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# Breastfeeding in Public: Perceptions of College Students in South Mississippi

Kaitlyn Sierra Kendall

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The University of Southern Mississippi

Breastfeeding in Public: Perceptions of College Students in South Mississippi

by

Kaitlyn Kendall

A Thesis  
Submitted to the Honors College of  
The University of Southern Mississippi  
in Partial Fulfillment  
of the Requirements for the Degree of  
Bachelor of Science  
in the Department of Child and Family Studies

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## **Abstract**

Breastfeeding rates have increased and declined throughout time. Perceptions of breastfeeding are mixed, with those finding it to be inappropriate and others finding it to be natural. The purpose in this study is to gain a better understanding of how college students in south Mississippi perceive breastfeeding. The Iowa Infant Feeding Attitudes Scale (IIFAS), a 17-item questionnaire aimed to explore an individual's attitudes toward infant feeding. The Breastfeeding Behavior Questionnaire (BBQ) presented 12 scenarios of breastfeeding in public as a means to explore how participants would react to those encounters. Data was collected from 151 college students through an online questionnaire. Frequencies were calculated, and ANOVA's were used to compare groups. The current findings suggest that college students in south Mississippi exhibit neutral to positive views toward breastfeeding. Strengths, limitations, and directions for future research are further discussed.

Key words: Breastfeeding, perceptions of breastfeeding, breastfeeding in public, college students

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## Table of Contents

Acknowledgements.....	v
List of Tables.....	ix
Chapter I: Introduction.....	1
Chapter II: Literature Review.....	5
Chapter III: Methodology.....	16
Chapter IV: Results.....	19
Chapter V: Discussion.....	27
References.....	34
Appendices.....	37
Appendix A: Iowa Infant Feeding Attitudes Scale.....	37
Appendix B: Breastfeeding Behavior Questionnaire.....	38
Appendix C: Participants' Attitudes toward Breastfeeding on IIFAS.....	39
Appendix D: Survey Instrument (Qualtrics Survey).....	40
Appendix E: IRB Approval Letter.....	48



## **List of Tables**

Table 1: Age of Participants.....	19
Table 2: Religious Preference of Participants.....	21
Table 3: Majors of Participants.....	22
Table 4: Participants' Responses toward Breastfeeding in Public on BBQ.....	25

# BREASTFEEDING IN MISSISSIPPI

## Chapter I

### Introduction

Breastmilk is designed to feed infants and is continuously changing in order to best meet the needs of the individual infant, based upon the nutrients that the infant require. Exclusive breastmilk is recommended for the first six months of an infant's life, as it provides all of the nutrients needed for proper development and growth, and provides health benefits for life (AAP, 2012). In addition to nutrients, breastmilk also supplies antibodies to prevent sickness. Nutrients and antibodies carry on to benefit the child with continued feeding after the first six months. There is an overwhelming amount of research that concludes that breastmilk can help reduce the risks of chronic diseases into adulthood (Vari, 2007).

Breastmilk is one of the most effective ways to ensure that a child is going to be healthy when they are first born. It reduces an infant's risk in disease beginning in infancy and leading into adulthood. There is a special milk called colostrum that is produced towards the end of a woman's pregnancy/after birth that is yellow and sticky. Feeding infants colostrum in order to provide the infants with the nutrients that they require ("Colostrum: Your Baby's First Meal," 2015). Colostrum is small in amount but nutrient rich, and babies ingest colostrum while waiting for milk to express from the mother's breasts. The AAP recommends that mothers should breastfeed exclusively for the first six months of life. AAP also recommends that while introducing solid foods to children to also continue breastfeeding for one year or longer, as decided by the mother and infant (AAP, 2012). Breastfeeding is a safe, effective way to ensure that a child will

## BREASTFEEDING IN MISSISSIPPI

be in good health. According to AAP, only 14% of children in the United States are exclusively breastfed for six months (AAP, 2012).

Research has shown that breastmilk has many immunological benefits. Binns, Lee, and Low (2016) explored the long-term benefits that breastmilk has on health, such as controlling infections and reducing infant mortality. They discovered that breastfeeding has a long-lasting impact on chronic diseases. Chronic diseases such as type 2 diabetes, high blood pressure, and obesity were shown that have reduced risks. There are many reasons why breastfeeding reduces health risks. Babies are born with immature immune systems, making them susceptible to diseases and germs. The antibodies in a mother's breastmilk gives the babies immunities that the mother has been exposed to. Babies can also aid in synthesizing new antibodies, as when the baby passes along germs the mother has not been previously exposed to, the mother's body will begin creating new antibodies for the baby (La Leche League International, 2016). Breastmilk is a live substance and it changes to meet the immunological needs of the child (U.S. Department of Health and Human Services, 2011).

Studies have found that breastfeeding rates have increased and declined throughout history (Wolf, 2003). Wet nursing was a common form of breastfeeding until around the 20<sup>th</sup> century. Wet nursing was a practice where a woman breastfeeds another woman's child, and it occurred because high socioeconomic status women thought breastfeeding was "unfashionable" or the mother was not able to produce milk (Stevens, Patrick, & Pickler, 2009). The feeding bottle was introduced shortly afterwards in the 20<sup>th</sup> century and were often filled with animal milk as an alternative if there were a lack of wet nurses in the area. Often, the milk came from a cow, but would also come from

## BREASTFEEDING IN MISSISSIPPI

goats, pigs, or sheep (Stevens, Patrick, & Pickler, 2009). Moving forward, infant mortality had a high rate and mothers began to question their infant's feeding habits. Some mothers were fearful that their infants were dying because of inadequate nutrition from the breastmilk or animal milk (Apple, 1987). The concerned mothers, alarming number of infant deaths, and the amount of mothers who were unable to produce their own milk led physicians to theorize another substitute for breastmilk that was satisfactory. Chemists created and commercialized what is known as formula for women who desired an artificial food to replace breastmilk (Apple, 1987). Around the 20<sup>th</sup> century, breastfeeding was beginning to be viewed negatively and the breastfeeding rates began to decline, specifically in the United States and Canada, due to the introduction of formula (Nathoo & Ostry, 2009). Formula was beginning to be viewed as a convenient and safe alternative to breastmilk, which ultimately led to the decrease in mothers giving their children breastmilk (Stevens, Patrick, & Pickler, 2009). As formulas were continuously developing, the chemists and manufacturers began advertising their products to doctors. Soon formula companies developed a positive, professional relationship with physicians across the United States. Breastfeeding rates declined until around the 1970s, when a movement to promote breastfeeding and its importance began (Stevens, Patrick, & Pickler, 2009).

Healthy People 2020 states that only 74% of infants were ever breastfed in 2006 and only 14% were exclusively breastfed the first six months of life. Healthy People 2020 compiled a list of goals that pertain to breastfeeding rates and what percentage they would like these rates to be raised to. The goals hope to increase each respective

## BREASTFEEDING IN MISSISSIPPI

percentages to 81.9% and 25.5% through education and advocacy (Maternal, Infant, and Child Health, 2017).

One barrier to giving children breastmilk is the perception of breastfeeding in public. There have been extensive amounts of research on how people perceive public breastfeeding, such as individuals viewing it as inappropriate, sexual, and embarrassing. Some people also viewed public breastfeeding as a shameful act. The purpose of this thesis is to shed light on the stigma surrounding breastfeeding in public.

The topic of breastfeeding in public is controversial and this study is going to explore the attitudes and perceptions among college students who attend a university in south Mississippi. The researcher wants to gain insight on how college students feel about breastfeeding in public, and if they are accepting of it. Therefore, the research question is: How do college students perceive public breastfeeding?

## **Chapter II**

### **Literature Review**

#### **Perspectives on Breastfeeding**

Perspectives of breastfeeding vary by race, ethnicity, gender, environment, and age. One study conducted in the United States found males aged 21-44 were surveyed on their views on breastfeeding in 2015 (Van Wagenen, Magnusson, & Neiger, 2015). Out of 502 participants, approximately 75% viewed breastmilk as the ideal baby food and approximately 88% of respondents expressed that breastmilk was less expensive than formula. Most men had been exposed to breastfeeding prior to the conducted study, as they were fathers or have a relative or friend that breastfed. The study looked at the participant's demographics as well, and found that 61.4% of men did not support breastfeeding in public places. White men displayed the highest acceptance rate of breastfeeding and breastfeeding in public, while Hispanic men displayed the lowest acceptance in this study. Researchers found it to be surprising that Hispanic men had a low acceptance rate, as Hispanic women in the United States have the highest breastfeeding rate and initiation, at 80.4 percent (Van Wagenen, Magnusson, & Neiger, 2015).

The southern region of the United States has had multiple studies completed on college campuses. 348 Black college students surveyed from the University of Memphis and Saint Louis University expressed favorable attitudes toward breastfeeding. Out of the 348 participants, 56% believed breastmilk to be healthier than formula and 70% believed breast milk was more ideal. Despite the slightly favorable attitudes toward breastfeeding,

## BREASTFEEDING IN MISSISSIPPI

46% thought women should not breastfeed in public. Forty-two percent of participants also thought that formula was a better option when out in public and it more convenient (Jefferson, 2014).

A similar study was completed among college students at the University of Tennessee, Knoxville. The participants of this study were 89.4% White and approximately seven percent Black or African American (Kavanagh, Lou, Nicklas, Habibi, & Murphy, 2012). Undergraduate students in this study displayed little support for breastfeeding in public. Seventy-one percent of female college students thought that breastfeeding in public was embarrassing and unacceptable, versus the 47.7% of males who expressed similar views. The study revealed that women feel more embarrassed or ashamed to breastfeed in public, despite being knowledgeable about the benefits as compared to formula feeding (Kavanagh, Lou, Nicklas, Habibi, & Murphy, 2012).

Studies were also completed in rural communities to assess their perspectives on breastfeeding. A study was conducted on the Eastern shore of Virginia with a low-income community, with 20% living in poverty and medically underserved (Ruffin & Renaud, 2015). Medically underserved areas are those which do not have many primary care providers or high infant mortality rates. The area was considered unique because it was not connected to the state and only had access to one hospital with 125 beds. Forty-one women participated in a 27-item questionnaire and expressed positive views toward breastfeeding. Approximately 66% of women initiated breastfeeding, and 63.4% received education regarding breastfeeding prior to birth (Ruffin & Renaud, 2015). The study found that education, age, and funding were associated with higher breastfeeding rates. If a woman previously breastfed another child, then she was more likely to initiate

## BREASTFEEDING IN MISSISSIPPI

breastfeeding again. Approximately 77% of women breastfed their most recent child out of the 64.7% of respondents who breastfed their other children. The women in the rural community expressed a high breastfeeding initiation rate at 65.9 percent (Ruffin & Renaud, 2015).

Couples who are expecting a child are influenced by their education when making the decision to breastfeed. Avery and Magnus (2011) completed a study on expecting couples in three major cities in the United States: San Francisco, Chicago, and New Orleans. The study consisted of 121 couples, where half were African American and the other half were Caucasian. Interviews were completed with the couples with the aim of discovering what they believed to be the benefits and drawbacks of breastfeeding and formula feeding. All participants were also asked their opinions on breastfeeding in public. The study found that approximately 61% men who were expecting a child displayed favorable attitudes toward breastfeeding, and listed the infant's health as a benefit. Men who were expecting children were not opposed to their partner's decision to breastfeed. Education was a factor in supporting a woman's decision to breastfeed. Fathers who had read literature about breastfeeding were reported to express either support or a neutral stance. Both the men and the women participating in the study agreed that men should not make the final decision about feeding options as well (Avery & Magnus, 2011).

Age is also shown to have an influence on opinions of public breastfeeding. Older college students in the southern regions of the United States were often more accepting of breastfeeding. Jefferson (2014) discovered that college students aged 31-40 years displayed higher scores on the Iowa Infant Feeding Attitudes Scales (IIFAS). Students at



## BREASTFEEDING IN MISSISSIPPI

the University of North Dakota who were older than 20-years-old expressed more positive attitudes toward breastfeeding and also scored higher on the IFFAS (Marrone, Vogeltanz-Holm, & Holm, 2008). Older college students express more positive views on breastfeeding in general due to the exposure they may have had in public or among family and friends. As people are more exposed to breastfeeding, the more accepting they will be towards it in public (Marrone, Vogeltanz-Holm, & Holm, 2008).

Fooladi (2001) completed a study on 118 African American women inquiring why they did or did not choose to breastfeed. The study found that African American women are showing less and less interest in breastfeeding. Twenty-eight percent of women surveyed expressed fears that they would not produce enough milk as a reason they chose not to breastfeed. Thirty-seven percent of the women who participated viewed breastfeeding as a public embarrassment. Fooladi's (2001) research exhibited a generational difference between African American women, as the younger generation developed different perceptions on breastfeeding. The study found that the younger generation were more apprehensive to initiate breastfeeding and viewed it as an embarrassment (Fooladi, 2001). Some of the women surveyed were on Women, Infants and Children (WIC), which is a federal assistance program for low-income women. WIC provides free formula to women who choose not to breastfeed. The option of free formula to women on WIC has encouraged young, black American women to show less interest in breastfeeding (Fooladi, 2001).

A study was completed in the United States on African American women to understand why the breastfeeding rate is so low. The qualitative study utilized Black feminist theory to analyze the women's breastfeeding experiences and how they

## BREASTFEEDING IN MISSISSIPPI

intersected with their environment. The theory states that the oppression African American women are afflicted with create unique perspectives. The participants underwent an interview process where they spoke about their personal experiences with breastfeeding. Participants regarded self-determination, health benefits, and family tradition as reasons they initiated breastfeeding. Women learned about health benefits through media outlets, such as magazines and the internet. Support levels varied from coworkers, friends, health care providers, and family. Each participant could name at least one negative interaction involving breastfeeding; however, those interactions encouraged the women to voice their frustrations to those who did not support their decision to breastfeed (Spencer, Wambach, & Domain, 2015).

A study was conducted in Minnesota and found that doula support increases the likelihood of a mother breastfeeding. Doulas provide support to women and their families during pregnancy, childbirth, and after birth (Kozhimannil, Attanasio, Hardeman, & O'Brien, 2013). Doulas also provide nonmedical information to women during their pregnancies. African American and Hispanic women that hail from a low socioeconomic status utilized doula care the most (Kozhimannil, Attanasio, Hardeman, & O'Brien, 2013). Women from these ethnic backgrounds exhibit the lowest breastfeeding initiation rates. The study found that 97.9% of women initiated breastfeeding with the support of a doula, as compared to the 80.8% of women who only received general Medicaid assistance (Kozhimannil, Attanasio, Hardeman, & O'Brien, 2013).

### **Breastfeeding in the Media**

The media plays an important role in a woman's decision to breastfeed. Information can be provided to women through television, magazines, and movies, as

## BREASTFEEDING IN MISSISSIPPI

society is surrounded by constant interactions with media. Foss (2013) completed a study that consisted of a qualitative textual analysis of television shows. Character indicators, comments, and the physical act of breastfeeding were analyzed in 53 shows. What Foss found was that breastfeeding is not heavily shown in the media. However, when portrayed, breastfeeding is depicted by a woman of high status. She was typically Caucasian, well-educated, older affluent woman with a professional career. If a mother was having doubts and became uncertain about the initiation or continuation of breastfeeding, then she often had a person who provided support. Having a support system influenced a woman's decision to breastfeed or not. There was a lack of explanation as to why women in the media decided to breastfeed. The health benefits of breastfeeding were seldom explained as well (Foss, 2015).

The act of breastfeeding in public was portrayed as inappropriate, uncomfortable, and was heavily criticized. Episodes would have characters make sexual comments about a woman if she was breastfeeding in public. Some saw the act of breastfeeding in public as deviant and unacceptable (Foss, 2015).

The practice of public breastfeeding not only has a sexual connotation, but has also been deemed as "taboo." It is viewed as taboo because the exposure of the breast can be seen as public sexuality. A study that interviewed African American women on their breastfeeding experiences expressed results related to their personal challenges of breastfeeding in public. Participants expressed concerns because the media portrays an African American woman as voluptuous (Spencer, Wambach, & Domain, 2015). One participant in the study explained how African American women have hips and curves, and how the media and society viewing them makes breastfeeding initiation and

## BREASTFEEDING IN MISSISSIPPI

continuation difficult (Spencer, Wambach, & Domain, 2015). The study found that promoting positive, empowering images of African American women in the media rather than negative, sexualizing images can help break the societal stereotypes. Social media platforms were recommended to promote mother-to-mother dialogue to normalize breastfeeding (Spencer, Wambach, & Domain, 2015).

The following study defined media outlets as television shows, movies, and any form of digital pictures, such as posters. The study was completed in rural Newfoundland and Labrador that assessed how posters influenced comfort level with breastfeeding in a public place. The study's results showed that 51.9 percent of participants were comfortable with a woman breastfeeding in public. However, not every public place was deemed acceptable when breastfeeding was concerned. Places such as the doctor's office or the park were acceptable places to breastfeed, but a more professional environment such as a business office was less acceptable. The study discovered that posters of women breastfeeding had a positive influence on the participants (Vieth, Woodrow, Murphy-Goodridge, O'Neil, & Roebathan, 2016).

### **Acceptance of Breastfeeding**

A feeling of empowerment is expressed when women breastfeed (Spencer, Wambach, & Domain, 2015). Women feel empowered because of the bond that have with the infant, along with when they breastfeed because of breastmilk's health benefits (Spencer, Wambach, & Domain, 2015). They feel a sense of nurturance when they are providing immunological benefits to their child. Financial benefits are also discussed as contributing to a women's sense of empowerment (Spencer, Wambach, & Domain, 2015). Formula is expensive, and women and their families reap the financial benefits

## BREASTFEEDING IN MISSISSIPPI

from breastfeeding because they are saving money. Along with a sense of liberation, women who breastfeed also report a feeling of bonding (Spencer, Wambach, & Domain, 2015). Those who breastfeed experience a sense of achievement that they were able to breastfeed their child. Breastfeeding is occasionally viewed as hard work because the woman's body is producing milk. Women that knew they were sustaining their child's life through their breastmilk gave them a sense of pride and helped them support other women (Spencer, Wambach, & Domain, 2015).

Acceptance of breastfeeding is one of the most important factors that affects whether or not a woman decides to breastfeed. Hannan, Ruowei, Benton-Davis, & Grummer-Strawn (2005) published a study to discover the knowledge and support levels for breastfeeding in public. A Healthstyles and Lifestyles survey was sent out to participants throughout the United States, which was divided into nine regions. The New England, Pacific, and Mountain regions had a higher acceptability of breastfeeding in public places and on media outlets. However, the East South Central, Middle Atlantic, South Atlantic, and East North Central regions expressed the least amount of approval towards breastfeeding in public (Hannan, Ruowei, Benton-Davis, & Grummer-Strawn, 2005).

The state of Mississippi protects a woman's right to breastfeed in public sectors. Many laws were enforced in 2006 that covers the topic of breastfeeding. The state prohibits against the restriction of a woman's right to breastfeed in any location. Child care facilities are required to provide a sanitary area for mother who breastfeed, as well as a refrigerator to store breast milk. Women who are breastfeeding in public may not be

## BREASTFEEDING IN MISSISSIPPI

charged with public indecency, disturbance of a public space, or disorderly conduct (Breastfeeding State Laws, 2017).

### **Perceptions of Breastfeeding in Public**

Public breastfeeding is not as favored as private breastfeeding (Acker, 2009). Private breastfeeding is breastfeeding in the privacy of the mother's home. Public breastfeeding is breastfeeding anywhere in a public place, not including a bathroom. Acker (2009) set out to determine people's perceptions of breastfeeding in public and private environments through a photoset. Results showed that the private environment was associated with more positive views. The photo of the woman breastfeeding in a public place received varying judgements. The study reported that older participants and men show more support for a woman breastfeeding in both public and private environments (Acker, 2009).

Breastfeeding in public is seen as a challenge to African American women (Spencer, Wambach, & Domain, 2015). Women described some challenges to breastfeeding in public as having access to pumping or to the baby. Women that came from low-income environments or low-paying jobs had a more difficult time gaining access to technology to help them pump breastmilk. A study found that sometimes women had to persuade their place of employment to allow them time to pump breastmilk. Some women even had to bring copies of the state laws on breastfeeding. Women who had higher-paying, professional jobs had better access to equipment and space for pumping (Spencer, Wambach, & Domain, 2015). Another challenge that women faced is what is referred to as the "evil eye" (Spencer, Wambach, & Domain, 2015). Public breastfeeding has had varying levels of comfort. While a woman may be

## BREASTFEEDING IN MISSISSIPPI

comfortable breastfeeding in a public place, they may feel a level of discomfort because of the negative energy that is emitted from spectators. Some women who breastfeed in public also reported a sense of disconnect to their peers while breastfeeding around them. Women feel that they are being removed from conversations and events while they are breastfeeding (Spencer, Wambach, & Domain, 2015).

Marsden and Abayomi (2012) conducted a study where they interviewed employees of local restaurants and cafes. The workers viewed breastfeeding in a positive manner and did not express any issues with women who publicly breastfeed. Employees suggested that if private facilities such as lactation rooms were more readily available that women would be more encouraged to breastfeed (Marsden & Abayomi, 2012).

Avery and Magnus' (2011) study discovered that the participants had strong opinions concerning breastfeeding in public. Men and women expressed similar attitudes, such as experiencing feelings of discomfort when witnessing a woman breastfeeding. Although men were supportive of breastfeeding, they did not believe it was acceptable for women to breastfeed in public. Some of the men mentioned how the sexual connotation of breasts contradicted the exposure of breasts while breastfeeding. As for the women, they believed that breastfeeding in public was wrong (Avery & Magnus, 2011).

A review of the literature found that while people were generally knowledgeable on the benefits of breastfeeding for both the mother and the child, their opinions on witnessing breastfeeding in public were conflicting. People who were older expressed more favorable views towards the public practice and viewing of breastfeeding (Jefferson, 2014; Marrone, Vogeltanz-Holm, & Holm, 2008). People who were exposed

## BREASTFEEDING IN MISSISSIPPI

to informative materials or had experience with breastfeeding exhibited more favorable views as well (Avery & Magnus, 2011). The media portrays breastfeeding as inappropriate and sexual, while not educating viewers on the health benefits (Foss 2015). In reviewing the literature, a gap was found in that while research was carried out on college campuses, none were specifically found in Mississippi.

This study will attempt to fill this gap. For the purpose of this study, the following key terms will be utilized. *Exclusive breastfeeding* refers to mothers who only feed their child breastmilk. This includes nursing and pumping. *Public* refers to a place that is open to all and to the community to common use (Black, 1968).



### **Chapter III**

#### **Methodology**

##### **Sample**

The sample studied was comprised of undergraduate and graduate college students at a university in south Mississippi. The sample size was 151 students. Students of any gender and race were studied. The sample population ranged from 18 to 69 years of age. No college students under the age of 18 were asked to complete the surveys. In addition, participants were asked to provide their marital status, religious preference, major field of study, and classification, if applicable. Participants were asked if they were breastfed as a child, and if they were breastfed in public. Parental status was requested, as well as breastfeeding behaviors. The surveys were sent out to the student population through the university's mail out.

##### **Data**

Data for this study was collected through student's survey responses. The purpose of this study was to gather information about college student's perceptions of public breastfeeding.

Research questions that the researcher collected data on in this study were the following:

1. How does age influence perceptions of breastfeeding on a college campus?
2. Will undergraduate students express more positive attitudes as compared to graduate students?

## BREASTFEEDING IN MISSISSIPPI

3. Will male college students express more positive attitudes as compared to female students? If so, what race/ethnicity expresses these positive views?

### **Instruments and Procedures**

This research study utilized three surveys: the Iowa Infant Feeding Attitudes Scale (IIFAS), the Breastfeeding Behavior Questionnaire (BBQ), and a demographics survey. The IIFAS is a survey that assesses a person's attitudes toward infant feeding. It is composed of 17 questions that a person answers on a 5-point Likert scale, ranging from *strong disagreement* to *strong agreement* (Appendix A). Scores on the IIFAS range from 17 to 85. A higher score correlates to a more positive attitude toward breastfeeding (de la Mora, Russell, Dungy, Losch, & Dusdieker, 1999). The BBQ measures the attitudes and beliefs of diverse groups. The BBQ is a questionnaire composed of 12 scenarios that mothers might encounter when they breastfeed. The scenarios are answered on a 6-point Likert scale, and scores range from a 12 to 72. A lower score correlates to a more positive attitude toward breastfeeding (Marrone, S., Vogeltanz-Holm, N., & Holm, J., 2008). The BBQ was formatted so that participants would answer in an 'Agree/Disagree' format (Appendix B). Participants also took a demographics survey in order to understand the student population at the university. The demographics survey included questions regarding age, gender, race/ethnicity, classification, and religion. Participants were also asked what to include their majors and if they have any children. If the participants had children, they answered additional questions regarding breastfeeding practices and duration. Surveys were distributed and completed once approval was sought from the institutional review board (IRB) at the university. The survey was completely confidential and participants should not have discussed their answers with others upon

## BREASTFEEDING IN MISSISSIPPI

completion. Participants also had the opportunity to exit the survey if they felt uncomfortable at any point during completion.

### **Data Analysis**

Data analysis was completed using analysis of variance (ANOVA) tests on the IIFAS and demographics survey, along with frequencies. The IIFAS scores were compared with the ages of the participants during data analysis. Data collected from the BBQ were analyzed through tallying whether the answers were ‘Agree’ or ‘Disagree.’

**Chapter IV**

**Results**

**Univariate Analyses**

After eliminating data that was deemed insufficient because the respondents did not provide 75% of information, a total of 151 college students participated in this study. There was a variance of age ranges of the respondents, with the youngest being 18 and the oldest being 69. The researcher used the Census age ranges to group together participants. Approximately 36% of participants were between the ages 18-19, 46.3% ages 20-24, 11.9% ages 25-34, 15.3% ages 35-49, 4.2% ages 50-64, and .7% ages 65 and over (Table 1).

Table 1.

*Age of Participants (N = 151)*

Characteristic	<i>n</i>	%
<u>Age at time of survey (years)</u>		
18-19	33	35.8
20-24	70	46.3
25-34	18	11.9
35-49	23	15.3
50-64	6	4.2
65+	1	.7

## BREASTFEEDING IN MISSISSIPPI

More than half of the respondents were undergraduate students at 75.5%, as compared to the 24.5% of graduate students. The most represented classification of undergraduate students were seniors, at 27.2 percent. Juniors were represented at 24.5%, followed by freshman at 15.2 percent. The least represented classification in this study were those who identified as sophomores. Sophomore respondents only comprised 8.6% of the data. Approximately 25% was remaining from the dataset, which represented the 37 Graduate students who participated in the study. As for gender, 88.7% of respondents were female and 11.3% were male. Out of the respondents, an overwhelming 78.8% identified their race as White; however, each race was represented in this study. Black or African American respondents made up approximately 10% of the population. Approximately seven percent listed their race as "Other." Two percent identified as "Native Hawaiian or Pacific Islander," followed by the approximate one percent who identified as "Asian." Only a miniscule percentage identified as "American Indian or Alaska Native," at less than one percent. Seventy-eight percent of respondents identified their marital status as being "Never Married," 16.7% as "Married," and approximately five percent as "Divorced." None of the respondents in the study identified their marital status as "Widowed" or "Separated."

As for religious preference, the majority of participants, at 58.3%, identified as "Christian." The second highest percentages (11.9%) of religions represented were tied between "Catholicism" and those that identified as "non-religious." "Atheism," "agnosticism," and "prefer not to say" followed after with approximately five percent. There was one respondent, totaling out to be less than one percent whom identified as "Muslim" or "Buddhist." One participant did not answer the question, leaving less than

## BREASTFEEDING IN MISSISSIPPI

one percent leftover (Table 2). It is important to note that every religious preference listed in the research instrument was represented by the population in the study.

Table 2.

### *Religious Preference of Participants (N = 151)*

Characteristic	<i>n</i>	%
<u>Religious Preference</u>		
Christian	88	58.3
Catholic	18	11.9
Muslim	1	.7
Buddhist	1	.7
Atheist	8	5.3
Agnostic	8	5.3
Non-religious	18	11.9
Prefer not to say	8	5.3
Missing	1	.7

Respondents were asked to identify what their majors were. The researcher then grouped the majors into their respective colleges: Arts and Letters, Business, Education and Psychology, Health, Nursing, and Science and Technology. Majors were grouped into the correct colleges by using the University of Southern Mississippi's website. The most participants (28.5%) came from the College of Education and Psychology, and the least coming from the College of Nursing (approximately five percent). Approximately

## BREASTFEEDING IN MISSISSIPPI

28% of respondents hailed from the College of Arts and Letters, followed by 15.9% from the College of Science and Technology. Eighteen participants, or 11.9%, had their major listed under the College of Health. The College of Business exhibited the second least amount of participants at approximately nine percent. Approximately three percent of respondents did not answer the question regarding what their major was (Table 3). It is important to note that all six colleges were represented in this study.

Table 3.

### *Majors of Participants (N = 151)*

Characteristic	<i>n</i>	%
Majors (Colleges)		
College of Arts and Letters	40	26.5
College of Business	13	8.6
College of Education and Psychology	43	28.5
College of Health	18	11.9
College of Nursing	8	5.3
College of Science and Technology	24	15.9
Not Answered	5	3.3

Respondents were questioned about their breastfeeding past. Approximately 62% of respondents said they were breastfed as a child, while the remaining 37.7% answered said they were not breastfed. If the participant answered “Yes” to being breastfed as a child, they were then asked if they were breastfed in public. Approximately 42% said

## BREASTFEEDING IN MISSISSIPPI

they did not know if they were ever breastfed in public, while 13.9% answered “Yes,” leaving six percent that answered “No.” The 37.7% that answered “No” to the previous question were excluded from this question for research consistency purposes. The researcher questioned if any of the respondents were parents, and only 19.2% were parents, with the remaining 80.8% without children. Out of the percentage of respondents that were parents, however, 65.5% breastfed their children, and 34.5% did not breastfeed. The percentages of whether their children were breastfed in public were close, with 48.3% answering “Yes” and 51.7% answering “No.” Approximately 81% was not factored into the questions concerning children being breastfed or being breastfed in public because that percentage represents the participants that did not have children.

### **Correlation Analyses**

Respondents were asked a series of 17 questions from the Iowa Infant Feeding Attitudes Scale (IIFAS). The questions asked to rate their beliefs on statements concerning breastfeeding knowledge, formula versus breastmilk, and breastfeeding in public. For scoring purposes, questions 1, 2, 4, 6, 8, 10, 11, 14, and 17 were reversed (Appendix A). The questions that required reversed scoring were items that were favorable toward formula feeding (Appendix C). Each participant’s score was totaled and entered into SPSS. Scores on the IIFAS could range from 17 to 85, and the higher the number, the more perceptive and supportive the person is toward breastfeeding. Lower scores indicated less support and learning more toward formula feeding (Lau, Htun, Lim, Ho-Lin, & Klainin-Yobas, 2016). Two respondents scored a 17 and only one respondent scored an 85. The participants’ mean score of the IIFAS was a 58.81, with a standard deviation of 10.01.



## BREASTFEEDING IN MISSISSIPPI

The final part of the survey consisted of the Breastfeeding Behavior Questionnaire (BBQ), which presented 12 scenarios to the participants concerning breastfeeding and the participants had to either agree or disagree with the scenario. Responses to the BBQ varied depending on the scenario. Approximately 82% of respondents did not agree with the scenario that had the mother breastfeeding her baby in her own home with the baby's head covered when the neighbors came and visited. However, the scenario that had the mother breastfeeding her child in restaurant was viewed differently by respondents. Respondents were asked if the mother should have taken her child out of the public place to breastfeed, and 71.5% disagreed, showing their support for breastfeeding in a public area. A question in the BBQ asked if it were necessary for a woman to take her baby out of the church service to breastfeed. The responses were mixed, with 48.3% agreeing and 47.7% disagreeing. Approximately 77% of respondents agreed that a woman should follow her doctor's advice to breastfeed a baby (Table 4).

Table 4.

### *Participants' responses toward breastfeeding in public on BBQ*

Variables	Agree (%)	Disagree (%)	Did Not Answer (%)
Jane Johnson	96	0	4
Estelle Green	13.2	81.5	5.3
Martha Smith	23.8	71.5	4.6
Kathy Brown	43.0	53.0	4.0
Anne Evans	48.3	47.7	4.0
Marie Schultz	32.5	63.6	4.0
June Moon	92.1	4.0	4.0
Laura Baxter	11.9	84.1	4.0
Linda Martin	76.8	18.5	4.6
Jane Blaine	63.6	31.8	4.6
Peggy Kelley	58.3	37.1	4.6

## BREASTFEEDING IN MISSISSIPPI

Variables	Agree (%)	Disagree (%)	Did Not Answer (%)
Jeanette James	76.2	19.2	4.6

ANOVA tests were completed on questions of the IIFAS and the BBQ that the researcher thought to be significant. Questions were cross-compared with different demographics, such as age, race, and gender. The ANOVA tests were deemed statistically significant if  $p = .05 <$ . Each of the questions were tested through ANOVA; however, only a few questions displayed significance. The question “Formula-feeding is more convenient than breastfeeding,” had a statistical significance of  $p = .007$  when cross-compared with the respondent’s majors.

Questions from the BBQ were run through ANOVA on age. Significance was not discovered after the tests were run, though. The question, “Estelle Green is breastfeeding her baby in the living room. The man and woman from next door come to see the new baby. Estelle covers her breast and the baby’s head with a receiving blanket and the baby continues to breastfeed while the neighbors talk. Do you think Estelle should have stopped breastfeeding?” ANOVA test resulted in  $p = .633$ , deeming it not significant. The question concerning Kathy Brown and leaving the restaurant to breastfeed her baby in the car resulted in a  $p = .566$  for the ANOVA test. “Marie Schultz and her husband take their baby to church. When it is time for the baby to eat, Marie breastfeeds the baby under her blouse. She also covers the baby’s head with a receiving blanket in case the blouse slips. Do you think Marie should have taken the baby out of church to breastfeed?” did not result in a significance of  $p = .549$  when tested by age.

## BREASTFEEDING IN MISSISSIPPI

Questions from the BBQ were also run through ANOVA one-way by religious preferences. The question, “Anne Evans and her husband take their baby to church. When it is time for the baby to breastfeed, Anne takes her into the ladies’ bathroom. Do you think it was necessary for Anne to take the baby out of church to breastfeed?” revealed no significance, with a number of  $p = .831$ . The question about Marie Schultz from the BBQ also displayed no significance, with a number of  $p = .842$ .

Additional questions from the survey were tested using ANOVA one-way by gender and race. The question from the IIFAS concerning the convenience of formula-feeding as compared to breastfeeding was tested by gender. The ANOVA revealed that the results were not statistically significant, with a number of  $p = .103$ . Next, the researcher ran tests on the same question but with race as the variable. The results were still insignificant, with the number being  $p = .148$ . Additional tests were run using undergraduate or graduate student as the variable, with no significance at  $p = .423$ .

## **Chapter V**

### **Discussion**

This study examined the relationship between college students and their perceptions of breastfeeding and breastfeeding in public. In this section, results from the study will be discussed. Strengths and limitations of the study will be assessed and presented, as well as directions for future research.

#### **Summary of Iowa Infant Feeding Attitudes Scale and Breastfeeding Behavior**

##### **Questionnaire Results**

The results from this study concluded that college students at a university in south Mississippi express above average views toward breastfeeding. Scores on the IIFAS range from 17 to 85, with a baseline score of 51 if every question is answered with a neutral response. A higher score on the IIFAS indicates a more positive attitude toward breastfeeding (Appendix C). Gender was considered to be an important factor in this study, as prior research found that males expressed little support toward breastfeeding (Kavanagh, Lou, Nicklas, Habibi, & Murphy, 2012). However, this study found that female participants only had a slightly higher average score on the IIFAS. The males in this study had an average score of 58.41, while females averaged a score of 58.86, resulting in a difference of forty-five hundredths. When looking at just the male participants' IIFAS scores, the lowest score was a 46 and the highest was a 72. The lowest and highest score possible on the IIFAS, however, were both scored by female participants. It is encouraging that male and female college students in south Mississippi expressed positive attitudes toward breastfeeding.

## BREASTFEEDING IN MISSISSIPPI

Age plays a role in how a participant may have responded to a question. A past study revealed that college students who were older were more accepting towards breastfeeding (Jefferson, 2014). While Jefferson (2014) discovered that students who were aged 31-40 years scored the highest on the IIFAS, the current study had participants aged 55-64 years presented the highest mean score. Students aged 18-24 years had the second highest mean score. The researcher of the current study hypothesized that participants who were younger were going to express the highest scores on the IIFAS, meaning that they were going to have more positive attitudes toward breastfeeding. It is significant to note that while Foss's (2015) study found that media describes breastfeeding as inappropriate and is heavily criticized, the participants in this study were not influenced by the media's perceptions. The oldest participant scored a 39 on the IIFAS, which is below the average score as compared to the other respondents. This study concluded that college students who were older scored higher on the IIFAS. In addition to age, breastfeeding history was information received from some participants. Participants who were breastfed as a child resulted in higher IIFAS scores than those who were not.

Out of the six colleges at the university, the highest scores came from those who are in the College of Education and Psychology. This can be explained as those who study in the educational or psychological fields enroll in courses that are health-related. Content in the course curriculum include classes on child development, child psychology, and infant development, where breastfeeding may be spoken about or taught. Participants who were in the College of Health or the College of Nursing also expressed average to high scores on the IIFAS. This study revealed that majors may have an influence on a

## BREASTFEEDING IN MISSISSIPPI

person's perspective. People who are studying in a health-related field are exposed to the topic of breastfeeding and the health benefits. Lower scores were found from those in the College of Arts and Letters, College of Business, and College of Science and Technology. For example, the College of Arts and Letters focuses on communications, music, and other non-health-related fields of study. The lower scores can be explained by the participants in these colleges not being as frequently exposed to health-related classes, so they do not have the opportunity to receive as much, if any, educational instruction on the topic of breastfeeding. Being in a health-related field helped those be more knowledgeable and more accepting towards breastfeeding.

Receiving a higher education did not seem to have any significant influence on perceptions of breastfeeding. The undergraduate mean IIFAS score totaled to 59.58, while the mean score for graduate students was a 56.43. More participants who were graduate students may have provided a better perspective to the researcher for this study, as an overwhelming majority of participants were undergraduate students. The results of this study suggest that people who are obtaining an advanced degree will not always express more positive views toward breastfeeding. It also may depend on what course of study they are in as well.

What this study found was that college students in south Mississippi express favorable views toward breastfeeding. The study found that only two respondents scored the lowest and one scored the highest numbers possible on the IIFAS. This shows that few people express extreme views on breastfeeding, and that the majority hold neutral to slightly positive opinions on the subject. The study's mean IIFAS score, 58.81, revealed that the participants are perceptive and supportive toward breastfeeding. The study

## BREASTFEEDING IN MISSISSIPPI

conducted by Hannan, Ruowei, Benton-Davis, and Grummer-Strawn (2005) found low approval rates concerning breastfeeding in the East North Central region in the United States. The average IIFAS score from this current study indicates that college students are more favorable towards breastfeeding, even as the East North Central region exhibited lower approval rates. It is important to note that there is a twelve year gap between the study referenced above and this study. Time may have an influence on a person's perceptions, as additional advocacy and educational resources have been made more readily available to the community.

As for the Breastfeeding Behavior Questionnaire, the participants expressed mixed views toward breastfeeding in public areas. The majority of respondents disagreed with a mother breastfeeding her child in the presence of guests in her own home. However, participants believed it to be okay for mothers to breastfeed her child in a restaurant, answering that they did not believe that the mother should have to remove herself and the child out of the environment. This is of note because the participants did not think it was okay for the mother to breastfeed in her own home, even with the baby's head covered. This was interesting because it contrasts a study where women breastfeeding in a private environment, such as their home, was associated with more positive views (Acker, 2009). The results leads to further questioning of whether there are varying levels of public environments, and what 'lines' people have invisibly drawn from their own perceptions.

Additionally, there were mixed views on whether or not a mother should take her child out of a church service to breastfeed. The less than one percent difference between the agreement and disagreement indicates that participants were not sure how to respond

## BREASTFEEDING IN MISSISSIPPI

to the scenario. Along with the mixed answers, the ANOVA tests run on the BBQ questions concerning church revealed no significance when tested by religious preferences. The researcher was surprised that there was not any significance, as Mississippi is located in the “Bible Belt” and is considered the most religious state (Suneson & Gedeon, 2017). The ambivalence towards women breastfeeding in public may influence women to have conflicting thoughts of whether or not they should initiate breastfeeding. Fear of judgment or even feeling uncomfortable by spectators can lead a woman to make the decision to not breastfeed in public. Furthermore, additional support to women from the community surrounding them may reduce the conflicting opinions of whether they should breastfeed or not.

The race of the participants in this study did not indicate any significance when ran through ANOVA tests. The researcher was not able to delve deep into race when cross-comparing with previous literature, as there was little diversity within the pool of participants. This is further discussed in limitations.

### **Strengths of Present Study**

This study contains several strengths that contribute to the research on college students’ perceptions of public breastfeeding. This study contributes to the limited literature that examines the relationship between college students and their perceptions of breastfeeding in the southern region of the United States. Most notably, this study also contributes to the literature examining a college student’s perceptions of breastfeeding in public. Previous research has shown unfavorable views toward public breastfeeding and support for breastfeeding (Kavanagh, Lou, Nicklas, Habibi, & Murphy, 2012). The literature reviewed for this research also showed limited research for how college



## BREASTFEEDING IN MISSISSIPPI

students view breastfeeding, specifically in Mississippi, so it is reasonable to apply this research to the literature.

### **Limitations of Present Study**

Despite the numerous strengths of this study, there are also several important limitations. Firstly, there was a significant lack of male participants in the study. This is a limitation due to the research question that was aimed at acquiring and analyzing how male students' perceptions compare to female students' views. Part of this lack of male respondents could be explained by the recruitment procedures used. A large quantity of respondents were recruited through the researcher's personal Facebook page. The sample is representative of the researchers' Facebook friends, as they are mostly female. Every respondent filled out the survey online, as opposed to having the option for a paper survey, creating a limitation to those without access to internet. The inclusion criteria required the respondents to be at least 18 years of age, limiting the respondents who are in college but are still 17 years of age. Age was also a limitation, because the participant pool was skewed toward people of the senior classification. There was a significant lack of information from freshman, sophomores, juniors, and graduate students.

Another important limitation found in this study is the lack of diversity found when concerning the respondents' race. An overwhelming amount of respondents classified themselves as White, making it difficult for the researcher to examine the perceptions of culturally diverse students attending the university. Lack of diversity within the participants created a limitation for the researcher because most of literature studied breastfeeding perceptions among African Americans. Having a predominately White percentage of respondents made it difficult for the researcher to compare the

## BREASTFEEDING IN MISSISSIPPI

results and see if they were similar or dissimilar. This was also a limitation as the demographics reflected the university's.

Finally, a limitation of this study is the retrospective nature. Participants were called upon to reflect on if they were breastfed as an infant, or, if they were a parent, if they breastfed their child. Respondents may not have been able to properly and accurately recall these behaviors and practices if they were an infant or if their child was born decades ago. Parents should be asked about their breastfeeding habits when their children are younger; however, this factor cannot be controlled through this study.

### **Directions for Future Research**

Future studies can be implemented and examined through the limitations identified through this study. A more diverse sampling that takes race and gender into consideration can help eliminate any potential biases. Additionally, more studies conducted in the state of Mississippi on breastfeeding can be used to examine how college campuses in Mississippi compare to other colleges located in the southern region of the United States. Future research might also explore how a specific ethnic or racial group on a specific college campus view breastfeeding, and compare the results to the same ethnic or racial group from a different campus. In light of Mississippi being recently named the most religious state in America, future research might also explore perceptions of breastfeeding at religiously-affiliated colleges and compare the results to nonaffiliated institutions (Suneson & Gedeon, 2017).

## BREASTFEEDING IN MISSISSIPPI

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Appendix A

Iowa Infant Feeding Attitudes Scale (IIFAS)

2380 DE LA MORA ET AL.

Appendix

*The Iowa Infant Feeding Attitude Scale*

For each of the following statements, please indicate how much you agree or disagree by circling the number that most closely corresponds to your opinion (1 = strong disagreement [SD], 2 = disagreement [D], 3 = neutral [N], 4 = agreement [A], 5 = strong agreement [SA]). You may choose any number from 1 to 5.

	SD	D	N	A	SA
*1. The nutritional benefits of breast milk last only until the baby is weaned from breast milk.	1	2	3	4	5
*2. Formula-feeding is more convenient than breast-feeding.	1	2	3	4	5
3. Breast-feeding increases mother-infant bonding.	1	2	3	4	5
*4. Breast milk is lacking in iron.	1	2	3	4	5
5. Formula-fed babies are more likely to be overfed than are breast-fed babies.	1	2	3	4	5
*6. Formula-feeding is the better choice if a mother plans to work outside the home	1	2	3	4	5
7. Mothers who formula-feed miss one of the great joys of motherhood.	1	2	3	4	5
*8. Women should not breast-feed in public places such as restaurants.	1	2	3	4	5
9. Babies fed breast milk are healthier than babies who are fed formula.	1	2	3	4	5
*10. Breast-fed babies are more likely to be overfed than formula-fed babies.	1	2	3	4	5
*11. Fathers feel left out if a mother breast-feeds.	1	2	3	4	5
12. Breast milk is the ideal food for babies.	1	2	3	4	5
13. Breast milk is more easily digested than formula.	1	2	3	4	5
*14. Formula is as healthy for an infant as breast milk.	1	2	3	4	5
15. Breast-feeding is more convenient than formula feeding.	1	2	3	4	5
16. Breast milk is less expensive than formula.	1	2	3	4	5
*17. A mother who occasionally drinks alcohol should not breast-feed her baby	1	2	3	4	5

*Note.* Items marked with asterisks are reverse-scored and the scores for each item are then summed. Higher scores indicate more positive attitudes toward breast feeding.

BREASTFEEDING IN MISSISSIPPI

Appendix B

Breastfeeding Behavior Questionnaire (BBQ)

A= Agree D= Disagree <b>Situation</b>	<b>A</b>	<b>D</b>
1. Jane Johnson, a new mother, is breastfeeding her baby in the living room. Her girlfriend from next door comes to see the new baby. Jane covers her breast and the baby's head with a receiving blanket and the baby continues to nurse while the two women talk. Do you agree that it was all right for Jane to continue breastfeeding?		
2. Estelle Green is breastfeeding her baby in the living room. The man and woman from next door come to see the new baby. Estelle covers her breast and the baby's head with a receiving blanket and the baby continues to breastfeed while the neighbors talk. Do you think Estelle should have stopped breastfeeding?		
3. Martha Smith is at McDonald's eating lunch with her girlfriends. When her baby wakes up and seems hungry, she decides to breastfeed him under her blouse. Do you think Martha should have taken the baby out of the public place to breastfeed?		
4. Kathy Brown is eating lunch at Dairy Queen with her girlfriends. When her baby wakes up and seems hungry, she decides to breastfeed him under her blouse. Her friends are embarrassed by this, so she takes him out to the car to breastfeed him instead. Do you agree with Kathy's decision to take her baby out to the car to breastfeed him?		
5. Anne Evans and her husband take their baby to church. When it is time for the baby to breastfeed, Ann takes her into the ladies' bathroom. Do you think it was necessary for Ann to take the baby out of church breastfeed?		
6. Marie Schultz and her husband take their baby to church. When it is time for the baby to eat, Marie breastfeeds the baby under her blouse. She also covers the baby's head with a receiving blanket in case the blouse slips. Do you think Marie should have taken the baby out of church to breastfeed?		
7. June Moon is expecting her first baby and wants to breastfeed. June's mother tells her that no one in their family has been able to successfully breastfeed since all the women have small breasts and can't make enough milk. June decides to breastfeed anyway. Do you agree with June's decision?		
8. Laura Baxter is expecting her first baby and wants to breastfeed. Laura's husband wants her to bottle-feed the baby because he says that breastfeeding is "embarrassing". Laura decides to bottle-feed instead of breastfeeding. Do you agree with Laura's choice to <i>not</i> breastfeed because of her husband's opinion?		
9. Linda Martin is pregnant and her doctor tells her that she should plan to breastfeed her new baby. Linda had planned to bottle-feed but changes her mind. Do you agree with Linda's decision to follow her doctor's advice?		
10. Jane Blaine, who is expecting her first baby, was advised to breastfeed her new baby because "human milk is better for human babies". Jane decides to bottle-feed instead because she has heard that formula is every bit as good as breastmilk. Do you agree with Jane's decision to <i>not</i> breastfeed her baby?		
11. Peggy Kelley is expecting her first baby very soon. She was advised to breastfeed but decides to bottle-feed instead because she wants to go back to work when the baby is 3 months old and has heard that a breastfed baby won't take a bottle. Do you agree with Peggy's decision <i>not</i> to breastfeed her baby?		
12. Jeanette James is expecting her second baby. Even though she has been told that breastfeeding is better for babies, she decides to bottle-feed. She tried to breastfeed her first baby and had to stop because the baby lost weight during the first week. Do you agree with her decision to <i>not</i> breastfeed this baby?		



# BREASTFEEDING IN MISSISSIPPI

## Appendix C

### *Participants' Attitudes toward Breastfeeding on IIFAS*

Variables	Strongly	Somewhat	Neither Agree	Somewhat	Strongly
	Disagree ( <i>n</i> )	Disagree ( <i>n</i> )	or Disagree ( <i>n</i> )	Agree ( <i>n</i> )	Agree ( <i>n</i> )
1. The nutritional benefits of breast milk last only until the baby is weaned from breast milk.*	6	19	23	53	49
2. Formula-feeding is more convenient than breastfeeding.	19	57	35	26	14
3. Breastfeeding increases mother-infant bonding.	2	4	12	47	88
4. Breast milk is lacking in iron.*	0	0	95	33	23
5. Formula-fed babies are more likely to be overfed than are breastfed babies.	7	34	62	34	14
6. Formula-feeding is the better choice if a mother plans to work outside the home.*	9	36	42	49	15
7. Mothers who formula-feed miss one of the great joys of motherhood.	48	27	34	26	16
8. Women should not breastfeed in public places such as restaurants.	10	18	6	30	85
9. Babies fed breast milk are healthier than babies who are fed formula.	10	16	49	46	30
10. Breastfed babies are more likely to be overfed than formula-fed babies.	3	1	71	56	20
11. Fathers feel left out if a mother breastfeeds.*	3	8	31	31	78
12. Breast milk is the ideal food for babies.	3	3	33	50	62
13. Breast milk is more easily digested than formula.	3	3	55	50	40
14. Formula is as healthy for an infant as breast milk.*	13	47	34	38	19
15. Breastfeeding is more convenient than formula feeding.	13	40	51	34	13
16. Breast milk is less expensive than formula.	0	3	8	46	94
17. A mother who occasionally drinks alcohol should not breastfeed her baby.*	53	32	26	29	11

\* Indicates reversed scored items

# BREASTFEEDING IN MISSISSIPPI

## Appendix D

### Survey Instrument (Qualtrics Survey)

#### Demographics

Q1 What is your age?

Q2 What is your gender?

- Male
- Female

Q3 What is your race?

- White
- Black or African American
- American Indian or Alaska Native
- Asian
- Native Hawaiian or Pacific Islander
- Other

Q4 What is your marital status?

- Married
- Widowed
- Divorced
- Separated
- Never married

Q5 What is your religious preference?

- Christian
- Catholic
- Muslim
- Buddhist
- Atheist
- Agnostic
- Non-religious
- Prefer not to say

## BREASTFEEDING IN MISSISSIPPI

Q6 Are you an undergraduate or graduate student at the University of Southern Mississippi?

- Undergraduate
- Graduate

Q7 If you are an undergraduate student, what is your classification?

- Freshman
- Sophomore
- Junior
- Senior

Q8 What is your major?

Q9 Are you a parent?

- Yes
- No

### Iowa Infant Feeding Attitudes Scale

Q10 The nutritional benefits of breast milk last only until the baby is weaned from breast milk.

- Strongly agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Strongly disagree

Q11 Formula-feeding is more convenient than breastfeeding.

- Strongly agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Strongly disagree

## BREASTFEEDING IN MISSISSIPPI

Q12 Breastfeeding increases mother-infant bonding.

- Strongly agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Strongly disagree

Q13 Breastmilk is lacking in iron.

- Strongly agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Strongly disagree

Q14 Formula-fed babies are more likely to be overfed than are breastfed babies.

- Strongly agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Strongly disagree

Q15 Formula-feeding is the better choice if a mother plans to work outside the home.

- Strongly agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Strongly disagree

Q16 Mothers who formula-feed miss one of the great joys of motherhood.

- Strongly agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Strongly disagree

## BREASTFEEDING IN MISSISSIPPI

Q17 Women should not breastfeed in public places such as restaurants.

- Strongly agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Strongly disagree

Q18 Babies fed breast milk are healthier than babies who are fed formula.

- Strongly agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Strongly disagree

Q19 Breastfed babies are more likely to be overfed than formula-fed babies.

- Strongly agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Strongly disagree

Q20 Fathers feel left out if a mother breastfeeds.

- Strongly agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Strongly disagree

Q21 Breast milk is the ideal food for babies.

- Strongly agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Strongly disagree

## BREASTFEEDING IN MISSISSIPPI

Q22 Breast milk is more easily digested than formula.

- Strongly agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Strongly disagree

Q23 Formula is as healthy for an infant as breast milk.

- Strongly agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Strongly disagree

Q24 Breastfeeding is more convenient than formula feeding.

- Strongly agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Strongly disagree

Q25 Breast milk is less expensive than formula.

- Strongly agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Strongly disagree

Q26 A mother who occasionally drinks alcohol should not breastfeed her baby.

- Strongly agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Strongly disagree

## BREASTFEEDING IN MISSISSIPPI

### Breastfeeding Behavior Questionnaire

Q27 Jane Johnson, a new mother, is breastfeeding her baby in the living room. Her girlfriend from next door comes to see the new baby. Jane covers her breast and the baby's head with a receiving blanket and the baby continues to nurse while the two women talk. Do you agree that it was all right for Jane to continue breastfeeding?

- Agree
- Disagree

Q28 Estelle Green is breastfeeding her baby in the living room. The man and woman from next door come to see the new baby. Estelle covers her breast and the baby's head with a receiving blanket and the baby continues to breastfeed while the neighbors talk. Do you think Estelle should have stopped breastfeeding?

- Agree
- Disagree

Q29 Martha Smith is at McDonald's eating lunch with her girlfriends. When her baby wakes up and seems hungry, she decides to breastfeed him under her blouse. Do you think Martha should have taken the baby out of the public place to breastfeed?

- Agree
- Disagree

Q30 Kathy Brown is eating lunch at Dairy Queen with her girlfriends. When her baby wakes up and seems hungry, she decides to breastfeed him under her blouse. Her friends are embarrassed by this, so she takes him out to the car to breastfeed him instead. Do you agree with Kathy's decision to take her baby out to the car to breastfeed him?

- Agree
- Disagree

Q31 Anne Evans and her husband take their baby to church. When it is time for the baby to breastfeed, Anne takes her into the ladies' bathroom. Do you think it was necessary for Anne to take the baby out of church to breastfeed?

- Agree
- Disagree

Q32 Marie Schultz and her husband take their baby to church. When it is time for the baby to eat, Marie breastfeeds the baby under her blouse. She also covers the baby's head

## BREASTFEEDING IN MISSISSIPPI

with a receiving blanket in case the blouse slips. Do you think Marie should have taken the baby out of church to breastfeed?

- Agree
- Disagree

Q33 June Moon is expecting her first baby and wants to breastfeed. June's mother tells her that no one in their family has been able to successfully breastfeed since all the women have small breasts and can't make enough milk. June decides to breastfeed anyway. Do you agree with June's decision?

- Agree
- Disagree

Q34 Laura Baxter is expecting her first baby and wants to breastfeed. Laura's husband wants her to bottle-feed the baby because says that breastfeeding is "embarrassing." Laura decides to bottle-feed instead of breastfeeding. Do you agree with Laura's choice to not breastfeed because of her husband's opinion?

- Agree
- Disagree

Q35 Linda Martin is pregnant and her doctor tells her that she should plan to breastfeed her new baby. Linda had planned to bottle-feed but changes her mind. Do you agree with Linda's decision to follow her doctor's advice?

- Agree
- Disagree

Q36 Jane Blaine, who is expecting her first baby, was advised to breastfeed her new baby because "human milk is better for human babies." Jane decides to bottle-feed instead because she has heard that formula is every bit as good as breastmilk. Do you agree with Jane's decision to not breastfeed her baby?

- Agree
- Disagree



## BREASTFEEDING IN MISSISSIPPI

Q37 Peggy Kelley is expecting her first baby very soon. She was advised to breastfeed but decides to bottle-feed instead because she wants to go back to work when the baby is 3-months-old and has heard that a breastfed baby won't take a bottle. Do you agree with Peggy's decision not to breastfeed her baby?

- Agree
- Disagree

Q38 Jeanette James is expecting her second baby. Even though she has been told that breastfeeding is better for babies, she decides to bottle-feed. She tried to breastfeed her first baby and had to stop because the baby lost weight during the first week. Do you agree with her decision to not breastfeed this baby?

- Agree
- Disagree

Appendix E

IRB Approval Letter



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**INSTITUTIONAL REVIEW BOARD**  
118 College Drive #5147 | Hattiesburg, MS 39406-0001  
Phone: 601.266.5997 | Fax: 601.266.4377 | [www.usm.edu/research/institutional.review.board](http://www.usm.edu/research/institutional.review.board)

**NOTICE OF COMMITTEE ACTION**

The project has been reviewed by The University of Southern Mississippi Institutional Review Board in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services (45 CFR Part 46), and university guidelines to ensure adherence to the following criteria:

- The risks to subjects are minimized.
- The risks to subjects are reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered regarding risks to subjects must be reported immediately, but not later than 10 days following the event. This should be reported to the IRB Office via the "Adverse Effect Report Form".
- If approved, the maximum period of approval is limited to twelve months.  
Projects that exceed this period must submit an application for renewal or continuation.

PROTOCOL NUMBER: 17062806  
PROJECT TITLE: College Students' Perceptions of Public Breastfeeding  
PROJECT TYPE: New Project  
RESEARCHER(S): Kaitlyn Kendall  
COLLEGE/DIVISION: College of Education and Psychology  
DEPARTMENT: Child and Family Studies  
FUNDING AGENCY/SPONSOR: N/A  
IRB COMMITTEE ACTION: Expedited Review Approval  
PERIOD OF APPROVAL: 07/20/2017 to 07/19/2018  
**Lawrence A. Hosman, Ph.D.**  
**Institutional Review Board**