b>NEW NORMAL</b>	7. Undecided school - school system failure <b>SCHOOL</b>	8. Community <b>SUPPORT SYSTEM</b>	9. Social connections <b>SUPPORT SYSTEM</b>	10. Unpredictable - being normally sick <b>NEW NORMAL</b>			
Kenzie	1. It's me - as a person, I live for my kids <b>BEING A MOTHER</b>	2. Much love - if we need help, just help <b>SUPPORT SYSTEM</b>	3. Different types of motivation <b>COPING</b>	4. Working but not getting paid <b>WORK</b>	5. 360 Fit - selection of people in your circle that can help you <b>SUPPORT SYSTEM</b>	6. Mental health - everybody copes differently. You're strong but sometimes you need help. <b>COPING</b>	7. Covid impact <b>NEW NORMAL</b>	8. No clue - school have no clue what parents go through <b>SCHOOL</b>	9. No entries - should be able to come to school in person <b>SCHOOL</b>	10. Hard mealtimes - without school it's a burden to families to feed children <b>SCHOOL</b>	11. Socializing impact <b>BEING A MOTHER</b>	12. We need hands on each other <b>SUPPORT SYSTEM</b>	13. Find the right church that fit you <b>FAITH</b>
Tatiana	1. Coping with emotions - take control of emotion, keep strong through Pandemic <b>COPING</b>	2. Single Mom Struggles – Single working moms <b>BEING A MOTHER</b>	3. Benefits of social support – helping others, coming together <b>SUPPORT SYSTEM</b>	4. Struggle of Covid – wear mask, social distancing, everything is outside, a lot has changed <b>NEW NORMAL</b>	5. Keeping faith alive – stay strong, pray for healing and that nobody gets Covid <b>FAITH</b>	6. Virtual reality – everything is virtual, video calls, can't go inside <b>NEW NORMAL</b>	7. Missing outside – miss hanging out with friends, being in public <b>NEW NORMAL</b>	8. Covid scare – that you test positive, that a loved one has Covid <b>NEW NORMAL</b>	9. Entertain kids – keep kids off tv and iPad, keep them active <b>BEING A MOTHER</b>	10. Schools don't care – mark you absent if you're online, unexcused absence <b>SCHOOL</b>	11. Loss – someone died from Covid <b>SUPPORT SYSTEM</b>		
Ruby	1. Social support from social distance – support we get & need but it's virtual <b>SUPPORT SYSTEM</b>	2. Getting through the pandemic – feel worried, need to slow down <b>COPING</b>	3. Fun and faith – connecting with fun activities, faith <b>FAITH</b>	4. Sacred child – my child is my gem; I don't want anything to happen to my child <b>BEING A MOTHER</b>	5. Child's play – social awkwardness in children not being able to play with one another <b>BEING A MOTHER</b>	6. No child left behind – virtual connection to school <b>SCHOOL</b>	7. Pandemic peace – still in pandemic, finding your way through it <b>COPING</b>	8. Pandemic woes and whoa's – good and bad things came of pandemic <b>NEW NORMAL</b>	9. Virtual vitality – connecting virtually through apps <b>NEW NORMAL</b>	10. Happy hour – parents need a break <b>BEING A MOTHER</b>	11. Making decision to go back to work or not, how to work during pandemic <b>WORK</b>		

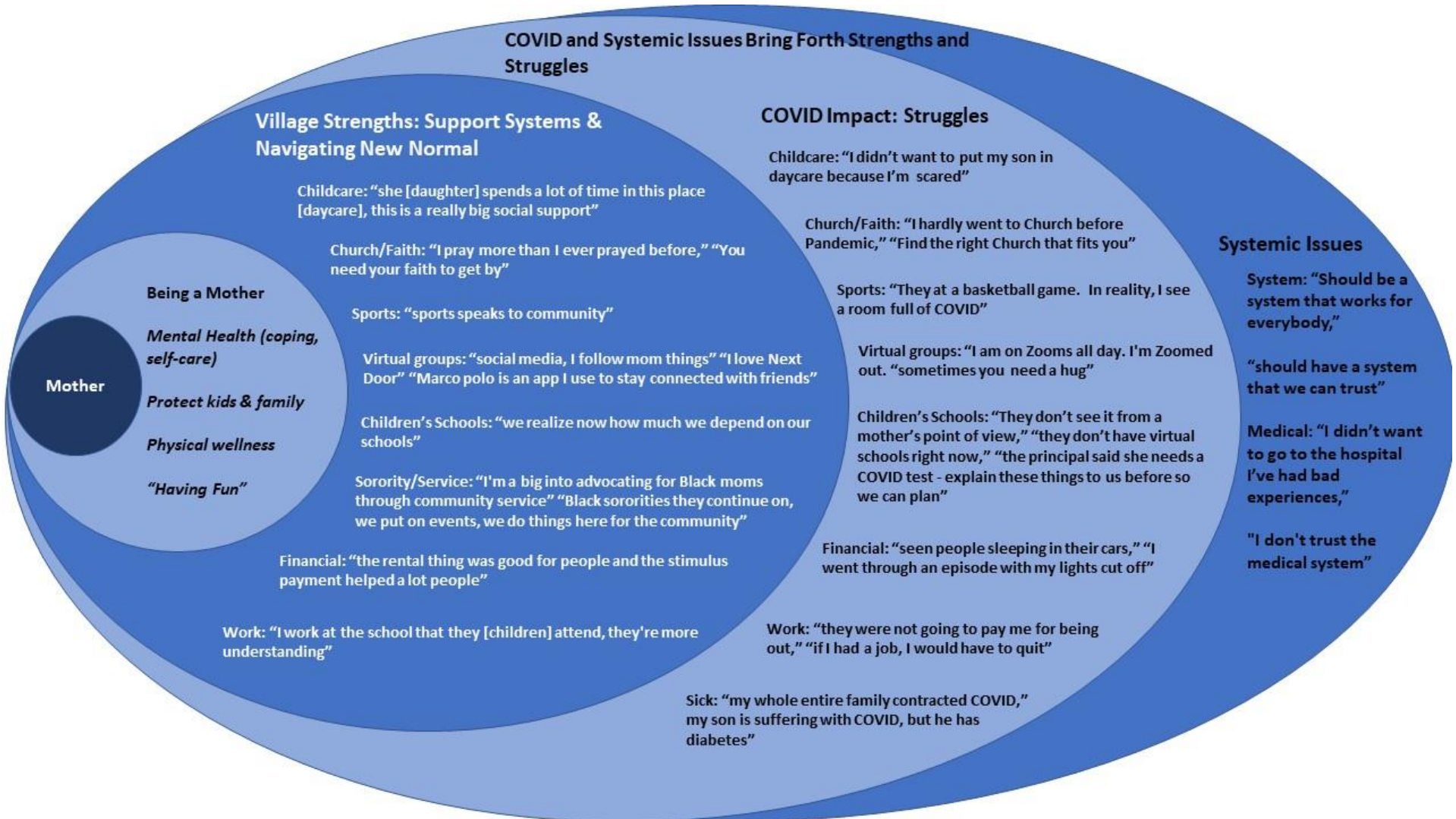
### Appendix M Characteristic Comments Related to Social Support Themes

Theme	Quotes Characterizing each theme
<b>Being a Mother</b>	<p>“I love my kids. They...what keep me going. They what motivates me” (“Denise,” age 34).</p> <p>“I’m usually always doing stuff for other people or I doing stuff for my kids. I never really do anything for myself,” (“Kalia,” age 39)</p> <p>“...you can still be a single mom if you in a relationship and the...person that you're in a relationship with you... don't have kids with them....but you still a single mom because your significant other... it's not their responsibility to... take care of a child that's not theirs.” (“Kenzie,” age 32)</p> <p>“Mommas need outlet sometimes. Momma need a time to herself sometime and we don't normally get that” (“Angelica,” 34)</p> <p>“first of all, hair braiding is self-care....And even if you got this window it also gives you it frees you up...I have my braid appointment coming because I know that how much time it takes particularly for Black women to do our hair its like fine if I can sit here for 6, 8 hours then I don't have to think about it for two months,” (“Monica,” age 41)</p>
<b>Coping Through Pandemic</b>	<p>“...when I was going through certain situation and I used to do my little poems and I'd take a picture and I'll write me a little story about it. I used to do this when I used to go through depression. I maybe take a picture and then I... go back on the picture and be like this the day I was goin through some issues,” (“Denise,” age 34)</p> <p>“...music helps me cope through the pandemic,” (“Ruby,” age 31)</p>
<b>Support Systems</b>	<p>“...I don't have any siblings, ...but I have a group of cousins. We're really close like siblings...a few of my coworkers and my husband” (“Kalia,” age 39)</p> <p>“go to people....I always find 2 - 3 people that I can go to if it's an organization, or a friend... or a church member, case I need some assistance with some bills or if I just need someone to talk to” (“Angelica,” age 34)</p> <p>“I found out I didn't have enough friends. I have nobody” (“Denise,” age 34).</p> <p>“...everything is just fallin apart during the pandemic and that's how I feel about everybody with social support everybody losin jobs, you losin medical benefits losin basically everything” (“Tatiana,” age 32)</p>
<b>Work</b>	<p>“they [the children] were at home with me all day and I had to...leave my job because...my son did virtual school” (“Monica,” age 41).</p> <p>“I would love to go to work, but I know it's not good timing right now and it's not good for the kids” (“Angelica,” age 34).</p> <p>“... during the pandemic my [child] ended up getting Covid. I had to take off work. ...later I found out that...me being out with him having Covid that they wasn't gonna pay me...so I was off work for 14 days” (“Kenzie,” age 32)</p> <p>...I work at the school that they [her children] attend you know they're more understanding....they [the school] don't want to spread Covid...they don't want to close the school... if you have to take off the 10 days and its Covid related they will pay you” (“Kalia,” age 39)</p>
<b>Faith</b>	<p>“they been doing virtual church on Sunday mass and Friday...our church is trying to come together...We come to pray. Pray together, stay together” (“Tatiana,” age 32)</p> <p>“I think I pray more than I ever prayed before... I know you need your faith” (“Kalia,” age 39).</p>
<b>School</b>	<p>“...I didn't send my youngest back to school, and they don't have any more virtual schools ... when I did send [child] back to school they told me that they was gonna call DFCS on me. You actually telling</p>



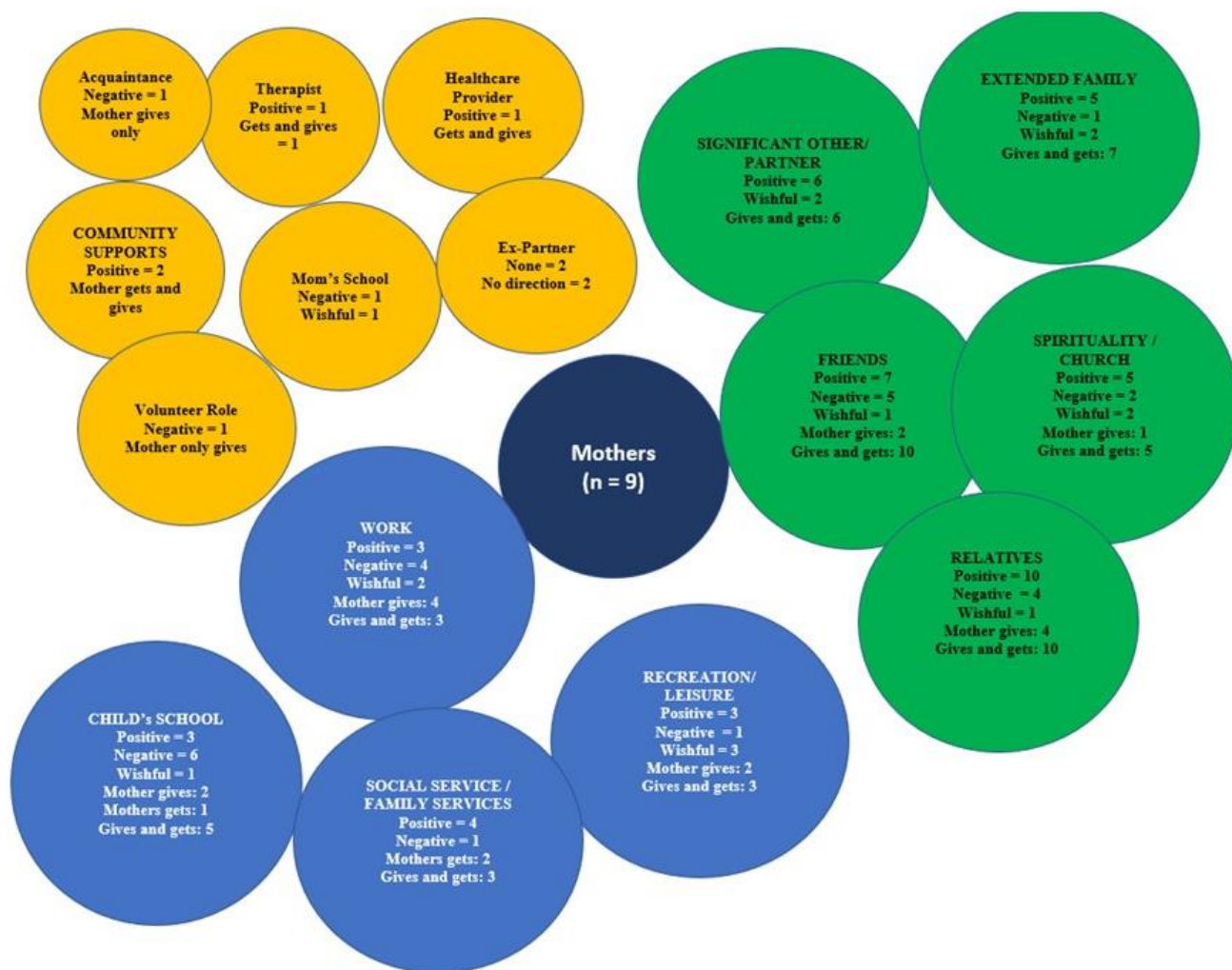
	<p>me, send my child to school, let my [child] get sick and then my [child is] able to stay at home after [child] gets sick?" ("Justine," age 38)</p> <p>"...when they was doing was virtual...some of the kids didn't have no devices some kids...had devices but some of em didn't have like the internet and stuff. Sometimes the internet would go out and they would count them as absent" ("Tatiana," age 32)</p> <p>"...people took for granted that the kids got lunch from school and then like when it was the pandemic well who's gonna feed the kids?" ("Kalia," age 39)</p> <p>"...her school has been a big support system in regards to her child rearing because she's at school from like 7:30ish to 6PM or 8 to 6:30. She spends a lot of time in this place and this is really a big social support" ("Callie," age 35)</p>
<b>New Normal</b>	<p>"...but it's so different because we can't go into the school building anymore...yeah I'm involved and I want to be involved but I can't get outta of my car," ("Monica," age 41)</p> <p>"...like you gotta do a mask and get the temperature, you can't really enter the classroom, can't enter the school, can't see your kids, can't eat lunch with them. you gotta schedule appointments just to eat lunch with your own kids," ("Tatiana," age 32)</p> <p>"...in regards to the game to me it represents social support and getting back to the new normal. I've had covid twice so well tested positive...but cause of the industry I work in, we have to test three times a week. I've been negative ever since. I'm feelin a little different towards Covid, because we test so often and I would attend a game. You kinda miss the social support of the social outings and just things feelin normal versus being isolated" ("Callie", age 35)</p> <p>"I understand it's it's really big but don't say every time you hear a sneeze and a cough it's COVID. It can ... be a runny nose." ("Angelica," age 34)</p> <p>"...everybody feel like it's...a joke and it's not. It's really serious like you have people and babies too actually that's...dyin from it," ("Kenzie," age 32)</p>
<b>Bad Experiences</b>	<p>"... it was when my whole entire family had contracted COVID...she asked me "if you need any help, just let me know." And with my job it wasn't paid...I felt like I'm gonna be struggling cause I had to be out for 2 weeks. And she was like "...send me over what bills that you need help paying."...I sent her over my light bill...She was like "...I got it,".... when I went back to work my [child] called me and [child] was like "momma our lights are off." And I'm like, "...they can't be. I sent over the bill to the lady and she said she was gonna take care of it". [Child] was like "well the lights are off." I logged onto my account for Georgia Power and they said that it has been disconnected because no payment had been made: ("Kenzie," age 32)</p> <p>"...having my [child] in kinda you guys stereotype...I got profiled based on certain factors. I felt that they didn't believe that I stayed in [affluent city]...I paid for a midwife, and I paid for a doula...They called the social worker on me, and I was like "I wanna take my [child] home....The social worker asked me questions and I showed them pictures of my [child's] room, the at-home plan birth, ...and they could see that I wasn't a harm to my [child]. [My child] was of weight, and I even had to force feed [child] formula so [child's] weight didn't drop because if [child's] weight had dropped they could have tried to keep [child]...I had to force feed my child, which I was... against ("Callie," age 35)</p>

### Appendix N - Aggregated Cultural Map



**Note.** The inner most layer includes the mother (e.g., individual level) and topics identified by mothers illustrative of maternal identity (e.g., self-care). The subsequent layer relates to support systems and the positive aspects of supports (e.g., work, faith) that mothers described relative to their support systems and navigating a post-pandemic life (e.g., New Normal). Followed by a layer that represented the struggles experienced by mothers relative to the same dimensions of support systems in the previous layer (e.g., work, faith) but compounded by the impact of COVID which relates to the exosystem. The exosystem layer (e.g., external environment) is represented by the impact of the pandemic illustrated by the title “COVID Impact” to demonstrate the influence of the pandemic (e.g., New Normal, Struggles) on the relationships between mothers and various aspects of their social support systems. The outmost layer of the model includes systemic issues experienced by mothers that were exacerbated by the pandemic (e.g., macrosystem).

## Appendix O - Aggregated Ecological Map



**Note.** The map above reflects the different connection types (e.g., family, friend) across all maps and the total number of positive, negative, and wishful labels across all maps for each connection type. The direction of support (e.g., mother gives or other receives) is also indicated in each circle. Green circles represent positive bidirectional connections, blue circle indicate connections with variability for quality and direction, and yellow circles indicate the unique connections added by mothers along with the quality and direction of support.