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U.S. Families and Mothers Deserve Better!

A Dissertation Project

Presented to the Faculty of Public Policy & Administration

Department of Public Administration

West Chester University

West Chester, Pennsylvania

In Partial Fulfillment of the Requirements for the Degree of

Doctor of Public Administration

By

Emmanuel Asante

December 2022

Dedication

This Doctoral dissertation is dedicated to memory of my mother, Akosua Ajobra and father, Kwaku Dwomo-Asante, and all breastfeeding mothers of the United States of America. As a middle-born child of five siblings, my mother breastfed me for 24 months (about 2 years), with the support of my father, although, both were peasant farmers in rural Ghana in the 1960s. U.S. breastfeeding mothers deserve a place in my heart because, despite all their daily struggles with childcare and work, they manage to breastfeed their children at all costs. Beside the breastfeeding aspect of my childhood, my parents put aside their economic difficulties, to give me formal education from primary school to college, which was previously the preserve of the privileged class in Ghana, although, both parents were not literate. My father did not live long enough to see how my education paid off, but my mother did. To her surprise, she saw the poor peasant farmers' son, rise through the ranks of Ghana Immigration Service, and promoted to a low-key public service committee assignment at the Presidency of my native country, the Republic of Ghana. She also saw my migration to the United States with a wife and a year-old daughter, from Ghana-West Africa. In October 2011, I visited my mother in Ghana, and during one of our conversations, she asked me to drop the "green bottle" and go back to school. Upon this motherly advice, I checked myself into the West Chester University of Pennsylvania in August 2013 for a Master of Public Administration program. Not satisfied with an MPA degree, I applied to and got admission into the Doctor of Public Administration degree program. Today, I am a proud son of a peasant farmer to receive a Doctoral award in Public Administration with concentration in Human Resources Management. My mother's 24 months (about 2 years) of breastfeeding and challenging farming work in Sub-Sahara Africa, did not only pay off in academics, but at age 59 and counting, my health has been great with a normal blood sugar level.

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Abstract

Breastmilk produced upon the delivery of babies in human societies was the most nutritionally valued infant meal, historically. Before World War II, optimal breastfeeding of babies was the norm in the U.S. However, women involvement in industry during and after World War II, dropped breastfeeding to suboptimal levels, between 46.3% and 25.8% states average for 3 months and 6 months exclusive breastfeeding respectively, according to the 2018 U.S. National Immunization Breastfeeding Survey (Cheng, et al., 2019). Four out of five mothers will start breastfeeding during the first few days after delivery but will discontinue breastfeeding to go back to work, which led to the drop in breastfeeding. This dissertation employed descriptive statistical method designed to analyze the 2020 CDC breastfeeding data and focused primarily on the differences regarding three months and six months exclusive breastfeeding rates in the U.S. states and territories, based on U.S. household income. The study result indicates that breastfeeding rates are not explained by breastmilk supplements, culture, and race, but are instead driven by income and employment. Therefore, if U.S. mothers are incentivized to break from employment post-partum, breastfeeding rate will increase to the pre-World War II optimal level. This study's proposed federally mandated Paid Family Leave to incentivize U.S. working mothers is supported by a study conducted by (Huang & Yang, 2015, as cited in Steurer, 2017), based on changes in breastfeeding practices in California after the state's six weeks maternity leave mandate with wage replacement of 55% showed increased breastfeeding rate results (Steurer, 2017).

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Chapter 1: Introduction

Prior to the advent of artificial infant supplemental feeding formulas on the market in the United States and other parts of the world, women's breastmilk produced upon the delivery of their babies, was the only known golden standard measured nutritious meal for babies, historically. The value of breastmilk among nursing mothers was highly rated to the extent that "wet" mothers were utilized to breastfeed babies whose mothers could not nurse their own infants. In an article published by the Journal of American Medicine in 1912, during the experimentation of baby feeding alternatives, J.P. Crozer Griffith stated that babies who are breastfed, have five times of living chance than bottle-fed babies, due to a higher mortality rate associated with bottle feeding. Despite the campaign against breastfeeding in the 1900s by the then major infant supplemental milk manufacturing companies, like Nestle Milk products and others, breastmilk continued to be used extensively in the U.S (Partiff, 1994).

The Impact of U.S. World War II Policy on Its Breastfeeding Trend

However, women involvement in industry with their expanded roles during and after World War II (WW II), nearly changed this historical infant feeding standard. Between 1939 and 1945 about 10 million men between the ages of 21 and 45 had been drafted into the United States Army for the WW II mobilization effort, including about 700,000 African Americans through the Selective Training and Service Act of 1940 (Tassava, 2008). Due to the massive draft of men in their prime working age into the U.S. Army for the war effort, women took the place of men in the industrial front. Between 1941 and 1945, more than seven million women who had never earned any wage prior to WW II, joined the labor force in addition to the eleven million who were already part of the U.S. workforce (McEuen, 2016). Upon replacing their male spouses in industry due to the war effort, women gave up their domestic care giving roles because the war had reshaped their gender norms. Therefore, WWII public policy changed the U.S. natural

breastfeeding method due to the role U.S. mothers were made to play and have adapted to it to date. As a result, by 1958 less than 25% of all babies in the U.S. were breastfed (Partiff, 1994).

The above trend could not change and by 1972, less than 30% of infants were breastfed exclusively. What sank breastmilk use, as the most preferred choice for infant feeding, was due to refrigeration and pasteurization. Additionally, some U.S. pediatricians began prescribing infant formulas to new mothers, to the extent that some scientist then, placed much value on infant formulas over breastmilk (Egash, 2008). Although, breastfeeding education in print, electronic and social media has reached every household in the United States and beyond, the low breastfeeding trend has continued to date with slight uptick in the U.S, despite the nutritional quality of breastmilk compared to artificial infant breastmilk supplements, though breastmilk supplements have served uniquely as a great complement to breastmilk, in modern times.

Scientifically proven, breastfeeding supports the quality of human life, due to its nutritional value. As such, a child's immunological, intelligence, body mass, human instincts development, mothers' health, and others, depend on breastfeeding (Moy, 2004). However, in the U.S. today, four out of every five or 83.9% of all new mothers will start breastfeeding during the first few days of a child's birth. The above higher percentage of breastfeeding cannot be sustained for a longer period according to the 2020 U.S. Center for Disease Control (CDC) breastfeeding report. The above CDC report clearly indicates that although most U.S mothers make the initial decision to breastfeed but cannot sustain breastfeeding because they must make a choice between breastfeeding of their newly born or work due to the lack of income and other health related and social issues. According to a study conducted by (Skafida, 2012 as cited in Steurer, 2017), in Scotland and United Kingdom, when paid family leave to mothers was increased for a period of 39 weeks (about nine months), breastfeeding duration and sustainability

also increased (Steurer, 2017). In 2020, 56.7% of all newly born babies will be breastfed during the first six months. However, only 25.8% of all children born in the United States were exclusively breastfed during the same period. Per the highlights of the August 2020 CDC breastfeeding report, only 46.3% of all mothers exclusively breastfeed at three months in the U.S. During the same period, 35% continued breastfeeding at 12 months. This reduced number of mothers breastfeeding at 12 months is explained by working mothers' work-life, childcare, and breastfeeding conflict, in the absence of any effective paid family leave public policy (Byker, 2016). This breastfeeding trend is worrisome because it leaves most U.S. born children at risk of not meeting the universal breastfeeding standards set for healthy children by the World Health Organization, unless other available feeding choices like enhanced breastmilk supplements that compares to breastmilk are available on the market to support children's nutrition needs (Cheng, et al, 2019).

Although, the above submission about U.S breastfeeding trend emphasizes on the importance of breastfeeding, compared to the artificial breastmilk supplements due to the nutritional qualities of breastmilk, it does not mean that breastmilk supplements have not fulfilled the role they were created to play in children's nutrition and feeding in the United States and elsewhere in the absence of "wet mothers" today. According to Blom, et al. (2020), the health of a mother must be considered when the choice of breastfeeding is considered, particularly in the areas of the mother's mental health status because anxiety and depression, are among the most common complications during pregnancy, which can make it difficult for mothers to understand and be responsive to the feeding needs of their children, besides other health, and social related issues. Even though some mothers in the U.S. will make the choice not

to breastfeed due to health-related issues and other social demands, most mothers make the choice not to breastfeed due to work and income related issues.

According to (Baird, 2004, as cited by Hwang & Jung 2016), the low breastfeeding rates in the U.S. is due mostly to the absence of income replacement to compensate for leave from paid employment, besides other health related issues. As such, paid family leave is defined by the lack of compensation from paid employment during maternity. Therefore, in maternity, the mother may have to work to sustain the household income which the family depends on, because there is no income replacement of the mother's income, if she takes a temporary break from work for childcare and breastfeeding. Based on the above note, the choice of work by mothers in the U.S., over breastfeeding and childcare, for the sake of income, acts as a barrier to breastfeeding, although one cannot lose sight of other health and social related issues of the U.S. mother. Without any choice left in the hands of many U.S mothers for any financial alternative when a new baby arrives, except for a job's paycheck, most mothers are pushed to the limit, to go for artificial infant feeding supplements for their babies, with all the anticipated risks. This reduces the duration of breastfeeding to suboptimal levels for many U.S. mothers, particularly, the working poor. As a result, the lack of breastmilk for children devalues their health and the wellbeing of employed mothers because it is income and employment dependent (Hwang & Jung, 2016). Since World War II public policy changed the U.S. infant feeding method from breastfeeding to supplemental feeding method, it will take another U.S. public policy in the form of Paid Family Leave to reverse the low U.S. breastfeeding trend. It is based on the above assessment that the following research question is being asked: **Can Paid Family Leave Policy Increase US Breastfeeding Rate?**

The purpose of this research project is to write a public policy that will be fully supportive by the U.S. public to encourage the choice of breastfeeding by U.S. mothers over the choice of breastmilk supplements. This policy initiative will increase the rate of breastfeeding in the U.S., because studies conducted by (Huang & Yang, 2015 as cited in Steurer, 2017), which observed changes in breastfeeding practices in California, after the state passed its six weeks maternity leave mandate with wage replacement up to 55% on the state's average weekly wage, showed an increased breastfeeding rate and sustainability. This position of breastfeeding rate increases when a paid family leave public policy is enacted to replace lactating mothers' wage for a leave of absence from work for childcare purposes is also supported by studies conducted by (Skafida 2012 as cited in Steurer, 2017), in Scotland and United Kingdom which showed breastfeeding rate, duration and sustainability increases when a paid family leave public policy granted a wage replacement for a period of 39 weeks (about 9 months) to mothers (Steurer, 2017). This policy proposal by this study shall not in any form or shape, underate the choice of infant supplements by mothers who will not make the choice for breastfeeding, but in a way encourage U.S. mothers' choice for breastmilk, due to its proven nutritional qualities. The policy shall also make recommendations to U.S. policy makers and breastmilk supplement regulators, to ensure that infant milk manufacturers improve the quality of artificial breastmilk supplements to compete or compare to natural breastmilk. This will make the choice of any infant feeding method by U.S. mothers clearer and safer for children.

Public Administration and Paid Family Leave Policy Initiative

It must be emphasized that breastfeeding supports the quality of human life due to the nutritional value in breastmilk. Scientifically proven, children optimum immunological, intelligence, body mass, human instincts development, and mothers' health, depend on

breastfeeding, as earlier indicated. Therefore, the above scientific usefulness of breastfeeding in every human activity and endeavor is not limited only to the United States, but worldwide. This calls for U.S. public attention and action from public administration. It is quite clear that breastfeeding as a subject, falls under public health, however, public policy agenda and goals setting, implementation, evaluation, co-ordination, and monitoring to ensure its effectiveness, falls under public administration. As such, the enactment of any sustainable Paid Family Leave policy at the federal level, which will support working mothers to breastfeed and care for a child to the benefit the U.S. society, must come from public administration. For instance, the two United States public policies which recognized the need to support working lactating mothers since 1993, ensured the enactment of two major policies incrementally to support U.S. families, particularly, working breastfeeding mothers, came from public administration. For example, The Family Medical Leave Act of 1993 (FMLA) which was passed during President Bill Clinton's administration, allowed government employees and companies which employ more than 50 workers within 75 miles radius in the same company, to take 12 weeks (about three months) of medical leave of absence from work, to care for themselves or other family members, including the birth or adoption of a child without pay. Military families were also allowed to take 26 weeks (about six months) of medical leave. This is notwithstanding other additional rules and regulations to be mentioned later (Bullinger, et al., 2017).

Due to the ineffectiveness of Family Medical Leave Act of 1993 to completely support working families, President Barack Obama's administration also enacted the Public Protection and Affordable Care Act of 2010 (PPACA), to improve upon the 1993 FMLA Act. The PPACA of 2010 which is popularly called Obamacare, enabled substantial changes to the delivery system of U.S. healthcare, including workplace breast pumping to continue breastfeeding at home.

However, several parts which remain to be enacted with the goal of creating incentives to improve access and quality care, have been intermingled with political and economic implications. Though, the PPACA of 2010 failed to advance its goal of patient protection and affordability of healthcare, particularly to poor working families and breastfeeding mothers, both public policies FMLA and PPACA increased breastfeeding rate in the U.S substantially (Dow-Fleisner, et al., 2015).

Although the above two stated public policies have not been able to fully achieve their main goal of helping poor working families, especially working breastfeeding mothers, in the policy process. It is equally important to recognize that changes are necessary in the political process to ensure stability, based on the theory of Punctuated Equilibrium, according to (Sabatier & Weible, 2018). As such, it can only take public administration to stabilize and advance the course and the effectiveness of the above U.S. incremental social policies (FMLA & PPACA), with the cooperation of elected officials through policy making and amendments to existing policies, to incrementally pass a Paid family Leave Bill to ensure its effective implementation, to support U.S. citizens' needs and interests, especially, to encourage mothers to breastfeed. This will assist families and working mothers to support and take care of their children, while working hard in industry, to keep the U.S. economy going. Again, it will protect the above two major U.S social policies (FMLA & PPACA), from falling victim to the sporadic punctuations through court actions, to be rendered ineffective, which is usually favored by the U.S. political status quo to limit their ability to support mothers breastfeed and childcare (Sabatier & Weible, 2018).

In the end, such public policy will influence the behavior of families and mothers, who shall make the obvious choice to either breastfeed or go for enhanced breastmilk supplements, to grow the U.S. population with better health and economic outcomes. It is obvious that human

biological survival depends on having children because healthy children are the future employees who are duty bound to grow and sustain the economy. Therefore, U.S. mothers must be supported with an effective family leave policy to be able to take time off from work, to care for and breastfeed their children. This will further encourage social protection and political cohesion, to ensure economic growth, because such public policy value will support all U.S. citizens, particularly, mothers. However, only effective policy legislation from political leadership and skillful implementation from public administration can make the above policy achieve its goals and public purpose (Denhardt & Denhardt, 2007).

To support the above position, studies have demonstrated a negative relationship between mothers' employment and breastfeeding. Research conducted by Baker & Milligan (2008) and (Skafida, 2012 as cited in Steurer 2017), which was based on the length of family leave impact on breastfeeding duration, compared pre and post Canadian Employment Insurance program and reforms. The studies concluded that there was an increase in exclusive breastfeeding when the length of paid family leave was increased. Another research conducted by Byker (2016), based on the 2004 California's mandated Paid Parental Leave and New Jersey's 2009 Family Leave Insurance statutes, increased mothers' job attachment, income sustainability and exclusive breastfeeding respectively, after taking maternity leave for childcare. Moreover, studies conducted by Gerber & Perelli-Harris (1985-2000), using retrospective job and fertility histories based on stratification surveys and migration dynamics in Russia, observed that maternity leave with pay helped women not only to enjoy job security on the labor market, but elevated their breastfeeding and second conception chances for population growth (Gerber & Perelli-Harris, 1985-2000).

Based on the above examples of paid family leave impact on increased breastfeeding rates and exclusive breastfeeding duration and sustainability by researchers in Canada, California, New Jersey, Russia, Scotland and United Kingdom, between 1985 and 2017, it is anticipated that the enactment of any federally mandated paid family leave policy shall increase the rate of breastfeeding in the United States because paid family leave shall keep U.S. mothers' jobs temporary secured, to allow mothers to stay home to breastfeed and care for their children for a period set by a paid family leave policy, and return to their jobs after the expiration of the leave period, compared to the present U.S. federal, and states' leave policies which pays very little to nothing to mothers when they make use of the existing leave policies. As a result, most U.S. mothers cannot afford to stay home under the present U.S. leave provisions, to care for and breastfeed their children, if they make the choice to do so, because they are unaffordable. For instance, under the Family Medical Leave Act of 1993 (U.S. federal law), U.S. mothers are entitled to zero days of paid leave, compared to their female counterparts from member nations of Organization for Economic Co-operation and Development (OECD), which U.S. is a key member with a sitting Ambassador. This is one of the major reasons behind the higher breastfeeding rates in all OECD member states except the U.S., its richest member state (Ingram, 2018).

However, any effective federally mandated paid family leave policy initiative must involve the input of employers and employees' representatives for better policy outcomes. The need for employers' and employees' input is premised on the fact that women's affiliation with industry since World War II has continued to grow. This calls for industry and government partnership, to support working mothers when the need arises, to care for and breastfeed their newly born, for future healthy and reliable workforce outcomes, breastfed or not. Today, it is

interesting to note that about 180 private companies and corporations in the United States, particularly technology companies, have been able to independently sustain a variety of paid family and maternity related leave policies for their employees. According to [fairlygodboss.com](https://www.fairlygodboss.com), the top 180 employers in 2021 including Netflix, Bill & Melinda Gates Foundation, American Income Life, Lever X, and a few others offer up to 52 weeks (about 12 months) of paid leave. As potential entitlement allotted to employees, FedEx, International Hotels Group, and Mitie also offer 50 weeks (about 11 and a half months) of paid family leave. The same website lists several other organizations that offer paid family leave, as much as 26 to 40 weeks (about six to nine months), for childcare and breastfeeding purposes.

As such, the above encouraging private organizational paid family leave policies can motivate mothers of those organizations to make the choice to breastfeed or not to breastfeed or go for a “hybrid” feeding method (breastfeed with breastmilk supplements) as a backup, to guarantee an optimal breastfeeding trend and breastfeeding rate increases. It must be noted that if about 180 private companies and corporations in the United States today have been able to independently sustain a variety of paid family and maternity related leave policies for their employees on their own, it is equally fair to state that employers’ input in any paid family leave policy initiative or proposal, by the U.S. federal government is necessary, for the sake of policy financing and implementation support (Bullinger, et al., 2017).

Therefore, to reduce employment as the major barrier to breastfeeding and childcare in the policy process, this research paper shall design a paid family leave policy that will put the U.S. government in a position to partner employers and employees as a convener to deliver a federal paid family leave policy in the interest of the public to support U.S. mothers for childcare and breastfeeding. This path has been chosen because, without industry’s input in particular, any

government mandated paid family leave policy may be difficult to implement to achieve its purpose. For example, the existing U.S. family leave policy landscape, like the Family Medical Leave Act of 1993 (FMLA) and the Patient Protection & Affordable Healthcare Act of 2010 (PPACA), continues to be contested in U.S. Courts because employers do not fully accept or embrace them, and in most cases have become hostile to employees who benefits from these policies, due to its cost implications. Sometimes employers retaliate with a threat of adverse employment action like termination because FMLA and PPACA are both considered as policy imposition on employers by the U.S. federal government mandates.

Despite the above hostile and retaliatory attitude U.S. workers go through with their employers when they utilize FMLA offered benefits from their employers without pay, only 56% of U.S. workers today are covered by FMLA. According to studies conducted by (Waldfogel 1999 & Baum 2003 as cited in Han, et al., 2009), the FMLA policy has had minor impact on women in the U.S. labor force. In 2012, only 16% of FMLA eligible U.S. workers took FMLA protected leave without pay (Byker, 2016). Per the Bureau of Labor Statistics, only 1 in 4 (23%) of all U.S. workers have access to paid family leave and 41% of all women have access to some form of paid maternity/family leave in 2021. Although, any form of leave of absence from employment for U.S. mothers can support them to care for their children and breastfeed, it can only be 100% possible when it comes from an income based federally mandated leave policy with the input of U.S. employers, which can legitimately support greater number of mothers who may want to opt out of work temporary to care for the child and increase breastfeeding (Fredericksen, et al., 2021).

Chapter 2: Literature Review

Demographic Predictors of Breastfeeding

Several factors including biological, social, state, and organizational policies like paid family leave length (income & employment), have been accepted as the determinants of a nation's breastfeeding rate. However, some of the above factors are higher predictors of breastfeeding rates than others. The absence of the higher predictors of breastfeeding rate in the U.S., like income and employment has placed U.S. children at risk of several preventable diseases and maternal health due to the lack of adequate breastfeeding. Therefore, the discussions in this chapter will center on studies related to biological, social and economic policy attributes and determinants of breastfeeding. In the end this chapter will focus its discussions on the major determinants of breastfeeding, to guide the theme of the studies. For example, studies conducted by (Foste, Lippincott, and Weiss, 2001), based on the National Survey of Family Growth (NSFG), Cycle V, 1995, which modelled the likelihood of using Cox regression techniques and additionally, traced the live births from the NSFG 1988 and 1995 surveys, modelled the effects of race, ethnicity and other cultural factors have on breastfeeding, made the following assertions to the effect that biologically, the characteristics of birth, like birth order and delivery type, can determine if a mother is likely to breastfeed or not. For instance, first born children are highly likely to be breastfed, compared to the other higher parity siblings. It is also more likely to breastfeed a baby born vaginally than a baby born via a cesarean section, due to pain and suffering of the mother. Demographically, age, ethnicity, race, and religion, similarly account for patterns of breastfeeding. For example, younger mothers are less likely to breastfeed for a longer duration, if at all, compared to older mothers. Sub-Saharan African born Black mothers are more likely to breastfeed, compared African American mothers because

breastfeeding acts as a contraceptive to Sub-Saharan African mothers (Forste et al, 2001). To support the above assertion regarding the comparison between Sub-Saharan mothers and Black African Americans' breastfeeding assertion in a commentary published in the journal, *Nature*, about the effects of breastfeeding on birth spacing and their effects on child survival. It was observed that among sub-Saharan African mothers, breastfeeding inhibits on the average, four births per mother. Therefore, Sub-Saran African women are more likely to breastfeed for the purpose of birth spacing for the survival of their children, due to the limited access to contraceptives (Potts, et al., 1988).

Likewise, Hispanic mothers are more likely to breastfeed, compared to the African American mothers because most Hispanic mothers are Catholics, whose religious faith and beliefs dictates breastfeeding, compared to most African American mothers, who are mostly Protestants. According to (Forste, et al., 2001), married women are likely to breastfeed compared to single mothers. Catholic mothers are more likely to breastfeed, compared to Protestant mothers. Highly educated mothers are also motivated to breastfeed than the less educated mothers. The health of a baby can also determine if the baby will be breastfed or not. Though some of the above factors can be major barriers to breastfeeding, others can be helpful to encourage breastfeeding. For example, educated mothers are motivated to breastfeed, because they recognize the scientific advantages of breastfeeding, compared to the less educated. Moreover, educated mothers have access to good jobs, earn higher income with high job security, which encourages them to save more money, to take leave from work towards breastfeeding and childcare, compared to the less educated whose incomes are narrower or marginal to encourage savings to take leave from work for the purpose of breastfeeding.

The unique characteristics that arise from the above discussion are culture, economic and social life which complementarily acts as drivers of breastfeeding. For example, Hispanics, White mothers, married mothers, Black mothers who migrated to the U.S. to have children are likely to breastfeed, because of religion, support from spouses and culture. However, breastfeeding among African American mothers, and single mothers was found to be low. The question is, why will the African American and single mothers record low breastfeeding rate, but the White and Hispanic American mothers have higher rate of breastfeeding? And if among all the breastfeeding racial groups, only Black American mothers and single mothers record lower breastfeeding rate, why should the U.S. breastfeeding level remain suboptimal? If culture is the driver of breastfeeding, it means therefore that, the United States must be the highest breastfeeding nation, globally, because it is the embodiment of all the racial, ethnic, cultural, and social groups, which support breastfeeding. Yet the U.S. is one of the least breastfeeding nations with 25.8% exclusive breastfeeding at six months, according to Forste, et al. (2001).

The above probing questions is an indication that, beside socio-cultural attributes which may directly or indirectly contributes to breastfeeding, there are other variables which affect breastfeeding rate in the U.S. These other variables can be education, economic (income) and employment of the mother, which substantively affect breastfeeding rate in the U.S., positively or negatively, as pointed out by many studies. For example, studies conducted by Baker & Milligan (2008), (Skafida, 2012 as cited in Steurer, 2017), based on the length of paid family leave impact on breastfeeding duration, according to a comparison made between pre and post Canadian Employment Insurance Program and Reforms showed that there was an increase in exclusive breastfeeding when the length of paid family leave was increased. Similarly, studies conducted by Byker, (2016), based on the 2004 California's mandated paid Parental Leave and

New Jersey's Family Leave Insurance Statute, increased exclusive breastfeeding rates respectively (Steurer, 2017). Therefore, the major predictor of breastfeeding is paid family leave, because it provides income and job security guarantee to the mother of a newly born baby, by keeping the mother at home temporary, to care for and breastfeed the baby, irrespective of the socio-cultural background. Paid family leave will equally benefit new mothers who may not make the choice to breastfeed because it will give them time to feed, rest and be closer to the newly born child, when they do not even make the choice to breastfeed. It has been observed by researchers that there is a meaningful relationship between exclusive breastfeeding and education because education is income driven. Moreover, there is also a negative link between exclusive breastfeeding and maternal employment. This is an indication that employment, which is a major source of income to mothers, is a potential barrier to breastfeeding and childcare (Steurer, 2017).

To support employment and income as the major determinants to breastfeed or not to breastfeed, the breastfeeding rates of Morocco and the United States of America shall be compared. Although, the Gross Domestic Product (GDP) of the United States is \$20.54 trillion (about \$63,000 per person in the US), the GDP of Morocco is \$117.9 billion (about 3,000 per person) as of 2018. However, Morocco's government guarantee 14 weeks (about 3 1/2 months) of paid family leave to its mothers, compared to zero dollars in the U.S. to its mothers. Due to the above economic support given to all new mothers in Morocco, despite their economic challenges, compared to the U.S. As a result, there was 100% prevalence of early breastfeeding at birth and 49.22% six months of exclusive breastfeeding in Morocco, compared to the 83.9% and 25.8% U.S.' early breastfeeding at birth and six months of exclusive breastfeeding respectively, within the same period. This is an indication that the United States mothers can equally compete other nations in optimal levels of breastfeeding, if there is provision of income

through paid family leave to substitute income from the workplace, which can keep the mother at home to breastfeed. According to this research, there is a clear link between higher rate of exclusive breastfeeding and mothers' employment. This is also an indication that any employment that comes with paid family leave for maternity purposes, can ensure exclusive breastfeeding, because the mother of the new baby can have enough time to stay home, nurture and breastfeed. In this case, Moroccan mothers can ensure that their babies are exclusively breastfed at a higher rate, but the U.S. with the largest GDP worldwide, cannot ensure that their mothers can exclusively breastfeed their babies, comparatively (Aguenaou, et al. 2018). According to a systematic review and meta-analysis of neonatology and infant nutrition, the separation of the mother from the newborn baby disrupts breastfeeding practice completely. This is an indication that if a mother returns to work immediately after a child is born, due to the lack of paid family leave, breastfeeding is disrupted as a result of the child's separation from the mother for employment purposes. Therefore, paid family leave policy is the only remedy to the mother and child separation, to ensure breastfeeding (Aguenaou, et al., 2021).

The above two nations' (U.S. & Morocco) GDP comparisons is an indication that the United States government can guarantee some form of paid family leave to their working mothers, when a new child arrives, to support childcare and breastfeeding. The irony is that in 2017, 2018 and 2019, 57.0%, 57.1% and 56.7% of all women participated in the workforce of U.S. respectively, according to the Bureau of Labor Statistics (BLS). However, only 1 in 4 or about 23% of U.S. mothers then, had access to any form of paid family leave or maternity leave. Moreover, about 46% of U.S working mothers report that they take care of their children when they fall sick and cannot go to school, 68% of women take responsibility for their children's healthcare and 70% of mothers take their children for doctors' appointments and follow ups. This

childcare responsibility which fall directly on the shoulders of working mothers, requires some form of a federally paid family leave measure to U.S. mothers to secure their jobs, particularly new mothers who are required by U.S. cultural and social practices, to nurture infants and feed them after birth (Frederiksen, et al., 2021).

For instance, the U.S. Bureau of Labor statistics reports that 56.7% of women in the United States today participate in the U.S. labor force. However, their struggles with childcare and other parental responsibilities, far exceeds their male counterparts. As such, U.S. mothers constitutes a force or power to reckon with by any U.S. administration and political leadership, for access to agenda setting which echoes the understanding of group mobilization and participation of the social constructionist theorists, like E.E. Schattschneider, for their childcare issues or problems. This critical childcare responsibilities which falls on the shoulders of U.S. mothers in most cases, can be raised to the fore in the public political spectrum, for a national discussion to find a solution, by using their children as a ‘bargaining chip’ to get the much-needed support for their children through a paid family leave policy, to relieve them from their daily struggles and stress with childcare costs, to concentrate on breastfeeding rate increase and childcare when they are paid to break from employment temporally in the United States, though not without political cost to the government who will enact the paid family leave initiative (Birkland, 2016).

The U.S. WIC Program

Beside the above discussed demographic determinants of breastfeeding, one of the major barriers to breastfeeding in the United States whose impact can be reduced by paid family leave is the artificially manufactured infant supplements industry. These manufactured infant food supplements function as a complement to breast milk, yet stand in the way of breastfeeding, because it is patronized by families through the lesser regulated government programs

universally, with the U.S. being a major patron. Since it is mostly free to the lower-middle income bracket in the U.S., it provides easy access for mothers to find breastmilk supplements to feed their newly born babies, at the snap of the finger. Even though most of the mothers who opt out from breastfeeding may have the capabilities to breastfeed. Yet the availability and easy access to breastmilk supplements prevents them to consider making the choice to breastfeed. This is not to say that breastmilk supplements availability to some poor U.S. mothers, is not a clever idea, especially, mothers who may be sick with some infectious disease like HIV/AIDS, and others who may not be able to produce breastmilk to feed their babies due health and other issues. Universally, the baby food market is a \$70 billion industry, therefore, it may be difficult to wish away because in many cases and situations, breastmilk supplements have served a useful purpose to save the lives of many children and continue to do so, beside the creation of jobs and income (Jacobs, 2018).

In the U.S. for instance, according to the Wall Street Journal, about 8.3 million legible families and mothers have free, or subsidized access to cheaper infant food supplements through the government's Women, Infants and Children (WIC) program, which authorizes \$6 billion annually in the form of food vouchers, with over 40,000 authorized WIC retailers. Due to its relaxed eligibility criteria in the U.S., it has more than 20% participation than it was intended by the federal government. As of 2010, there were about 9.2 million WIC participants, and the U.S. states being the sole customer through the United States Department of Agriculture (USDA). The less stricter eligibility criteria of the WIC program have made it a money losing venture for its manufacturers, particularly Mead Johnson Nutrition Company, the Enfamil maker which is the U.S. largest supplier, according to Tracy (2015). For instance, the following are the few requirements' recipients must meet: (1) be a member of a certain group category, pregnant or a

mother of newly born baby who shall be eligible for six months if not breastfeeding, and 1 year if breastfeeding (2) Children up to five years (3) Income eligible, that is incomes below the federal poverty line up to 185% (4) Families in need, Medicaid, and Food Stamps recipients (5) People who are declared at risk nutritionally, by a medical professional. This criterion makes all mothers and children in the U.S. eligible' according to (Currie, 2003, as cited in Foster, et al., 2010).

Besides the above easy eligibility requirements, there is poor nutritional counselling to WIC recipients. As a result, most WIC recipients are obese or under nutrition throughout pregnancy, which can be linked to poor birth outcomes. According to (Gao, 2004, as cited in Foster et al., 2010), the WIC program officials offer only 30 minutes voluntary educational and counselling services for every six months enrollment period, just to provide drug, alcohol, and nutrition information to pregnant participants. Ineffective and limited educational and counselling sessions are impossible to change the behavior of WIC recipients to ensure better health outcomes of children, yet it has reduced breastfeeding because it is a free provision, although some mothers cannot do without it due to their health and other situations. Now, three months and six months exclusive breastfeeding rates in the U.S., hovers around 46.3% and 25.8% respectively, well below the 50% of six months exclusive breastfeeding World Health Organization standards, though research has pointed out that WIC participation prenatally, is linked to mean birth weight increases (Foster, Gibson-Davis & Jiang, 2010).

However, according to the USDA's research department, the WIC program participation has since contracted to about 6.2 million participants per month at the cost of \$4.9 billion in the United States during the 2020 fiscal year. This is due to cost effective measures, improved eligibility criteria and the overall better U.S. economic performance which has subsequently

reduced the number of participants. Although the WIC program is still expensive, it continues to support poor nutrition. Therefore, it may be difficult to eliminate the program entirely, but a carefully planned paid family leave mandate by the U.S. administration can support working mothers with income to breastfeed and overcome WICs popularity among U.S. mothers to reduce its cost to the nation (Hodges & McLaughlin, 2021). As such, the paid family leave policy proposal by this research paper will make recommendations to the USDA that will support and upgrade the above criterion for WIC eligibility and enhance the quality of the infant supplemental products, to serve the purpose the policy was intended to. That is to make more mothers breastfeed, if they have no health-related issues to breastfeeding. This will make U.S. mothers' choice to breastfeed or not, much clearer and needful.

The Negative Relationship Between U.S. Mothers' Employment and Breastfeeding

Though the WIC program has been described as a setback to breastfeeding despite some of the useful purposes it serves particularly, to poor mothers and mothers who cannot breastfeed. Several studies have demonstrated that the “worst enemy” to breastfeeding is the negative relationship between mothers' employment and breastfeeding. This is the reason many U.S. mothers make the choice to go for the readily available WIC vouchers, to purchase manufactured breastmilk supplements, in the place of breastmilk. For example, studies conducted by Baker & Milligan (2008), based on the length of paid family leave impact on breastfeeding duration, comparing pre and post Canadian Employment Insurance program reforms, which regulates maternity leave related laws, demonstrated increase in exclusive breastfeeding, when the length of paid family leave was increased. Because the longer the length of maternity leave with pay, the longer breastfeeding is sustained, with tremendous advantages to a child's health, like decrease in asthma, diabetes, obesity, infant death syndrome and a host of other diseases.

A similar study conducted by (Skafida, 2012 as cited in Steurer, 2017), which explored Scotland and United Kingdom's paid family leave and employment policy benefits of six weeks (about one and a half months) at 90% average salary, and a flat rate of £124.88 per week for additional 33 weeks (about 7 and a half months), also increased exclusive breastfeeding duration. This study demonstrates a positive correlation between income and breastfeeding sustainability. It is also an indication that employment relates negatively to the duration of breastfeeding. Studies published by (Huang & Yang, 2015, as cited in Steurer, 2017) in the United States, looking at the comparative changes in breastfeeding practices and the California state mandated six weeks of paid family leave policy, also produced comparable results (Steurer, 2017). Another study conducted by Byker (2016) based on the passage of the California and New Jersey family leave statutes, also indicated increased labor force attachments by working mothers, before and after the birth of their newly born children, compared to the period before the paid family leave statutes were passed by both states (Byker, 2016).

Similarly, Gerber & Perelli-Harris (1985-2000), conducted a study designed to reduce tension between women's employment and fertility in Russia. The study analyzed the individual level effects of paid family leave on employment outcomes, and second conception rate among Russian first-time mothers from 1985-2000. This research employed the use of retrospective job and fertility histories from the survey of stratification and migration dynamics in Russia. The study observed that maternity leave supported women, to maintain a foothold on the job market. Moreover, mothers who took long term leave had elevated breastfeeding rates, and second conception chances. In a related study to examine the relationship between childbirth and paid family leave, regarding second chances of conception among employed European women, according to (Olah, 2003; Billingsley & Ferrarini, 2014, as cited in Hwang & Jung, 2014),

observed that employed European women use of family leave is positively related to their second-birth intentions (Hwang & Jung, 2016).

The above studies from Canada, Russia, Scotland, and the United States, demonstrates clearly that mothers' employment is a barrier to breastfeeding and job attachment, and in some instances, population growth, according to Steurer (2017). This is an indication that the longer the duration of paid family leave for a lactating mother, the longer exclusive breastfeeding is sustainable, and in some cases, there is the chance of a second conception. Furthermore, Russia, Australia and many OECD member states with baby deficits have started giving incentives through paid family leave to boost breastfeeding and population growth, since 2006. For example, Russia, whose population decline had reached an average of 700,000 citizens (about half the population of Hawaii) each year, began boosting childcare benefits to 1500 rubles per month for the first child and up to 3000 rubles for a second child, monthly. This is an indication that Paid family Leave policy in the U.S., can be a big boost for breastfeeding, the wellbeing of mothers and even grow the U.S. population (Gauthier, 2006).

In reference to the above U.S. population growth issue (Sasser, 2021), observed that the U.S. population growth rate has seen a decline by 0.35% between July 2019 and July 2020, the slowest on record since 1900. This cannot be blamed on Covid-19, but it has been a long-term trend. Between 2009 and 2010 alone, the U.S observed only a three percent birth rate, according to CDC. Moreover, the total fertility rate has dropped by four percent, the steepest decline in 70 years. The U.S. population and other population related declines have been partly blamed on employment opportunities to earn income outside U.S. households. Another area of concern is the rise of infertility among men. For example, an analysis of 185 studies which observed 43,000 men between 1973 and 2011, found that the total men sperm count had declined by 60%. This

can also be blamed on reduced breastfeeding around the same period (1973-2011), because of the lack of a baby's access to breastmilk from the beginning of life. According to Mocarelli, et al. (2011), a baby's access to breastmilk is linked to increased sperm count in adulthood, due to the baby's exposure to small doses of dioxin present in breastmilk, although other studies have taken either neutral or opposite positions regarding breastfeeding, infant sperm count and fertility due to the infant exposure to dioxin through breastmilk. Therefore, if breastfeeding hold a key to sperm count, according to Mocarelli, et al. (2011), then a paid family leave measure by the U.S. federal government for mothers which will boost breastfeeding, as pointed out earlier by this research paper becomes a necessity to boost the U.S. fertility rate for both men and women, to ensure population growth (Sasser, 2021).

Comparing the U.S. to Other OECD Member States on Paid Family Leave

Unfortunately, the United States is the only developed country globally, whose government is among the following four developing and low-income countries; Lesotho, Liberia, Papua New Guinea, and Swaziland, who does not offer paid family leave to women for maternity purposes. And among countries of the Organization for Economic Corporation and Development (OECD), U.S. remain as the only key nation in the group that does not provide paid family leave (maternity or paternity), to its mothers and fathers to care for their newly born and increase the U.S. breastfeeding rate. However, U.S. is the largest financial contributor to the North Atlantic Treaty Organization (NATO) which secures many of the OECD member states. Annually, the U.S. contributes 68.7% of NATO's defense budget, which is about 3.57% of its GDP, whereas other NATO member nations only contributes 1.48% of their GDP. Meanwhile, the U.S. economy is half of NATO member states' economy (Birnbaum, 2018).

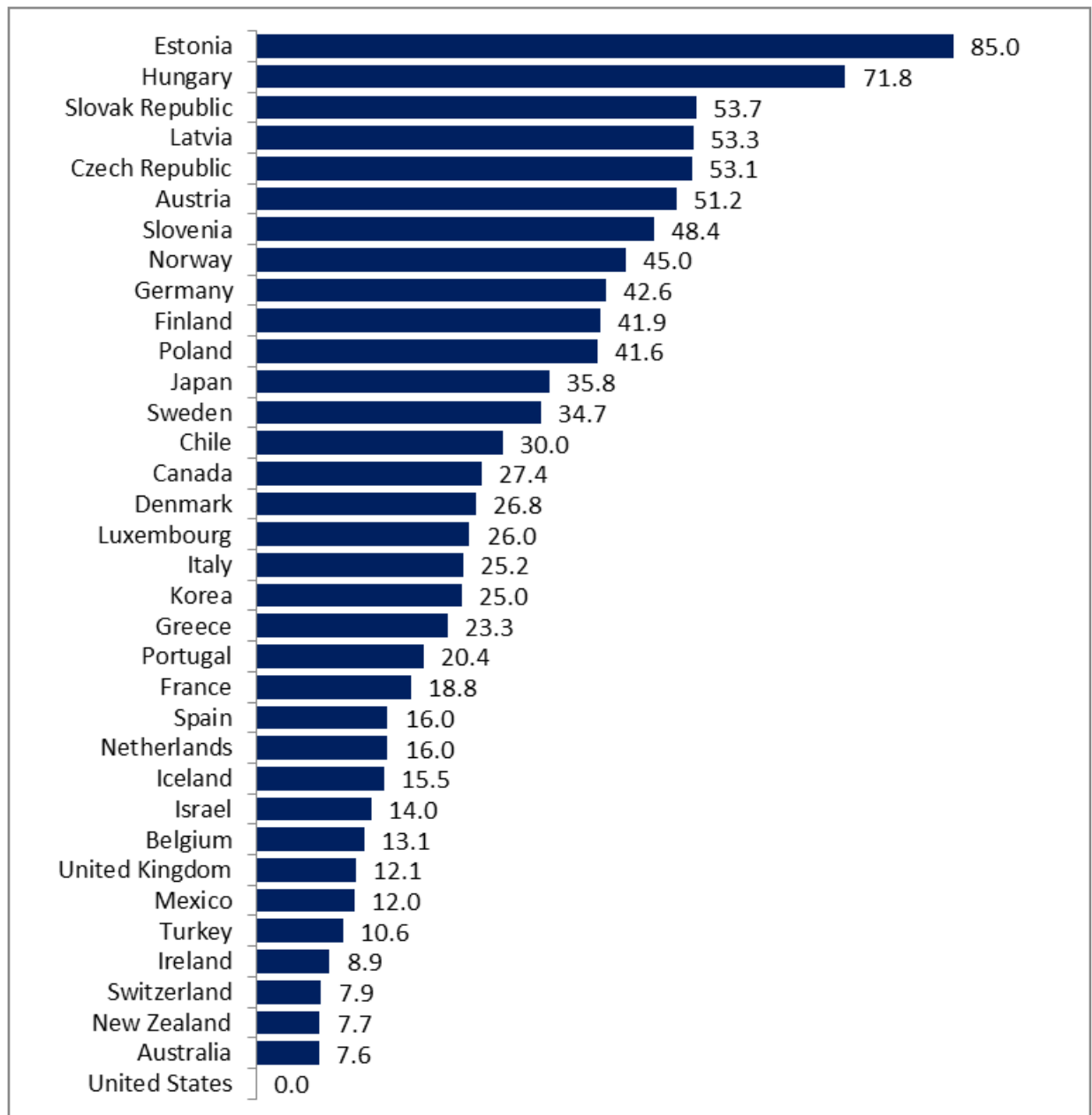
As of 2016, the OECD family leave data base listed 34 out of its 35 member nations who provide paid family leave, with a variety of wage replacement rates and number of weeks allocated to families, to take care of the newly born to ensure breastfeeding across the various member nations. Some of the nations offered 50% of full wages or more, throughout the duration of the family leave. For example, Finland and Hungary provides 161 and 160 weeks (about three years) in maternity leave to mothers, respectively. Germany and Japan provide 58 weeks (about one year one and a half months), United Kingdom (U.K) 39 weeks (about 9 months) and Australia 18 weeks (about 4 months) of paid family leave at \$622.10 per week, to the main caretaker of babies born after July 01, 2013. This is irrespective of the family or the mother's income (Donavan, 2018). For instance, women in Australia, France, and the United Kingdom, receive between 14-52 weeks of paid family leave with 75%-100% of wage replacement with job security guarantees (Bell & Shepherd-Banigan, 2014).

Out of the 35 member states, 27 of them provide a varied number of weeks of paternity leave to fathers. For example, Greece, Italy, and the Netherlands provides about a week at full pay. Portugal also provides five weeks at full pay, and the U.K. provides two weeks at an average pay rate of 20.2% for paternity leave. The paternity leave with pay enables fathers to support their spouses immediately after the new baby arrives, to ensure continuous feeding and childcare for the mothers to have some rest. However, the United States which has the strongest economy among the OECD member states, provides zero paid paternity leave to its fathers, one of the reasons the U.S. has a low breastfeeding rate, and the only OECD member state which does not meet the WHO breastfeeding guidelines (Donavan,2018). The U.S. spend \$500.00 annually to support a child on average, whereas the other OECD member states spend about \$14,436 to support a child per year. When U.S. childcare spending is compared to other

developed countries, the U.S. does little to support families, economically. The lack of economic support from the U.S. government to families for childcare, reduces the chances of breastfeeding, in the U.S., compared to other developed nations (Davis & Sojourner, 2021).

Table 1.1

OECD Member Countries' Leave Provision Chart as of April 2016



Note. The above Table shows 2016 OECD members state's average wage equivalent weeks of paid leave to a mother in 2016.

Table 1.1 above, lists the number of weeks allowed by OECD member states for maternity leave in ascending order, from the United States who offers zero (\$0.00) paid family leave to its mothers to Estonia, the most generous among the member nations who offer 85 weeks (about one and a half years) for mothers on family leave for childcare and breastfeeding purposes. However, compared to Estonia, U.S GDP as of 2020 was \$20.9 trillion (about \$64,000 per person in the US) and the GDP of Estonia was \$30.63 billion, yet the current President Bidens Build Back Better (BBB) agenda effort to provide U.S. mothers and families with paid family leave support, to nurture, breastfeed and care for their children, continues to be on “life support” in the U.S. Senate (O’Neil, 2021).

As earlier indicated, 34 out of the 35 OECD member states paid family leave is offered to mothers with infants. At least 14 weeks (about three months) of paid leave is offered by 28 of the OECD members. Coincidentally, the International Labor Organization (ILO) Maternity Leave Protection Convention, recommends 14 weeks. According to (Smith, et al.,2017 as cited in Khan 2020), most OECD member nations also allow 14 weeks of paid family leave for the critical needs of the newly born baby and the mother. During this period, children form neural connections, and they begin to form voice, face, and smell recognition of their immediate care giver. In Australia for example, both full and part time employees are granted 18 weeks of paid family leave which is guaranteed at the federal government’s minimum wage to ensure breastfeeding and childcare (Khan, 2020).

As a result of the above paid family leave provisions among the OECD member states, majority of mothers from most of the OECD nations have the support to exclusively breastfeed

for a longer period, except the United States. According to a study done by Baker & Milligan (2008), it was established that the duration of exclusive breastfeeding rate is longer and higher in countries which have longer periods of paid family leave provisions. For example, about 70% of mothers from France and Ireland exclusively breastfed their babies between three to six months, while Sweden, Denmark, and Norway were up to almost 100% between three to six months breastfeeding period in 2005. The U.S. was below 20% during the same period, regarding exclusive breastfeeding. Today, the U.S. has shown progress in exclusive breastfeeding. According to CDC's 2018 report card, U.S. recorded 46.3% and 25.8% at three months and six months, respectively. However, European countries continue to be ahead the U.S. in exclusive breastfeeding. For example, between four to six months, Denmark recorded 71% exclusive breastfeeding rate, followed by the Netherlands at 52%, Germany recorded 50% and France had 40% of exclusive breastfeeding between 2015 - 2016 (Parlesak, et al., 2018). Research conducted by (Rossin-Slatter, Ruhm and Waldfogel, 2013 as cited in Khan, 2020), established that new mothers are more likely to spend time with their newly born children at home when they have access to paid family leave. For example, when the Canadian family leave policy was analyzed by (Baker, Gruber, and Milligan, 2008, as cited in Khan, 2020), they observed that when the entitlements of mandatory family leave length is increased with income provisions, new mothers spend more time away from work with their newly born. This increases breastfeeding duration and improves the child's health and welfare of the mother, according to the above research findings. When the long-term effects of California's Family Leave Program were analyzed by (Hamdan & Tamim, 2012, Ip, et al., 2007, Litchman-Sadot & Bell, 2017, Pac, et al., 2019, as cited in Khan, 2020), it was established that the duration of breastfeeding was increased from two to twelve weeks after a child's birth. Moreover, several breastfeeding studies

have demonstrated tremendous medical benefits for the health of children and mothers. For example, studies conducted by (Ip, et al., 2007, as cited in Khan 2020), concluded that infants who are breastfed are less susceptible to developing gastrointestinal infection, ear infection, childhood obesity, type 1, and type 2 diabetes and asthma. And according to (Hamdan & Tamim, 2012, as cited in Khan, 2020), breastfeeding mothers are less prone to postpartum depression, compared to non-breastfeeding mothers, though, there could be individual differences. Additionally, paid family leave improves the mental health of mothers because they have enough time to sleep and rest at home. Furthermore, children's health is improved, because of increased frequency of breastfeeding and medical check-ups due to the availability of time to mothers, besides the improvement in household income. According to (Chatterji & Markowitz, 2012, Heyman, et al., 2017 & Stanczyk, 2019, as cited in Khan, 2020), when the length of maternity leave is increased above 12 weeks, maternal depression symptoms is reduced by 15%. Moreover, when women receive paid family leave benefits after giving birth, the negative psychological effects of early return to work are reduced, according to (Mandel, 2018, as cited in Khan, 2020).

In addition to paid family leave, many OECD countries pay family leave benefits because of its usefulness to the family when a new child arrives. It is well documented that the likelihood of fathers leaving their jobs when a baby is born to the family is less, compared to mothers. For example, studies conducted by (Cools, Fiva & Kirkeboer, 2015, as cited in Khan, 2020), which analyzed the adoption of paternity leave by the government of Norway in 1993, established that paternity leave taking by men increased from 24.6% to 60% between 1993 and 2006, which represents the period before and after its adoption in 1993. Compared to paid family leave to mothers, paid paternity leave also increases the involvement of fathers in childcare. When paid paternity leave was examined by (Tanaka & Waldfogel, 2007, as cited in Khan, 2020), in the

United Kingdom, they observed that fathers were 19% more likely to support their children at night and feed them. And according to (Pederson & Rubenstein, 1979, as cited in Khan, 2020), infants who are more involved by their fathers develop higher cognitive abilities in six months of age. This is an indication that paid family leave to mothers on maternity is more effective when it is complemented by paternity leave (Khan, 2020).

Studies have also established that paid family leave reduces infant mortality rate, because parents have enough time to spend with their children for doctor appointments and immunizations. According to (Winegarden & Bracy, 1995, as cited in Khan, 2020), every additional week of paid maternity or parental leave is associated with a reduction of approximately 0.5 deaths per 1000 live births in 16 OECD countries. Studies conducted by (Tanaka, 2005, as cited in Khan, 2020), estimated that an increase in family leave by 10 weeks also reduces infant mortality rate by 2.6%. Compared to the United States where most workers do not have access to paid family leave benefits, affects their children's physical health conditions negatively. According to (Jou et. Al, 2018 & Peipins, et al., 2012, as cited in Khan, 2020), a sick worker with infectious disease who cannot take a leave of absence from work can infect other workers, who may take the infection home to their spouses on family leave and infants who are being nurtured and breastfeeding. Cyclically, other upper siblings or children in the same home may be exposed and take the infection to other children in daycare centers and schools. However, employees are more likely to seek preventive care with paid family leave, to reduce the cycle of infection of a viral disease which reduces healthcare costs eventually. This may also explain the rapid Covid –19 infections in the U.S. So far, from February 2020 to date, Covid-19 have killed more than 800,000 and infected over 54 million U.S. citizens, based on New York Times report by Bossman, Harmon & Sun (2021). All because the U.S. government

does not have any federally mandated paid family leave policy in place, to keep sick workers at home with income, to be separated from their workplace temporary to reduce the infection rate. According to (Bartick, et al., 2017, as cited in Khan, 2020), U.S. can save about \$17.2 billion in costs linked to medical spending and premature births, provided U.S. mothers can exclusively breastfeed for 6 months, with investments in paid family leave policy. According to an assessment done by (Martin, Grant & D'Agostino, 2012, as cited in Khan, 2020), regarding financial investments in healthcare, countries who invest in individuals' healthcare produce healthier workforce, increase productivity, and increase economic growth. However, paid family leave policy is one genuine way of healthcare spending because it has a direct impact on the entire family particularly, the newly born through proper care given and breastfeeding (Khan, 2020).

Higher Percentage of U.S. Single-Mother Working Families

According to Pew Research Center's 2012 to 2015 statistics, 71% of all U.S. mothers are workers who have children under age 18, and 61% have children under age three. However, only 20% of all U.S. mothers can be described as stay-at home mothers. As the richest nation among the community of nations globally, the U.S. incidentally, has the highest number of single mothers among all racial groups, compared to other nations. Per the U.S Department of Labor Statistics, 28.9%, 18.9% and 12.1% of Hispanic, White and Asian Families are mother-only families, respectively. However, a staggering 54.3% of African American families, are equally mother-only. Unfortunately, this huge single mother families records low breastfeeding rate because they are among the group with little to no access to paid family leave because they are less educated without access to privileged jobs and poor, according to Forste et. al. (2001), because the U.S. does not have any federally mandated paid family leave measure.

Table 2-1, 2.2 and 2.3 below, graphically shows the various racial groups' family status in the U.S (Bialik, 2015).

Table 2. 1

2015 Mother-Only Family Groups by Race and Ethnicity

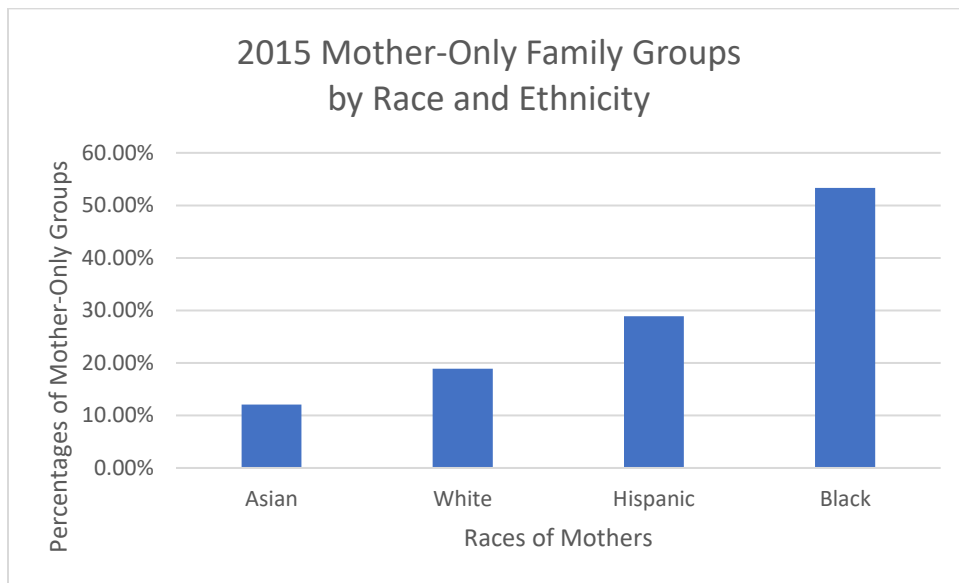


Table 2.2

Stay-at-Home and Working Mothers in 2012

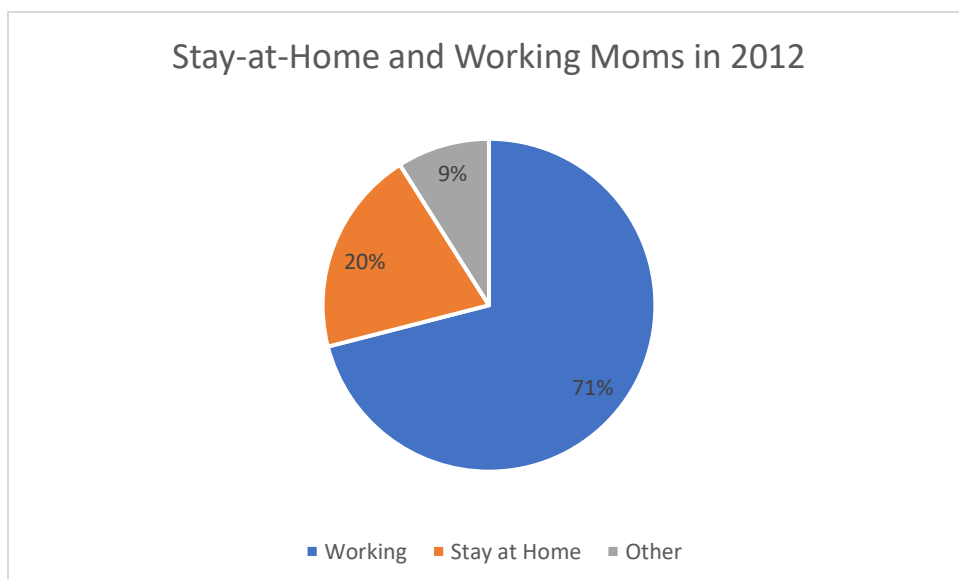
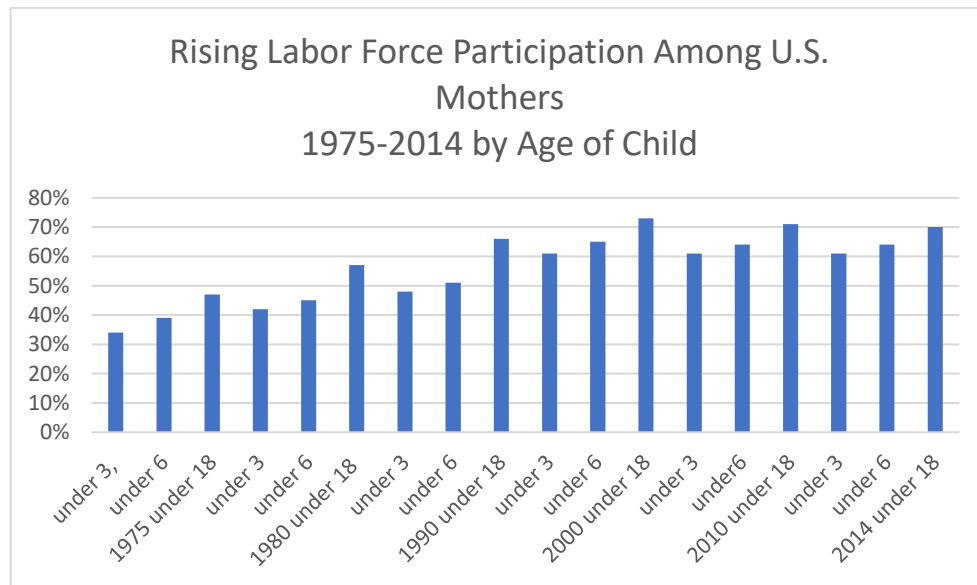


Table 2.3

The Rising Labor Force Participation Among Mothers (1975-2014) Pew Research Chart



Note. The above Table 2.1, 2.2 & 2.3 sourced from the Pew Charitable Center’s 2012-2015 statistics show mother only families by race and ethnicity, working and stay-at-home mothers, and the rising labor force participation among U.S. mothers from 1975-2014 by age of child.

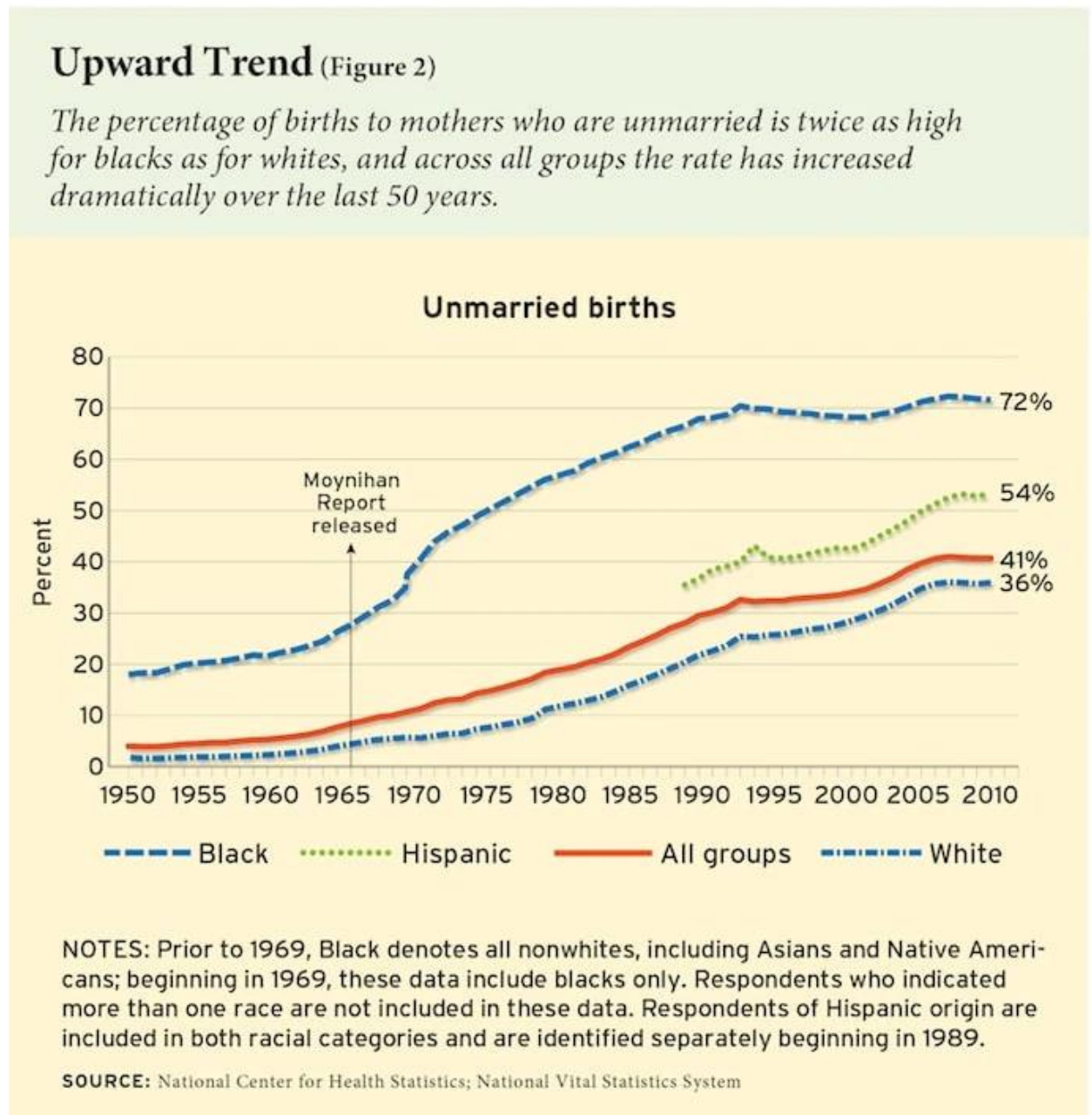
Table 2.1 indicates that a staggering 54.3% of African American mothers are mother only heads of households, compared to 12.1% Asian, 18.9% White, and 28.9% Hispanic mother only heads of households. Incidentally, **Table 2.2.**, shows that 71% of U.S. mothers are workers and coincidentally, **Table 2.3.**, also shows that 71% of all working women have younger children under 18 years of age, while 61% of them have children under 3 years of age, according to Pew’s (Bialik, 2015). For instance, only 23% of all U.S. working population have access to some form of paid family leave, according to Frederiksen, et al. (2021). Therefore, the probability that U.S. working mothers, particularly, African Americans can breastfeed their

children is less, in addition to fulfilling their other parental responsibilities, especially, doctor appointments and vaccinations, because a greater percentage of African American mothers have no live-in partners to assist them for childcare, and are more likely not to have any form of paid family leave to stay at home to nurture their children, except to rely on subsidized supplemental infant milk from the WIC program, daycare centers and public schools. This situation also prevents many U.S. working mothers from breastfeeding because they must be at work, at all costs, particularly, the poor who are mostly African American mothers. (Hodges & McLaughlin, 2021).

The above analysis supports Harvard and Princeton studies conducted by (Jencs & McLanahan, 1965, as cited in Badger, 2014), based on **Table 3.1** statistics below, which established that 70% of all Black children born in the U.S., are born to mothers who are not married, a three-fold increase since the 1960's. As a result, majority of African Americans are going to remain poorer in a generation. This is due to the lack of any federally mandated form of paid family leave policy with job security, to guarantee African American mothers any sustainable income during antenatal and postpartum periods. As a result, their incomes drop significantly and the possibility of losing their jobs, when they add a new baby to their families, because there is no spouse present in the family with income. Moreover, many single mothers are low-income earners and may not be able to afford any form of disability insurance. This is an indication that a new baby may be ushered into a family with no sustainable household income present if household income represents paid family leave income. Such situation prevents mothers from breastfeeding because the U.S. has no federal mandate for paid family leave which can offer coverage to the poor to breastfeed, particularly the minority Black mothers, who are forced back to work and stop breastfeeding for financial survival of the family (Badger, 2014).

Table 3.1

Children Born to Unmarried Mothers by Race Between 1950 – 2010



Note. The above Table indicates the number of children born to unmarried Black women which is twice as high as the number of children born to unmarried White women in the United States.

Due to the absence of paid family leave at the national level, African American mothers as well as significant percentage of poor working mothers from other racial groups in the U.S. find themselves in, breastfeeding and childcare have become a headache, due to childcare cost. As such, it is safe to state that the absence of paid leave to support U.S. mothers to reduce childcare cost, is the cause of reduced breastfeeding rate in the United States because childcare is no longer affordable. Most mothers who find themselves in similar poor situations cannot stay home to care for and breastfeed their babies, except to go to work. This situation has also affected U.S. fertility rate, and according to the Los Angeles Times, the U.S. birth rate dropped by 4% between 2009 and 2010, the steepest since the 1970s, due to young women looking for job opportunities instead having children (Sasser, 2021).

Although, it was speculated that there was going to be a baby boom due to the lock down in early 2020 because of the Covid-19 pandemic, because couples will have more time together. However, the above prediction failed because the U.S. birth rate dropped by 4% in 2020 and it is estimated that in 2021, there will be about 300,000 fewer births, due to the lack of paid family leave and any income support net for families in the United States of America to care for and breastfeed their children, according to the Pew Charitable Research Institute (Barroso, 2021). Looking at the above picture, the cost of having a baby, childcare, and breastfeeding among all the demographic groups in the U.S. is high. Due to cost implications, U.S. breastfeeding and fertility rates are on the downward trend because when the opportunity cost of having a child is too high, rational choice theory implies that breastfeeding and fertility rate shall be lower. The cost implication of having a baby by a working mother is high, compared to the stay-at-home mother, according to (Friedman, Hechter & Kanazawa, 1994, as cited in Hwang and Jung, 2016). Based on the above demography, there are more working mothers than stay-at-home mothers in

the U.S. This is an indication that, U.S. breastfeeding rate shall continue to be low, and the possibility of remaining below the suboptimal level is there, unless a paid family leave mandate is enacted (Hwang & Jung, 2016).

Additionally, the U.S. has become less religious, more educated with increased number of women in higher education. Today, late marriages have become the new normal. The above picture coupled with a better economy, will further reduce U.S. breastfeeding rate because the opportunity cost of child rearing and breastfeeding will be to forgo better job opportunities in the U.S. labor market. As a result, income from paid family leave which will hold the jobs of working mothers temporarily, when they have a new child, is a necessity. Therefore, the United States cannot avoid paid family leave mandate as a federal government policy to guarantee U.S. mothers income for childcare and breastfeeding. This calls for a public policy designed by public administration, to set the agenda for effective paid family leave federal policy to support U.S. mothers, to reduce both childcare and healthcare costs to families and the nation through increased breastfeeding, according to Andersson & Gotmark (2020), to achieve the following breastfeeding goals and objectives nationwide:

Reduction in Fetuses Exposure to Over Nutrition and Obesity After Birth

An overview of the above economic and social situations most U.S. mothers and families find themselves in is a clear indication that most mothers are incapable to balance work life, breastfeeding and childcare costs without any substantive support from the United States government. This places many mothers and children in abject poverty. Therefore, it will be appropriate to state that the U.S. public policy makers are in self-denial of the obvious, particularly, looking at the critical roles breastfeeding plays in the protection of children and mothers against infections and other diseases to be discussed in this study.

Therefore, the need for paid family leave public policy to support U.S. mothers' choice to breastfeed and care for the newly born becomes more paramount when a comparison is drawn between artificial infant formula and breastmilk although, artificial infant formulas have played enormous roles in childcare. To begin with, breastfeeding protects children from several diseases, to ensure their healthy growth and development. This may include diseases the child is exposed to in the uterus and infancy, through adulthood. For example, studies have discovered that a fetus exposed to diabetes in the uterus during pregnancy from the mother, due to over-nutrition because of the mother's diabetic condition can affect the trajectory of growth, especially, when it comes to the body mass index (BMI) of the baby's velocity of growth into adulthood. This will determine the child's weight gain or obesity later in life. However, if a child who is exposed to over-nutrition in the utero is breastfed, instead of infant formula feeding, the chances of the child becoming obese, is reduced between 13-22% (Crume, et al., 2012).

To support the above breastfeeding benefits to children, studies conducted to find out if by manipulating the intrauterine environment with diet and exercise or physical activity of the mother, can reduce the risk of obesity due to the fetus' exposure to overnutrition because of a mother's diabetic condition, did not yield any better results. By searching through three electronic databases between January 1990 and July 2017 for the outcomes of antenatal interventions and follow-up offspring publications through eight trials, with five of the trials including categories of women with every body mass index, and 3 trials which focused on only obese women. The studies followed up with offspring children aged between six months and seven years. The measures taken regarding adiposity or fatness from the offspring included body mass index, weight, skinfold thickness and circumferences. Only two of the studies which focused on women with obesity, showed a little reduction in fatness or adiposity. The other 6

studies which focused on infancy and early childhood yielded no effects on fatness at all. Therefore, the study concluded that antenatal interventions with physical activities and dietary mechanisms have no influence on obesity in the beginning of childhood. The only solution to obesity in early childhood is breastfeeding (Dalrymple, et al., 2018).

Secondly, it has been scientifically proven with evidence, through the phenomenon of metabolic programming that the risk of diseases during the critical periods of early childhood development, can have lasting disease effect in human health up to old age through the direct actions of hormones. A double-blind study, using randomized clinical trial of 1000 infants from five European major countries, including Belgium, Germany, Italy, Poland, and Spain conducted by Koletzko, et.al., (2009), for the European Childhood Obesity Trial Study Group, to report the programming effects regarding feeding choices for toddlers in later obesity, found that the risk of obesity at school going age, can be reduced between 15% and 25% with early childhood breastfeeding, compared to infant feeding formulas. In addition to the reduction of the obesity risk later in the life of the child, breastfeeding inversely reduces the risk of the mother's gestational diabetes up to 12%, because, it has shown to improve the pancreatic β -cell, during a prolonged breastfeeding period. In this case, the next child to be born, may not suffer the risk of type II diabetes developed by the first child, which will go a long way, to protect the next child from developing any cardiovascular diseases, which can be fatal to the baby neonatally, or develop the disease later in life (Eglash, et al., 2008).

In a study of animal feeding and weight gain, it was established by (McCance & Widdowson, 2008, as cited in Koletzko, et al., 2009) that, if the animal is restricted to food intake for three weeks in early development, the body size of the animal is reduced permanently up to adulthood, rather than food restriction in adulthood. In a related study of the mode of

feeding, like the infant suckling behavior (mother-infant interaction) compared to infant formula bottle feeding, it was observed that there are striking differences, regarding the suckling pattern and the quantity of food intake of the child. The frequency of food intake of formula-fed infants is low, and at longer intervals between meals, compared to breastfed infants. However, infants who are formula-fed achieve 20% to 30% higher food intake volume than infants who are breastfed at six weeks old or more. This led to the conclusion that breastfeeding is a protection against obesity later in life, due to the reduced occurrence of weight gain at infancy, because of the reduction of high volume of food intake by the breastfed baby, and the low content of protein in breastmilk of human mothers, compared to artificial infant formulas. This study shows that the prevalence of obesity in the United States is due to the over usage of infant formulas, compared to breastmilk (Koletzko, et al., 2009).

Available literature reviewed on human breastmilk and artificial infant formulas, have revealed other interesting scientific facts, regarding the critical role breastfeeding (human breastmilk), play in the development of the child and the mother, compared to infant formulas sold on the market, worldwide. To begin with, breastfeeding immunizes the newborn child, from day one of the child's arrival to the family, prior to receiving medicinal vaccinations. A study of 734 healthy newborns who were virginally delivered at full term was conducted in Guinea Bissau whose urban centers was known for the widespread use of breastmilk supplements. The study was set to find out if early breastmilk properties like the colostrum, which is a rich source of vitamin A has a stronger or better effect on the immunological development of a baby, compared to breastmilk supplements which is not a rich source of colostrum with vitamin A. The study observed that discarding vitamin A from infant milk can have deadly health consequences, beyond the neonatal period. According to the study, smaller quantities of colostrum excretion

into breastmilk in the earlier stages after delivery, plays a critical role in securing the newborn child from many bacterial infections. This is due to breastmilk's concentrations in IgA and IgM which are higher than what is found in breastmilk supplements (Clotilde da Silva, 1993).

To further support the above studies, exclusive breastfeeding of infants without solids has been shown to reduce gastrointestinal infections risks. Therefore, breastmilk is linked with the reduction of non-specified incidence of gastrointestinal infections by 64% and 30% reduction of retroviral diarrhea with the potential to protect the child from any gastrointestinal infection, up to a period of two years after breastfeeding. On the other hand, formula fed infants are at 80% risk of increased diarrhea, particularly, if the formula feeding is exclusive. It has also been observed that beside a reduction in infant hospitalization, there is an inverse relationship between breastfeeding and acute febrile sickness during the beginning of infant life, due to the protective nature of breastmilk, according to (Brahm & Valdes, 2017).

Based on the above studies, the WHO agrees that breastfeeding can be initiated during the first few hours of life, and the mother can breastfeed exclusively during the first six months, if not inhibited by any physiological issues, like the presence of a transmissible disease, or the lack of breastmilk secretion. After that the child can receive safe and adequate complimentary foods combined with breastfeeding for two years and beyond because breastmilk protects against infections, ensures a child's growth and development in good health (Abie & Goshu, 2019).

Although many mothers may be unable to breastfeed as a vital component of childcare and nurturing due to health-related issues, it is estimated that suboptimal breastfeeding is responsible for about 600,000 annual deaths of children globally. Therefore, if it is not for health reasons as indicated above, the inability to breastfeed by some mothers, should be addressed with breastfeeding initiation education by medical professionals when a child is born, either at the

hospital or at home, because of the critical role breastmilk plays from the onset of human life (Baker, et al., 2021).

Reduction in Infant Mortality Rate and Child Spacing

The above literature reviewed is an indication that breastmilk plays a greater role in the survival of children, and as a result reduces infant mortality rate, globally. From the uterus to first day of a child's birth, breastmilk becomes responsible for a child's entire healthy living, by managing the child's body size, and due to its immunization effectiveness, breastmilk protects the child from infections and cardiovascular diseases, leukemia, and necrotizing enterocolitis, which is predominant in premature babies because it destroys the baby's intestinal tissues. Besides the above diseases which breastfeeding prevents, it is also capable of reducing the risk of asthma, recurrent rhinitis, and other dermatological diseases like eczema, from children. For instance, about 42 developing countries are responsible for about 90% of infant mortality. As such, six months exclusive breastfeeding and weaning after one to two years of life could provide the effective answer to the reduction infant mortality rate globally. Besides the reduction of infant mortality rate, breastfeeding is environmentally friendly (Brahm & Valdes, 2017).

Since breastfeeding is responsible for the reduction in infant mortality and protects the mother particularly, in developing countries, the Ghana Health Service board for example, promotes breastfeeding awareness campaign annually due to its health efficacies. In 2020, the First Lady of Ghana, Rebecca Akufo-Addo, during Ghana Health Service (GHS) promotional campaign to raise awareness of the benefits of breastfeeding for the 2020 World Breastfeeding Week cerebation, called on the GHS to prioritize exclusive breastfeeding for six months, due to its benefits to both the mother and the child. According to the Ghanaian First Lady, breastfeeding protects the child from infectious diseases, hence reduces infant mortality rate, besides the

endowment of intellectual abilities to the child, and other benefits which protects the mother. The first lady cited breastfeeding as one of the key reasons Ghanaian mothers enjoys 12 weeks of paid family (maternity) leave from the government and people of Ghana (Andoh, 2020). According to Brahm & Valdez, (2017), about 42 developing countries like Ghana, are responsible for about 90% of infant mortality. Therefore, six months exclusive of breastfeeding and weaning after one to two years of life could provide the effective answer to the reduction infant mortality rate.

In the U.S. today, the seeming uptick of breastfeeding has shrunk infant mortality rate, but not eliminated it entirely. In an article published online by the Lancet, 'Breastfeeding and post-perinatal infant deaths in the United States, a national prospective cohort analysis, Chen, et al, (2021), observed that breastfeeding initiation is associated with significant reduction of post-perinatal deaths of infants in multiple ethnic and racial groups in the U.S. Also, according to a 2018 CDC report, the U.S. infant mortality rate in 2018 was 5.9 deaths per every 1000, which translated to 21,000 deaths in 2018 alone. So far, the U.S. ranks 33 out of 36 OECD member states in infant mortality cases. The United Kingdom and France have 3.8 deaths out of every 1000 births. Among some of the major causes of infant mortality rate in the U.S. are maternal obesity, low birth weight, poverty, and the lack of breastfeeding, just to name a few (Chen, et al. 2021). Ethnically, Non-Hispanic Black people, have the highest rate of 10.8 per 1000 births, due to all the above stated causes of infant mortality prevalence in the U.S. Asians have the lowest rate of 3.6 per 1000 births. The leading state with the highest infant mortality rate is Mississippi with 8.6 per 1000 births and the lowest infant mortality states in the U.S. are Massachusetts and New Hampshire at 3.9 per 1000 births, according to the Center for Disease Control, 2021 report.

Again, Mississippi is one of the states in the U.S. with a huge Black population concentration of 38%, according to the U.S. 2020 census data (Cohen, 2021).

Despite breastmilk efficacies for the developmental needs of the child, particularly, the prevention of diseases to ensure the survival of the child, it is the mother who the child depends on for breastmilk as a resource for his/her survival. As such, nature has made provisions through breastfeeding to ensure the survival of the child and other future siblings, by ensuring the wellbeing of the mother. Therefore, one of the key roles breastfeeding plays in the life of the mother is that it acts as contraception, to prevent earlier pregnancy. This, according to the history of breastfeeding, was first pointed out by Aristotle that if mothers suckle their babies, by nature, they do not menstruate, and therefore, they do not get pregnant. In this case, the lactation of the mother (breastfeeding), suppresses ovulation of the mother. The lack of birth spacing thereof may have adverse health and developmental effects on the siblings, with dire economic consequences with the tendency of stressing the mother, which is likely to hamper the development of all the siblings, particularly, if the parent's income is low (Potts, et al., 1988).

Technically, for lactational amenorrhea method (using breastfeeding as a contraceptive) to be effective, the mother must exclusively breastfeed at the rate of 85% for at least 6 months after a baby is born. It is believed by some experts based on clinical studies that breast pumping by hand into bottles within the same period may not be as effective for contraception. If a mother breastfeeds exclusively for the first six months, and continues breastfeeding up to two years, the lactational amenorrhea method (LAM) can guarantee the mother two years of natural contraception. To support this research, the 2015 published Cochrane review indicated that the estimated LAM failure is typically 0.45-7.5%. Therefore, WHO experts agreed that 24 months (about two years) was best for child spacing. As a result, WHO and the United Nations Children

Emergency Fund (UNICEF), reached a consensus that the recommended breastfeeding period must be two years. According to the WHO 2005 report on Inter-Pregnancy Interval (IPI) outcomes, experts on IPI established that short IPIs are linked with negative neonatal, perinatal, maternal, and infant health outcomes, based on the available report at the time, which has not changed to date. Due to the higher failure rate of LAM, women from developed countries prefer birth control methods to LAM, compared to women from underdeveloped and developing economies (Salcedo & Sridhar, 2017).

Women's Health Benefits and Breast Cancer Reduction Through Breastfeeding

Based on the above literature reviewed, it is safe to state that breastmilk is more effective in children's health and survival, compared to breastmilk supplements, despite breastmilk supplements complementary effectiveness. At the same time, mothers whose children depend on breastmilk to survive, inversely depend on the same breastmilk excretion for the child to maintain a balanced health. Therefore, breastfeeding has a dual beneficial effect to both the mother and the child. Scientific studies have established that breastfeeding has the potential to reduce breast cancer risk, which is a leading cause of death among U.S. women. For example, the incidence rate, age-adjusted was 123.7 per 100,000 based on the U.S. Cancer registry. In 2013 alone, 230,815 women in the U.S., were diagnosed with breast cancer, and most of these women could have avoided breast cancer, if they had ever practiced breastfeeding. According to Anstey, et al. (2017), breast cancer has multiple tumor subtypes as a heterogeneous disease, and each tumor subtype is linked with several risk factors differently. Some of the tumors express themselves in hormone receptors, either estrogen receptors (ER) or progesterone receptors (PR) and are classified as Luminal A or Luminal B subtypes. Tumors which express human epidermal growth factor receptor II (HER II), and basal-like tumors that lack expression either in ER or PR

receptors, and HER II has been classified as triple negative breast cancers. Breast cancers classified as Luminal A have a better prognosis and are considered the subtype which is most common that affect women from all ethnic groups and races, about 85.6 per every 100,000 women. Comparatively, triple negative breast cancer among all the subtypes has the poorest prognosis. Unfortunately, the triple negative breast cancer affects non-Hispanic Black women disproportionately, particularly, premenopausal younger Black women, twice as non-Hispanic White women. About 27.2 per every 100,000 and 14.4 per 100,000 non-Hispanic Black women and non-Hispanic White women, respectively (Anstey, et al., 2017).

Although breast cancer is a serious risk which affects most mothers' reproductive systems, the risk of breast cancer is greater among women who have full term pregnancy at a late age. However, the risk can be reduced when breastfeeding is initiated immediately after birth. Studies have established that having children is linked to the reduction of breast cancer risks, especially, among breastfeeding women. However, the risk of breast cancer increases among women with one to three children who did not practice breastfeeding. The above research is an indication that breastfeeding has a modifying factor that can prevent breast cancer. Moreover, it has other health benefits to the mother, which include the reduction of ovarian and endometrial cancers. For example, a study which pooled 50,000 breast cancer cases from 30 countries' epidemiological studies in 2002, concluded that the risk of breast cancer in parous or at-risk women is reduced by 4.3% with 12 months of breastfeeding and a further reduction of 7% is seen for each independent birth (Anstey, et al., 2017).

In a breast cancer statistics study by Ahmedin, et al. (2019), it was observed that the leading cause of breast cancer is obesity. Moreover, it is the leading cause of death among Black women in Southern and Midwestern states in the U.S. The death rate among Black women is

40% higher than White women, although the rate of breast cancer incidence among White women is higher than Black women in the United States. There were about 3.8 million women with breast cancer history, with an estimated 150,000 with metastatic disease, and about three-quarters of them with stages I-III breast cancer diagnosis. According to the 2021 U.S. CDC breast cancer statistics, about 254,744 new breast cancer diagnosis with 42,465 women death in 2018 (CDC.org, 2021).

Based on the above breastfeeding research findings, it can be stated unequivocally that from a baby's conception through birth, breastmilk plays a key role in the life of a newly born child, to the prevention of infectious diseases after birth or early childhood. Inversely, breastfeeding also protects the life of the mother from many diseases, to ensure the growth of the child, since the child's healthy life through breastfeeding depends on the health of the mother. Besides the protection of the child and the sustenance of the mother, breastfeeding plays other critical roles in the child which enhances the development of the child. For example, in a study of the relationship between exclusive breastfeeding and infant's linear growth, up to the age of 18 months by (Agarwal, et al., 2005, as cited in Agarwal et al., 2013), in Nodia, India, it was established that, exclusive breast feeding for the first six months, has a better linear relationship to the appropriate growth of children, than infant milk supplements because children who are exclusively breastfed are more likely to be taller, and less likely to be obese in adulthood, compared to children who receives infant supplements only (Agarwal, et al., 2013).

Neurological Enhancement & Other Developmental Benefits of Breastfeeding

Furthermore, research has proven that breastfeeding enhances intelligence in children, globally, although few studies have linked the association of some selected performance of cognitive tasks during the first two and a half years of children. However, a study to assess the

link between early childhood feeding and cognitive development, during the first 24 months (about two years), in the life of Asian children born at full term was performed by a group of scientists based on a neurocognitive testing of 408 healthy children, who weighed between 2500 and 4000g, at a gestational age of 37 weeks (about eight and a half months), at an Apgar score of 9 points. The children were placed in three breastfeeding groups (high, intermediate, and low), on breastfeeding basis. The test also included habituation, relational binding and deferred imitation memory tasks, auditory oddball, and visual expectation attention tasks. Upon controlling confounding variables, which had the potential to affect the effectiveness of the research findings, it was observed that there were significant associations and relations to dose-response of four out of the 15 tests. It was observed that an association exist, between a child's exposure to higher breastfeeding and better memory, as early as six months after birth, because the child can demonstrate some aspects of a relational task by memory, when items are matched correctly, by preferential observation towards them. The study group, therefore, concluded that children obtained significant benefits from breastfeeding than artificial infant breastmilk supplements, for memory and language development, during the first two years of life (Cai, et al., 2015).

Apart from the above memory study conducted by Cai, et al. (2015), which demonstrates breastfeeding superior impact on a child's intelligence as early as six months after birth, compared to breastmilk supplements, another research conducted by Baros, et al. (2015), in Pelotas, Brazil in 1982 also demonstrated a similar impact of breastfeeding on early childhood intelligence. The researchers concluded that breastfeeding has both shorter-term and longer-term effects. This study indicated that the duration of breastfeeding is linked to human intelligence quotient (IQ), at both shorter-term and longer-term which is responsible for the number of years

intelligent people spend in education and higher income gain by the age of 30, when the IQs of the participants were measured by the third version of the Wechsler Adult Intelligence Scale. Another 14 studies by observation also showed that breastfeeding was linked with increased intelligence by about 3.5% from childhood to adolescence. For example, in Belarus, children whose mothers breastfed them had an average of 7.5 higher IQ points at 6.5 years than children who received artificial infant formulas in the comparison group. A similar IQ test conducted in the United Kingdom also showed a higher mean IQ in preterm kids who received breast milk by random allocation than formula fed preterm children (Baros et al., 2015).

In reference to the above association of breastfeeding with human intelligence by studies, it can be stated with conviction that higher test scores and academic achievements can be predicted not only by good teaching methods and other social support needs alone, but breastfeeding is a major contributing factor. In an article posted by the Pew Research Center in 2017, which cited U.S. students, as lagging their peers in many countries in academic achievements. The Pew Research Center based their argument on the cross-national Program for International Student Assessment (PISA) test scores. This assessment in reading, mathematics, and science education measures students from the various competing nations' abilities in the above core academic subjects, every three years. However, in 2015 the U.S. placed 38th position among the 71 competing nations, dominated by the OECD countries. On individual subjects overall, U.S. placed 24th in science, among the 35 OECD member states, who are the main sponsors of PISA, U.S. ranked 19th in science and 30th in Mathematics overall (DeSilver, 2017).

In a Washington Post December 3, 2019, article on education, the paper similarly described U.S. students as lagging their peers in Europe and East Asia in mathematics, science and reading examinations, according to the outcome of the Program for International Students

Assessment, (PISA), which showed disparities of high and low U.S. students' performance, compared to many OECD member nations who took part in the exam. Administered to 600,000 students from 79 nations in 2018, U.S. had lower scores in reading rankings internationally. The U.S., according to the National Center for Education Statistics, scored below average in Mathematics, which placed them at 30th position in the world, though it performed better in science and reading (Balingit & Dam, 2019).

In reference to Baros, et al. (2015) studies which associated breastfeeding to human intelligence quotient, academic and longevity in schooling, the 2015 and 2018 PISA test scores of the U.S. can be inherently linked to its suboptimal breastfeeding levels around 2003 –2005. According to the U.S. National Immunization Survey (NIS) and the Center for Disease Control (CDC), 2003 –2005 breastfeeding report card, the U.S. exclusive breastfeeding rate at six months hovered between 10% - 15% compared to 50%-72% of some OECD member states' six months breastfeeding rates at the same period (Parlesak, et al., 2018). Therefore, children born in 2003 and 2005 will be at the approximate age of 15 between 2015 and 2018, respectively, to take the PISA test, who may have had that abysmal performance in Mathematic, Reading and Science test scores, compared to the performance of students from OECD member states. If longevity of breastfeeding has an impact on the intelligence quotient and academic performance of a child's growth into adulthood. Based on this scientific observation, it can be confidently stated that one of the factors that led to U.S. students' abysmal performance in the PISA testing was due to the lack of exclusive breastfeeding of U.S. students between 2003 & 2005, compared to the other OECD member states who had excellent performance grades in Mathematics, Reading and Science (CDC. Org, 2002-2014).

Apart from the relationship between breastfeeding and human intelligence quotient (IQ), breastfeeding reduces developmental disorders in behavior because it contributes to the child's neurological development as found in several studies which compared the IQ differences between breastfed and infant formula-fed children. Therefore, breastfeeding reduces attention deficit disorder risks in children. The above positive neurological development is achieved because breastmilk is richer in many important nutrients, like vitamins, minerals, essential fatty and amino acids, which has been discovered to be linked with cognitive functioning improvement. Besides the cognitive, physiological, and nutritional benefits to breastfed children, it is also associated with the regulation of emotional development and child-mother bonding. This further reduces internalizing disorders like depression and anxiety in childhood, which impacts about 20% of children and adolescents that may lead to other mental disorders in adulthood, though studies are limited in the relationship between behavioral outcomes and breastfeeding, except for a few tests, regarding the long-term effects of the interaction between the child and mother when breastfeeding, and the outcomes of child behavior (Brahm and Valdes, 2017).

In a study of Chinese children and their parents, which was based on a large community sample, to find out the relationship between fewer internalizing disorders later in childhood, breastfeeding, and active bonding (talking to the child during breastfeeding). The study participants included 44.5% girls and 55.5% boys who were recruited from four (4) preschools' senior year children in Jintan, Mainland Chinese township, together with their parents, between 2005-2007. The final complete data sample analyzed consisted of 1267 participants with the mean age of 66.6 months (about 5 and a half years). The Internalizing Behavior Scale from the child behavior checklist was used in the study. The behavior scale consisted of 36 items

including anxious/depressed, withdrawn, emotionally reactive and somatic complaints. The rating of the items was based on a 3-point scale (0 = not true, 1 = sometimes true, or 2 = often true). The mothers were asked on a retrospective questionnaire whether they breastfed at 78.3% and used 5.6% -16% formula. Exclusive breastfeeding was defined for a period of one month minimum, and nonexclusive breastfeeding was also defined as a mixed method (Breastfeeding and formula), or formula. There were follow-up questions answered by the mothers, like, was the child spoken to during feeding (breast) in the first two years with the following responses: 1 = never, 2 = sometimes, 3 = always. In the study feeding types were categorized into four as follows; (1) 34.8% of mothers who always breastfed and talked to the child, active bonding (group 1) and (2) 43.5% of mothers who never spoke to the child when breastmilk was used were assigned breastfed and no active bonding (group 2), the 9% of mothers in the group who did not breastfeed and did not bond (group 3) and 12.7% who did not breastfeed and did not bond with the child (group 4). Out of the 78.3% who breastfed their children actively, only 43.4% always spoke to their children and fed them. The study established the following three key findings: (1) Children who did not receive breastfeeding showed a higher number of internalizing problems of behavior, especially depression, anxiety, and somatic symptoms, compared to children who were breastfed by their mothers. (2) Children who were breastfed and were actively interacted with their mothers had the least display of internalizing behavior issues and (3) the next lowest risk of behavior problems, were children who were not breastfed, but their mothers interacted with them during feeding. Furthermore, the study established that the length of breastfeeding duration (effect of dosage), was more impactful in the reduction of somatic symptoms, anxiety, and depression.

Therefore, the above research shows that natural breast to mouth feeding duration, obviously generates bonding through the interactions between mothers and children which eventually, determines human positive behavior because breastfeeding adds stronger benefits to infants biologically, throughout their developmental stages. Although several studies have inversely linked breastfeeding and human behavior disorders because of its biological benefits to the child, the duration of breastfeeding has been assessed to be a major factor in behavior modelling due to mom and baby interactivity which leads to significant bonding. For example, breastmilk's rich components are key to the child's neurological, psychomotor, and mental development by reducing behavior disorders and improving the child's sociability into adulthood. Though this study may not have the biological capacity to link the suboptimal rate of breastfeeding among different U.S. racial and ethnic groups, a quick review of behavior disorders in the U.S., particularly in inner cities, may have links. However, future succinct scientific studies shall be needed to link behavior disorders among the offspring of different ethnic groups based on their breastfeeding rates and duration because the link between other behaviors like externalized, internalized and hyperactivity disorders and breastfeeding among diverse groups, needs better scientific investigative analysis, to arrive at a better judgement (Goncalves, et al., 2018).

The above behavior disorders among different racial groups which is suspected to have biological links to breastfeeding rates can better be explained by U.S. breastfeeding statistics. For example, breastfeeding initiation among Asian Americans was 81.9%, and about 77% among White Americans. However, breastfeeding initiation among African Americans mothers was 60%, the lowest recorded between 2000-2007, among all the U.S ethnic groups. The continuation of breastfeeding rate among African Americans was 28% at six months and 13% at

12 months, respectively. However, Asians recorded 58.6% breastfeeding rate at six months and 34.8% at 12 months. Comparatively, U.S. White mothers recorded 45.1% at six months and 23.6% at 12 months, respectively (Jones et al, 2015).

Although there has been some significant improvement in breastfeeding rates in the U.S. today, the disparities among the racial groups still exist. Among all the infants in U.S. racial groups, Black infant breastfeeding rate continues to be lower than the rest of the population. For example, the breastfeeding rate among Black infants at age three months is 58% and White infants are at rate 72.7%. At six months of age, the breastfeeding rate among Black infants is 44.7% compared to 62% among White infants. The disparity gap is worse when it comes to exclusive breastfeeding rates. For instance, at three months of age, the exclusive breastfeeding rate among Black infants is 36% and White infants are 53% exclusively breastfed. At six months the exclusive breastfeeding rate among White infants is 29.55% exclusively, compared to 17.2% among Black infants at six months. The major reason assigned to these racial breastfeeding disparities in the U.S. is income and job security based. Black working breastfeeding women in the U.S, have been generationally poor and are unlikely to attract good jobs with employment security, compared to White breastfeeding working women. Black mothers are more likely to be single mothers, without spousal support, compared to White women. Therefore, the only solution that can bridge this breastfeeding disparity gap inter-racially will be publicly mandated paid family leave with job guarantees, to enable Black mothers and other new mothers' access to some form of income, to take them from the workplace temporarily, to breastfeed and care for their newly born babies to change the above discussed situations, according to Avila-Rodriguez, et al., (2019). Yet all U.S. administrations to date, have relegated paid family leave policy to support U.S. mothers and families to the political background, although it is the foremost public

interest policy initiative when enacted because, it shall undoubtedly stand to benefit all U.S. families (Avila-Rodriguez, et al., 2019).

On the other hand, paid family leave has raised the breastfeeding rates among all the OECD member countries. For instance, Sweden had breastfeeding initiation rate at 97% from the 1990s, and it has remained steady to date, due to modernized paid leave and public labor policies. However, U.S. breastfeeding rate has hovered around 64% initiation rate until recently because the U.S. does not have the political will to support paid family leave as a publicly mandated labor policy, to support U.S. working mothers to breastfeed, to achieve the critical biological and social roles breastfeeding can play in the lives of all U.S. children, compared to its OECD counterparts (Lubold, 2019).

Advocacy Groups and Paid Family Leave

Due to the above critical roles breastfeeding support children and mothers' health, several United States administrations have been influenced by many advocacy groups and labor unions' agitation for federally mandated paid family leave policy for working mothers because many families, particularly, Single Mothers do not have access to sufficient household incomes which is the only income available to many mothers on maternity in the U.S. today, for childcare and breastfeeding purposes. For instance, the following groups have all spoken louder on the above subject; the National Associations of Working Women across the U.S., the American Academy of Pediatrics, American Pediatric Society, American Psychological Association, Center for American Progress, Center for Law and Social Justice, National Association for the Advancement of Colored People (NAACP), National Council of Jewish Women, the United States Breastfeeding Committee, the American Federation and Congress of Industrial Unions (AFL-CIO), American Federation of Teachers (AFT), Service Employees International Union

(SEIU), just to mention a few. The push for paid family Leave national policy from the above groups to past and present U.S. governments is an indication that the country is united behind U.S. mothers for childcare and breastfeeding support.

The U.S. Labor Unions and Women's Advocacy Groups believes that women's participation in labor will increase if the U.S. government enacts paid family leave policy. To date, the U.S. spends three trillion dollars annually on healthcare, just on methods to reduce healthcare costs with poor outcomes, compared to other advanced nations. Yet the simple solution to ensure better healthcare outcomes which is paid family leave to support U.S. working mothers economically, to temporarily break away from work for early childcare and breastfeeding post-partum has been relegated to the background by every U.S. administration without any governmental action, to addresses the support needs of mothers more than 50 years since President J.F. Kennedy's executive order created the Presidential Commission, to investigate the Status of Women. The findings of the commission in 1963 established that the United States lagged other developed nations and some developing countries, when it comes to supporting U.S. women for childcare. As the foremost public interest policy idea based on President Kennedy's Executive order, the 1963 Presidential Commission's report remain shelved, because no public policy to support U.S. women's needs like paid family leave has been enacted to that effect at the federal level (Bezruchka and Burtle, 2017).

Chapter 3: U.S. Government's Incremental Leave Policy Landscape

The Family Medical Leave Act (FMLA) of 1993

Although, the U.S has been incapable of passing any major mandatory paid family leave policy to support its mothers to breastfeed, despite the push from U.S. labor and advocacy groups due to the lack of political will. However, the critical roles breastfeeding play in the lives of children and mothers have motivated U.S. political leadership, to enact incremental policies at the federal, states, and local governments levels, like the Family Medical Leave Act of 1993, states and local governments family leave policies to support working mothers to take leave of absence from work with or without pay, when a newly born infant arrives in the family to breastfeed and care for the child. These incremental policies like the Pregnancy Discrimination Act of 1978 (PDA), the Family Medical Leave Act of 1993 (FMLA), and the Patient Protection and Affordable Health Care Act of 2010 (PPACA) and other states and local policies, have been enacted to ensure the welfare and protection of the mother and the baby, besides other family critical care needs. However, these policies which were supposed to support mothers and their children, fall short of giving mothers any innovative economic and social support, as an alternate policy to a federally mandated paid family leave measure, in terms of financial, job guarantees and social security, compared to what pertains in the other OECD member states and other developing countries, for childcare. So far, only 14% of civilian mothers have access to paid family leave today, which comes from a few states and private companies, according to (Ethahad & Lin, 2016), and the most recently passed Federal Employee Paid Leave Act (FEPLA) of 2020, which granted 12 weeks of paid family leave to only federal workers (Boesch, 2021).

According to U.S. Department of Labor Statistics, 22% of mothers who took federally mandated Family Medical Leave Act (FMLA) of 1993 without pay in 2011 to care for their

newly born infants, could only afford less than eight weeks of leave, out of the twelve stipulated weeks. Although the FMLA policy was supposed to be the forefront U.S. social policy to support lactating working mothers in modern times, after the passage of Pregnancy Discrimination Act (PDA) of 1978, which amended Title VII of the Civil Rights Act of 1964 and prohibited sexual discrimination of women, based on pregnancy. The benefits of the Pregnancy Discrimination Act (PDA) of 1978 guaranteed jobs security to only pregnant women, but not lactating mothers. The PDA also left out any paid family leave guarantees for mothers to nurture their babies immediately after birth. Following the passage of PDA of 1978, the Clinton Administration not satisfied with the PDA of 1978 due to its narrow provisions for U.S. working mothers and families, passed the Family Medical Leave Act (FMLA) in 1993, to guarantee working lactating mothers enough leave, up to 12 weeks to stay home from work to breastfeed and nurture their children, besides taking care of newly adopted children and other sick family members. According to (Quan-Forsyth, 2018), it took a period of nine years, from 1984-1993 with strong advocacy to get FMLA policy to pass the U.S. Congress with bipartisan support. Yet the FMLA policy was enacted without pay to alleviate the financial stress of U.S. mothers in 1993.

As a family leave policy without pay, the following provisions were incorporated in the FMLA of 1993, to support working families: (1) All government entities with one or more employees qualify for FMLA. However, private organizations with over 50 employees within a 75-mile radius qualified for FMLA. (2) Also, under the FMLA policy, civilian employees are allowed 12 weeks (three months) of unpaid leave. On the other hand, military personnel were granted 26 weeks (about six months) of unpaid leave, to care for a newly born or adopted baby or a sick family member. To qualify for FMLA, an employee should work full time and must clock in 1,250 hours within a period of one year (12 months) in an organization. (3) The FMLA

policy only extended coverage to local, state, and federal government employees, as well as employees who work for larger corporations with 50 or more employees within 75 miles radius in the same organization. Under these provisions, the FMLA policy framework left out employees of small businesses with fewer than 50 employees, as well as Gay and Lesbian (LGBTQ) couples, until recently. Per the Department of Labor Statistics, FMLA covers only 59% or 90 million out of the U.S. working population of 156 million. Therefore, the FMLA policy leaves out about 41% of the working population, including working lactating mothers who work for small businesses, because they do not satisfy the criteria of FMLA coverage. The above provisions of the Family Medical Leave Act of 1993 made it discriminatory to several category of the U.S. families, including part time working lactating mothers who work for small businesses, and families within the LGBTQ communities until recently (Quan-Forsyth, 2018).

Even though FMLA is considered unsatisfactory and discriminatory due to its legibility requirements, the U.S. Department of Labor consider the policy to be effective since its enactment as the only national federal government leave policy in almost two decades, because a sizable number of U.S. workers, including working breastfeeding mothers have benefitted, though without pay. Due to the FMLA policy's lack of any financial incentives, it has since its enactment become unaffordable to most of the covered employees' categories. This has made the FMLA policy fallen under international labor policy standards, particularly among the OECD member countries. Despite the FMLA policy's lack of financial support for families, the policy's coverage is not limited only to the birth of a child and childcare but elaborate enough to cover for the adoption of a child, placement of a child into a foster care agency, parental care, spousal care, and the critical healthcare need of an employee. Based on the FMLA policy structure, employees who may need a longer period for maternity leave purposes, may not have it because, the same

leave may have been used to serve other purposes, within a single period, to satisfy its rigid clause of the 1,250 hours, within a year, for 12 weeks leave period to qualify as a full-time employee (Quan-Forsyth, 2018).

Due to the lack of financial incentives and the above stricter and multipurpose provisions the FMLA policy is built to serve, the available U.S. Labor Department report shows that in 2011, only one-sixth or 14 million out of the 90 million FMLA covered employees took FMLA related leave from work. Out of the 14 million, only 22% were related to new childbirth under the Family Medical Leave Act. On average, mothers who took FMLA related leave for childcare stayed 58 days (about two months) and about 40% of FMLA leave applicants returned to work within 10 days (about one and a half weeks). Although the FMLA beneficiary is at home on unpaid leave, the said employee has the financial obligation to fully pay his/her part of the pretax healthcare contribution to the employer, prior to or upon his/her return to the workplace. This is a clear indication that the FMLA policy is unaffordable, unfriendly, and unsatisfactory to many poor U.S. working families and lactating mothers who need it most. To date, few U.S. workers continue to make use of the only major labor policy in the country. The unsatisfactory and costly nature of the FMLA public policy to most U.S families and mothers, calls for a national policy dialogue on an updated family leave policy with pay to support U.S. mothers and families (Bullinger, et al., 2017).

According to ABT Associates 2018 Survey prepared for the U.S. Department of Labor (DOL), the average length FMLA related leave taken is 28 workdays, seven days decrease from the 35 days average in 2012. The average length of leave for childcare was 36 days, followed by 29 days (about four weeks) for an employee's critical healthcare needs, 19 and 11 days respectively, for FMLA covered adult and serious childcare need. The 12 months period which

preceded the survey, 51% of all employees took FMLA related leave for their own healthcare needs, and 25% did so for child related care purposes, whereas 19% took the leave to care for the serious health condition for their immediate family members. The remaining 5% took the leave to take care of an uncovered family member. Demographically, 29% of the FMLA leave takers were single households heads, mostly working mothers, compared to 19% in dual households, and the percentage goes up for childcare needs, compared to adult family members care needs (Brown, et al., 2020).

Although fewer employees continue to access the FMLA related leave policy, according to the survey conducted by Brown, et al., (2018), about 49% of the employees who take FMLA related leave are women because care given responsibility for children and parental care within majority of U.S. families, falls on them. For example, 29% of FMLA applicants according to Brown, et al, (2018), are single heads of households, majority of them are women, particularly working lactating mothers. In the end, women become the target for discrimination in employment hiring, pay, denied upward mobility and termination by their respective employers in many organizations. This is due to their demographic group (female) and for the simple fact that their employers think their leave of absence is mostly for care-given (child, spousal and parental), and as a result, it costs the organization money, particularly if the leave of absence is longer because it is health or maternity related (Becker, et al. 2019).

Despite the above negative attitude towards employees from employers due to the FMLA policy provisions, about 52% of employees who have FMLA coverage today, have benefited from the policy because it is the only policy that has provided protection to U.S. civilian working population, particularly lactating mothers to take up to 12 weeks of absence from work, to care of their children and family members. However, the same policy provides 26 weeks (about six

months) for families of active-duty service members, besides the traditional workplace shorter paid leave and sick time. This is not to say that employers are at peace with this policy proposition, due to the cost of litigation per claim from an employee, the absentee rate, and low productivity which costs employers several million dollars. So far, a typical FMLA claim cost to an organization is about \$80,000. According to the Washington D.C., based Employment Policy Foundation 2004 employer estimates, the FMLA policy cost employers about \$21 billion in one year. These costs came from lost productivity, labor replacements and continued healthcare benefits. Typically, employers pay about \$10.1 billion in overtime to employees to take other shifts in the absence of other employees who take FMLA related leave. For example, it is estimated that about 1000 workers can cost an organization up to \$720,000 or more annually, when its absentee rate increases by 1%. As such, the cost of litigation may compel an organization to grant FMLA related leave to an employee who does not qualify per the policy guidelines. It is estimated that about 52% of FMLA related leave applicants are granted, though, many of them do not qualify (Hayes, et al, 2012).

Besides the \$80,000 approximate cost to employers to defend one FMLA case, as indicated above, when an employer loses an FMLA case in court in favor of an employee (Plaintiff), the punitive damages awarded against some organizations could be astronomical. For example, in *Daprato v. Massachusetts Water Resources Authority*, Mass. Sup. Ct., No. SJC-12651 (June 5, 2019), the employee, Daprato sued Massachusetts Water Authority, his former employer after he was terminated from employment for vacationing in Mexico, because he was on family medical leave of absence. The Massachusetts Supreme Court upheld a lower court decision in a damage award of \$1.3 million in favor of the employee, Daprato, in a jury trial which found the company liable for a termination in retaliation of the Family Medical Leave Act

of 1993 (FMLA), The Americans with Disability Act (ADA), and a state law statute of discrimination. The Court found that though the employer was honest in its belief of complying with FMLA, the employer's belief was not objectively reasonable, because the employer's decision was based on outrage, shock, and offense, due to the employee's request for additional FMLA leave for knee surgery endorsed by his physician, which was ignored by the Human Resources (HR) director, because he was hostile to the FMLA policy. Regarding punitive damages, the court concluded that the jury believed the HR director was hostile to the employee's idea of taking extra FMLA leave as demonstrated by the employee's email. This punitive damage award is a setback to the organization's profitability, but a win to the employee. On the other hand, if the case has gone in favor of the organization, that provision in the Family Medical Leave Act of 1993 could have been stroked out by the court to render that provision unenforceable to the disfavor of employees who could benefit from it.

Though the above punitive damage example does not have a direct link to the childcare provisions within the FMLA law, it does not preclude it from happening to the childcare provisions in an analogous situation. Therefore, in a situation like that, the childcare provisions of the Family Medical Leave Act of 1993 can be struck out by a court of law, because the Family Medical Leave Act is not a Family Maternity/Paternity Act of the Congress of the United States, though it provides coverage. As such, the current and future U.S. Administrations, may have to consider it as a matter of urgency, to pass a unique and independent federally mandated Paid Family Leave Act of Congress, to safeguard the interests of working breastfeeding mothers and families, with inputs from employers, for implementation effectiveness, throughout the United States. This will reduce the overdependence on FMLA policy and spousal income which

becomes the remaining household income to breastfeeding mothers on maternity leave (Crowder, 2019).

Apart from FMLA policy's unaffordability to working families, the Family Medical Leave Act of 1993, was completely silent on workplace breast pumping in its provisions, for working lactating mothers to continue breastfeeding at home after work. As a result, breast pumping by lactating mothers at the workplace was unfriendly to many organizations. This is an indication that employers and employees' representatives had no basic input in the FMLA policy's framework before it was passed into law. As such, the policy could not address the needs of many families, working mothers and employers alike. The lack of any financial incentive in the FMLA legislation and other similar U.S. government leave policies to date, forces mothers to place their babies into the care of unaffordable private day care providers, a few weeks after their child's birth and go to work, particularly poor families and single mothers. This encourages breastmilk supplements usage as the only available means of infant feeding by most of the affected mothers and daycare providers. Therefore, the employment of U.S. mothers function as a barrier to breastfeeding (Bullinger, et al., 2017).

States and Local Governments' Mandated Paid Family Leave Statutes

Besides the lack of satisfaction of the FMLA policy provisions to working families because the measure does not make any provisions for wage replacement, the FMLA policy left behind about 41% of the U.S. working population without coverage, particularly, employees who work for small businesses. Therefore, a few states and local government entities finally stepped in to protect their citizens because the unpaid FMLA measure could not abate childcare cost, guarantee increased breastfeeding, had no impact on women labor-force attachment and economically not feasible, for poor working mothers (Waldfoegel 1999, Baum 2003, Han, et al.,

2009, as cited in Khan, 2020). The dissatisfaction of the U.S. federal government mandated unpaid Family Medical Leave Act of 1993 pushed the state of California to pass the California Paid Family Leave (CC-PFL) in 2004 which provided six weeks of paid family leave at 55% of the beneficiary's weekly earnings to nursing mothers, up to \$1,067 per week. This was followed by the state of New Jersey's Family Leave Insurance with the provision of six weeks maternity leave with 66% of wage replacement, and up to \$584 per week in 2009 (Byker, 2016).

The above two paid family leave states have subsequently been joined by the following groups of states due to their policies' success and acceptability by their citizens. Rhode Island joined the paid family leave states in 2014, with four weeks of paid family leave at 60% of the beneficiary's weekly wage. New York signed its paid family leave Bill in 2018, promising eight weeks (about two months) of paid family leave at 55% and 60% of the beneficiary's weekly wage in 2018 and 2019 respectively, with full implementation in 2021. Washington state guaranteed 16 weeks (about three and a half months), but not more than 12 weeks of paid leave benefits at 50% of the average weekly wage, not more than \$1000.00 and less than \$100.00 per week, starting from January 2020. Washington, D.C., Family Leave Benefits contributions took effect from July 2019 and payable in July 2020. Workers receiving the average D.C wages shall be pegged at 50% of the weekly wage and those receiving 150% shall receive 90% of the beneficiary's weekly wages. Massachusetts Family Leave benefits kicked in from July 2019 with 12 weeks for civilian employees and 26 weeks for deployed military families at 50% of the weekly wages, with maximum benefits of 64% starting from October 2019. Although the states of Massachusetts, New York, Rhode Island, and Washington have provided some limited forms of job security to paid family leave beneficiaries, California, New Jersey, and Washington D.C., provides no job protection of any form to their beneficiaries. However, the above states have

done this fantastic job through payroll contributions from their working families, yet the U.S. federal government continue to struggle to copy and implement the states' mandate with a similar measure to support mothers and families in the country, in spite of the fact that breastfeeding rates have increased in the states that have passed paid family or maternity leave, like California and New Jersey (Healy, et al., 2017).

The above six states and Washington D.C. deserve praise for enacting paid family leave to cater for their citizens' maternity and care-given needs. However, more states and local jurisdictions may have to follow similar paths, to enable the U.S. breastfeeding rates to be raised to the optimal level from its current suboptimal level because only paid family leave can guarantee optimum breastfeeding levels, due to lost wage replacement for poor working mothers. So far, due to the ineffectiveness of the above federal, states and local family leave policies, only one in seven or 14% of civilian workers in the U.S. have access to paid family leave benefits from their employers, 38% have access to short-term disability, in addition to the six states and the District of Columbia, who have passed Family Leave Bills. The above states and local governments intervention is an indication that the U.S. government's family leave policies landscape, needs a second look and a complete overhaul. The ineffectiveness of the U.S. family leave policies which lack support for working breastfeeding mothers, particularly, single mothers who double as heads of households, has led to the suboptimal U.S. breastfeeding trend, since women abandoned domestic care given and joined industry (Ethahad & Lin, 2016).

To date not much has changed, according to the Center of American progress article published in February 2021, only 20% of private Sector employees by the year 2020 had paid family leave access to take care of a newly born child. About 42% of the same private sector workforce have short-term disability insurance for injury recovery and illnesses purposes.

However, in 2020 only 8% of employees who receive wages less than \$14.00 per hour (bottom wage earners) have access to paid leave. The only progress so far observed in the paid leave arena at the federal level since the passage of the FMLA Act of 1993, came from the U.S. federal government, through to the Federal Employees Paid Leave Act of 2020, passed by the U.S. Congress in October 2020. This Bill gave two million more federal workers access to 12 weeks of paid leave from October 1, 2020, for childcare and other family support needs. This is an indication that the U.S. federal government has eventually recognized that paid family leave is the only effective measure to support U.S. families and mothers to increase breastfeeding rate and improve childcare, yet the policy remains absent to the general public (Boesch, 2021).

The Patient Protection and Affordable Care Act (PPACA) of 2010

After the passage of maternity leave provisions by the afore mentioned states, the District of Columbia, and a few private sector organizations, much needed to be done to reduce the struggle of working breastfeeding mothers by the U.S. political leadership, to find an appropriate solution and an enabling environment at the workplace, to support working mothers who prefer breastfeeding feel comfortable enough to pump their breast at the workplace, to continue breastfeeding after work. For instance, poor working mothers are the majority in many organizations, but unfortunately, they do not have access to comfortable office locations at the workplace to encourage breast pumping to continue breastfeeding. This straightforward evidence suggests that higher breastfeeding targets in the U.S. cannot be achieved due to the disparities in the U.S. society, and other social factors at the workplace, which require extra support and input from the workplace and government to change the situation to increase U.S. breastfeeding rate. The lack of workplace support for breast pumping pushes many working lactating mothers to use unofficial methods for breast pumping at the workplace, to continue breastfeeding at home, even

though breast pumped by employees using unofficially approved locations and methods, were considered unhygienic and risky. However, without any available option for working mothers to pump their breast at the workplace, many working mothers took this risk against the health of their children and job security, prior to the passage of the Patient Protection and Affordable Care Act of 2010 (Henry & Stratton, 2011).

As earlier indicated, low-income women in administrative jobs with low skills quit breastfeeding earlier for employment purposes due to the lack of paid family leave support, compared to their more advantaged or privileged high income and skilled women counterparts in similar organizations, particularly White women. In many U.S. organizations, highly skilled and high-income earning employees usually tend to have enclosed offices or cubicles with doors, which tend to have little to no on-site supervision. As such, lactating mothers who fall under this privileged employment category, can often shut themselves in to pump their breasts to continue breastfeeding after work. As a result, high-income lactating working mothers, are more likely to continue breastfeeding over an extended period into the lives of their children, compared to their low skilled and low paid women counterparts (Forste, et al., 2001).

Even though U.S. political leaders are aware of working lactating mothers' breastfeeding difficult experience and challenges, they continued to remain silent, to avoid the enactment of any major social policy overhaul, like paid family leave or access to a secured breast pumping office location that will give them support to increase breastfeeding and improve childcare. This situation prompted the U.S. Surgeon General to call for action from the U.S. public (Communities, families, political leaders, and employers) in 2010, to support breastfeeding mothers. The call from the Surgeon General in 2010 advised the Obama administration to step up efforts to enact the Patient Protection and Affordable Care Act (PPACA) of 2010, which made

provisions for breast pumping stations in organizations, giving mothers new rights at the workplace. The Obama Administration secured workplace breast pumping in Section 4207 of the Patient Protection and the Affordable Care Act of 2010 (PPACA), popularly known as the Obama Care. This provision, according to the PPACA ensured that breast pumping stations were created throughout many organizations in the U.S., both in the Public and private sectors by an Act of Congress to increase breastfeeding and childcare (Henry & Stratton, 2011).

Considerably, Section 4207 of the PPACA policy is the first progressive public administration policy in public health, which offered some real support to lactating working mothers at the workplace and improved health insurance access to working poor mothers. The Section 4207 provision also mandated organizations with 50 or more employees, to provide reasonable break time for mothers to pump their breastmilk at the workplace, the first of such mandate in U.S. history, to support working breastfeeding mothers. However, the PPACA policy also left out small businesses with less than 50 employees, whose workers are mostly women and mothers, according to (Fitzpatrick, 2010).

Looking at the above new mandate and women's rights at the workplace, Section 4207 of the PPACA of 2010, amended Section 7 of the Fair Labor Standards Act (FLSA) of 1938, by adding the following at the end: (1) An employer shall provide (a) a reasonable breacktime for breastmilk pumping purposes to working lactating mothers, to extend a child's breastfeeding at home, for a period of one year after the child's birth, every time such employee has the need to pump their breastmilk; and (b) a location, other than a bathroom, shielded from public view and free from any possible intrusion from coworkers and the public, shall be used by an employee(s) to pump breast milk. (2) An employer shall not be required to pay an employee receiving a reasonable break time under paragraph one (1) for any work time used, for breast pumping

purposes (3) An employer who employs less than 50 employees, will not be subject to the requirements of Section 4207, if the mandate will impose any undue hardship that will cause the employer any significant difficulty in expenditure, considering the size, nature of financial resources or the structure of the employer's business. (4) Section 4207 shall not preempt any state law which provides better protection to workers than what Section 4207 provides (Dow-Fleisner, et al.2015).

However, the following provisions could not fully address working breastfeeding mothers' needs:

- The mandate applies to all nursing mothers of children under 12 months and not exempt from the FLSA's overtime pay requirements, but the policy does not cover lactating mothers, who are breastfeeding for more than 12 months and nursing mothers who are exempt from the FLSA's overtime pay.
- The amendment does not contain any penalties for non-compliance, with no stated private right of action when it is violated. Furthermore, nursing mothers who work for small businesses employing less than 50 employees were also excluded.
- Although the law mandates employers to furnish a secluded location, shielded from public view, except a bathroom to working breast pumping nursing mothers, the private place or location, need not to be dedicated to nursing mothers' use only. This meant that the location could be used for other purposes, except the fact that it must be made available to nursing mothers when needed. This issue reduces privacy for breast pumping mothers and security for the storage of the expressed breastmilk at the workplace, besides interference of the secluded locations' use.

Besides the above issues, nursing mothers are not required to be compensated for work time used for breast pumping purposes. However, the Department of Labor (DOL) has stated that where employees are paid for breaktime used, breast pumping working mothers using their breaktime, must be compensated. Unfortunately, it may not be possible or convenient for a breast pumping mother, to pump all her breast at one breaktime of about 20-30 minutes period and eat her lunch at the same time. Depending on the organization's breaktime rules, a nursing mother may express breastmilk 2-3 times in a typical eight (8) hours workday, to get enough breastmilk to feed a typical one (1) month old baby, who may have to be breastfed about 8-12 times within 24 hours, according to Fitzpatrick, (2010). Apart from the lack of proper lactation designated spaces in many organizations, employers' non-flexible break time rules make it difficult for the return-to-work breastfeeding mothers to exclusively breastfeed, compared to stay-at-home mothers. So far, among many major disadvantages of the PPACA regarding its 2010 breast pumping policy to breastfeeding mothers was its minimal publicity. It is estimated that about 80% of U.S. mothers heard about the Patient Protection & Affordable Healthcare Act. However, only 24% of women thought their health insurance coverages were going to be affected due to the PPACA. For example, about 66% of women did not know that the PPACA coverage included women's health examinations, preventive health, breast examination, contraception, and mental health. Moreover, 52% of women did not intend to use the PPACA benefits for more services, and 17% did not even believe that the PPACA coverage changes will affect their healthcare service usage. Furthermore, 44% did not know how the policy felt (Dalton, et al., 2014). Due to the lack of information and understanding regarding the PPACA provisions, application, and usage to allow women take advantage of it, most organizations also failed to implement the policy because public understanding and information regarding the

policy was limited. To date, about 51% of publicly run organizations, have so far implemented Section 4207 of the PPACA of 2010, according to (Bai, et al., 2014).

As a result of the poor implementation of the PPACA of 2010, many nursing mothers who pump their breastmilk at various times, other than their regular breaktime, using the workplace breast pumping stations, two to three times or more and up to about 10-15 minutes a day, lose more take-home pay, because they will not be compensated for the time used to pump their breastmilk by their organizations. These situations have adverse effects on their career growth path, because not working a full eight hours may be considered part time. A survey conducted by Aeroflow, a breast pump provider, observed that about 50% of the 773 women surveyed, were concerned about the impact breast pumping at the workplace, have on women's career growth and gender pay gap. As such, about 50% of women surveyed in Aeroflow's research project, consider career or job change. While women earnings reduced significantly, due to the birth of a child. On the other hand, men do not lose any income with career advantage over women. Thus, breastfeeding continues to be incompatible with full-time work in the U.S., despite Section 4207 provisions in the PPACA of 2010 provisions. As a result of loss of pay and the challenges due to the use of workplace breast pumping stations, working breastfeeding mothers struggle for career growth path. As such, many working mothers without paid family leave do not attempt to breast pump at workplaces. These issues pose a major setback to Section 4207 of the PPACA of 2010 (Greenfield, 2018).

Despite the above notable issues like the information gap, the lack of convenience and career growth path to mothers which were a setback to the PPACA policy of 2010, the Act provided women at every income level better access to healthcare insurance in the U.S. for the first time. After the implementation of the PPACA, the U.S. uninsured rate fell to 11% from 17%

in 2013. Prior to the enactment of the Patient Protection and Affordable Care Act, about 40% of women whose incomes were lower than 200% of the federal poverty level or higher were uninsured. However, with a lot of affordable insurance policy options which were made available through the various statewide health insurance exchange programs and insurance marketplaces under the PPACA, the number of the uninsured women who fell within the above low income/poverty level dropped to 18% in 2016. As a result, more low-income mothers could visit a physician annually than before the Act was enacted. Between 2014 and 2017, more women including low-income women received inoculations, preventive care screenings, blood pressure and cholesterol screenings, mammograms, and immunizations for influenzas, just to mention a few (Potera, 2019).

Overall, the PPACA improved health insurance coverage for more low-income women to access affordable and quality healthcare, by reducing insurance cost with subsidies to poor families, as well as the policy's requirements which permitted dependents to remain covered under family insurance plans until age 26. In addition to these requirements, the patient protection part also prohibited preexisting conditions, with no yearly or lifetime caps covering services expenditure, cheaper health insurance rates, required many private health insurance plans to cover services for lactation support and equipment for breastfeeding, among other benefits. This improved the health outcomes and economic wellbeing of many U.S. working mothers, beside its focus on extending healthcare insurance to the 49% of the uninsured non young U.S. citizens (Campbel & Shore-Sheppard, 2020).

Besides access to physicians and healthcare through affordable insurance coverage, the PPACA policy provisions which included the creation of breast pumping stations by several organizations, gave about nineteen million women access to workplace pumping stations. This is

due to increased worksite compliance by many organizations, even without penalties for non-compliant U.S. companies. This increased the U.S. breastfeeding rate though not without political and judicial challenges to date. Unfortunately, the PPACA did not offer any income provision for mothers to take maternity leave from work with job security guarantees for breastfeeding and childcare (Brumberg, et al., 2017).

Even though the Patient Protection and Affordable Healthcare Act of 2010 provided families easy access to cheaper healthcare insurance, the policy's creation of private rooms for breast pumping to extend breastfeeding to mothers in both public and private organizations, was able to raise the U.S. breastfeeding rate by 2.5%. It can be summed up from the above assessment that paid family leave to U.S. mothers which will allow them to stay home with their newly born children for a period of time, may exponentially grow the U.S. breastfeeding rate, if the Affordable Care Act which provided only breast pumping stations at the workplace to cover working mothers' breaks could increase U.S. breastfeeding rate by 2.5%. However, what is needed most will be up to administration to enact federally paid family leave policy for U.S. working mothers to support them to break away from work temporary with wage replacement and job security to breastfeed and return to work after the period of the leave's mandate, because a paid leave federal policy mandate for all working mothers will increase breastfeeding to address the U.S. suboptimal breastfeeding trend, as indicated by several studies conducted by (Huang & Yang 2015, Skafida, 2012, as cited in Steurer, 2017), in this study. The present household income which has acted as a substitute for paid family leave to U.S. mothers on maternity is not sustainable, particularly when the mother take FMLA and stay home full time for maternity and breastfeeding purposes, because only the spousal income is left for the household. When the mother is single, without a workplace paid vacation or disability insurance,

then the mother has no income to fall on. This situation pushes mothers to go back to work, full or part time, right after the new child arrives (Brumberg, et al., 2015).

U.S. Public Opinion Surveys on Paid Family Leave

Due to the absence of income replacement in the above two major federal policies FMLA of 1993 and PPACA OF 2010, to enable U.S. mothers to take maternity leave from work with job security guarantees and the need of such policy to improve childcare and increase breastfeeding, the U.S. federal government in October 2020 passed the Federal Employee Paid Leave Act (FEPLA) which made it possible for about two million federal workers to benefit from 12 weeks of paid parental leave policy to take care of their newly born children or the placement of a child in a family. Beside the above recent FEPLA privileges given to U.S. federal employees in October 2020, few High-Tech company employees, like the Microsoft Corporation and other companies in the private sector have access to paid maternity or parental leave. However, in the U.S.A today, only 20% and 42% of private sector workers have access to paid family leave and short-term disability insurance, respectively. And only eight percent of low-wage income earners up to \$14 an hour have access to paid family leave. Moreover, Black, and Hispanic workers are less likely to have paid family leave, compared to White workers (Boesch, 2021).

As a result of the above unacceptable paid leave statistics, an overview of the recent U.S. public opinion surveys, regarding mandated paid maternity or family leave measure from the U.S. government to enable U.S. mothers' benefit from wage replacement when leave of absence from work for childcare and breastfeeding is taken postpartum, surprisingly had the overwhelming support from the U.S. public. In February 2018, the Rasmussen Reports on online and telephone survey of 1000 American adults, found that about 54% of Americans supports

paid maternity or family leave, as the only measure that can boost breastfeeding and childcare (Holmes, 2018). A similar survey conducted by the Lake Research Partners for Small Businesses and Center for American Progress, also found that majority of Small Business owners favor of a Legislative Act of Congress, for paid family or maternity leave, especially for lactating mothers (Keine, 2017). A Pew Research online survey of 8,000 American respondents, further indicated that 94% thought paid family or maternity leave measure will help families and 65% believed it will improve the U.S. economy (Miller, 2017). In September of 2016, the then candidate and later U.S. President Donald J. Trump, promised his support for paid family leave which will allow working mothers to take at least 6 weeks of unemployment insurance after a child's birth and care, including breastfeeding (Sholar, 2016).

A recent poll of 21,000 people conducted by YouGov between March 25 and April 1, 2021, and published in The Conversation, an Ohio State University newsletter, indicated that about 82% of the people of the United States think that employees must be given the right to access paid family leave, to include the adoption of a child. According to the publication, the popularity of paid family or maternity leave is the same as 'chocolate to Americans.' As such, majority of Americans have a cheerful outlook towards a paid family leave policy to enable mothers take time off from work to at least breastfeed, during the first few weeks after a new child arrives. In a period of tense political atmosphere and polarization, it is amazing to have 94% of Democrats, 83% Independents and 73% Republicans support for a paid family leave measure, all in the name of breastfeeding, childcare, and the care for the critically ill family members, who are often neglected, due to the imbalance of work and family life in the United States. Similarly, 60% of Americans also support paid leave for fathers because, fathers develop good relationship with their children and make fathers better parents, when granted paternity

leave. This enables fathers to be with their children during the initial stages of their lives and support their spouses to breastfeed, according to a poll conducted by YouGov, a worldwide data and opinion company in early 2021 (Knoester & Petts, 2021).

Similarly, an Advocacy group, Paid Leave for All Action which supports paid family leave policies in the U.S. polled 1,070 people between May 14th to May 20th, 2021, of voters from the following battleground states; Arizona, Florida, Georgia, Nevada, North Carolina, Pennsylvania, and Wisconsin. This poll established that about 84% of American voters, 74% of Republicans included, backs paid leave measure. Moreover, 69% of the poll participants, including 55% of Republicans surveyed, support a federally funded paid family or maternity leave policy for all working families, even if they must pay taxes for its sustainability, to enable mothers to receive wage replacement to support them to temporary break away from work for breastfeeding and childcare. Although paid family leave policy has historically faced some Republicans and Democratic political leaders' opposition, because of the possible extra tax burden on their constituents, the voting public and small businesses alike, fully support the idea. The above poll conducted by the Paid Leave for All Action Advocacy Group in the seven battleground states, suggests that today's voters' outlook, has completely changed silently, in support of paid family leave, especially for breastfeeding and childcare (Svirnovskiy, 2021).

The above surveys, private and public organizations' paid family or maternity leave initiatives, a few states, including the District of Columbia paid leave policies, the recently passed FPLA for federal workers, as well as the present federal administration proposals, indicate that U.S. citizens, businesses, and political leaders, are in the mood to provide some form of paid family or maternity leave policy in the United States, to support working mothers to breastfeed and nurture their children. As such, the Biden Administration, has taken advantage of

the public's momentum so far gathered to promote a comprehensive paid family leave policy in the administration's American Family Plan (AFP) in the 2021 federal budget proposal, which among other provisions, shall pay up to \$4000.00, for wage replacement when passed by the Congress of the United States, to support families (both mothers and fathers) to take leave of absence from work to breastfeed, care for their children, sick family members and their selves. This initiative will achieve the overarching advantages of breastfeeding and childcare in the U.S., particularly, for parents to bond with their children, heal from labor pain and promote temporal job security for mothers (Miller, 2021).

Furthermore, the above initiative shall also function as an incentive to encourage U.S. families and mothers to pro-create and boost population growth in the U.S. for future labor market, because childcare cost shall be reduced, due to the financial incentives in the package. Today, it is safe to state clearly that the public momentum is charged for action on paid family leave because it is the only public measure that can support U.S. poor working mothers for breastfeeding and childcare, due to its income potential. Therefore, public administration must build on the progress so far made and advance the public momentum by engaging U.S. citizens, to continue to build political consensus through the public media and forums to get a federally mandated paid family leave policy done for all U.S. mothers. This will make the United States reach the optimal breastfeeding level, compared to many of the OECD member countries (Healy, et al., 2017). This public momentum and the need for paid family or maternity leave has indirectly advised the U.S. government to provide 12 weeks of paid parental leave for about two million federal employees throughout the United States, after the Federal Employee Parental Leave Act (FEPLA) became effective on October 1, 2020, according to the Center for American

Progress, all in the name of maternity or paternity (family) leave to ensure the realization of optimal breastfeeding and childcare (Boesch, 2021).

U.S. Mothers' Breastfeeding Trend

So far, due to the excessive cost of childcare and breastfeeding, the country's breastfeeding trend has been suboptimal because most U.S. mothers and families cannot strongly support childcare and their children breastfeeding needs. This is one of the major reasons why the U.S. public support for paid family or maternity leave is growing, according to Paid Leave for All Action survey in May 2021 (Svinorski, 2021). For instance, and as earlier indicated, the 2015 CDC breastfeeding report card indicated that, out of the four million babies born in 2015, 83.2% of mothers started breastfeeding immediately after their child's birth, but could not continue as recommended, due to their work schedules and other health and social factors (Steurer, 2017). In 2015, 57.6% of all newly born babies were breastfed during the first six (6) months. However, only 24.9% of all children born in the United States were exclusively breastfed during the same period. Per the highlights of the August 2020 CDC breastfeeding report, based on the 2019 U.S. National Immunization Survey, only 46.30% of mothers exclusively breastfed at three months, and 35% continued any breastfeeding at 12 months (Cheng, et al., 2019). The reduced number of U.S. mothers breastfeeding at 12 months is due to working mothers' work-life, childcare, and breastfeeding conflict in addition to other health and social factors which limits U.S. mothers' ability to breastfeed. What makes this situation more difficult for mothers is the absence of any effective paid family leave public policy with income and job security guarantees, except U.S. household income which families live on when the new baby arrives. This breastfeeding trend is worrisome because it leaves most U.S. born children at risk of not meeting the universal breastfeeding standards, set for healthy children by the World

Health Organization (WHO) and U.S. breastfeeding advocacy group, The Healthy People 2020. The WHO international standards advise 50% of all mothers to exclusively breastfeed for a period of six months in all member nations and breastfeeding may continue for a period of 24 months (about two years). Likewise, The Healthy People 2020 set target for the year 2020 for U.S. breastfeeding mothers was 46.2% and 25.5% exclusive breastfeeding at three months and six months, respectively and 60.6% of any breastfeeding at six months., although the WHO also recommends that breastfeeding may continue for up to 24 months (about two years), with some additional food supplements, according to the U.S. Breastfeeding Committee's 2022 report.

In 2015, the global six months exclusive breastfeeding rate was 38%, the U.S.' six months breastfeeding rate during the same period was 24.9%. However, per the 2020 Center for Disease Control breastfeeding report card, the U.S. breastfeeding rate has moved up by about 1.0% to 25.8%. Comparatively, the U.S. six months exclusive breastfeeding rate is well below the global standards of 38% set by the U.N (United Nations), despite her stronger socio-economic standing among the community of nations (Cheng, et al, 2021). This situation places U.S. children at risk of some preventable diseases like diarrhea, infant sudden death syndrome, mental disorders, and the present Covid-19 pandemic due to their lack of a stronger immune system properties like colostrum and essential vitamins and minerals children receive through breastfeeding, according to (Brahm & Valdes, 2017; Clotilde da Silva, 1993).

Several U.S social advocacy groups, including The Healthy People (THP) 2020, which promotes healthy lifestyles and breastfeeding, have stated that the nation has so far met most of their breastfeeding goals, but has not reached the international standards of exclusive breastfeeding, particularly, during the first 6 months of a child's life in the United States. The Healthy People 2020 places emphasis on six months of infant exclusive breastfeeding, because

of its tremendous health advantages to infants, including the elimination of sudden infant death syndrome and the reduction of healthcare cost, when breastfeeding is sustained for a longer period (Steurer, 2017). A study by the Lancet established that breastfeeding could prevent about 800,000 child deaths globally and save up to \$300 billion dollars in healthcare cost reduction, with improvement in the future economic outcomes of children who are raised on breastmilk. As already indicated, breastmilk has several benefits to children, mothers, and the entire nation due to the many health-related outcomes associated with it. However, working mothers find it difficult to breastfeed their newly born children, due to their poor working conditions and the unfriendly posture of both U.S. present federal public leave policies, the FMLA and the PPACA of 1993 and 2010 respectively, which allow U.S. mothers to break from work or breast pump in many organizations to continue breastfeeding after work without pay in the United States, with emphasis on the working poor mothers, has resulted in the current poor state of U.S' exclusive breastfeeding trend, compared to its industrialized counterparts, particularly Europe. So far, only 13% of private industry employees, according to the Bureau of Labor Statistics, have access to paid family or maternity leave (Donovan, 2018). Despite the low breastfeeding report in the U.S. today, the Center for Disease Control (CDC) report has indicated that only 49% - 51% of U.S. employers, have so far made provisions for worksite lactation programs to support working mothers due to the lack of compliance provision in the Affordable Care Act of 2010. Therefore, the need for income replacement at the federal level to every working mother in the United States when they take a leave of absence temporally from work for childcare to increase breastfeeding, irrespective of who a mother works for, privileged or not, as earlier indicated by several studies in this study is the reason this research question is being asked: **Can Paid Family Leave Policy Increase U.S. Breastfeeding Rate?**

Chapter 4: Methods

Research Question, Hypothesis and Methods

Based on the above literature reviewed, it has been observed that the history of U.S. mothers' involvement in industry due to WW II policy, made the employment of mothers become the major barrier to breastfeeding in the United States of America. Therefore U.S. mothers' employment, income, and other demographic factors is viewed as the possible cause which impedes U.S. mothers' efforts to breastfeed. As a result, this study is being modelled to look at the potential effects income can have on U.S. Breastfeeding rate, when employment is temporary halted for childcare and breastfeeding. Hence, this **Research Question** is being asked; **Can the Paid Family Leave Policy Increase U.S. Breastfeeding Rate?**

Hypothesis:

Ho: Income from federal paid family leave policy cannot impact U.S. breastfeeding rate.

H_a: Income from federal paid family leave policy can impact U.S. Breastfeeding rate.

Dependent Variable: Breastfeeding Rate.

Independent Variable: Income from paid family leave.

Methods

The data for this research paper is based on the U.S. National Immunization breastfeeding data which was collected using both cellular and landline telephones between 2017 and 2018 from U.S. households with children ages between 19-35 months (about three years old) in the 50 states, the District of Columbia, Guam, and Puerto Rico, as found in **Appendix A** on pages 154 to 155. This data was used to compile the estimated U.S. states, territories and national infants breastfeeding rates. The purpose of the data gathered by the National Immunization Survey (NIS), was to observe and examine the sampling change effects regarding the estimates

of three months, six months, 12 months and ever breastfed at all in the U.S. It also included exclusive breastfeeding at three and six months, respectively. The person(s) interviewed was the mother of a child, or the one who lived in the household and knew about the child's vaccination and breastfeeding history.

The four random questions asked to find out if an infant ever got breastfed for this data were the following: (a) What was the length of time the infant was breastfed? (b) What was the length of time the infant was exclusively breastfed? (No solids or liquids except breastmilk, mineral supplements/vitamins, or medications) (c) what was the length of time or age infant formula/supplements were added to the infant's food and nutrition? (d) Was the infant breastfed at all? This data was adopted by the Centers for Disease Control and used for the estimation of the national breastfeeding rates across the 50 U.S. states, Washington, DC., Puerto Rico, and Guam in 2020, as stated earlier (Chen, et al., 2019). The 2020 U.S geographic profile based on the 2020 U.S. Census data which consists of race, higher education, marital status, single motherhood, employment rate and the average household income of the selected U.S. states, and territories shall be used to design the models that will be used for the descriptive analysis based on their breastfeeding rates. Since the U.S. does not have a national Paid Leave Policy, the U.S. household income shall be used as a proxy for paid leave income for U.S. mothers throughout these models' analysis. The reason U.S. household income is being adopted as a proxy for paid family leave income for this research project is that U.S. household income is the only available income to the family when the newly born baby arrives, and the mother is on maternity leave. In the model analysis, U.S. states, territories and its district race, higher education, marital status, household income and employment rates captured in the models, shall represent breastfeeding mothers' race, higher education, marital status, income from paid family leave, and employment

status. The estimated U.S. breastfeeding rates data shall be descriptively analyzed based on the 2020 geographic profile of the United States, the District of Columbia, Guam, and Puerto Rico. The need to descriptively analyze the U.S. breastfeeding data with the U.S. geographic profile variables such as household income (proxy for paid family leave income), employment, and other factors such as race, marital status, single motherhood, will lead the study to find out if U.S. breastfeeding rate is based on breastfeeding mothers' income on maternity, employment and other factors statistically, to support previous studies conducted by other researchers cited in this study which shows that income and employment determine breastfeeding rate increases or decreases respectively.

Data Collection, Comparison Models & Operationalization

Data Collection

As already indicated, the protocol for the Data for analysis of the methods of this research paper shall be based on the 2020 National Immunization Survey adopted by the Center for Disease Control (CDC) to develop the 2020 U.S. breastfeeding Data utilizing the U.S. geographic profile which is based on the 2020 U.S. Census Data for the purpose of analysis. There shall be two models for analysis. (1) **Model I Table 4.1 & Table 4.2** and **Model II Table 5.1 & Table 5.2**. These two models which comes with two sets of Tables each, shall be developed out of the data collected from the 2020 U.S. Breastfeeding report and Census data' geographic profile for descriptive analysis purposes based on the research hypothesis.

The first data for operationalization and hypothesis analysis for the methods shall be based on **Model I** which shall consist of two Table #s to be identified as **Model I, Table 4.1 and Model I, Table 4.2**. **Model I Table 4.1** shall be developed to consist of a set of the first 15 U.S. states with the highest 3 months of exclusive breastfeeding rates, and **Model I Table 4.2** shall

also consist of a set of the last 14 states and Guam, a U.S. territory with the least three months of exclusive breastfeeding rates based on the 2020 U.S. national breastfeeding data, geographic profile, and census data. For data analysis purposes, **Model I Table 4.2** shall be compared to **Model I Table 4.1**

Similarly, **Model II** shall also consist of two Table to be identified as **Model II Table 5.1 & Model II Table 5.2**. Again, **Model II Table 5.1** shall be developed to consist of the first 14 states and Puerto Rico, a U.S. territory, shall represent the highest six months of exclusive breastfeeding rates, and **Model II Table 5.2** shall also consist of the last 15 U.S. states with the least six months of exclusive breastfeeding rates based on the 2020 U.S. national breastfeeding data, geographic profile, and census data. Also, for analysis purposes, **Model II Table 5.2** shall also be compared to **Model II Table 5.1**

Comparison Model I

Model I Table 4.1 shall be identified as **Comparison Model A** and **Model I Table 4.2** shall be identified as **Comparison Model B**. **Model I Table 4.2 (Comparison Model B)** shall be compared to **Model I Table 4.1 (Comparison Model A)** for **Model I** analysis. For analysis purposes, the first highest breastfeeding state in **Model I Table 4.2, Comparison Model B** (Georgia) shall be compared to the first highest breastfeeding state in **Model I Table 4.1** (Vermont) **Comparison Model A**. Secondly the last state in **Model I Table 4.2** (W. Virginia), **Comparison Model B** shall also be compared to the last state in **Model I Table 4.1** (Minnesota) **Comparison Model A**. The analysis of these two comparison groups shall establish and determine breastfeeding rates in the model, to be able to find out if the Null hypothesis of the study must be accepted or rejected.

Comparison Model II

Similarly, **Model II** shall also consist of two Table to be identified as **Model II Table 5.1 & Model II Table 5.2**. Again, **Model II Table 5.1** shall be developed to consist of the first 14 states and Puerto Rico, a U.S. territory with the highest six months of exclusive breastfeeding rates, and **Model II Table 5.2** shall also consist of the last 15 U.S. states with the least six months of exclusive breastfeeding rates based on the 2020 U.S. national breastfeeding data, 2020 U.S. census data' geographic profile. **Model II Table 5.1** shall be identified as **Comparison Model A** and **Model II Table 5.2** shall be identified as **Comparison Model B**. **Model II Table 5.2 (Comparison Group B)** shall be compared to **Model II Table 5.1 (Comparison Model A)** for **Model II** analysis. For analysis purposes, the first highest breastfeeding state in **Model II Table 5.2, Comparison Model B** (Alabama, Pennsylvania & S. Carolina), shall be compared to the first highest breastfeeding state in **Model II Table 5.1** (Colorado), **Comparison Model A**. Secondly, the last state in **Model II Table 5.2** (W. Virginia) **Comparison Model B** shall be compared to the last state in **Model II Table 5.1** (Maine) **Comparison Model A**. The analysis of these two **Comparison Models** shall determine the breastfeeding rates in the model, to be able to find out if the Null Hypothesis of the study must be accepted or rejected.

The hypothesis of the research study shall be descriptively analyzed as earlier stated, due to the expansive nature of the 2020 U.S. Breastfeeding Data, as found in **Appendix A**, pages 154-155 which was used to build and designed the two models with four Table to establish the study findings in line with the hypothesis. For instance, **Model I** consist of two Table (**Table 4.1 & 4.2**) and **Model II** also consists of two Table (**Table 5.1 & 5.2**) on pages 86-87 and 92-93, respectively.

Table 4.1**Model I. The Geographic Profile & Data of the First 15 U.S. States who had the Highest 3****Months Exclusive Breastfeeding Rates in 2020**

States	3 Months Exclusive Breastfeeding Rate	Race A	Race B	Race H	Race W	Higher Edu.	Married Mothers	Single Mothers	Employ- ment Rate	Median Household Income
Vermont	63.8%	1.4%	1.5%	2.0%	93.8%	38.7%	38.7%	2.79%	63.1%	\$63,001
Oregon	62.3%	4.6%	1.2%	13.4%	83.5%	34.5%	48.4%	3.49%	59.3%	\$67,058
S. Dakota	60.1%	1.3%	2.4%	3.7%	84.1%	29.7%	52.8%	3.2%	65.4%	\$59,553
Hawaii	59.2%	38.7%	1.9%	10.7%	24.1%	33.6%	49.0%	3.27%	58.5%	\$83,102
Colorado	58.1%	3.3%	4.2%	21.8%	83.5%	42.7%	50.0%	3.57%	65.3%	\$77,127
Montana	58.1%	0.8%	0.7%	3.8%	85.8%	33.6%	51.0%	2.9%	59.8%	\$57,153
Wisconsin	56.9%	0.8%	6.4%	7.1%	88.2%	31.3%	49.8%	3.87%	63.8%	\$64,168
Virginia	56.6%	6.6%	19.4%	9.7%	67.0%	39.6%	49.3%	4.51%	61.5%	\$76,456
Wyoming	56.2%	0.8%	1.2%	10.1%	90.9%	29.1%	55.4%	2.6%	61.9%	\$65,003
Alaska	55.3%	6.0%	3.1%	7.2%	64.2%	30.2%	49.4%	3.3%	59.3%	\$75,463
Idaho	55.3%	1.5%	0.7%	12.3%	89.4%	28.7%	54.2%	3.19%	61.2%	\$60,999
N.Hampshire	54.0%	2.6%	1.6%	4.0%	92.6%	37.6%	50.5%	2.85%	64.7%	\$77,933
Kansas	53.4%	3.0%	5.7%	12.2%	83.6%	34.0%	51.8%	4.0%	63.5%	\$62,087
Washington	53.4%	9.0%	4.0%	13.0%	74.2%	37.0%	50.4%	3.63%	61.2%	\$78,687
Minnesota	53.1%	5.1%	6.6%	5.6%	82.1%	37.3%	51.0%	3.76%	67.2%	\$74,593
State Averages	53.8%	5.7%	4.04%	9.10%	79.47%	34.50%	50.11%	3.39%	62.38%	\$69,492

Table 4.2

Model I. The Geographic Profile & Data of the Last 14 U.S. States and Territory who had
the Lowest 3 Months Exclusive Breastfeeding Rates in 2020

States	3 Months Exclusive Breastfeeding Rates	Race A	Race B	Race H	Race W	Higher Edu	Married Mothers	Single Mothers	Employ- ment Rate	Median Household Income
Georgia	43.6%	4.1%	31.9%	9.8%	57.8%	32.5%	46.2%	5.85%	59.6%	\$61,980
New York	42.1%	8.6%	15.9%	19.3%	63.2%	37.8%	38.2%	4.58%	60.5%	\$72,108
Guam	41.4%	77.1%	1.0%	5.1%	6.8%	15.4%	54.4%	16.2%	65.9%	\$48,274
Pennsylvania	41.4%	3.5%	11.4%	7.8%	79.6%	32.3%	47.5%	4.3%	60.0%	\$63,463
Florida	40.3%	2.3%	16.9%	26.4%	74.5%	30.7%	45.9%	3.97%	56.2%	\$59,227
Arizona	39.5%	3.3%	4.7%	31.7%	78.3%	30.2%	47.0%	4.05%	56.8%	\$62,055
Alabama	39.3%	1.3%	26.9%	9.7%	67.8%	26.3%	47.6%	4.99%	54.7%	\$51,734
Tennessee	39.3%	1.9%	15.8%	6.9%	72.2%	28.7%	48.0%	4.79%	58.6%	\$56,071
Rhode Island	38.9%	3.5%	5.6%	16.5%	71.2%	34.8%	44.2%	4.65%	62.2%	\$71,169
Kentucky	38.8%	1.6%	8.1%	3.8%	86.7%	25.1%	48.8%	4.32%	55.8%	\$52,285
Louisiana	38.0%	1.8%	32.4%	5.4%	61.8%	25.0%	42.8%	6.1%	55.4%	\$51,073
N. Carolina	37.9%	3.3%	20.5%	10.7%	62.1%	32.3%	48.1%	4.99%	58.4%	\$57,341
New Jersey	36.8%	9.6%	13.6%	20.9%	67.1%	41.2%	49.8%	4.35%	62.7%	\$85,751
Mississippi	32.8%	1.0%	38.0%	3.0%	56.3%	22.3%	44.0%	6.47%	52.6%	\$45,792
W. Virginia	29.9%	0.8%	3.7%	1.9%	89.8%	21.1%	50.0%	3.38%	50.4%	\$48,850
States Averages	38.6%	8.2%	16.42%	11.93%	66.34%	29.45%	46.83%	5.53%	57.9%	\$59,144

Note. Both Table 4.1. & 4.2 were sourced from the 2020 U.S. national breastfeeding data's
15 highest and lowest states and territories 3 months of exclusive breastfeeding rates.

Evaluation of Model I Table 4.1 & Table 4.2: 2020 U.S. 3 Months Exclusive Breastfeeding Rates and Geographic Profile

As earlier indicated, **Table 4.1** and **Table 4.2** above shall be used in **Model I** analysis. A critical observation of **Table 4.1** of **Model I (Comparison Model A)** shows that the 15 U.S. states, with the highest three months exclusive breastfeeding rates have a few striking features. From the State of Vermont which had the highest breastfeeding rate at 63.8% among the first set of 15 states listed in **Model I**, to the state Minnesota which had the lowest three months exclusive breastfeeding rate at 53.1% in **Model I, Table 4.1**. However, looking at the U.S. geographic profile of 15 states listed in **Model I Table 4.1**, Vermont has the highest White population at 93.8%, 1.5% Black, 2.0% Hispanic and 1.4% Asian, with higher education rate at 38.7%, 63.1% breastfeeding mothers' employment rate and income of \$63,001 with single mother family's rate of 2.79%, which topped the highest 3 months exclusive breastfeeding rate at 63.8% among the set of states in **Model I Table 4.1**.

Comparatively, Minnesota which is the last state in **Model 1 Table 4.1** with the least three months exclusive breastfeeding rate, among the highest three months exclusive 15 breastfeeding rated states with 82.1% White, the fifth highest White population in the Model, 6.6% Black, the second highest Black population in the Model, 5.6% Hispanic and 5.1% Asian. Minnesota is home to 37.3 %, 67.2% and \$74,593 breastfeeding mothers' higher education, employment, and median household income, respectively. It is also home to the fourth highest Single Mother population at 3.76% in **Model I Table 4.1**. However, it became the state with the least three months exclusive breastfeeding rate at 53.1%.

Model I Table 4.2 (Comparison Group B), which lists the 14 lowest three months exclusive breastfeeding rated states and one territory (Guam), demographically, presents similar

interesting features, regarding breastfeeding rates among the states, and Guam, the only territory on the list, compared to the listed states in **Model I Table 4.1**. Georgia was the highest breastfeeding rated state with 43.6% breastfeeding rate, among the lowest 14 states and Guam, regarding its three months exclusive breastfeeding rates in **Model I Table 4.2**. Comparing Georgia to West Virginia, the smallest U.S. state, with the least three months of exclusive breastfeeding rate in **Model I Table 4.2**, Georgia's breastfeeding rate was 43.6% and is home to 57.8% White, 31.9% Black, 9.8% Hispanic, 4.1% Asian, with 32.5% higher education degree holders, 59.6% employment rate, and \$61,980 median household income with 5.85% single mother household rate single mothers. However, West Virginia's three months of exclusive breastfeeding rate fell to 29.9%, the least in the **Model I Table 4.2** which is home to 89.8% White, 3.9% Black, 1.9% Hispanic, 0.8% Asian, 21.1% with higher education degrees, 3.38% Single Mothers as heads of households and median breastfeeding mothers' household income of \$48,850, the 2nd least household income state in **Model I Table 4.2**.

Descriptive Data Analysis and Evaluation of Model I Table 4.1 and Table 4.2 Data

When **Comparison Model B (Model I Table 4.2)** was compared to **Comparison Model A (Model I Table 4.1)** it was observed that between Vermont and Georgia, the two modelled states in **Comparison Model A** and **Comparison Model B** respectively, which topped the lists of the highest and the lowest three months exclusive breastfeeding rated states, as found on **Table 4.1 and Table 4.2** with 63.8% and 43.6% breastfeeding rates respectively, Vermont is 93.8% White, 1.5% Black, 2.0% Hispanic, 1.4% Asian, with a single mother household rate of 2.79%. It has a higher education rate of 38.7%, breastfeeding mothers' employment rate of 63.1% and a median household income of \$63,001.

Georgia is 57.8% White, 31.9% Black, 9.8% Hispanic and 4.1% Asian and single mother rate of 5.85%. Its higher education rate is 32.5%, breastfeeding mothers' employment rate is 59.6% and \$61,980 median household income. Therefore, when **Comparison Model B** was compared to **Comparison Model A**, it was observed that, Georgia which topped **Comparison Model B** and Vermont, which topped **Comparison Model A** list of states, had striking differences in their geographic profiles which determined the differences in the breastfeeding rates of both states. Georgia's breastfeeding mothers' higher education, employment rates, and median household income of 32.5%, 59.6% and \$61,980 respectively with 43.6% breastfeeding rate. Georgia's demographic factors or independent variables, are far less, compared to the demographic factors or independent variables of Vermont. Vermont's breastfeeding mothers' higher education rate was 38.7%, 63.1% employment rate, with a household income of \$63,001, hence its breastfeeding rate (dependent variable) was 63.8%. A comparable situation was observed between W. Virginia and Minnesota when **Comparison Model B (Model 1 Table 4.2)** was compared to **Comparison Model A (Model I Table 4.1)**.

The other demographic differences which may have influenced the breastfeeding rates between Vermont and Georgia could be the differences in racial population rates. Vermont being home to 93.8% White population and 1.5% Black people and 2.79% Single Mother households. Comparatively, Georgia is home to 57.8% White population, 31.9% Black people with 5.8% Single Mother households. Based on the above demographic differences, it safe to state that the White population which is mostly privileged with good jobs is more income driven, compared to the Black population in the United States which is not privileged and hence not income driven, hence the differences in the breastfeeding rates of 63.8% and 43.6% between Vermont and Georgia, respectively. Therefore, the demographic factors (independent variables) of

Comparison Models A and B predicted the breastfeeding rates (dependent variable) of both groups as expected. This is an indication that breastfeeding is, income driven in the U.S., because the larger the size of breastfeeding mothers' higher education population and employment rate, the higher the household income, and subsequently, breastfeeding rate is increased.

Comparatively, the lesser the breastfeeding mothers' higher education and employment rates, the lesser the household income, subsequently, breastfeeding rate in that state is also reduced, as demonstrated by **Table 4.1 and Table 4.2 in Model I**, respectively.

On the other hand, when W. Virginia, the least breastfeeding state in **Model 1 Table 4.2** is compared to Minnesota, the least breastfeeding state in **Model 1 Table 4.1**, a similar pattern is observed. Minnesota recorded 37.2% of higher education, employment rate of 67.2%, its household income was \$74,593, had a breastfeeding rate of 53.1%, compared to W. Virginia's 21.1% higher education, 50.4% employment rate, with a household income of \$48,850 with a breastfeeding rate of 29.9% for breastfeeding mothers. Although W. Virginia was home to a greater percentage of White breastfeeding mothers' population of 89.8% compared to Minnesota's 82.1%, their major income drivers which is higher education and employment rates gap was significantly higher, hence the breastfeeding rates differences between the two states. This is also an indication that breastfeeding is income driven.

As earlier indicated, the breastfeeding rates of the states and territory (Puerto Rico) in **Model II Table 5.1**, shall also be used as the dependent variables, and the geographic profile (demographic) characteristics which is also based on the socio-economic factors of the exclusive breastfeeding rated states, shall also be used as the independent variables, to determine the breastfeeding rates of the 14 highest six months exclusive breastfeeding rated states and territory.

Secondary, the lowest 6 months exclusive breastfeeding rates of the 15 states listed in **Model II Table 5.2** shall be the dependent variables in that data, and its related socio-economic factors of the geographic profile in in the Model, shall be used as the independent variables to determine the states' breastfeeding rates.

Table 5.1

Model II. The Geographic Profile and Data of the First 15 U.S. States and Territory who had the Highest 6 Months Exclusive Breastfeeding Rates in 2020

States	6 Months Exclusive Breastfeeding Rate	Race A	Race B	Race H	Race W	Higher Education	Married Mothers	Single Mothers	Employment Rate	Median Household Income
Colorado	37.3%	3.3%	4.2%	21.8%	83.5%	42.7%	50.0%	3.57%	65.3%	\$77,127
Hawaii	36.6%	38.7%	1.9%	10.7%	24.1%	33.6%	49.0%	3.27%	58.5%	\$83,102
Vermont	36.5%	1.4%	1.5%	2.0%	93.8%	38.7%	38.7%	2.79%	63.1%	\$63,001
Oregon	36.3%	4.6%	1.2%	13.4%	83.5%	34.5%	48.4%	3.49%	59.3%	\$67,058
S. Dakota	35.7%	1.3%	2.4%	3.7%	84.1%	29.7%	52.8%	3.2%	65.4%	\$59,553
Wisconsin	33.4%	2.9%	6.4%	7.1%	88.2%	31.3%	49.8%	3.87%	63.8%	\$64,168
Washington	32.3%	9.0%	4.0%	13.0%	74.2%	37.0%	50.4%	3.6%	61.2%	\$78,687
Alaska	32.1%	6.0%	3.1%	7.2%	64.2%	30.3%	49.4%	3.3%	59.3%	\$75,463
Kansas	32.0%	3.0%	5.7%	12.2%	83.6%	34.0%	51.8%	4.0%	63.5%	\$52,087
Montana	31.6%	0.8%	0.7%	3.6%	85.8%	33.6%	51.0%	2.9%	59.8%	\$62,087
Puerto Rico	31.4%	0.12%	6.9%	98.8%	0.7%	27.2%	34.9%	4.64%	38.5%	\$20,474
Idaho	31.3%	1.5%	0.7%	12.3%	89.4%	28.7%	54.2%	3.19%	61.2%	\$60,999
Connecticut	30.3%	4.7%	10.7%	17.2%	63.2%	39.8%	46.9%	4.2%	62.3%	\$78,833
Wyoming	30.1%	0.8%	1.2%	10.1%	90.9%	29.1%	55.4%	2.6%	61.9%	\$65,003
Maine	30.0%	1.23%	1.89%	1.95%	90.1%	33.2%	49.4%	2.99%	60.7%	\$58,924
State Averages	31.26%	5.29%	3.49%	15.67%	73.43%	33.58%	48.8%	3.44%	60.25%	\$64,437

Table 5.2**Model II. The Geographic Profile & Data of the Last 15 U.S. States who had the Lowest 6****Months Exclusive Breastfeeding Rates in 2020**

States	6 Months Exclusive Breastfeeding Rate	Race A	Race B	Race H	Race W	High Edu.	Married Mothers	Single Mothers	Employ ment Rate	Median Average Income
Alabama	23.6%	1.3%	26.9%	9.7%	65.1%	26.3%	47.6%	4.99%	54.7%	\$51,734
Pennsylvania	23.6%	3.5%	11.4%	7.8%	75.6%	32.3%	47.5%	4.3%	60.0%	\$63,463
S. Carolina	23.6%	1.7%	25.0%	6.8%	62.1%	29.6%	47.0%	4.71%	56.7%	\$56,227
Ohio	23.1%	2.5%	12.5%	4.4%	75.8%	29.3%	47.0%	4.87%	60.5%	\$58,642
Rhode Island	22.7%	3.5%	5.6%	16.5%	68.7%	34.8%	43.0%	4.65%	62.2%	\$71,169
N. Jersey	22.5%	9.6%	13.6%	20.9%	54.3%	41.2%	49.8%	4.35%	62.7%	\$85,751
Tennessee	22.4%	1.96%	15.8%	6.9%	70.9%	28.7%	48.0%	4.79%	58.6%	\$56,071
Indiana	22.1%	2.4%	9.5%	8.1%	75.4%	26.9%	47.6%	4.44%	61.2%	\$57,603
Kentucky	21.8%	1.6%	8.1%	3.8%	84.2%	25.1%	48.8%	4.32%	55.8%	\$52,285
Florida	21.4%	2.8%	16.9%	26.4%	53.0%	30.7%	45.9%	3.97%	56.2%	\$59,227
N. Carolina	20.2%	3.2%	20.5%	10.7%	60.4%	32.3%	48.1%	4.99%	58.4%	\$57,341
Arkansas	19.9%	1.7%	15.0%	8.5%	68.5%	23.3%	48.6%	5.0%	55.2%	\$48,952
Louisiana	18.2%	3.28%	20.5%	10.7%	58.2%	32.3%	42.8%	6.1%	55.4%	\$51,073
Mississippi	16.4%	1.0%	38.0%	3.0%	56.3%	22.3%	44.0%	6.47%	52.6%	\$45,792
W. Virginia	15.8%	0.84%	3.66%	1.94%	89.1%	21.1%	50.0%	3.38%	50.4%	\$48,850
State Averages	21.5%	2.72%	16.19%	9.7%	67.84%	29.08%	47.4%	4.7%	57.34%	\$57,612

Note. Both Table 5.1 & 5.2 were sourced from 2020 U.S. national breastfeeding data's 15 highest and Lowest states and territories six months breastfeeding rates.

Evaluation of Model II Table 5.1 and Table 5.2: 2020 U.S. 6 Months Exclusive Breastfeeding Rates and Geographic Profile

As earlier indicated on page 85, **Table 4.1 & 4.2** shall be used in **Model II** analysis. A critical observation of **Table 5.1** of **Model II (Comparison Model A)** shows the 14 U.S. states, and Puerto Rico with the highest six months exclusive breastfeeding rates have a few striking features that shall be analyzed. The State Colorado had 37.3% in **Model II Table 5.1** was listed as the state with the highest six months exclusive breastfeeding rated state among the 14 states and Puerto Rico. Maine was the lowest rated out of the first 14 states and Puerto Rico, with 30.0% the lowest breastfeeding rate in **Model II Table 5.1**. However, looking at Colorado's population demography, Colorado is home to the 9th highest White population of 83.5% with higher education degrees at 42.7%, the highest in both **Models I & II, Table (4.1,4.2,5.1 & 5.2)**, or the entire research study and breastfeeding mothers' employment rate of 65.3% and a median household income of \$77,127, Moreover, Vermont is also home to the second highest Hispanic population of 21.8%, with Black population of 4.2%, and single mother families at 3.57%. Among the highest six months exclusive breastfeeding rated states is Puerto Rico, a U.S. territory with a breastfeeding mothers' household income of \$20,474 and employment rate of 38.5%, the least in **Model II Table 5.1**.

Comparatively, Maine which is the last state on **Table 5.1** among the highest six months exclusive 14 breastfeeding rated states and Puerto Rico, had the 3rd highest White population of 90.1%, but the 9th highest in higher education rate of 33.2% and employment rate of 60.7%. It is also the lowest in the Hispanic population at 1.95%, the 10th highest in Black population at 1.89%, the 12th highest Single Mother population at 2.99%. Maine's household income is

\$59,974, the 13th highest among the states and territory listed. Yet Maine had the least six months of exclusive breastfeeding rate in **Model II Table 5.1**.

On the other hand, **Model II Table 9 (Comparison Model B)**, which lists the 15 lowest six months exclusive breastfeeding rated states, demographically, presents other interesting features, which determined the breastfeeding rates among the states, compared to **Table 5.1**. Alabama, Pennsylvania, and South Carolina topped **Model II Table 5.2** together with 23.6% each. Therefore, the three states together became the highest rated six months breastfeeding states among the lowest 15 states in **Model II Table 5.2**. However, all three states had demographic similarities and differences. Per population by race differences, Pennsylvania was home to 75% White, 11.4% Black, 7.8% Hispanic, 3.5% Asian breastfeeding mothers with 32.3% higher education rate, 60.3% employment rate and a median household income of \$63,463. Pennsylvania's breastfeeding mothers' marital status rate was 47.5% with 4.3% single mother families. Followed by S. Carolina with 62.1% White, 25.0 Black, 6.8% Hispanic and 1.7% Asian with 29.6% higher education population, 56.7% employment rate and a median household income of \$56,227. The marital status rate of S. Carolina 47.6% with single mother households of 4.71%. Alabama is also home to 65.1% White, 26.9% Black, 9.7% Hispanic and 1.3% Asian, with 26.3% higher education rate, 54.7% employment rate and \$51,734 median household income. The breastfeeding mothers' marital status rate in Alabama was 47.6% and 4.99% single mother families.

Comparatively, West Virginia was found to be the state with the least six months exclusive breastfeeding rate of 15.8%. According to the 2020 U.S. Breastfeeding & Geographic Data, W. Virginia is home to 89.1% White, 3.66% Black, 1.94% Hispanic, 0.84% Asian breastfeeding mothers with 21.1% higher education rate, 50.4 % employment rate and a

household income of \$48,850. W. Virginia is again home to 50.0 marital rate and 3.38% single mother families.

Descriptive Analysis and Evaluation of Model II Table 5.1 and Table 5.2 Data

When **Model II Table 5.2 (Comparison Model B)** which lists 15 states with the lowest 6 months of exclusive breastfeeding rate demographically, is compared to **Model II Table 5.1 (Comparison Model A)** which lists the 14 states and Puerto Rico, the only U.S. territory in the model, also present some similarities and differences. As found on **Table 5.1 & 5.2**, Colorado had the highest six months of exclusive breastfeeding rate of 37.3%, whereas Alabama, Pennsylvania, and S. Carolina together, had 23.6% 6 months breastfeeding rates, respectively (Dependent Variables). When **Table 5.2** breastfeeding rates and geographic profile data is compared to **Table 5.1** breastfeeding rates and geographic profile data, it can be observed that the higher the rate of breastfeeding mothers' education and employment in a state, the higher the state's breastfeeding mothers' household income and breastfeeding longevity rate.

For example, Alabama, Pennsylvania, and S. Carolina in **Model II Table 5.2**, whose six months breastfeeding rates were 23.6% each, but topped the list in the model. The three states in the Model had 26.3%, 32.3% and 29.6% of higher education rates, with the average employment rates of 54.7%, 60.0% and 56.7% and household incomes of \$51,734, \$63, 463, and \$56,227, respectively.

On the other hand, W. Virginia, which had the least six months exclusive breastfeeding rate at 15.8% in **Model II Table 5.2**, had 21.1% and 50.4% higher education and employment rates, respectively, a household income of \$48,850, the least in model II data.

When **Model II Table 5.2** is compared to **Model II Table 5.1** above, it was observed that Colorado in **Model II Table 5.1** had the highest higher education rate of 42.7%,

employment rate of 65.3%, its average household income was \$77,127. Therefore, Colorado topped **Model II Table 5.1** exclusive six months breastfeeding rate at 37.3%. Comparatively, Maine had the least six months exclusive breastfeeding rate at 30.0% in **Model II Table 5.1**, its higher education rate was 33.2 % employment rate of 60.7% with a household income of \$58,924. Maine's least breastfeeding rate of 30.0% in **Model II Table 5.1** is explained by its low demographic factors (Independent variables) in higher education rate, and average household income.

Therefore, based on the breastfeeding rates and demographic data analysis between the **Comparison Models 5.1 & 5.2**, it is safe to state that, the higher the rate of higher education and employment in a state, the higher the state's Breastfeeding mothers' household income and exclusive breastfeeding longevity rate. Similarly, the lower the state's higher education and employment rates, the lower the household income and breastfeeding longevity rate.

The Impact of Employment on Breastfeeding Sustainability and Longevity: Inter Model Analysis of Model I Table 4.1 & Model II Table 5.1 Data

Besides income, it has been established by this research paper based on the descriptive statistical methodology that employment has a significant impact on exclusive breastfeeding rate longevity and sustainability. For example, Minnesota which had the highest breastfeeding mothers' employment rate of 67.2%, among all the breast breastfeeding states in both **Models I & II**, with 37.3 higher education rate, 51.0% marital status and \$74,593 in household income fell to the bottom of the 15 breastfeeding states in **Model I Table 4.1**, which listed the highest 3 months exclusive breastfeeding rated states. Again, Minnesota could not make it to both **Table 5.1 and 5.2 in Model II**, which listed the highest and the lowest six months exclusive breastfeeding rated states and territories. Conversely, Puerto Rico which had the lowest

breastfeeding mothers' employment rate of 38.5%, and least median breastfeeding mothers' household income of \$20,474 among all the four **Table** in both **Models I & II** under discussion, made it to the list of the highest six months exclusive breastfeeding rated 14 states and Puerto Rico. The possible descriptive statistical explanation of this scenario could be that mothers in Minnesota are mostly working mothers, who are prevented by their employment to take leave of absence to stay home and breastfeed their newly born children. However, Puerto Rico with the least breastfeeding mothers' employment rate of 38.5%, and least breastfeeding mothers' median household income of \$20,474 among all the four **Table** in both **Models I & II** under discussion, made it to the list of the highest six months exclusive breastfeeding rated 14 states and territory because the high breastfeeding mothers' unemployment rate in Puerto Rico, is responsible for its mothers' breastfeeding longevity due to the length of time Breastfeeding mothers may stay home looking for the non-existing jobs. And according to Ogbuona et al. (2012), women who return to work having taken 13 weeks (about three months) absence from the workplace for maternity leave, had longer and higher rate of breastfeeding than mothers who take one to six weeks of absence, for that same purpose. This made Puerto Rico add its name to the list of the first 6 months exclusive breastfeeding rated states reviewed, despite being one of the least highly educated and poor. Though, Puerto Rico being home to the Hispanic majority, among all the U.S. states and territories in this study, may have a cultural and religious (Catholic) influence in their breastfeeding longevity rate (Steurer, et al., 2017).

The Descriptive Statistics Results Analysis to Reject the Null Hypothesis

Based on **Models I and II**, **Table 4.1, 4.2, 5.1 & 5.2** analysis, it has been established that there is a positive relationship between income, employment and breastfeeding rate increase and longevity in the United States and its Territories, besides other variables. In both **Models I and**

II, anytime the average percentage rate of higher education and employment rate goes up, the median household income rate of breastfeeding mothers also increases significantly.

Correspondingly, breastfeeding rates of the states and territories in that data bracket (Model) also go up significantly. For example, in **Model I Table 4.1**, when the average higher education, employment rates and household income were 34%, 50%, 62.38% and \$69,492, respectively. Correspondingly, the average three months exclusive breastfeeding rate was 53.1%.

Comparatively, in **Model I Table 4.2**, when the average higher education, employment rates and household income were 29%, 45%, 57.9% and \$59,144, respectively, the average three months exclusive breastfeeding rate of **Model I Table 4.2** dropped to 38.6%. These geographic profile (independent variables) averages in **Model 1 Table 4.2** were significantly lower than the geographic (independent variables) averages of **Model 1 Table 4.1**, when compared.

Similarly, **Model II Table 5.1 & 5.2** also produced comparable results. For example, **Table 5.1 of Model II** which listed 14 states and Puerto Rico with the highest 6 months exclusive breastfeeding rates, had average breastfeeding mothers' education, employment rate and household income of 33.58%, 60.25% with \$64,437, respectively, correspondingly had an average six months of exclusive breastfeeding rate of 31.36%. Comparatively, **Table 5.2 Model II** which listed 15 states with the least 6 months exclusive breastfeeding rates had 29.08%, 57.34% and \$57,612 of higher education, employment rate and household income of breastfeeding mothers, respectively. Correspondingly, the average six months of exclusive breastfeeding rate of **Model II Table 5.2** was 21.5%. The above scenario or the 6 months of exclusive breastfeeding rates comparison of **Model II Table 5.1 & 5.2** is an indication that states with higher education, employment rates, and household income of breastfeeding mothers

(independent variables) produce higher exclusive breastfeeding rates (dependent variable) with longevity.

Comparatively, states with less high education, less employment rate, and lesser household income of breastfeeding mothers on average, also produced lower exclusive breastfeeding rates and lesser longevity. The only exception to the above rule was the state of Minnesota. For example, when a comparison is drawn between Vermont and Minnesota, in **Model I Table 4.1**, Vermont which is the state with the highest three months of exclusive breastfeeding rate with 63.8% had 38.7%, 63.1% and \$63,001 in higher education, employment, and average household income, respectively. However, Minnesota, the state in **Model I Table 4.1** with the least breastfeeding rate at 53.1% had 37.1%, 67.2% and \$74,593 higher education, employment, and household income, respectively. Although Minnesota's household income was higher than that of Vermont in the Model, its breastfeeding rate was lower than that of Vermont by 10.7%, possibly because of its exponential employment growth rate. A possible descriptive statistical explanation is that Minnesota's working breastfeeding mothers could not breastfeed at a higher rate, compared to Vermont, due to its higher employment rate, another barrier to breastfeeding.

Similarly, in **Model I Table 4.2**, which listed 14 states and Guam, a U.S. territory with the least three months of exclusive breastfeeding rates, listed Georgia as the highest three months breastfeeding rated state with 43.6% with 32.5%, 59.6% and \$61,980 in higher education, employment rates and household income, respectively. However, West Virginia, the state with the least three months breastfeeding rate in **Model I Table 4.2**, polled 29.9% breastfeeding rate, with a geographic profile of 21.1%, 50.4% and \$48,850 in higher education, employment rates and household income, respectively. This is an indication that the less the rate of higher

education, employment, and household income of breastfeeding mothers, correspondingly, the lesser the average breastfeeding rate.

In both **Model II Table 5.1 & 5.2**, a similar pattern was observed, as in **Model I Table 4.1 & 4.2** above. For instance, Colorado in **Model II Table 5.1** which had the highest six months of exclusive breastfeeding rate at 37.3% among the 14 states and Puerto Rico with the highest six months exclusive breastfeeding rates had 42.7%, 65.3% and \$77,127 high education, employment rate and household income of breastfeeding mothers, respectively. Compared to Maine, the least six months exclusive breastfeeding rated state at 30.0% in the **Model II Table 5.1**, had 33.2%, 60.7% and \$58,924 in higher education, employment rate and household income of breastfeeding mothers respectively, based on the States' geographic profile. This is also an indication that the higher the household income, the higher the breastfeeding rate and conversely, the lower the household income, the lower the breastfeeding rate. Moreover, **Model II Table 5.2**, which listed 15 states with the least six months of exclusive breastfeeding rated states, also produced a similar pattern of results. Alabama, Pennsylvania, and South Carolina tied with 23.6% six months of exclusive breastfeeding rate, although there were differences in their geographic profiles. For instance, Alabama had 26.3%, 54.7% and \$51,734 in higher education, employment rate and household income. Pennsylvania also had 32.3%, 60.0% and \$63,463 in higher education, employment rate and household incomes of breastfeeding mothers, respectively. South Carolina similarly obtained 29.6%, 60.5% and \$56,277 in higher education, employment rate and household income, respectively.

Compared to West Virginia in the same chart, whose six months exclusive breastfeeding rate was pegged at 15.8%, the least in the chart with 21.1%, 50.4% and \$48,850 in higher education, employment rates and household income, respectively. The rates of geographic

profiles, particularly, higher education, employment rate and household income of Breastfeeding mothers, fell below the rates recorded by Alabama, Pennsylvania, and South Carolina. This also an indication that income is the strongest driver of breastfeeding in the United States. Based on the above comparative descriptive statistical analysis of **Model I Table 4.1, 4.2,** and **Model II Table 5.1 & 5.2** as found on pages **86, 87, 92 & 93** respectively, the **Null Hypothesis** is rejected, and the **Alternate Hypothesis** is accepted, because income has a significant effect on breastfeeding rate.

Higher Employment Rate as Barrier to Breastfeeding

Besides income, it has also been established by this study that employment rate also has significant effect on exclusive breastfeeding rate longevity and sustainability, in spite of the fact that it drives up income rate. The case in point is Minnesota which had the highest employment rate of 67.2%, among the breastfeeding states under discussion. However, Minnesota could not make it to both **Table 5.1 and 5.2 in Model II**, which listed the highest and the lowest six months exclusive breastfeeding rated states and territories. This can be explained by the employment rate of Minnesota breastfeeding mothers, who are prevented by their employment to take leave of absence to stay home and breastfeed their newly born children because they do not have access to paid family leave. Conversely, Puerto Rico which had the lowest employment rate of 38.5%, and least median household income, among all the four **Table** in both **Model I & II** under discussion, made it to the list of the highest six months exclusive breastfeeding rated first 14 states as a territory. This was made possible because the high unemployment rate among Puerto Rico breastfeeding mothers, made them stay home longer to breastfeed their children. According to Ogbuona et al. (2012), women who return to work having taken 13 weeks (about three months) of absence for maternity leave, had longer and higher rate of breastfeeding than

women who take one to six weeks of absence, for that same purpose (Steurer, 2017). This made Puerto Rico add its name to the list of the first 6 months exclusive breastfeeding rated states reviewed, although the super majority Hispanic population of Puerto Rico, compared to other U.S. states and territories in this study, could have culturally influenced their longevity in breastfeeding, as earlier indicated in the study.

After close observation of the above descriptive breastfeeding data analysis, income has a significant impact on the rate of breastfeeding. Higher income produces a higher rate of exclusive breastfeeding rate either at three or six months. Therefore, a mandated paid family leave policy which shall replace U.S. working mothers' workplace incomes will increase the rate of breastfeeding exponentially, because it will temporarily take the mother from the workplace to be home with her baby to breastfeed and reduce U.S. mothers' dependence on spousal income in maternity, if the mother has no source of income during maternity leave. This will temporarily suspend the employment of breastfeeding mothers which remains a barrier to breastfeeding. For example, in **Model I Table 4.1**, when Minnesota's employment rate rose to 67.2% with \$74,593 household income, it became the least three months exclusive breastfeeding rated state in that chart. However, Puerto Rico whose employment rate and household income dropped to 38.5% with \$20,474 household income, made it to the 6 months exclusive breastfeeding rated states in **Model II Table 5.1**, and took the 11th position on the chart, though it was the poorest with the highest unemployment rate in all the two models. Yet Minnesota, with the highest employment rate on the chart and a higher household income of \$74,539 could not make it to the six-month exclusive breastfeeding charts. Therefore, based on the above descriptive statistical analysis, a U.S. federally mandated Paid Family Leave Act of Congress for all working mothers, is the only means which can raise the breastfeeding rates across U.S. states and territories optimally,

because it will replace the income of all working mothers when on maternity leave, when employment is temporarily put on hold and secured, to enable or enhance breastfeeding and childcare, irrespective of race, income and other cultural advantages in the United States. It will also narrow the gaps in breastfeeding between the various racial groups in the United States of America. The above descriptive statistical analysis which is based on 2020 U.S. breastfeeding report and the 2020 U.S. Census' geographical profile, also support previous studies conducted in Canada, Iran and Scotland by Baker & Milligan (2008), (Ogbuona, et. al., 2011, & Skafida 2012, as cited in Steurer 2017) which observed that the length of paid family leave impacts breastfeeding duration. In other studies, conducted by Byker (2016), and (Huang & Yang, 2015, as cited in Steurer, 2017), based on the California and New Jersey paid family leave statutes passed in 2004 and 2009 respectively, it was observed by the researchers that exclusive breastfeeding increased significantly in both states, immediately after both statues were passed (Steurer, 2017).

Chapter 5: Paid family leave Public Policy Proposal

Background

Based on the above studies conducted by Baker & Milligan (2008); (Ogbuana, et al., 2011 & Skafida, 2012, Huang & Yang, 2015, as cited in Steurer, 2017), in Canada, Iran and Scotland, and studies conducted in California and New Jersey in the U.S. by Byker, (2016), have established a relationship between paid family leave length and the duration of exclusive breastfeeding when employment is temporary placed on hold. All the above studies supports breastfeeding and paid family leave relationship research, and when premised on the 2020 U.S. breastfeeding data and geographic (demographic) profile, statistically demonstrates that income is the driver of higher breastfeeding rate, and that a federally mandated paid family leave in the U.S. can actually increase its breastfeeding rate when employment is put on hold temporary with security for the mother to return to (Byker, 2016).

Beside these research findings with demonstrated evidence, U.S. public opinion surveys, as earlier indicated also supports federally mandated paid family leave policy to support families and mothers for childcare and breastfeeding. For example, the February 5, 2018, Rasmussen Reports survey which found that 54% of Americans adult supported the idea that the U.S. government must require all employers to pay 12 weeks of paid family and medical leave, according to Holmes, (2018). The Lake Research partners' survey for small businesses and the Center for American Progress also favored a Legislative Act of Congress for paid family leave (Keine, 2017). In a poll of 21,000 people conducted by YouGov between March 25 and April 1, 2021, published by The Conversation, an Ohio University Newsletter which observed that 94% of Democrats, 83% of Independents and 73% of Republicans support a paid family leave measure. Several other surveys including the Pew Charitable Research Center online survey of

1000 responders indicated 94% of Americans thought paid leave will support families, while 65% in the same poll thought it will improve the U.S. economy (Miller, 2017).

Apart from the above research findings and U.S. public opinion polls, about 180 U.S. based companies and corporations particularly, high-tech companies like Microsoft, Netflix, Bill, and Melinda Gates Foundation, American Income Life, and many others support their employees with up to 52 weeks of paid family leave with job guarantees. In addition to the public support, advocacy groups like the National Association of Working Women, Center for American Progress, American Pediatric Society, American Federation of Teachers, and the National Association for the Advancement of Colored People (NAACP) among others, support paid family leave policy for mothers due to childcare and breastfeeding needs.

Based on the above public support, and the U.S. Federal Government's own 12 weeks of Federal Employee Paid Leave Act of 2020, which supports federal employees on family leave indeed. According to the Center for American Progress' Boesch (2021) report, paid family leave policy to support U.S. mother's choice to breastfeed and childcare can be enacted by the U.S. federal government to increase U.S. breastfeeding rate. Such social and economic policy initiative shall be beneficial to many U.S. citizens particularly, the poor working-class families. The above citizens' input, which is a necessity for the policy process and a better policy model, can survive the current political atmosphere (Birkland, T.A., 2016). In the U.S. democratic society, citizen's input increases public support for social policies like a paid family leave Act of Congress. This will make such policy making, implementation and monitoring easier, because there is public support and cooperation. As a pluralistic policy in character, due to its national appeal, politicians find it difficult to stop such public policy initiative's enactment (Blanc, Denhardt & Denhardt, 2014).

Based on the above study and other research studies which have established positive relationship between income, and higher breastfeeding rate sustainability and longevity for U.S. childcare and breastfeeding needs, when lactating mothers' employment is put on hold, the following proposal shall be made to the U.S. Congress due to public support; A Paid family leave Act which shall mandate every U.S. employee and employer to contribute additional one percent or 0.5% each to the existing U.S. Social Security Fund to pay for the cost of the policy. The policy shall mandate the payment of \$4000.00 per month or \$2000.00 by-weekly on the average, to every U.S. working mother 18 years or above, during the first three months post-partum. The policy shall also mandate every employer, both small and large businesses, as well as public organizations to secure the jobs of all mothers who shall benefit from paid family leave federal policy. This policy shall amend the Family Medical Leave Act of 1993, to grant lactating mothers some form of income. However, the Paid family leave Act shall not pay fathers who will opt for paternity leave up to two weeks but will guarantee beneficiary fathers under this policy initiative, job security, after a child's birth. The policy shall not cover stay-home mothers and mothers under 18 years of age, working or not (Arellano, 2015).

The Strategy to Pass Paid family Leave Policy Proposal to Become Law

However, to create an enabling ground for the measure to pass the U.S. Congress, paid family leave policy proposal, shall be made into a direct proposition initiative qualified to be placed on the ballot during a U.S. Mid-Term election throughout the 24 states who have made proposition part of their constitution. This proposition initiative will allow U.S. citizens to bypass the legislature in the form of direct democracy, to get the paid family leave measure pass through the ballot box, for enactment and implementation purposes at the state level. Due to the paid family leave proposition initiative, the governing political party shall campaign vigorously, by

capitalizing on the favorable U.S. opinion polls in the various participating states through their political party machine, to ensure that the measure receives majority votes to pass the proposition initiative through political education on women issues at the state level (Riggers, 2012).

As earlier indicated, 57.4% of U.S. women today participate in the U.S. labor force, according to Bureau of Labor Statistics. However, their daily struggles with childcare and other parental responsibilities have been underestimated. As a result, U.S mothers constitute a source of power to reckon with by any U.S. administration to be tapped into for a family leave policy proposal's political agenda setting. This echoes the understanding of group mobilization and participation of the social constructionist theorists, like E.E. Schattschneider, regarding U.S. mothers' breastfeeding need and childcare costs issues. This critical childcare and breastfeeding responsibilities which squarely falls on the shoulders of U.S. mothers, compared to their male counterparts, who most often forms the majority of political decision-making public, can be raised to the fore in the form of political discussion and campaigns particularly, in the days leading to Mid-Term elections for the purposes of a proposition initiative, according to (Birkland, 2016).

With the foregoing therefore, when the proposition initiative for paid family leave passes the various states' mid-term election with at least 54% majority votes by the participating states, then the measure shall be proposed and forwarded to the U.S. Congress to be passed into law. Any of the proposition participating states who passes the paid family leave measure will politically inform their Congressional Representatives of the need to support the federal government measure in Congress. This political strategy will tie the hands of both the Democratic and Republican Party Representatives in the House and the Senate whose political districts are affected by the passed proposition, to vote on the federal government's paid family

leave proposal measure sent to the Congress to pass the paid family leave legislation, to avoid losing their Congressional seats in any general election they will be voted on. Moreover, the affected Congressional Representatives and Senators may not want their respective states' taxpayers to bear the cost of a paid family leave policy. As such, they will prefer a federal mandate, which shall be at no cost to their respective states. This will reduce their political opposition regarding the passage of the measure to become law, due to public support from the various states' public political arena. For example, Arizona is one of the 24 proposition initiative states. However, one of its Senators, Senator Kristen Sinema, a Democrat, opposes the present Biden Administration's paid family leave measure, the American Family Plan (AFP) which has stalled in the U.S. Senate. If the Democratic Party's political machine had passed a paid family leave measure through a proposition initiative in Arizona, its Senator Kristen Sinema and other Republican Party Senators whose Congressional District may have been affected by that same proposition measure, would have supported the measure in the Senate because, their constituents may have already voted to pass the measure at the state level. This strategy could have altered the opposition from the Democratic Party Senator Joe Manchin from West Virginia, who also opposed the Biden's AFP measure, after declaring it as fiscal insanity. At this point, Senator Manchin's vote could no longer be critical since some Republican Senators from the passed Proposition measure states could join all the Democratic Senators to pass President Bidens AFP measure because, they would not want to lose their seats, although W. Virginia is not among the proposition initiative states (Cochrane, et al., 2021).

Suggested Possible Sources of Paid family leave Funding

Regarding the fiscal needs of the paid family leave proposal for working mothers, this study will suggest two viable fiscal solutions. The first fiscal solution to be suggested and used to

engage the attention of paid family leave policy stakeholders, shall be to raise the current monthly U.S. employee social security deductions, and employer contributions, from 6.2% to 6.7%, each, totaling 13.4%. This will be an increase of 0.5 percentage points, for both employers and the employees' social security contributions, to cover the cost of the paid family leave Policy for mothers. Based on the August 2021 U.S. social security revenue generation of \$1,118 billion at 12.4% payroll total contribution from employees and employers. At the rate of 13.4%, an amount of about \$90.1 billion additional income shall be generated annually to fund the paid family leave policy through the employers and employees' Social Security contribution of additional one percent (Kijakazi, 2021).

This additional \$90.1 billion Social Security income from the one percent employee and employer contribution can cover paid family leave up to six months, if every individual U.S. mother is paid \$4000.00 per month for the first six months post-partum, totaling up to \$86,524,824,000. However, three months paid family leave at \$4000.00 per mother will cost approximately \$43,262,412,000. This estimate is based on the 3,605,201 million U.S. children born in 2020, if every mother had one child and no mother lost a child (Hamilton, et al., 2021).

Alternatively, taxes on corporations and all businesses can be raised by 7% from its current level of 21%. At 28%, the U.S. government can raise an amount of \$675 billion dollars for a period of 10 years to cover the cost of paid family leave up to a period of three months, if every U.S. mother is paid \$4000.00 per month on the average, based on the number of children born to U.S. mothers in 2020. This is based on President Trump's Tax and Jobs Act of 2017, which gave away \$1.35 trillion to U.S corporations and businesses, for a period of 10 years. However, given that this policy is proposed to benefit both employees (working mothers) and employers (working mothers' jobs attachment), the employer and employee social security

contributions shall be the appropriate choice. Since U.S. employers consists of public, nonprofits, and private organizations, the first policy choice, employee & employer social security tax increments shall be selected and implemented. This will also make the policy employer and employee friendly. This suggestion is based on most opinion polls cited in this study, which suggests that majority of U.S. citizens are willing to pay taxes on their income, to cover paid family leave. Again, the paid family leave policy can easily pass the U.S. Congress if it does not become a burden to the government purse. Moreover, three months paid family leave shall be proposed instead of six months, to ensure that employers do not find it difficult to get their working mothers back earlier to work, to reduce unnecessary overtime pay to fill in the spots left vacant by paid family leave beneficiaries. This will reduce political friction between the left and the right because the above suggested funding to be received through the 0.5% increments on social security taxes from both U.S. workers and their employers respectively, will have a funding surplus to sustain and manage the program into a foreseeable fiscal health future, when mothers are granted paid family leave, for a period of three months. The above funding methods have the potential to convince U.S. political leadership about the possibility to enact paid family leave for U.S. mothers to reduce their day-to-day struggles, regarding early childcare post-partum. However, it cannot completely do away with political backlash, as most U.S. political leaders may have not yet grasped the concept of any form of paid family leave for U.S. working mothers, for any reason yet to be made public. For fiscal specifics of paid family leave effective financing, this study will leave it to future paid family leave policy researchers and the U.S. federal government (Appelbaum, B., 2017).

Transparency and Reliability

This study is transparent and dependable because the research is based on the National Immunization Survey across all the 50 U.S., states, the District of Columbia U.S., territories of Guam and Puerto Rico. The subjects interviewed for the research project were breastfeeding mothers from all U.S. racial groups. This means that the research is well grounded when it comes to subjects' representation. Beside subject representation, the research descriptive statistical methodology adopted has demonstrated that income from paid family leave will impact U.S breastfeeding sustainability, longevity, and increased rate due to its income support to breastfeeding because, they will be paid to break from work to nurture their children based on **Model I Table 4.1 & 4.2**, and **Model II Table 5.1 & 5.2** results and analysis found between pages 86 through 93 of this research paper. The results and analysis are supported by studies conducted by (Skafider, 2012, Huang & Yang, 2015, as cited in Steurer 2017), found on page 21 of the research paper that paid family leave increases breastfeeding sustainability, longevity, and rates.

Furthermore, the objective of this study which is centered on paid family leave impact on U.S breastfeed rate, has demonstrated scientifically that breastfeeding protects and secures the future health and wellbeing of mothers and their children's growth into adulthood. The research subject's objectivity means a lot to any human society, for health and intellectual purposes, as demonstrated by Baros, et al. (2015) on page 47 of this study that human intelligence and academic longevity in schooling are partially supported by breastfeeding, due to its good health benefits.

Moreover, the research paper will reliably address the job security concerns of all U.S. working mothers when they have a child, because paid family leave as a federal mandate will

guarantee working mothers' job security, if it is based on the FMLA policy of 1993. It will also offer an opportunity not only to working breastfeeding mothers to take a break from work, post-partum and increase their job attachment, the policy will further reduce their stress levels and improve the wellbeing of mothers, according to Gerber & Perelli-Harris (2014). Furthermore, it will grow the U.S. population, and improve the economy, because paid family leave will boost women recruitment and attachment into the workforce. Apart from the above reliability and transparency support that the proposed paid family leave public policy shall receive from this research paper, what makes the policy proposal even more reliable and transparent is the policy proposal's financing part that shall be routed through the Social Security Act, and its additional one percent employee and employer contributions, which shall be the sole financing source to the policy. It must be noted that since the U.S. Social Security Act was signed into law by President Franklin D. Roosevelt on August 14, 1935, it has been relied on by all retirees and the disabled Americans to date without a hitch, and continues to grow stronger, despite the policy's few financial challenges. The U.S. social security policy has been replicated by so many countries globally, according to the history of the policy (Kijakazi, 2021). Therefore, the research paper shall be reliable, and capable of being replicated by every country that does not have a paid family leave policy to date like, Liberia and Papua New Guinea (Glover, 2015).

Threat to Transparency & Reliability

As indicated above, the paid family leave policy proposal is supposed to be reliable and transparent. However, it is likely to face economic, political, and social challenges which can reduce its effectiveness, besides its methods. To begin with, the expansive nature of the data, the U.S. 2020 Breastfeeding Report Card, did not allow the researcher to critically analyze and compare all the U.S. states and territories based on the U.S. 2020 demographic profile, to find

out succinctly, the causes of low breastfeeding rates in many of the states and territories. Furthermore, the various states and territories that were part of **Models I & II, Table 4.1, 4.2, 5.1 & 5.2** respectively, had other factors which were not mentioned or effectively analyzed which may have contributed to either their increased or the reduced breastfeeding rates as found on pages 86-87 and 92-93 respectively, in this research paper.

Moreover, the paid family leave policy proposal is supposed to increase U.S. breastfeeding rate. However, not all mothers will breastfeed post-partum when given paid leave. Many mothers are incapable of breastfeeding due to health and other social factors, while others will decide to use breastmilk supplement to feed their babies and use the paid family leave for other purposes. For example, if a mother contracts HIV or Hepatitis B, prior to or after getting pregnant, she may not be capable of breastfeeding, and may have to opt for infant supplemental feeding formula as the only available choice because breastfeeding an infant under any of these health conditions is simply, an unhealthy situation for the baby's future prognosis (Flax, et al., 2014). As a social insurance policy, it can easily be abused. For example, if the policy makes provisions for extension of coverage due to post-partum ill-health, based on the assessment of a medical doctor. This can create a shortage of workers because some mothers may decide to stay home longer, before returning to work. For instance, after passing the first paid family leave policy in the U.S. in 2004, the income of mothers who took paid leave dropped, because they worked less, after the leave period elapsed. As such, the design of any paid family leave policy in the U.S., need stakeholders' input to critically address the concerns of labor, employers, and public administration, to make sure that any future paid family leave policy's economic demerits are addressed, prior to its implementation (Miller, 2019). This can also create unnecessary overtime pay for workers who will replace mothers on maternity leave. As result, the policy shall

reduce profitability of most U.S. for-profit corporations, as has been created by the Family leave policy Act of 1993 found on page 61 of this research paper (Hayes, et al., 2012).

Furthermore, the proposed paid family leave policy is supposed to be well financially grounded because it shall be based on the increment of U.S. employee and employer social security contributions by 0.5% each. However, its corporate and political support may be difficult to come by. At the corporate level, there may be opposition because of their unwillingness to pay more taxes to support the policy. Based on the research data, increased breastfeeding rates and breastfeeding longevity sustainability is driven by income. As such, the research proposed policy has made provisions for three months paid family leave for working mothers to receive \$4000.00 per month on the average. Unfortunately, as a social insurance policy, it can easily be abused. As a moral hazard, many U.S. mothers shall make the choice to have more children than they intended before the enactment of the policy. Many stay-at-home mothers may look for full time jobs to qualify for family leave with pay. This will reduce the policy's funding resources and can also lead to more working mothers staying at home after a child is borne to reduce the number of U.S. workers (Fiscella & Franks, et al., 2013).

With reduced number working mothers at home for three months due to paid family leave, low U.S. fertility rate, aging population, in addition to fewer undocumented immigrants entering the United States from 850,000 yearly to 300,000 as a result of tough U.S. immigration measures, according to the Pew Hispanic Center, as earlier indicated in this study. This will make it difficult for employers to find workers to fill in for paid family leave beneficiaries. This will raise labor and production costs, which shall directly or indirectly raise the prices of consumer goods, cost of living and inflation, as the few workers on the job market will demand more pay. Increased labor cost leads to a reduction in profitability and as a result, employers may

find it difficult to pay the extra 0.5% social security contribution towards the paid family leave policy proposal's suggestion by this study. The above reasons will politically make it difficult for the U.S. Congress to pass the paid family leave measure. A perfect example is the current Biden administration's American Family Plan (AFP) Act of 2021 budget has become a stalemate, due to the opposition from two Democratic Party Senators Joe Manchin and Krysten Sinema of West Virginia and Arizona, respectively, beside the entire Republican party representatives and senators in the U.S. Congress (Longman, 2010).

The above situation, when it repeats itself in this study's proposal may shake its foundation and prevent it from being passed into law. However, both Senators' decision to stall the AFP legislation, could be due to the lack of any known dialogue between President Biden's administration, employees' representatives, U.S. business leaders and the public at large. So far, no public engagements have been made in the form of townhall meetings and forums for citizens' input to get the measure passed. Presently, there is no solution to address the costs of the paid family leave policy, except to raise taxes on the super-rich. However, Senator Joe Manchin made his position clear that he will not support the passage of the Bill, to add another social program to the existing social programs, whose solvency continues to be questionable, even though, several public opinion surveys have suggested otherwise. Yet the two Democratic Senators are not convinced. Even though this paid family leave policy proposal is based on only 0.5% points increments on the current U.S. social security tax policy, for both the employee and the employer, Senator Joe Manchin has vowed not to support any tax increment on his constituents. Meanwhile, the state of W. Virginia which Senator Manchin represents in the U.S. Senate is not a proposition initiative state. (Fox, et al., 2021).

Although the U.S. public is ready for a federally mandated paid leave measure, politically, the current stalemate of the Biden Administration's AFP 2021 Act was expected. According to Quan-Forsyth (2018), it took a period of 9 years (1984-1993) to pass the Family Medical Leave Act of 1993, with strong advocacy, due to the rise and fall of the policy process in the agenda setting for major public policies. As such, the pending proposed AFP Act of 2021 in the Congress of the United States, which is supposed to provide Paid Family Leave to all U.S. working families to amend the FMLA Act of 1993 is no different, judging from the scope of the political theory of Punctuation Equilibrium. Although it has been almost two decades since the passage of FMLA of 1993, according to (Kingdon 1984, Baumgartner & Jones 1991, 1993, Dodd, 1994, as cited in Sabatier & Weible, 2017), the making of a policy may begin smoothly with smaller accommodations incrementally, it may be torn apart suddenly as observed in the Biden's Administration's proposed AFP Act of 2021, with the opposition from the entire Republican Senators and Democratic Senators Joe Manchin and Kristen Sinema of W. Virginia and Arizona, respectively. The actions of both Democratic Party Senators, who are members from President Joseph Biden's political party, seems to have radically departed from the united front and theme which U.S. Presidents receive from their own political party members during an approach to pass major legislations incrementally, like the AFP of 2021. Therefore, President Biden's administration AFP may have become the proverbial 'White Elephant' before the Congress of the United States, politically.

In reference to the opposition from both Democratic Senators Manchin and Kristen Sinema, it is difficult to judge their action by their cognitive strength or limitations in the current Congressional budget process, as expressed by (Widavsky, 1964, as cited in Sabatier & Weible, 2018), besides favoring the status quo as conservatives or "blue dog democrats", when it comes

to their dramatic change in position, to depart from their own party's major policy and political agenda, to support U.S. families particularly, working breastfeeding and non-breastfeeding mothers to care for their children, although major public opinion polls suggests that the U.S. working public is willing to pay taxes to support President Biden's AFP social policy agenda because, it will support families and the U.S. economy, as proposed by this study. However, this is quite different from the two opposing Democratic Senators' view that they do not know how the United States government will pay for such 'social insurance.' This type of opposition which does not take into consideration the public's view and concern, will make it difficult to enact the paid family leave policy proposal measure of this research paper (Sabatier & Weible, 2017).

Other Limitations

Every research or study is likely to have some limitations, despite its strengths. As such, this paid family leave research policy which supports mothers' choice to breastfeed in the U.S., cannot escape such limitations. In the first place, researcher bias, if not controlled, can have adverse effects on the research project, especially if the researcher supports breastfeeding. Secondly, the 2020 CDC Breastfeeding Report Card which the research data was based, did not indicate any issues involved in the collection and collating of the National Immunization Breastfeeding Survey which produced the 2020 CDC Breastfeeding Report Card because there could be potential human errors. For example, as earlier indicated in this study, many mothers who contract HIV or Hepatitis B, prior to, after getting pregnant or after the breastfeeding survey was done, may not be capable to breastfeed and as a result, may opt for infant supplemental feeding formula. If any of the participants involved in the data collection for the 2020 CDC Breastfeeding Report Card had any of these health issues, it may have serious implications for this study in terms of the research findings (Cheng, et al., 2019).

Furthermore, women with breast cancer history, may also be incapable of breastfeeding, and may have to go for infant formula methods of feeding their babies. Individual differences can also be a limitation, because there are some kids who may do well with artificial formulas than breastmilk. Additionally, if a mother passes on in life during or immediately after delivery and the baby survives, that child may not have access to breastmilk, except supplements because “wet nurses” may be hard to find in today's complex society. Therefore, promoting a paid family leave policy, which supports women’s choice to breastfeed, against artificial feeding formulas, cannot be 100% sustainable (Azulay Chertok, et al., 2020).

Moreover, infant formula industries, may lobby the United States political leadership against the promotion of any public policy, which supports women’s choice to breastfeed, particularly, paid family leave policy with emphasis on breastfeeding. As multi-billion-dollar corporations, they can marshal any forces to survive their businesses in a capitalist political economy of the U.S. The fight for their survival may also take the form of advertisement for the promotion of infant formulas, or the enhancement of the same with improved and quality nutrients to remain competitive to breastfeeding, as indicated earlier in the study. Therefore, if paid family leave creates more Stay-at-Home mothers in the U.S. to breastfeed during the first three months post-partum, the rest of the international community of nations without paid family leave policy, may follow the U.S. example, to reduce the vibrancy of the infant food formula industries (Jacobs, 2018).

As a result of the above, the hypothesis of this research that paid family leave will impact U.S. breastfeeding rate, may not be 100% valid. Regarding data collection, there is the likelihood that most of the data collected and forwarded to the researchers regarding the 2020 U.S. CDC Breastfeeding Report Card by the research participants, could be padded. As such, the context to

ensure the real meaning and understanding of the research results, cannot be 100% guaranteed, because its organic approach may vary from the study perspectives. However, future research and practices may prove this study partially wrong, though, the public goodness of this research will stand the test of time (Hesse Biber, 2017).

Paid family leave Policy Recommendations

The paid family leave policy which draws its strength from several research studies and statistical evidence, will eventually increase U.S. breastfeeding rate to its optimal level because it is set to replace the U.S. World War II Act of 1941 which took breastfeeding down from its optimal level to its present suboptimal trend. However, this policy cannot fully achieve its set goal of increasing the U.S. breastfeeding rate to the optimal level without the following effective policy recommendations:

- As a policy set to give U.S. mothers 12 paid weeks to take leave of absence from employers, mandated by the federal government, labor shortages is anticipated.

Therefore, it is recommended that the government and business leaders must come into an agreement to retain older workers, due to the increase in U.S. population's life span. A dialogue of this nature is needed because most business leaders are unwilling to hire and retain older workers, due to healthcare costs of the aged. These differences can be addressed through the U.S. governments Medicaid and Medicare programs to support employers to hire, and have older workers remain, as a reliable source of skilled labor to organizations that may experience labor shortages due to mothers paid leave of absence for childcare and breastfeeding. This idea will make it easier for the paid family leave policy to be embraced by U.S. business and political leaders (Bandow & Hiesler, 2018).

- Secondly, the paid family leave policy shall recommend that migrants with different labor skill sets may be brought in from overseas into the U.S. through a specific immigration visa quotas like the H-1B visa code, with some form of user fees, laid down government regulations and monitoring for repatriation purposes, when the need to send them back home arises. This will help the U.S. government focus on domestic production of its own needed skills. A labor program of this nature will be acceptable to U.S. natives. The idea of bringing in foreign workers, will make U.S. workforce and the U.S. society more diversified, with the introduction of modern skills and diverse cultures from abroad, with low pay to replace working breastfeeding mothers' absence from the labor force due to paid family leave from the workplace. This will reduce overtime pay to existing U.S. workers who shall replace mothers on maternity leave to make U.S. corporations more profitable. This can lead to increased government revenue, due to the user fees, increased corporate profit taxes and the reduction in the policy's political opposition. However, it may lower pay for the domestic unskilled labor force which can raise domestic labor agitations, though it will make it easier for mothers to break from work temporarily, for childcare and breastfeeding purposes (Byra & Stark, 2018).
- Most U.S. mothers know that the best source of infant nutrition is breastmilk but lack the knowledge about its nutritional benefits and the risks associated with not breastfeeding. As such, the following recommendations shall be made to educate U.S. women about the choice to breastfeed or not breastfeed, to articulate and achieve the objectives of paid family leave public policy when mandated to benefit the nation. Information about breastfeeding must be provided to pregnant women during their prenatal visits with their obstetricians to understand the need to breastfeed, what to expect when breastfeeding and

how to go about resolving the issues involving breastfeeding, to achieve its utmost benefits. For example, (a) prospective mothers must be made aware that breastmilk prevents many childhood diseases, compared to breastmilk supplements, despite supplements enhancements and its benefits thereof. (b) Pregnant women must be educated about the art of breastfeeding particularly, how to position their children for effective breastfeeding, to ease the pain and other emotional issues involved with breastfeeding. This will increase their knowledge and skills about breastfeeding, to reduce their frustrations which forces them to abandon breastfeeding at the initial stages. Beside educating pregnant women about breastfeeding through their obstetricians, women in general can be educated through telehealth to increase breastfeeding duration and exclusivity. Telehealth application to breastfeeding support and education through digital images, emails, phone conversations, recorded medical advice to prospective mothers, have been seen as a modality to promote breastfeeding in modern times, according to Telehealth Resources and Services Administration. These education programs' resources can be provided through the paid family leave policy funds to enable the policy to achieve its breastfeeding increment goal (Marcucci, 2018).

- The paid family leave policy shall offer financial support to improve breastfeeding education of healthcare workers through breastfeeding education programs, to enhance their knowledge of health outcomes linked to several methods of infant feeding, particularly the lactation process and physiology. This will help healthcare workers to develop the cheerful outlook needed to play the critical supportive role to mothers' feeding choices, and avoid being judgmental, because many healthcare workers are known to lack such knowledge and understanding. For example, in the U.S.,

acculturation easily changes the attitudes of many immigrant mothers towards breastfeeding, because they accept breastmilk supplemental feeding as the norm, due to the lack of breastfeeding cultural re-enforcement education through healthcare professionals. As such, after some time, most immigrants lose their breastfeeding culture. Therefore, training and education courses in breastfeeding and other feeding methods must be stipulated in healthcare education in the United States through the paid family leave policy initiative, to encourage and support mothers to breastfeed or balance infant feeding methods, that is, a combination of breastmilk and breastmilk supplements to support infant nutrition needs (Gavine, et al., 2017). For example, in a study conducted in Sicily, Italy, which observed about 3813 questionnaires administered to mothers of newly born children during their hospital stay in eight hospitals from childbirth to discharge, between 2016 and 2018 of mothers whose average age was 31.3 years, of whom 69% did not attend any prenatal courses. It was observed that a high 75% of exclusive breastfeeding occurred in only one of the eight hospitals, whose staff was deployed to dedicate themselves to encourage the mothers of the newly born children to breastfeed. The other hospitals achieved 45% of exclusive breastfeeding, out of which 35% had their children through cesarean section (Altadonna, et al., 2020).

- Moreover, home visit follow-up plans by nurses must be developed by hospitals where baby deliveries take place. Trained nurses in breastfeeding must follow up on mothers who are discharged from hospitals, after their babies are delivered and discharged. This will enable the nurses to assist and train mothers with professional breastfeeding and other feeding attitudes and assessment kits, to support mothers who are breastfeeding or not, and educate them on how to manage problems they are likely to come by during

breastfeeding or supplemental feeding or both particularly, pain that may be encountered by breastfeeding mothers who had their babies delivered through a cesarian section.

Funding support for hospital follow up programs may come from the surplus of the paid family leave funds. With improved mothers' feeding education through home visits by nurses, infant readmission rates at the hospitals will reduce because of the professional care and support U.S. mothers will receive from their hospitals' home visit plans. Such professional visits will increase breastfeeding rates and improve other infant feeding methods. For example, in a study of 3,521 pregnant mothers at risk of poor child health and developmental outcomes to examine the impact of professional home visits to promote breastfeeding initiation and continuation among at risk population in New York state, through visitor intervention and education, encouragement and support to the at risk mothers to breastfeed during prenatal and postnatal periods, it was observed that breastfeeding initiation increased by 1.5% and continued throughout the first six months with increases in breastfeeding by 11%. This is an indication that when home visits from hospital nurses goes up, breastfeeding rate increases especially, when it is used to target new mothers who are not likely to breastfeed (Greene, et al., 2018).

- As earlier indicated, breastmilk supplements have been viewed with poor nutritional quality and as a result may offer poor health and developmental outcomes. However, most mothers have no choice but to use them. This situation may arise because of the mothers' health condition prenatally or postnatally. Additionally, most working breastfeeding mothers may have complicated work schedules which may be difficult for such mothers to fully breastfeed. As a result, they will have to use breastmilk supplements to support their babies. Therefore, as a major source of infant nutrition,

optimizing breastmilk substitutes through nutritionally improved modifications, for breastmilk supplements to measure up to breastmilk is recommended, to address the poor nutritional qualities of infant supplements. This will enable mothers to have a clearer choice of feeding methods to support their work-life balance, if they cannot breastfeed health wise or by choice, due to their lifestyles and personalities because, the nutritional quality of breastmilk supplements could compare closer, if different from the natural breastmilk, to ensure quality health outcomes for all children. As such, the paid family leave policy can resource infant nutrition scientist to do more research to improve the quality of breastmilk supplements for all U.S. children (Fewtrell, et al., 2021).

- The paid family leave policy through employer and employee social security contribution of one percent, shall make provision for all U.S. mothers to be given 12 weeks (about three months) paid leave. As part of the paid family leave policy proposal's provisions, all mothers on maternity leave shall be paid up to \$4000.00 monthly, on the average. Therefore, with the enhancement of breastmilk supplements, it is anticipated that breastmilk supplements' nutritional quality will yield better health outcomes. It is recommended that the U.S. special supplemental nutrition program for Women, Infants and Children (WIC) subsidies must be reduced to enable U.S. mothers to pay more for infant breastmilk supplements, to support the breastmilk supplements industry and prevent it from losing money, as earlier indicated. The USDA WIC program legibility criteria must be rigidly reviewed and regulated, to reduce the number of women who will qualify for free breastmilk supplements. This will also reduce the overdependency of supplemental breastmilk products, to improve its demand and supply equitably. This will enable the supplemental milk industry to meet the needs of the kids in real need of the

product. This will help the U.S. government avoid its current under supply of breastmilk supplements on the market, which has become political due to U.S. mothers' anxiety over the issue (Vazquez, 2022). However, the WIC program must be enhanced with more programs to educate mothers on breastfeeding and other infant feeding techniques, and support mothers with breastfeeding tool kits and information. This will boost breastfeeding, as most mothers may choose to breastfeed rather than pay for the supplements, unless the choice not to breastfeed is of utmost importance, like a health situation. This will encourage U.S. mothers to save part of their paid family leave income, for other childcare purposes (Currie, 2003, as cited in Foster, et al., 2010).

- As the first progressive public administration policy in public health, the Patient Protection and Affordable Care Act of 2010 (PPACA), continues to do a lot for mothers to boost breastfeeding through its provisions for workplace location access for breast pumping, by lactating working mothers to continue breastfeeding after work, based on Section 4207 of the Act. However, the policy did not make provisions for liabilities and penalties against employers who do not comply with the provisions. As result, employers who do not comply with the set provisions have no consequences. Therefore, most employers refuse to either comply or do not make any room for lactating mothers to breast pump in such organizations to continue breastfeeding after work. As such, many organizations who make provisions for working lactating mothers do not follow through with the entire provisions. For example, the rooms/space allocated to mothers for breast pumping at breaktime, are often shared alternatively with other employees in some organizations. Moreover, the policy left out small businesses, who often hire a lot of working mothers. As such, it is recommended that the policy should be amended and

expanded to cover all small business, with support from the federal government if financially incapable of compliance. Furthermore, the policy must incorporate compliance and penalty provisions for enforceable purposes, to ensure that organizations support their working lactating mothers to achieve their breastfeeding goals. If the above policy mandates and compliance of the PPACA are followed through, mothers who may opt to go back to work earlier than the stipulated three months paid family leave period, can be paid about 20% of their family leave pay, as an incentive to continue the utilization of the breast pumping locations provided by their respective organizations, to continue breastfeeding. This will increase breastfeeding, reduce labor shortages and overtime pay in most organizations, as well as save some of the payout money from the paid family policy financial resources to the beneficiaries (Fitzpatrick, 2010).

The Impact of Paid Family Leave Policy

Children's Health and Mothers' Welfare

Based on the above recommendations, paid family leave will replace workplace income, with job security guarantee to U.S. working lactating mothers' absence from work for maternity, to concentrate on breastfeeding. This will ensure that human breastmilk plays its critical role in the healthy development of the child, and the welfare of mothers, and if not sufficient, the nutritionally enhanced breastmilk supplements can equally play a similar or closer role in U.S. children's nutrition. As already indicated, breastmilk enhances children's intelligence, cognitive and other developmental needs and the welfare of mothers. Additionally, breastfeeding reduces childhood diabetes, obesity, breast cancer and sudden unexpected death in infancy (SDUI) the leading cause of infant mortality, due to suboptimal to no breastfeeding at all. However, this proposed paid family leave policy and recommendations which is set to increase the U.S.

breastfeeding rate, to reverse the above-mentioned health related issues due to the suboptimal breastfeeding trend in the U.S (Cole, et al. 2020).

For instance, it has been noted that the leading cause of diabetes and breast cancer is obesity, and according to Ahmedin, et al. (2019), as of January 2019, about 3.8 million women with the history of breast cancer, lived in the U.S. Likewise, one of the major leading causes of infant mortality is diabetes. Both breast cancer and infant mortality death toll in the United States in 2018, stood at 42,465 and 21,000 respectively, beside pain and suffering. At the same time, it cost the United States government's health system, a staggering amount of money for treatment, annually (CDC.org, 2021). The loss of the lives of the 21,000 infants during the first one year of their birth in 2018 alone, cost the United States government an estimated amount of \$147 billion, if one goes by (Viscusi and Aldy, 2003, as cited in Cheng, et al., 2016) estimated \$7 million as the value of one human life in the U.S. However, the above paid family leave policy and recommendations which is set to increase the U.S. breastfeeding rate is sure to reverse this trend of loss of infant lives, due to the suboptimal breastfeeding trend in the U.S (Cheng, et al., 2016).

Moreover, maternity leave with pay to working mothers, can be taken as a form of social support from employers or the workplace. A leave of absence for parenting purposes, can go a long way to reduce working mothers' stress because, any social support from the workplace is seen by employees as a value added to their wellbeing by their employers. In return, employees value their employment to remain attached and retain it at all costs particularly, working lactating mothers because their employer has placed value on both the mother and their newly born child. Conversely, employers who do not offer paid family leave of absence stress working parents. And what is more important, infants are negatively affected by parenting stress, which creates later behavior problems and poor developmental outcomes. As such, mothers who

separate from such organizations do not return after maternity leave. Therefore, this proposed family leave policy with pay to mothers, shall reduce parenting stress, particularly, among working breastfeeding mothers. As a result, mothers are able to increase breastfeeding, pay more attention to their children which will improve mother-child bonding due to frequent interactions, improve their children behavior, and keep them attached to their workplace (Han, et al., 2009).

To support the above analysis and studies, the recent White House outline to support paid family leave policy, released by President Biden's administration, based on the administration's federally mandated family paid leave proposal submitted to the Congress of the United States, laid emphasis on childcare and breastfeeding, bonding between the newly born and their parents. The statement also claimed that paid leave will offer Americans, the opportunity to avoid domestic violence and stalking which increases stress levels, especially, mothers. Moreover, it will support women, to find safety from sexual assaults. Furthermore, Americans will get a break from work, to deal with deaths in the family, personal serious injuries, illnesses and most appropriately, manage stress effectively. Therefore, beside breastfeeding, paid family leave has several advantages to support U.S. families to live happily (Nova, 2021).

Women Career Growth & Earnings

As earlier indicated, many working mothers face pressure at home due to childcare cost. For example, the average annual cost of childcare in the state of Montana ranges between \$9,062 for baby care, especially during the first three months after birth. This huge economic cost forces working mothers to reduce their participation in the workforce, to either stay at home, or take part time jobs with the reduction in wages, a penalty U.S. mothers pay to have children. In a study conducted by the Labor Department of Montana and funded by Women's Bureau of the U.S Labor Department, which focused on employees' access to workplace policies that are

family friendly, and family paid leave in Montana, using a sample size of 500 polled from Montana Adults. Aimed at the effects of family pressures on businesses and workers, the study found out that 73% of the people of Montana support paid time off policies. Six weeks of paid family leave was supported by another 66%, and 65 % felt that lack of paid family leave is unfair to women in the labor front. As a result, another 60% polled in the same study, supported paid parental (mom and dad) leave for a period of six weeks. In conclusion, two thirds of the people of Montana felt that paid family leave will strategically boost recruitment and retention of full-time workers, particularly, working mothers for the good of Montana's economic health, the welfare of children and mothers, through breastfeeding and childcare. However, this does not pertain to only Montana working mothers, but a comparable situation is felt by all working mothers in the U.S. society, which slows down women's career growth path (Glover, 2015).

Therefore, if every U.S. mother receives \$4000,00 on the average, through the additional one percent social security tax increment from employees and employers' contributions based on this paid family leave policy study, mothers from Montana and other U.S. states, are likely to increase breastfeeding and reduce childcare cost during the first three months post-partum because, they will be paid to take leave of absence for childcare purposes. This policy will reduce U.S. mothers' postnatal and financial stress, improve bonding with their children, increase their job attachment, instead of breaking from full time work to look for part-time jobs and improve their career growth and fiscal health. According to the Pew Research Center 2016 survey, motherhood leads to women's career path interruptions which impacts their earnings in the long-term because women take more time off for childcare than men, which negatively impact their career growth (Barroso & Brown, 2021). As earlier indicated in this study, a survey conducted by Aeroflow, a breast pump provider observed that about 50% out of the 773 women

surveyed, considered career change because their earnings reduces significantly when they utilize breast pumping stations in their respective organizations to pump their breast, to continue breastfeeding after work, due to loss of time. To most of the women surveyed, motherhood and breastfeeding impacts their career growth negatively because it is incompatible full-time work. However, with paid family leave and job security, most U.S. mothers' slow career growth path, reduced earnings, and gender discrimination because of leave of absence for childcare and breastfeeding shall be reversed, because they will be paid to stay home, care for newly born child and breastfeed for the first three months after birth with job security guarantees, to secure their career growth path (Greenfield, 2018).

Population Growth

With the reduction of infant mortality, breast cancer deaths and improved mother and child bonding due to increased breastfeeding, thanks to paid family leave policy proposal which will guarantee working breastfeeding mothers' income and jobs security and improved childcare, when passed to be federally mandated to all U.S. mothers. The United States aging population, the White Americans,' and other minority groups' population decline, can be reversed. Based on the 2009 U.S. population data, it is projected that, by 2050, the minorities in the U.S., shall become the new majority, due to the 'voluntary one child or no child unofficial policy' which has been adopted by many U.S. female professionals and other working class, due to the lack of paid family leave and job security guarantees. This situation has impacted the U.S. population growth, particularly, the White population. However, since the U.S. Congress is majority White, the Paid family leave Policy proposal shall pass the U.S. Congress to become law, because it can guarantee the reversal of the future White American population decline. Since Congress, may not want to see White Americans become the new minority in the democratic United States society,

passing a Bill of this nature, is a win for all Americans, but in the special interest of White Americans in particular, and additionally, increase breastfeeding (Roberts, 2009).

In support of the above position, social science researchers have established that paid family leave, will grow the U.S. declining population. According to Hwang & Jung, (2016), fertility rate increases among working women who have access to paid leave benefits. To support the above scientific studies and its relationship to increased fertility and subsequent childbearing, the Russian Republic established a new paid leave policy with the focus to increase childcare benefits as a priority because, the Russian population was declining by 700,000 people per annum. As such, the Russian government decided to pay mothers 700 rubles for the first child, and 3000 rubles for the second child under their new paid leave policy mandate. Additionally, Russia is paying 18 months maternity leave to mothers at the rate of 40% of the previous income of the mother to improve childcare and breastfeeding. Similarly, Poland, Australia and many European nations have adopted similar measures to entice couples to make more babies to reduce the baby deficit to grow their population, through financial incentives. As earlier indicated, the rational choice theory suggests that if the opportunity cost of having a child is high, the fertility rate is lowered. Therefore, implementing a paid family leave in the U.S. based on this study with the focus to increase spending on the mother and child on paid leave, will substantively reduce the U.S. childcare costs, reduce infant mortality, increase the fertility rate of mothers, reduce the baby deficit and grow the United States population, through increased breastfeeding rate. (Gauthier, 2015).

Conclusion

As earlier stated, breastfeeding in the United States was the gold standard method for infant feeding. However, World War II policy and the U.S. Industrial Revolution during the 20th Century, changed this naturally endowed infant feeding method, because, the care giving role of women in society, forever changed in a meaningful way. The involvement of mothers in the U.S. industry, led to the introduction of artificial infant breastmilk supplements or formulas which become popular among U.S. mothers with a competitive edge to breastmilk today. This has led to the decline of breastfeeding trend in the U.S. Unfortunately, the artificial infant formulas have proven to be without much nutritional value, compared to breastmilk, when it comes to children and mothers' health outcomes, although it has equally served a useful purpose (Partiff, 1994).

As indicated above, the U.S. WWII policy according to this study, changed the optimal breastfeeding trend to the current suboptimal trend in the U.S. The introduction of a federal paid family leave policy proposal which will ensure that U.S. mothers remain at home temporary, to break from work with income to enable their children breastfeed is the only option that can reverse the present suboptimal U.S. breastfeeding trend, to its previous optimal level. This will let U.S. children benefit from the nutritional value of breastmilk, with slower introduction to modern enhanced infant formulas, as needed. As such, family leave with pay to all U.S. mothers by this study, based on the research hypothesis and literature reviewed, shall replace work as a barrier to breastfeeding in the United States today, through its job guarantees, income and financial security to mothers after their leave of absence from the workplace, to support their newly born babies with breastfeeding. As a result, paid family leave will support U.S. mothers' need to be together with their newly born babies to breastfeed and nurture them for a much longer period, for better children's health outcomes, prior to returning to the workplace. The

policy shall, among other things, reduce childcare costs, infant mortality, mothers' stress, increase bonding with parents, the wellbeing and financial security of mothers. In the end it will also grow the U.S. population and economy with future healthy workers, just to mention a few.

Although paid family leave policy proposal by this research paper, cannot come without the usual “theatrics” in the U.S. political environment, as seen in the recent introduction of paid family leave measure, by the President Biden Administration. However, its social and economic benefits outweigh its economic and political costs. Therefore, paid family leave is worthy to be considered for its passage into law in United States. If about 99.9% developing countries and all the OECD countries which the United States is a leading member state, have paid family/maternity leave public policies, except the United States, which is the wealthiest nation on earth, it is time for the U.S. government to do whatever it takes, to develop the political muscle to pass a paid family or maternity leave measure in the U.S., because it has the support of about 82% of the U.S. population, according to recent opinion polls (Knoester & Petts, 2021). The urgent need for a paid family leave policy in the U.S. today, to support mothers for breastfeeding and childcare purposes, has pushed the state of Delaware Governor, John Carney to sign the Healthy Delaware Families Act into law as recently as, May 10, 2022. This law among other provisions will pay 12 weeks of parental leave to all state of Delaware employees, including educators, and up six weeks of family care giving leave, paid medical leave or paid military leave when the Bill goes into effect in January 2025. The Bill also grants the same benefits with 80% of weekly pay to employees of larger private companies, if they have been with the organization for at least 12 months or longer (Owens, 2022).

Having carried and delivered a population size of about 330 million Americans and counting, with little to no incentives, based on the 2020 U.S. population census data, U.S.

mothers and families deserve “better” federal paid family leave public policy mandate, to support mothers to breastfeed and care for the child. This cannot take the form of federal maternity leave policies that are offered through states’ disability insurance programs which remains at the mercy of a family doctor’s approval, to qualify for a pregnancy related disability. It must be stated unequivocally that pregnancy and baby delivery, does not constitute a disability, it is the natural process through which human beings (U.S. citizens), are birthed on their soil. Therefore, it is unfair to declare U.S. mothers’ pregnancy and labor, a disability for insurance purposes, although, it involves complications and pain at times. A federal Paid Family Leave public policy mandate which comes with financial and job security guarantees, can support U.S. working mothers to increase the U.S. breastfeeding rate much higher, than the states’ disability insurance program which is handed to U.S. poor mothers without sufficient income and job security guarantees when they have a child. U.S. mothers and families deserve better federal Paid Family Leave to support childcare and breastfeeding! (Goodman, et al., 2014).

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Notes

- Parts of this dissertation project work were sourced from the following Doctor of Public Administration courses: DPA 703, 704, 706, 707, 801 & 802.
- The geographic Profile used for U.S. Territory of Guam could not be obtained from the 2020 U.S. Census data and Geographic Profile. The only Census data that is published available online by the U.S. Department of Commerce with public access, was the year 2000 Census Data and geographic profile for Guam, published in 2004.

Appendix A

2020 Rates of Any and Exclusive Breastfeeding by State Among

Children Born in 2018

	Ever Breastfed 95% CI	Breastfed at 6 Months 95% CI	Breastfed at 12 Months	Exclusive Breastfeeding through 3 Months	Exclusive Breastfeeding through 6 Months
U.S. Average States	83.9%	56.70%	35.00%	46.30%	25.80%
Alabama	70.6%	43.4%	26.3%	39.3%	23.6%
Alaska	90.2%	67.6%	45.5%	55.3%	32.1%
Arizona	76.9%	51.4%	32.9%	39.5%	24.6%
Arkansas	76.2%	46.7%	28.1%	44.0%	19.9%
California	91.2%	60.5%	38.3%	51.6%	27.6%
Colorado	90.1%	64.9%	39.7%	58.1%	37.3%
Connecticut	90.8%	56.2%	33.0%	50.6%	30.3%
Delaware	82.4%	61.6%	35.8%	46.6%	28.2%
District of Columbia	85.4%	62.4%	37.7%	45.1%	26.3%
Florida	76.3%	49.7%	31.4%	40.3%	21.4%
Georgia	80.9%	52.9%	36.2%	43.6%	24.3%
Hawaii	94.6%	74.1%	52.0%	59.2%	36.6%
Idaho	89.2%	62.6%	38.5%	55.3%	31.3%
Illinois	84.6%	54.1%	32.1%	47.9%	25.5%
Indiana	79.3%	52.2%	33.6%	45.3%	22.1%
Iowa	84.7%	53.6%	30.4%	48.6%	27.3%
Kansas	87.9%	60.2%	38.5%	53.6%	32.0%
Kentucky	79.1%	49.3%	29.7%	38.8%	21.8%
Louisiana	70.2%	39.9%	19.6%	38.0%	18.2%
Maine	82.3%	61.4%	43.5%	52.9%	30.0%
Maryland	86.8%	62.9%	41.9%	47.5%	26.6%
Massachusetts	84.8%	62.8%	38.7%	48.2%	24.5%
Michigan	84.4%	53.9%	31.4%	46.1%	29.8%
Minnesota	88.6%	66.2%	40.1%	53.1%	29.4%
Mississippi	68.0%	34.6%	17.5%	32.8%	16.4%
Missouri	83.2%	52.0%	31.4%	47.0%	24.7%
Montana	87.3%	61.9%	43.5%	58.1%	31.6%
Nebraska	85.5%	58.4%	36.1%	48.5%	27.1%
Nevada	83.4%	55.8%	37.3%	45.5%	28.0%
New Hampshire	86.8%	59.3%	34.4%	54.0%	29.0%
New Jersey	81.7%	59.8%	34.5%	36.8%	22.5%

New Mexico	84.3%	56.0%	35.0%	51.8%	29.6%
New York	87.1%	61.8%	37.7%	42.1%	24.1%
North Carolina	85.0%	56.0%	33.2%	37.9%	20.2%
North Dakota	81.2%	59.8%	35.2%	50.2%	24.9%
Ohio	82.3%	50.0%	31.0%	44.0%	23.1%
Oklahoma	82.1%	53.8%	34.0%	46.1%	24.7%
Oregon	93.1%	74.9%	49.0%	62.3%	36.3%
Pennsylvania	76.9%	54.8%	33.6%	41.4%	23.6%
Rhode Island	84.5%	54.1%	36.8%	38.9%	22.7%
South Carolina	77.3%	48.6%	29.1%	45.9%	23.6%
South Dakota	84.7%	64.8%	43.0%	60.1%	35.7%
Tennessee	79.9%	49.2%	32.0%	39.3%	22.4%
Texas	85.1%	58.5%	34.9%	46.3%	26.9%
Utah	87.8%	66.4%	39.1%	51.4%	27.8%
Vermont	90.4%	71.7%	55.1%	63.8%	36.5%
Virginia	87.5%	65.0%	35.7%	56.6%	27.5%
Washington	95.1%	69.6%	47.6%	53.4%	32.3%
West Virginia	63.0%	35.9%	21.3%	29.9%	15.8%
Wisconsin	83.7%	59.7%	40.4%	56.9%	33.4%
Wyoming	87.9%	62.1%	38.3%	56.2%	30.1%
Guam	85.6%	57.6%	34.5%	41.4%	28.7%
Puerto Rico	89.5%	49.6%	36.8%	51.8%	31.4%

(Cheng, et al., 2019).

Appendix B

Key Words & institutions mentioned in the research paper

American Family Plan (AFP) of 2021

Family Medical Leave Act (FMLA) of 1993

Health & Human Services (HHS) of New Jersey & Pennsylvania

National Immunization Survey

North Atlantic Treaty Organization (NATO)

Organization of Economic Cooperation & Development (OECD)

Patient Protection & Affordable Healthcare Act of 2010

Paid Family Leave, Paid family leave,

Post-partum

U.S. Center for Disease Control (CDC)

World Health Organization (WHO)