eBaby4u

Improving Infant Feeding AMONG African American Teen Mothers THROUGH Social Media

SPECIAL REPORT ON DESIGNING & IMPLEMENTING eBaby4u

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EXECUTIVE SUMMARY

A multi-phase eHealth project to help fill the gap in online outreach for African American teen mothers, eBaby4u's goal is to improve infant feeding outcomes among first-time minority teen moms. There are few eHealth programs for new mothers, regardless of age and race/ethnicity. The handful of existing web-based and text-based programs—such as the BabyCenter, Text4baby and Just In Time Parenting tend to target mothers who are older and more educated.

This means that there is a large gap in technology-based outreach that is culturally relevant to minority teen mothers. Filling this gap is important in our increasingly online world, given that 95% of teens are online, nearly 80% have cell phones, and low-income and minority teens are just as likely as high-income teens to own a smartphone (39% versus 43%) (Pew Research Center, 2013). In order to help fill the gap in culturally relevant eHealth outreach to minority teen mothers, we created the USDA NIFA-funded eBaby4u (K. Ragsdale, PI), which was driven by three research questions:

1. **How do we HARNESS SOCIAL MEDIA to optimize infant feeding outcomes among minority teen mothers?**

2. **How do we adapt content so that it is CULTURALLY RELEVANT to minority teen mothers?**

(3) **How do we distribute content so that it is ACCESSIBLE to minority teen mothers?**

To address these questions, we partnered with [Just In Time Parenting](#), a national USDA eXtension program that provides scientifically accurate information on infant feeding and care to parents. Our goal was to translate existing Just in Time Parenting content into culturally relevant and mobile friendly content for minority teen mothers. We convened the eBaby Expert Panel of Extension Specialists, research scientists, and university faculty to serve as a resource to ensure that all [eBaby4u](#) content was scientifically accurate. We also convened the eBaby Community Advisory Board (CAB) of minority teen and young mothers to serve as a resource to ensure that all [eBaby4u](#) content was culturally relevant and tailored to our target audience of minority pregnant and parenting teens.

KEY DELIVERABLES

O ur key deliverables include 1) Developing and pilot-testing the [eBaby4u](#) logo, 2) Developing, pilot-testing, and launching the [eBaby4u](#) mobile-friendly website, 3) Producing and pilot-testing nine [eBaby4u](#) teen parent education videos, and 4) Creating the [eBaby4u](#) YouTube channel and distributing the nine teen parent education videos on the internet. A key step in a strategic communication campaign is conducting environmental scans, which enable practitioners to more effectively communicate relevant messages based on what currently exists

in the target publics' media environment. To inform development of the eBaby4u web content and video series, we conducted six major environmental scans during the project.

Environmental Scan 1: YouTube, in which we viewed 192 videos to inform producing the eBaby4u video series. Environmental Scan 2: YouTube, was performed to identify and address common misperceptions or 'myths' related to breastfeeding and formula feeding infants. Environmental Scan 3: eHealth Websites, was performed to assess existing eHealth websites targeting new mothers and how these sites conveyed information related to breastfeeding, formula feeding, and introducing infants to solid foods. Environmental Scan 4: Just In Time Parenting, was performed to assess evidence-based Just In Time Parenting resources to develop eBaby4u content. Environmental Scan 5: eBaby Expert Panel, involved bimonthly videocalls and ad hoc discussions with our eBaby Expert Panel to strategize adapting existing Just in Time Parenting content into culturally relevant infant health content for minority teen mothers. Environmental Scan 6: Literature Review, was performed using search engines such as PubMed, PsycINFO, and Google Scholar to scan for peer-reviewed literature focused on facilitators and barriers to breastfeeding and mistimed introduction of solid food to infants of adolescent mothers.

eBABY4u VIDEOS

The nine eBaby4u teen parent education videos feature local talent that includes community members and Mississippi State University students, staff, and faculty who served as peer-to-peer

and aspirational roles models for our target audience of teen mothers. The videos and their links include:

- Prenatal Nutrition: https://www.youtube.com/watch?v=U8-UuaKnL0U
- Day in Life of a Teen Mom: https://www.youtube.com/watch?v=6xd8E7-bHaw
- Breastfeeding Myths: https://www.youtube.com/watch?v=fB9G0m6lwYY
- Breastfeeding Part 1: https://www.youtube.com/watch?v=THdcK656RYc
- Breastfeeding Part 2: https://www.youtube.com/watch?v=_sMGck9kjjA
- Bottle Feeding Myths: https://www.youtube.com/watch?v=FrOaW6wBSKk
- Introducing Your Baby to Solid Foods: https://www.youtube.com/watch?v=0eHrCCcm5Jk
- Sleep: For You & Your Baby: https://www.youtube.com/watch?v=jGPaR_5Uvz8
- My Baby is Stressing Me Out!: https://www.youtube.com/watch?v=U2aJT8t2wG8

HOW ARE WE DOING?

One metric to determine eBaby4u's outreach is traffic to our YouTube channel (https://www.youtube.com/channel/UCVDBC0w6lT9TbBA9jrBdn9w), where the nine eBaby4u teen parent education videos have had a total of 1,845 views as of October 10, 2015. This amount of views is excellent validation for the value provided by the videos and for the reach of the eBaby4u program.

Videos ranked according to views	Views
Day in the life of a teen mom	564
Breastfeeding: Part 1	556
Introducing your baby to solid foods	196
Breastfeeding myths	108
Prenatal nutrition	107
Breastfeeding: Part 2	92
Sleep: For you & your baby	80
Bottle feeding myths	72
My baby is stressing me out!	70
Total Views	1,845

SUSTAINING eBABY4u
THROUGH SERVICE-LEARNING PROJECTS

A key component of any health intervention is sustainability, including eHealth programs such as eBaby4u. To help meet the need to sustain eBaby4u, we are conducting a series of interrelated eBaby4U Service-Learning Projects. Service-learning's goal is to link academic coursework to meaningful community service and to develop students who have increased critical thinking skills and cultural awareness. Spearheaded by three Mississippi State University (MSU) professors (K. Ragsdale, M. Loehwing, and M. Breazeale), these service-learning projects include: eBaby4u Service-Learning Project I (Spring 2015), eBaby4u Service-Learning Project II (Fall 2015), and eBaby4u Service-Learning Project III (Fall 2016).

Completed in Spring 2015, eBaby4u Service-Learning Project I was so successful that we were invited to present a poster based on the eBaby4u Service-Learning Project I results at the CDC- and NIPHIC-sponsored *2015 National Conference on Health Communications, Marketing & Media.* We plan to continue to develop abstracts to submit to national conferences that are based on the results of eBaby4u Service-Learning Project I-III. Likewise the results of eBaby4u Service-Learning Project I-III will be strategically implemented to sustain the online presence of eBaby4u and to expand our outreach to include not only our primary audience of teen mothers, but our secondary audience of direct service providers who serve pregnant and parenting teens (e.g., health care providers, WIC service providers, lactation consultants, and MSU Extension Specialists).

GOOGLE ANALYTICS
AND A FEW LOW-TECH TOOLS TO MEASURE SOCIAL AUDIENCE REACH

Once the eBaby4u website has been promoted to our primary audience of teen mothers and our secondary audience of direct service providers who serve pregnant and parenting teens using the results of eBaby4u Service-Learning Project I-III, several tools are available to us to measure not only the number of visitors that access the content but also the relative effectiveness of that content. Google Analytics provides a suite of dashboards that enable us to measure a myriad of outcomes. Although some of these reports overlap in the information delivered, when considered together they will provide a 360 degree view of the website and social media accounts. These tools include Occam's Razor Awesomeness, Landing Page Analysis Custom Report, Sessions by Hour of Day, Social Media Dashboard, and Audience Snapshot Dashboard.

In addition to using these Google Analytics tools, we will track the reach of eBaby4u content by compiling readily available social media statistics. Next steps for eBaby4u include the creation of Facebook, Twitter, and Pinterest accounts. Each of these social media platforms will allow us to reach our target audience in different ways, which will serve to 'cast a wider net' across mutiple social media platforms and allow us to easily determine:

- What **eBaby4u** content is most interesting to our primary audience of teen mothers.

- What **eBaby4u** content is most interesting to our secondary audience of direct service providers.

- Where our users are located.

- How our users are finding us.

- How engaged our users are by **eBaby4u** content.

- Which of our users are most likely to share our content with others.

We will access this information in a timely fashion that will allow us to quickly make modifications to 1) the eBaby4u content we provide and 2) the methods we use to disseminate that content. This will help to ensure that our target audience remains engaged and willing to spread the word about eBaby4u to new audiences of pregnant and parenting teens. This will also help us build a secondary audience of direct service providers who serve pregnant and parenting teens (e.g., health care providers, WIC service providers, lactation consultants, and MSU Extension Specialists).

Racial/ethnic disparities in childhood obesity may be determined by factors that operate at the earliest stages of life — Taveras et al., 2010

INTRODUCTION

WHY IS INFANT & CHILDHOOD OBESITY AN IMPORTANT PUBLIC HEALTH ISSUE?

At 31.3 births per 1,000 girls ages 15-19, the U.S. has the highest teen birth rate among comparable industrialized countries such as the Netherlands (4.8), Canada (14.1), Australia (15.9) and the United Kingdom (21.8) (NCPTUP, 2014a). Within the U.S., resource-limited states such as such as Arkansas, Louisiana, and Mississippi consistently report the highest rates of teen births. In fact, at 42.6 births per 1,000 girls, Mississippi has the third highest teen birth rate in the nation (NCPTUP, 2014b). Although the U.S. has experienced a decline in teen births over the past several decades, resource-limited and minority teen girls remain at increased risk for adolescent motherhood. In fact, the Centers for Disease Control and Prevention has found that "In 2013, non-Hispanic black and Hispanic teen birth rates were still more than two times higher than the rate for non-Hispanic white teens" (CDC, 2015).

Resource-limited minority teen mothers face increased barriers to optimizing infant feeding outcomes as compared to mothers who are older and have higher levels of income and education. This is a public health concern because research indicates that "racial/ethnic disparities in childhood obesity may be determined by factors that operate at the earliest stages of life" (Taveras, Gillman, Kleinman, Rich-Edwards & Rifas-Shiman, 2010:686; see also Dixon, Peña & Taveras, 2012). These factors can be exacerbated for first-time and resource-limited minority teen mothers who

are coping with "challenges that place extra demands not only on their stage of adolescent development but also on their ability to adapt to their new role as a parent" (Devito, 2010, pg. 25), especially given that poverty, minority status, and younger age at motherhood are associated with:

- **Preterm and low birth weight infants**
  (Malabarey, Balayla, Klam, Shrim & Abenhaim, 2012; Pinzon et al, 2012)

- **Inadequate or delayed prenatal care**
  (Malabarey, Balayla, Klam, Shrim & Abenhaim, 2012; Phipps & Nunes, 2012; Pinzon et al, 2012)

- **Non-initiation or limited breastfeeding**
  (Khoury, Moazzem, Jarjoura, Carothers & Hinton, 2005; Meyerink & Marquis, 2002; Mickens, Modeste, Montgomery & Taylor, 2009; Murimi, Dodge, Pope & Erickson, 2010; Tucker, Wilson & Samandari, 2011)

- **Limited knowledge of optimal infant nutrition**
  (de Oliveira et al, 2012; McLeod, Campbell & Hesketh, 2011)

- **Mistimed introduction of solid foods to infants**
  (de Oliveira et al, 2012; Kaye, 2012; McLeod, Campbell & Hesketh, 2011; Phipps & Nunes, 2012; Tucker, Wilson & Samandari, 2011)

Sipsma and colleagues (2013) argue that "Research and strategies uniquely designed to target adolescent mothers are critical because their transition to parenthood is often unlike the transition experienced by older mothers. Younger mothers tend to juggle parental and romantic relationships, struggles with self-esteem and self-image, and reintegrating into their peer groups and educational settings" (Sipsma, Magriples, Divney, Gordon, Gabzdyl & Kershaw, 2013, pg. 395). However, to our knowledge eBaby4u was the first-of-its-kind eHealth infant health program specifically designed to target minority adolescent mothers. In this report, we first

discuss the utility of eHealth outreach to improve health literacy among hard-to-reach adolescent populations. Second, we discuss the eBaby4u project goals and deliverables. Third, we discuss our 'next steps' and future directions for the eBaby4u project.

WHAT IS eHEALTH?
AND WHY IS IT IMPORTANT FOR OUTREACH TARGETING MINORITY TEEN MOTHERS?

The World Health Organization (WHO) defines eHealth as the "cost-effective and secure use of information and communications technologies [ICT] in support of health and health-related fields, including health-care services, health surveillance, health literature, and health education, knowledge and research" (WHO, 2015, p. 1). According to Silber, "eHealth is the single-most important revolution in healthcare since the advent of modern medicine, vaccines, or even public health measures like sanitation and clean water" (Silber, 2003, p. 1). And the recent explosion in and popularity of obesity prevention eHealth tools lends additional credibility to her statement. Obesity prevention eHealth tools includes, for example, online commercial weight-loss programs such as WeightWatchers OnlinePlus, smartphone apps and websites that tracks diet and exercise such as MyFitnessPal, wearable wellness devices such as Fitbit's activity/sleep tracker, and online health literacy programs such as Just In Time Parenting and — more recently — eBaby4u.

The creation of eBaby4u was inspired by the fact that there are few eHealth programs for new mothers, regardless of age and race/ethnicity, and the handful of existing internet-based programs — such as Just In Time Parenting, BabyCenter, and Text4baby — tend to target non-adolescent mothers who have higher education and socioeconomic status. Although the first author has found a handful of internet posts that discuss health-related issues affecting pregnant and parenting teens and their infants, these posts are often not written in a 'voice' likely to capture the attention of adolescent mothers. This means that there is a large gap in technology-based outreach that is culturally relevant to African American and other minority first-time teen mothers.

Filling this gap is important in our increasingly online world, given that 95% of teens are online, 88% of teens have cell phones (of which 78% are smartphones), teens are increasingly more likely to access the internet using their smartphones than a personal computer, and resource-limited teens are just as likely as high-resource teens to own a smartphone (39% versus 43%) (Madden et al, 2013). eHealth outreach is particularly promising for African American teens given that:

> " *African-American teens are the most likely of any racial or ethnic group to have or have access to a smartphone*
>
> —Pew Research Center, 2015

As the latest research from the Pew Research Center indicates, "85% of African-American teens report smartphone ownership, compared with 71% of white teens and 71% of Hispanic teens" (Lenhart, 2015, pg. 8). Another major study conducted by the Pew Research Center in 2013 found that 12-17 year-olds are the heaviest internet users, followed by 18-29 year olds (Madden et al, 2013). Such research suggest that harnessing the internet to increase health literacy among teens is promising — particularly when eHealth content is designed to be culturally relevant, targeted, and tailored for particular audiences of teenaged media consumers.
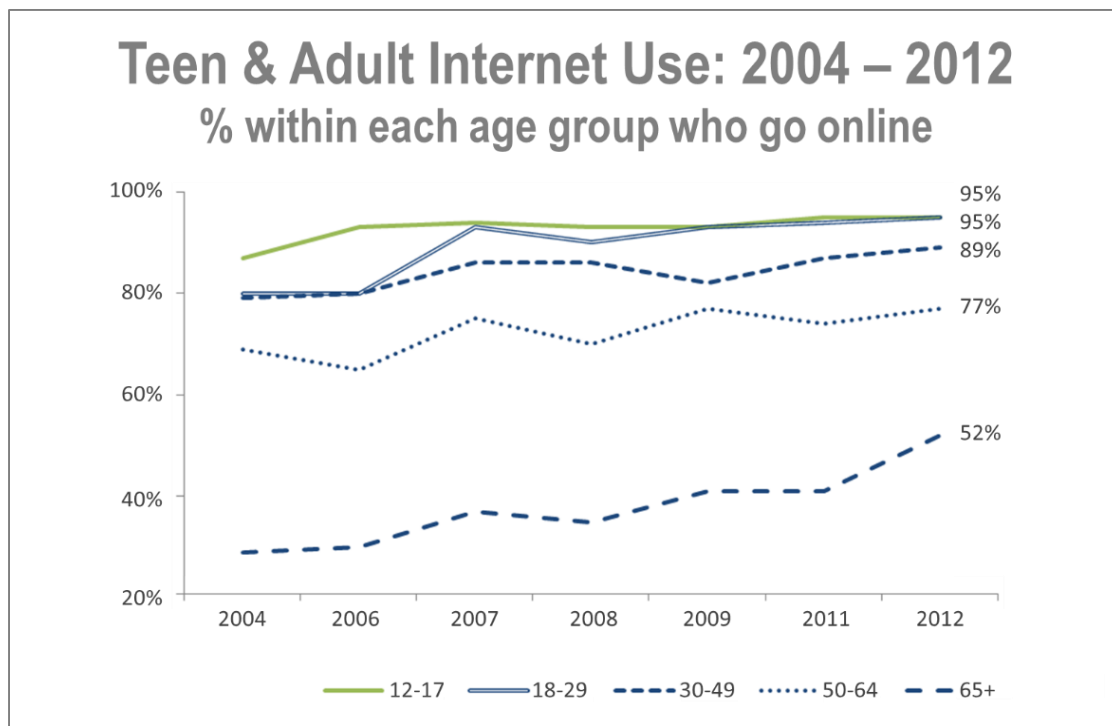
Teen & Adult Internet Use: 2004 – 2012
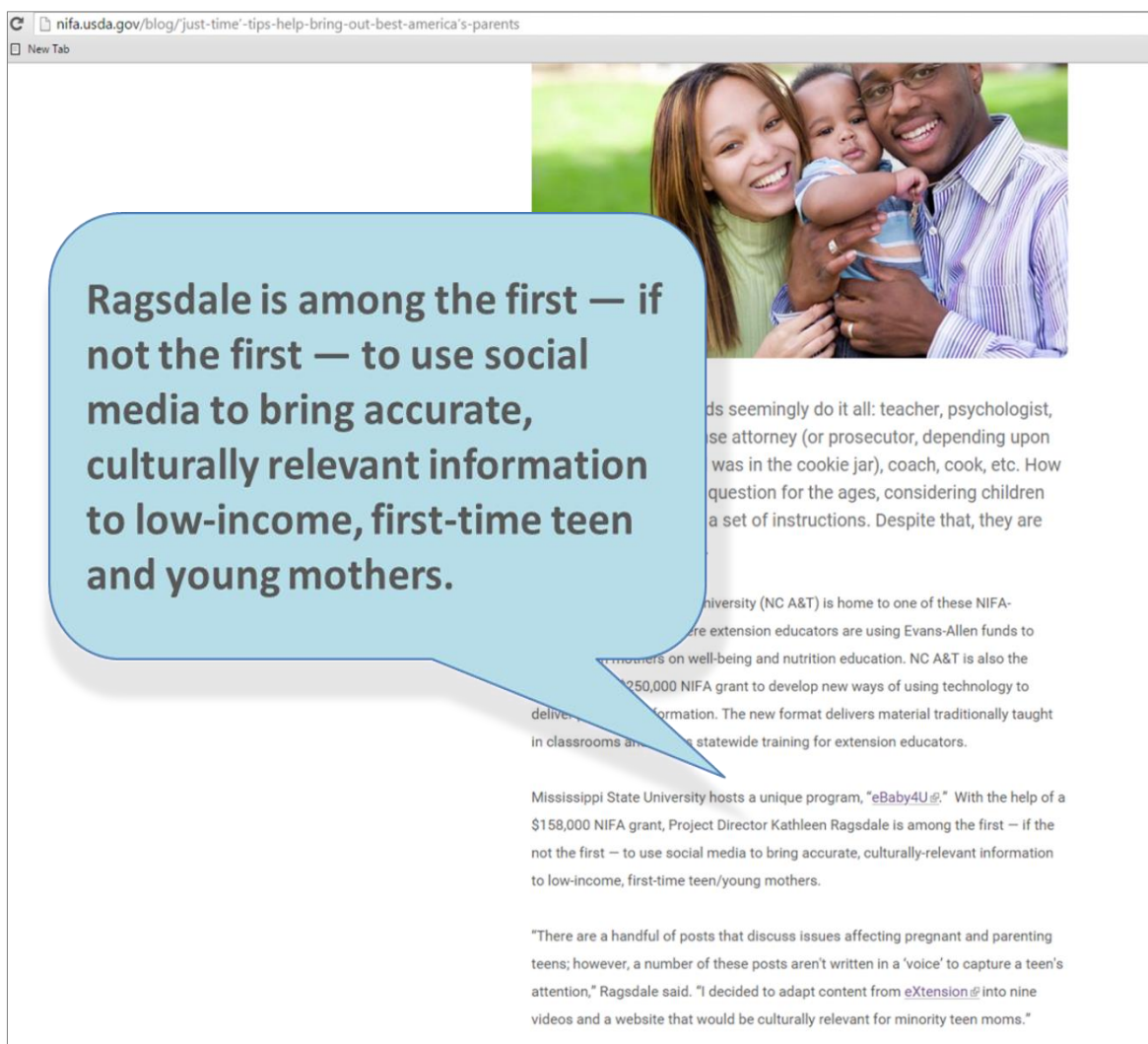### % within each age group who go online

Madden M, Lenhart A, Duggan M, Cortesi S & Gasser U. (2013). Teens and technology 2013. Pew Research Center. Available at http://www.pewinternet.org/files/old-media//Files/Reports/2013/PIP_TeensandTechnology2013.pdf

In order to better understand how teens use the internet for health information, researchers at Northwestern University conducted surveys in 2014-2015 among nationally representative samples of more than 1,000 U.S.

teens (ages 13-18). They found that the internet "is the primary source of health information for teen, far surpassing [traditional media such as] books, TV, radio, newspapers, or magazines" (Wartella, Rideout, Zupancic, Beaudoin-Ryan & Lauricella, 2015, pg. 2). In fact, 84% of the teens in the survey reported that they sought health information online, including 25% who used the internet "a lot" to seek health information. Among the most popular sources for online health information among these teens were Google (49%), medical websites (31%), Wikipedia (22%), YouTube (20%), Yahoo (11%), and Facebook (9%), as compared to Twitter (4%) (ibid). In terms of obesity prevention, Wartella and colleagues found that the internet "has become a key resource" for teens seeking information on diet, nutrition, exercise, and fitness (ibid, pg. 13).

Minority teen girls in the U.S. are at heightened risk for adolescent parenthood as compared to their white counterparts (CDC, 2015). And although the benefits of breastfeeding are well-documented, research suggests that resource-limited adolescent mothers are more likely to forego breastfeeding (Khoury, Moazzem, Jarjoura, Carothers & Hinton, 2005; Meyerink & Marquis, 2002; Mickens, Modeste, Montgomery & Taylor, 2009; Murimi, Dodge, Pope & Erickson, 2010; Tucker, Wilson & Samandari, 2011), to have limited knowledge of optimal infant nutrition (de Oliveira et al, 2012; McLeod, Campbell & Hesketh, 2011), and to mistime the introduction of solid foods to infants (de Oliveira et al, 2012; Kaye, 2012; McLeod, Campbell & Hesketh, 2011; Phipps & Nunes, 2012; Tucker, Wilson & Samandari, 2011)

Yet despite these facts, there is an absence of eHealth outreach for pregnant and parenting minority teen mothers that is specifically designed to provide them with culturally relevant infant feeding and other health information. In fact, in a blog published on June 17, 2015, USDA NIFA states that "Ragsdale is among the first — if the not the first — to use social media to bring accurate, culturally-relevant information to low-income, first-time teen/young mothers" (Elliott, 2015).

Screen shot of a USDA NIFA blog posted on June 17, 2015. Available at http://nifa.usda.gov/blog/%E2%80%98just-time%E2%80%99-tips-help-bring-out-best-america%E2%80%99s-parents

DEVELOPING eBABY4u

DESIGNING eBABY'S RESEARCH QUESTIONS & DEVELOPING THE DELIVERABLES

Created to help fill the critical gap in culturally relevant eHealth outreach to first-time minority teen mothers, eBaby4u was funded by USDA NIFA in 2013-2014 (K. Ragsdale, PI). The goal of the project was to develop an innovative eHealth intervention specifically tailored to African American first-time teen mothers to improve their health literacy in the area of early infant feeding behaviors. The U.S. Department of Health and Human Services (DHHS) defines health literacy as the "degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions" (DHHS, 2015, p. 1). We believe that providing first-time minority teen mothers with online health resources tailored to the intellectual development of adolescents and to their needs as teen mothers will improve infant health literacy among adolescent parents and positively impact infant health outcomes. The development of eBaby4u's objectives and deliverables were driven by three research questions:

① How do we **HARNESS SOCIAL MEDIA** to optimize infant feeding outcomes among minority teen mothers?

② How do we adapt content so that it is **CULTURALLY RELEVANT** to minority teen mothers?

3 How do we distribute content so that it is ACCESSIBLE to minority teen mothers?

To address these questions, we partnered with Just In Time Parenting, a national USDA eXtension program that provides scientifically accurate and evidence-based health information on infant feeding and care to parents. Our goal was to translate existing Just in Time Parenting content into culturally relevant and mobile friendly content for minority teen mothers. We convened the eBaby Expert Panel of Extension Specialists, research scientists, and university faculty. To be eligible to serve on the eBaby Expert Panel, members had to also be members of the Just In Time Parenting eXtension Community of Practice. The eBaby Expert Panel served as a resource to ensure that all eBaby4u content was scientifically accurate. They were consulted during bimonthly video conferencing and phone meetings as well as on an as-needed basis with individual Expert Panel members.

We also convened the eBaby Community Advisory Board of minority teen/young mothers to guide us on the development of each component of every deliverable (e.g., colors and design of the eBaby logo, photo images we purchased to use on the website, music we purchased to use in the videos). We recruited potential eBaby Community Advisory Board members during presentations at local community-based organizations, through contacts as local high schools, and through person-to-person referrals in the Starkville, Louisville and West Point areas of Mississippi. To be eligible to serve on the eBaby Community Advisory Board, teen/young mothers were required to be between 15-21 years old and to have an infant who was 2

years old or younger. The eBaby Community Advisory Board served as a resource to ensure that all eBaby4u content was culturally relevant and tailored to our target audience of minority pregnant and parenting teens. They were consulted during scheduled face-to-face individual and group meetings as well as on an as-needed basis. The eBaby Community Advisory Board members received a stipend for their participation on the board.

FORMATIVE EVALUATION
CONDUCTING eBABY ENVIRONMENTAL SCANS TO INFORM OUR DELIVERABLES

A key step in a strategic communication campaign is conducting environmental scans, which enable practitioners to more effectively communicate relevant messages based on what currently exists in the target publics' media environment. By systematically assessing information relevant to the campaign, scans allows communicators to identify existing resources and informational gaps. To inform development of the eBaby4u web content and video series, we conducted six major environmental scans during the project, including:

- **Environmental Scan 1: YouTube**

  This scan was designed to inform production of the eBaby4u video series, we used YouTube's basic search feature to identify videos focused on breastfeeding and formula feeding infants — with a special emphasis on videos that featured minority teen mothers. We viewed 192 videos of varying lengths and different production qualities and made recommendations for the eBaby4u video series.

- ## Environmental Scan 2: YouTube

  We assessed YouTube videos that identified and addressed common misperceptions or 'myths' related to breastfeeding and formula feeding infants, with a special emphasis on videos that might impact breastfeeding initiation and duration among minority teen mothers.

- ## Environmental Scan 3: eHealth Websites

  We assessed existing eHealth websites targeting new mothers and how these sites conveyed information related to breastfeeding, formula feeding, and introducing infants to solid foods. In addition to Just In Time Parenting, we identified BabyCenter, Text4baby , and WebMD as highly credible infant health resources. We purposively conducted a special search for websites that specifically targeted minority teen mothers and how these sites conveyed information related to breastfeeding, formula feeding, and introducing infants to solid foods in a 'voice' that would be culturally relevant adolescent parents. This purposive search did not locate existing websites targeting minority teen mothers when it was conducted in January-March 2013.

- ## Environmental Scan 4: Just In Time Parenting

  We assessed the evidence-based Just In Time Parenting resources to develop eBaby4u content. For example, to populate the eBaby4u Frequently Asked Questions (FAQ) webpage, we reviewed 215 Just In Time Parenting FAQ to create a database of questions we believed were highly relevant to minority teen mothers — given that teen mothers have different social/emotional priorities and levels of psychosocial development than older parents. We re-scripted selected Just In Time

Parenting FAQ in a 'voice' more relevant for minority teen mothers and pilot-tested the scripts with our eBaby Community Advisory Board of teen/young mothers. We also worked to develop informative content to effectively draw teen mothers into the eBaby4u website and hold their attention. eBaby4u website content was largely informed by Just In Time Parenting's *Baby Be Good*, *Baby Be Calm*, *Baby Let's Eat*, and *Baby Let's Sleep* series.

- ## Environmental Scan 5: eBaby Expert Panel

  Bimonthly videocalls and ad hoc discussions with our eBaby Expert Panel were used to strategize adapting existing Just in Time Parenting content into culturally relevant and easy-to-navigate online infant health content for minority teen mothers. Key eBaby Expert Panel members included Dr. Aida Balsano (USDA NIFA), Dr. Ahlishia Shipley (USDA NIFA), Dr. Ellen Abell (Auburn University), Dr. Andrew Benhke (North Carolina State U), Dr. Aaron Ebata (University of Illinois, Urbana-Champaign), Dr. Sally Martin (University of Nevada), and Dr. Patricia Nelson (University of Delaware).

- ## Environmental Scan 6: Literature Review

  To inform our needs assessment, we used search engines such as PubMed, PsycINFO, and Google Scholar to scan for peer-reviewed literature focused on, for example, breastfeeding predictors among minority adolescent mothers; breastfeeding initiation, duration, and exclusivity among minority adolescent mothers; family/peer impacts on breastfeeding initiation and duration among minority adolescent

mothers; theory-driven validated scales and measures to assess breastfeeding barriers/facilitators among minority adolescent mothers.

10 KEY DELIVERABLES

O ur key deliverables included 1) Developing the eBaby4u logo, 2) Pilot-testing the eBaby4u logo with the eBaby Expert Panel and eBaby Community Advisory Board, 3) Developing the eBaby4u mobile friendly website, 4) Pilot-testing the eBaby4u mobile friendly website with the eBaby Expert Panel and eBaby Community Advisory Board, 5) Launching the eBaby4u mobile friendly website, 6) Fact-checking and writing the scripts for the eBaby4u teen parent education videos, 7) Producing the teen parent education videos, 8) Pilot-testing the teen parent education videos with the eBaby Expert Panel and eBaby Community Advisory Board, 9) Creating the eBaby4u YouTube channel and distributing the nine teen parent education videos on the internet, and 10) Creating a resource page for the eBaby4u website that features links in English and Spanish to Just In Time Parenting month-by-month baby health newsletters.

The eBaby4u website is designed for desktop users and to be mobile friendly — an optimization particularly important given that smartphone usage among our target population of African American and other minority teens is extremely high (Lenhart, 2015).
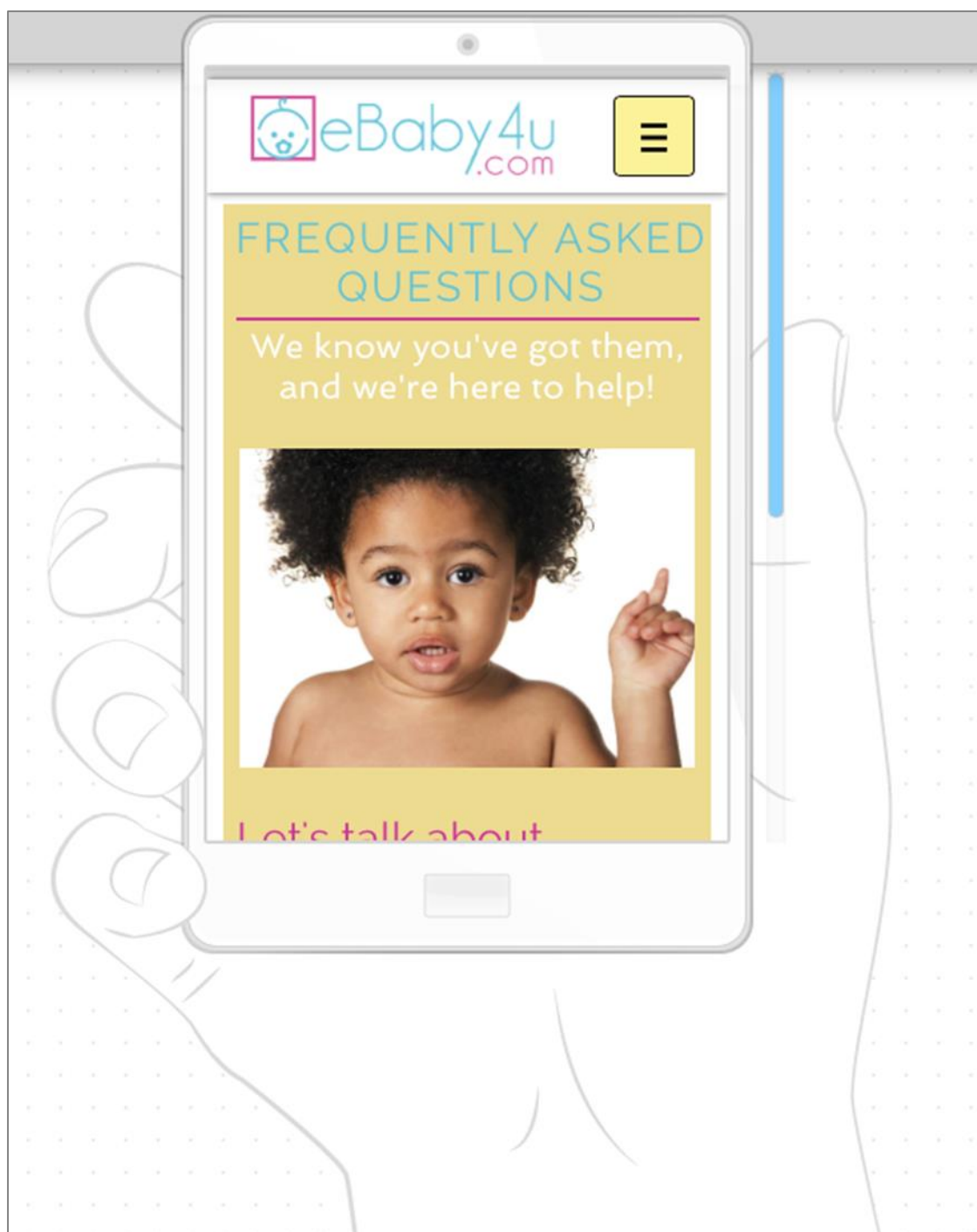
Screen shot of the [eBaby4u](#) mobile friendly website.
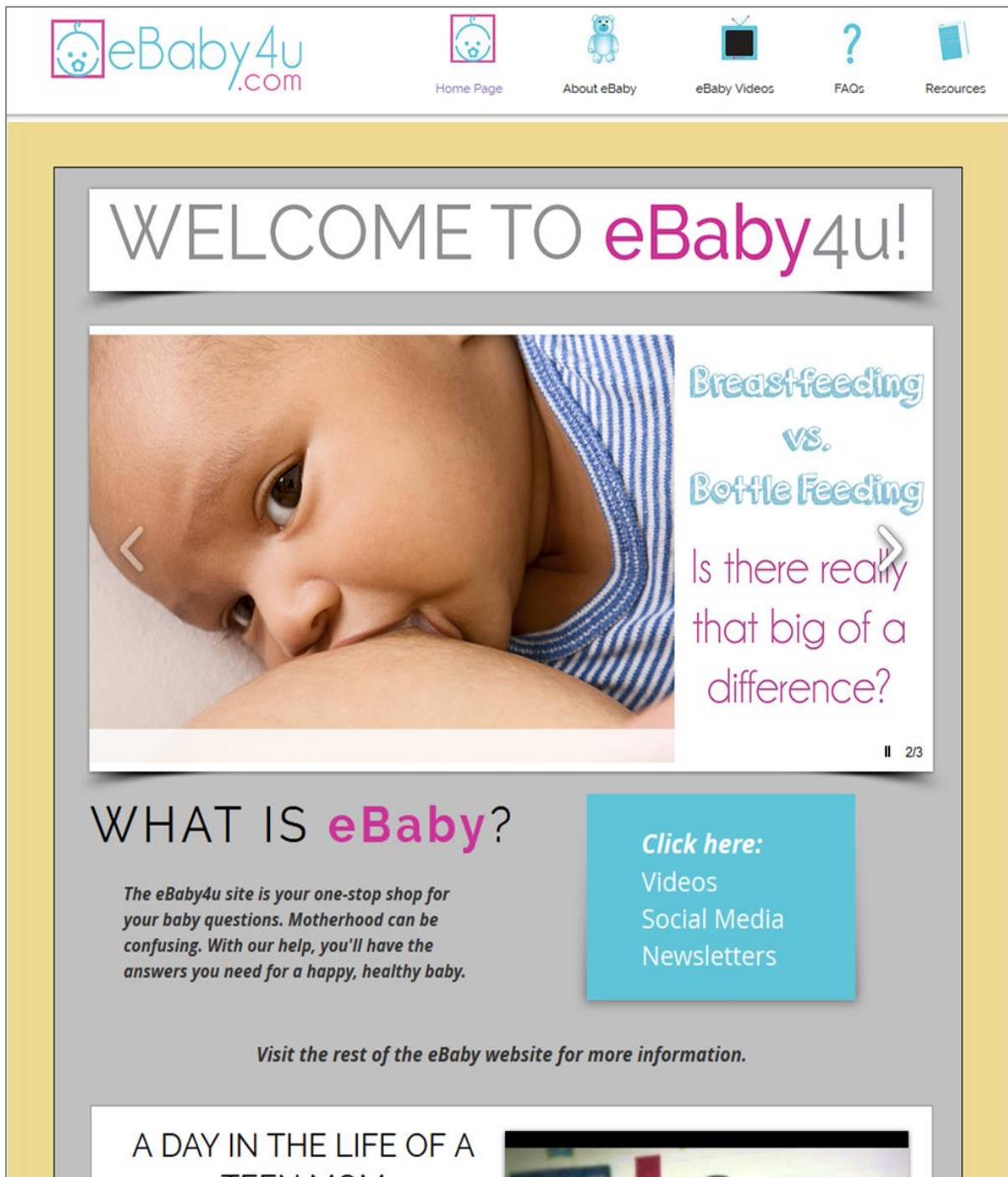
Screen shot of the eBaby4u website.

eBABY4u VIDEOS

PRODUCING TEEN PARENT EDUCATION VIDEOS AND CREATING THE YOUTUBE CHANNEL

T he nine eBaby4u teen parent education videos feature local talent that includes community members and Mississippi State University students, staff, and faculty. Based on feedback from the eBaby Expert Panel and eBaby Community Advisory Board and a review of the literature on engaging teens online, we purposefully sought African American young adults as talent for the videos who were in the same age-range as the target audience to serve as peer-to-peer experts and aspirational role models (e.g. a breastfeeding teen mom).

eBABY4u VIDEOS

- Prenatal nutrition
- Day in life of a teen mom
- Breastfeeding myths
- Breastfeeding: Part 1
- Breastfeeding: Part 2
- Bottle feeding myths
- Introducing baby to solid foods
- Sleep: For you & your baby
- My baby is stressing me out!

Likewise, we purposefully sought African American and Hispanic women who were slightly older to serve as infant health experts and aspirational role models.

We employed the services of the Social Science Research Center's Media Collaboration Lab to produce the nine high quality videos. We develop and pilot-tested each video script with the eBaby Community Advisory Board prior to shooting that video. These productions featured live talent, voiceover, and/or motion graphics that creatively incorporated evidence-based infant health information from Just In Time Parenting and other highly credible sources (e.g., BabyCenter, WebMD) into video productions that pregnant and parenting teens would find appealing and educational. The eBaby4u parent education videos include:

- **Prenatal nutrition** (https://www.youtube.com/watch?v=U8Uua Kn_L0U). This 3:47 minute-long video features Brittani, an African American young adult who serves as a peer-to-peer aspirational role model. Some of the topics we have Brittani discuss include proper weight gain during pregnancy, making sound nutritional choices during pregnancy, "do's and don't" related to drinking plenty of water, avoiding

Prenatal Nutrition
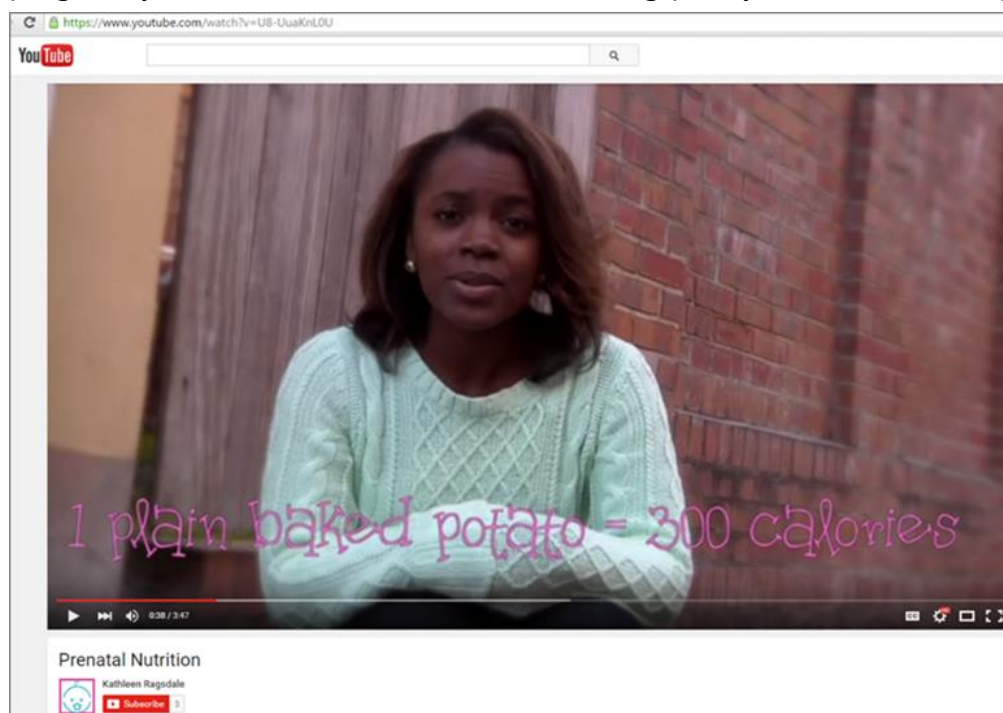
drinking too much soda, avoiding smoking, the importance of taking prenatal vitamins and seeking a doctor's advice before taking over-the-counter medications. Pregnant teens are also advised on reducing stress and getting proper sleep during their pregnancy. Motion graphics, frequent transitions, and voiceovers are used to illustrate and highlight key points in the video and to maintain the attention of our adolescent target audience. In closing, teen mothers are directed to the eBaby4u website for more information.

- **Day in the life of a teen mom** (https://www.youtube.com/watch?v= 6xd8E7-bHaw). This 4:25 minute-long video features Lexus, an African American teen mother who serves as a peer-to-peer aspirational role model. Both Lexus and her parent provided consent and model releases for her and her infant to appear in eBaby4u videos and on the the eBaby4u website. We were directed to Lexus to serve as peer-to-peer aspirational role model because she is a high school student athlete and
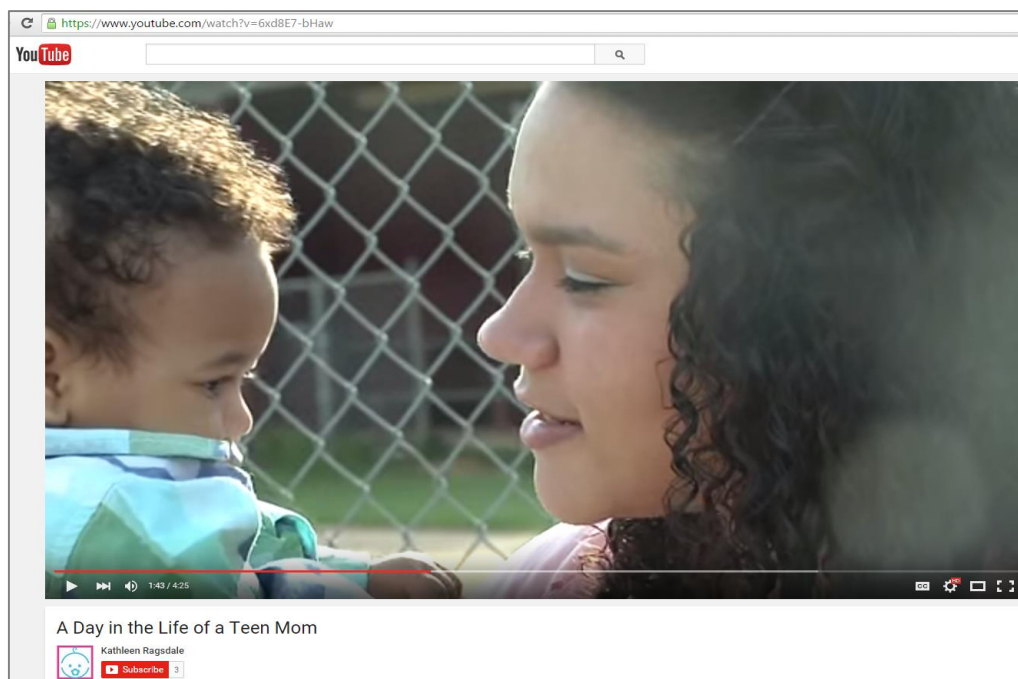
is committed to breastfeeding her baby. Headings used to organize the script for our featured teen mother and to organize the video into segments include, for example, 'What get you through the day?', 'What is the hardest and easist part of being a teen mom?', 'Why did you decide to breastfeed?', and 'What is your breastfeeding advice for teen moms?'

This video is purposefully designed to help normalize breastfeeding among our target population of minority teen mothers by providing our target audience with a peer-to-peer aspirational role model. We chose Lexus to serve in the role given that adolescent mothers have very low rates of breastfeeding as compared to older mothers (Wambach & Koehn, 2004) and African American teen mothers have low rates of breastfeeding as compared to white and Hispanic teen mothers (Wambach et al, 2012; Wiemann, DuBois & Berenson, 1998). Motion graphics, frequent transitions, and voiceovers are used to highlight key points in the video and to maintain the attention of our adolescent target audience. In closing, teen moms are directed to the eBaby4u website for more information.

- **Breastfeeding myths** (https://www.youtube.com/watch?v=fB9G0m6lw_YY). This 4:58 minute-long video features Dr. Cassandra Kirkland. This production purposefully promotes the advantages of breastmilk over formula-feeding as well as common misconceptions or 'myths' about breastfeeding. Dr. Kirland was purposefully selected to serve as an aspirational role model to promote the benefits of breastfeeding and to normalize breastfeeding to our target audience of adolescent mothers. Headings used to organize the video into segments to discuss/dispel common breastfeeding misconceptions include, for

example, 'Myth: Breastfeeding will cause my breasts to sag', 'Myth: It is illegal to breasfeed in public', and 'Myth: Breastfeeding means being with my baby 24/7'.

This video also recommends that teen mothers contact their "school nurse or prinicipal and create a plan for nursing and pumping that will work best for you and your baby" after teen mothers return to their school schedules. In closing, teen mothers are directed to the eBaby4u website for more information.
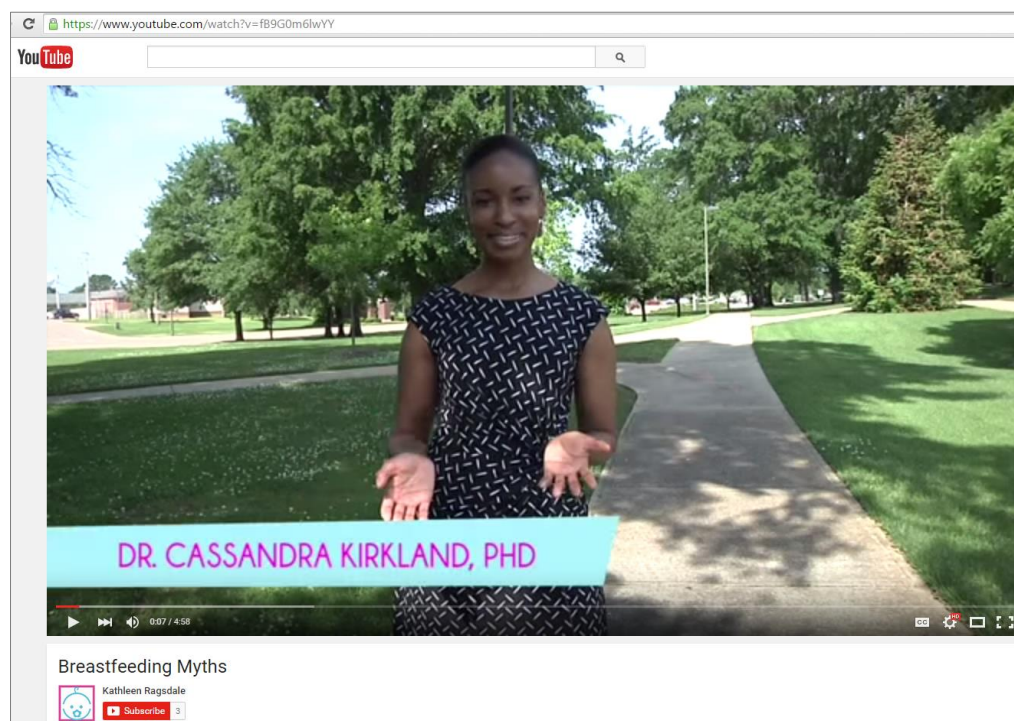
- **Breastfeeding: Part 1** (https://www.youtube.com/watch?v=THdcK656R_Yc). This 5:52 minute-long video again features Dr. Cassandra Kirkland as our infant health expert. We designed and scripted this video to inform teen mothers about how to assist their infant in getting her mouth aligned with her mother's nipple so that the baby "latches" properly onto the nipple — and so that both the nipple and aereola are

in baby's mouth. The featured infant health expert explains that, "The first question may be how do I hold my baby? The answer is whatever works best for you and your baby" in order to set the tone for the video. She then explains multiple ways to cradle an infant during breastfeeding, such as the cradle hold, cross-cradle hold, football hold, etc.

Dr. Kirkland's voiceover is accompanied by videotape of a mother demonstrating each hold with her infant. The video explains that an infant's latch should not be painful and discusses how to gently break the latch and try again to assist the infant in achieving a proper latch ro
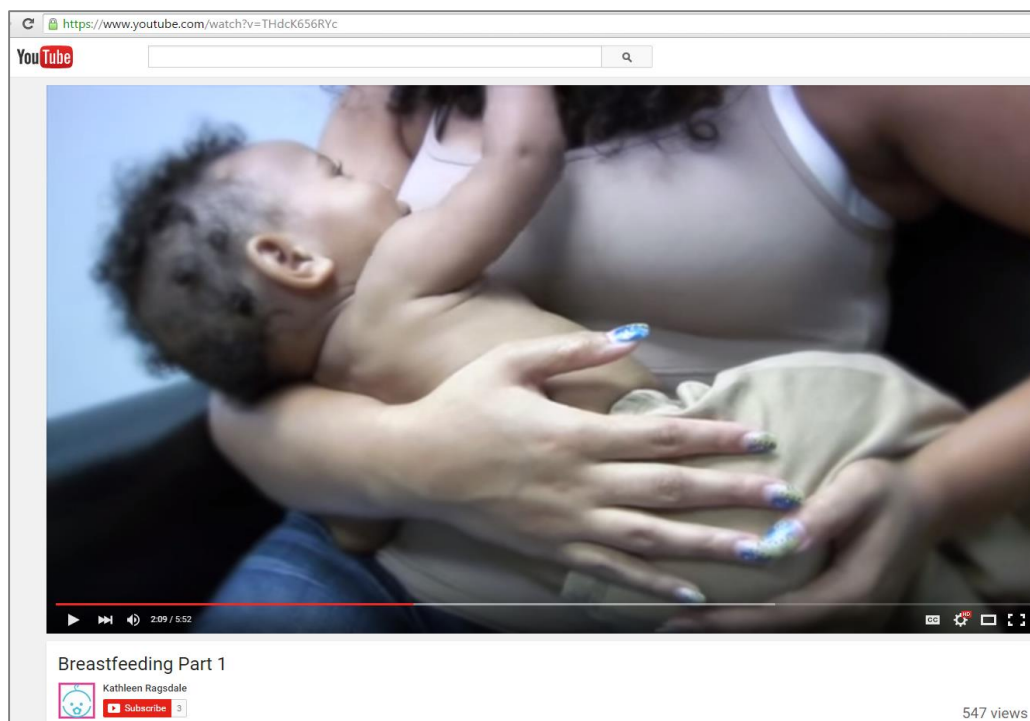
ensure that breastfeeding is comfortable for both baby and mother. The video closes with a gentle reminder from our infant health expert that "Like any new skill, breastfeeding takes practice at first. But you AND your baby will be experts in no time." In closing, teen mothers are directed to the eBaby4u website for more information.

- **Breastfeeding: Part 2** (https://www.youtube.com/watch?v=sMG ck9kjjA). In order to maintain continuity with the Breastfeeding: Part 1 video, this 4:35 minute-long video also features Dr. Cassandra Kirkland as our infant health expert. The video expands on the information presented in Breastfeeding: Part 1, with a specail emphasis on using a breastpump to facilitate the duration and exclusivitiy of breastfeeding even after the teen mother has returned to school/work. Questions include, for example. 'How long will my baby nurse?', 'How often will my baby nurse?', and 'Can I use a breastpump when I'm away from my baby?'
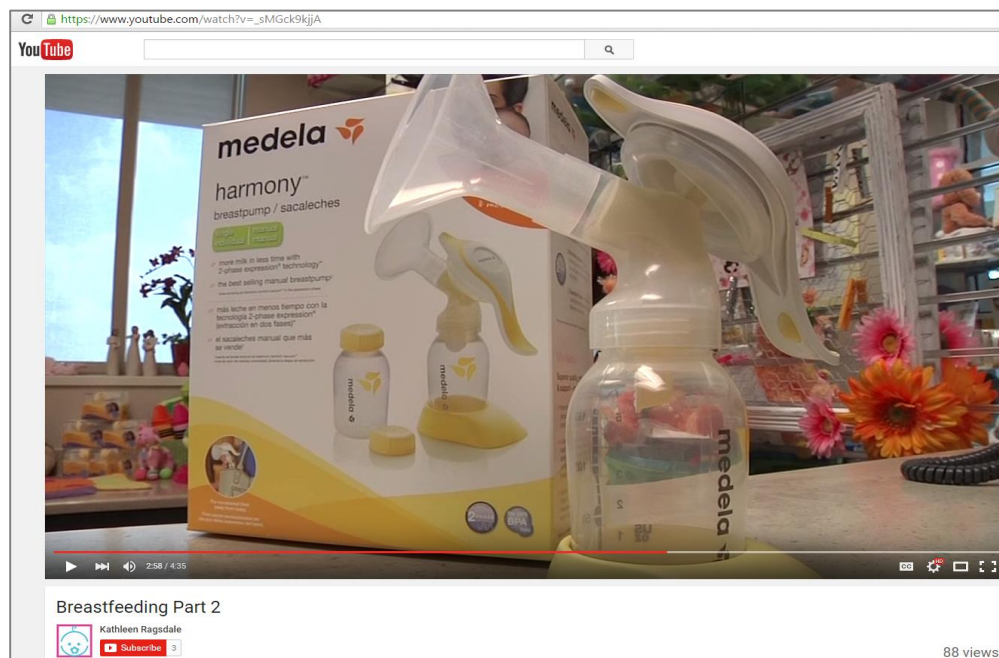
Important information on ways that an infant signals that she is ready to breastfeed include a definition of 'rooting reflexes' in infants, such as baby's turning her head from side to side, smacking lips, sucking on hands or toys, seeking to position her body to nurse, and crying — which "is usually the last cue for hunger." This video includes basic information on breastpumps, how long pumped breastmilk can be safely

stored for later use, and the advantage of using a breastpump to avoid breast engorgement. Importantly, teen mothers are again reminded to consult with their school nurse and/or principal to develop a plan to assist the mother in her efforts to breastfeed her infant. In closing, teen mothers are directed to the eBaby4u website for more information.

- **Bottle feeding myths** (https://www.youtube.com/watch?v=FrO aW6wBS_Kk). This 4:28 minute-long video features Monica Rosas Gutierrez, MS, as our infant health expert. Rosas Gutierrez was purposefully selected to serve as an aspirational role model. The video opens with our infant health expert telling the audience that this video will provide helpful hints for those teen mothers who cannot breastfeed or who feels that breastfeeding is not the right decision for themselves or their infant. Headings used to organize the video into segments to discuss/dispel common formula feeding misconceptions include, for
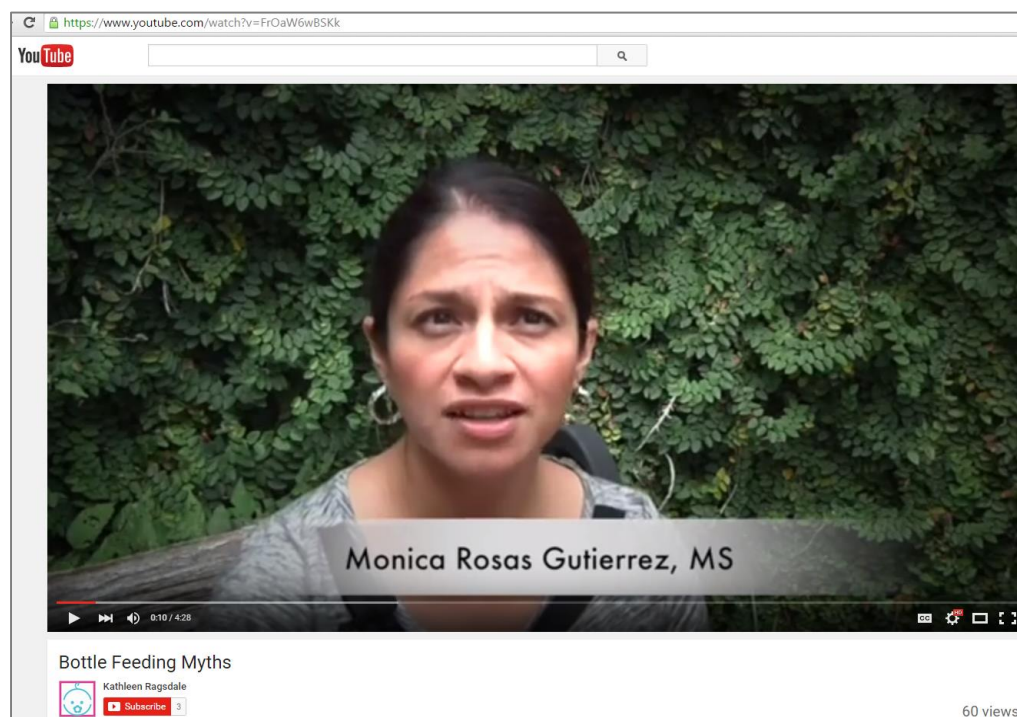
example, 'Myth: The type of formula I use doesn't matter', 'Myth: What type of bottle I use doesn't matter', 'Myth: I don't have to prepare the formula exactly as it say in the instructions', 'Myth: I can reuse formula if my baby doesn't drink all of it' and 'Myth: If I start bottle-feeding, I can't switch to breastfeeding.' Teen mothers are cautioned, "DO NOT USE clear, hard plastic bottles with a "7" or "PC" at the bottom (poly carbonate)" and to discard bottles when they become old or scratched. Teen mothers are also reminded to discard unused formula after a feeding and to "NEVER give your baby sugary drinks like fruit juice or soda" that are harmful to infants' teeth. Rosas Gutierrez's voiceover is accompanied by motion graphics and video of a young adult demonstrating how to correctly prepare formula and how to correctly sterilize baby bottles.

Our featured infant health expert also reminds teen mothers to "Never force a baby to finish a bottle" as it can cause a baby to have gastric distress or vomiting. Rosas Gutierrez also reminds teen mothers that frequent and persistent overfeeding is linked to overweight/obesity in infants. To dispel the myth that formula feeding is better than breastfeeding, our featured infant health expert also cautions teen mothers that formula-fed babies are at greater risk for sudden infant death syndrome (SIDS) as well as ear infections, colds, diarrhea, and pnemonia. Although Rosas Gutierrez's script clearly states that "our goal is to promote breastfeeding as the best option for infant feeding," we are also careful to acknowledge that breastfeeding may not be right for every teen mother and that mothers must make the right choice for themselves and their infants. In closing, teen mothers are directed to the [eBaby4u](#) website for more information.

- **Introducing your baby to solid foods** (https://www. youtube.com/watch?v=0e HrCCcm5Jk) is a 3:06 minute-long video that features motion graphics and lively music. Teen mothers are advised that "It is time to start feeding your baby solid foods if she is….six moths old, showing an interest in your food, able to sit up, able to support her head, and double her birth weight. Teen mothers are also advised that "If your baby is six to eight months old…he still needs to be breast or bottle-fed at least six times a day. He only needs solid foods about twice a day." Teen mothers are reminded that "Your baby only needs two to four
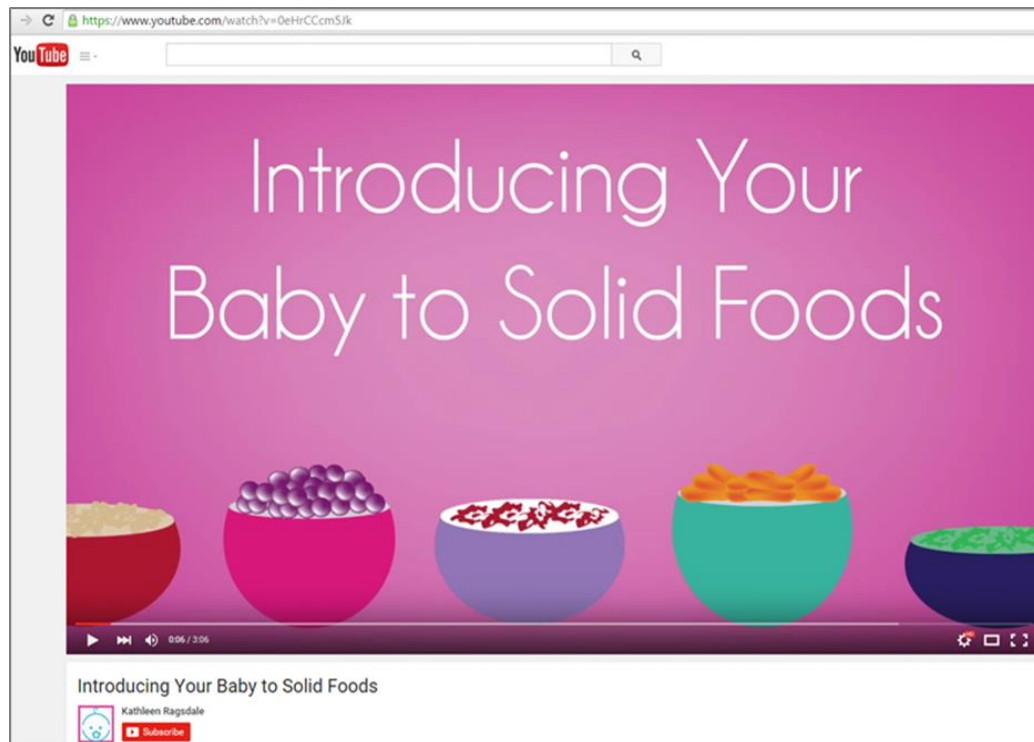
ounces of wat a day and NO JUICE" and to "Puree/blend and cook most foods given to babies at this age." Teen mothers are advised that "If your baby is eight to ten months old…continue feeding your baby cereal but you can now give dry cereal, toast, crackers or other soft breads" as well as "…fruits, vegetables and meats in bite-sized pieces."

Teen mothers are also advised that "If your baby is ten to twelve months old...You can now give your baby whole grains, rice, etc. and ground or bite-sized pieces of meat" and that "Your baby can now have fruits, vegetables and meats in bite-sized pieces." Teen mothers are reminded to "Continue giving your baby bite-sized portions of fruits and vegetables." We include a list of "Foods to avoid in the first year..." such as hot dogs, peanut butter, candy, popcorn, nuts and seeds, shellfish, and whole grapes, berries, and raisins. We continue this list of foods to avoid in the first year to include "sugary foods, deli meats, fast food, french fries, cow's milk, honey, and sweetened drinks and juice." The final frame of this segment cautions teen mothers that the previously mentioned foods "are choking hazards and may cause allergic reactions." The video closes with information to "Watch for these signs of an allergic reaction...upset stomach, rash, trouble breathing." In closing, teen mothers are directed to the eBaby4u website for more information.

- **Sleep: For you & your baby** (https://www.youtube.com/ watch?v=jG PaR_5Uvz8) is a 2:45 minute-long video that features motion graphics and calming music. Teen mothers are reminded that "Sleep is very important for both you and your baby...But, your baby won't sleep the same way you do." Teen mothers are informed that "Newborns sleep often and won't develop a regular sleep pattern for a few months" and that "Your newborn may sleep 16 to 17 hours a day...This is normal!" Teen mothers are reminded that "Waking up to feed during the night is important for your baby's health and growth" and that "as she get older, she may sleep anywhere from 2 to 10 hours at a time" although "she will probably wake up at least 1 to 2 times during the night to feed."
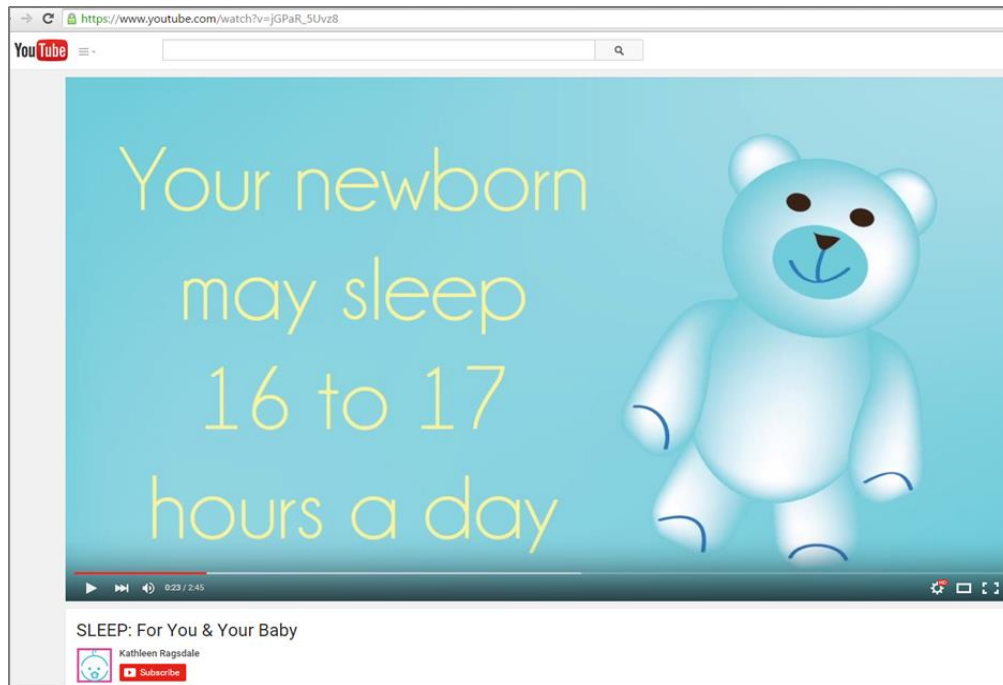
Teen mothers are cautioned to "NEVER give your baby juice or soda in a bottle" because these beverages can cause damage to a baby's teeth. Likewsie, they are cautioned to "NEVER give your baby cereal in a bottle" because it can cause a baby to overfeed and become overweight. They are also cautioned to "NEVER give your baby a bottle in bed" because this can cause a baby to choke, to have ear infections, and may damage a baby's teeth. Teen mothers are advised to try not to overfeed their infant before bedtime as this can cause overweight. Teen mothers are also reminded that "your sleep is important, too!" because "The more rest you have, the better care you give to your baby."

We provide teen mothers with tips to help them get more sleep, including "sleep when your baby sleeps," "avoid caffeine late in the day and at night," and "feed your baby right before you put her to bed." We suggest that a teen mother can ask a family member or friend to watch the baby while the mom take a nap. In closing, teen mothers are directed

to the eBaby4u website to access the "Your and Your Baby's Sleep" fact sheet and additional information.

- **My baby is stressing me out!** (https://www.youtube.com/watch?v=U2aJT_8t2wG8) is a 3:05 minute-long video that features motion graphics, calming music, and voice-over by infant health expert Desta Reff, JD. We designed and scripted this video to inform teen mothers that "Having a new baby can be stressful but it's important to take care of yourself too!" In segment one, Reff's voiceover is accompanied by motion graphics that reminds teen mothers that "Just like you, babies have both good days and bad days" and that "Feeling overwhelmed is normal" for new mothers. We engage our featured infant health expert to provide teen mothers with tips for dealing with their feelings, including "If you need help, ask for it. Family and friends can be a great support system."
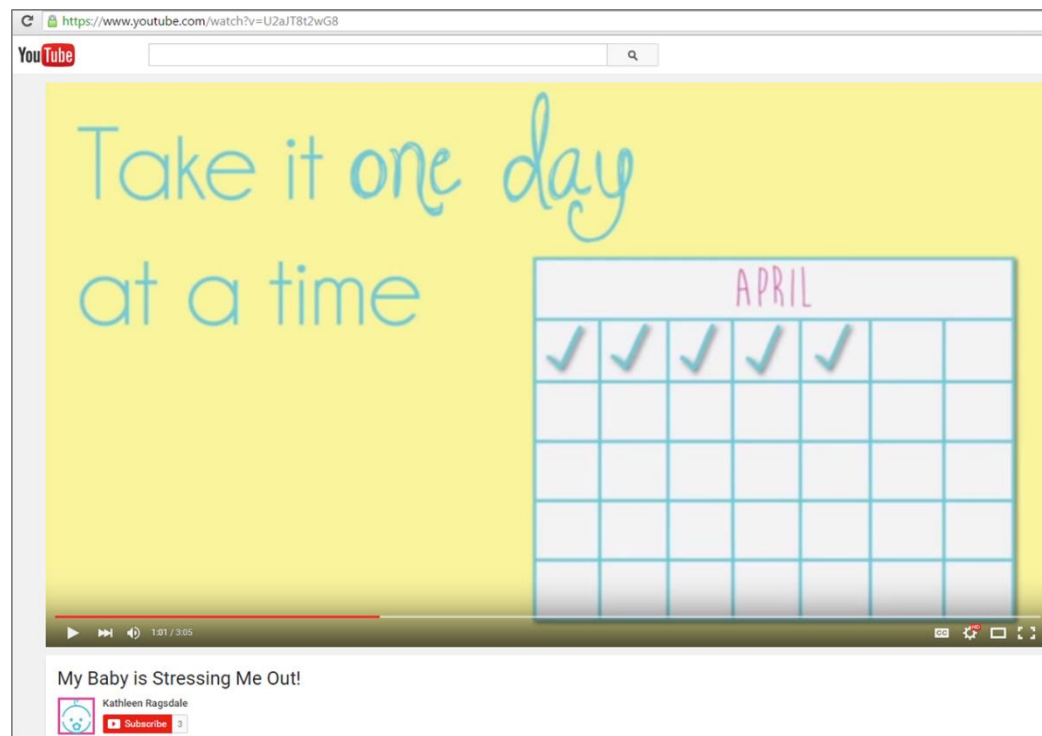
We suggest, "Count to 10 before reacting" and "Take a break and ask someone you trust to stay with your baby" as ways to help teen mothers reduce their stress. We recommend that teen mothers finds support groups and other programs for new parents in their local community. We also recommend that teen mothers practice trying to take their infant's viewpoint because the baby is not trying to aggrevate his mother, but is signaling that he needs something.

Through the voiceover from our infant health expert, we remind teen mothers that although the days may seem long when caring for a new infant, this stage of infancy passes quickly so take it "one day at a time." We suggest that teen mothers remember to talk gently to their babies because "your voice is your baby's favorite sound in the world." In segment two, 'How do I handle the stress?', teen mothers are asked to "Listen to your body to know when stress is affecting you and your
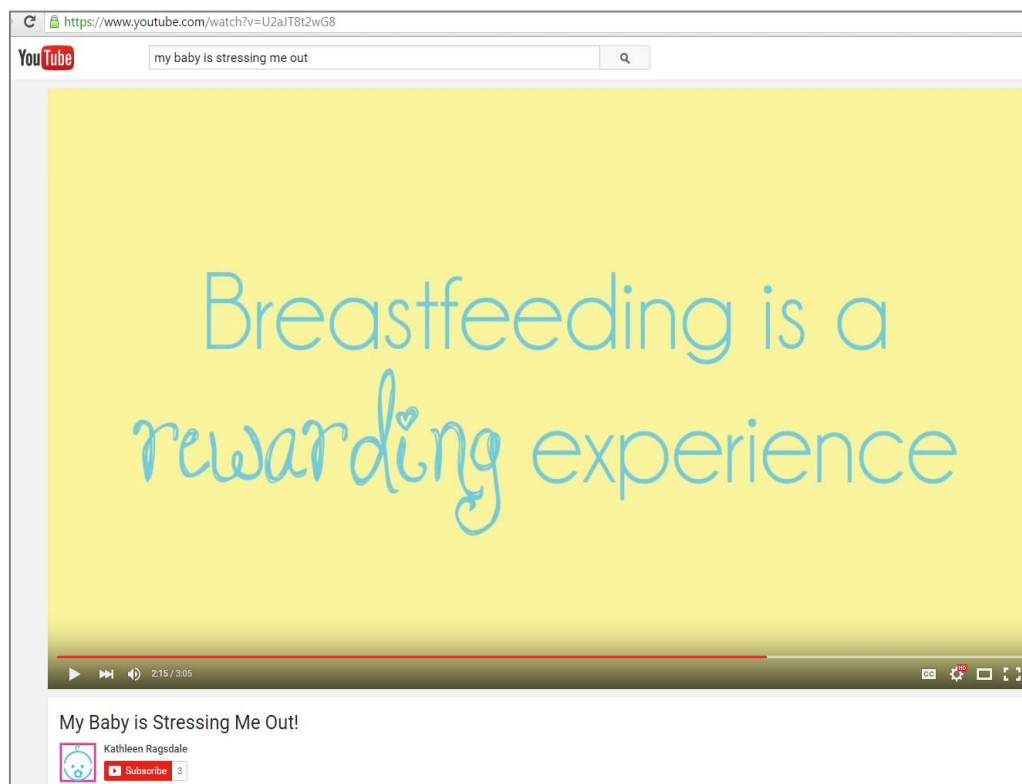
health" and "Avoid things that stress you out if possible." We provide tips for teen moms to reduce their stress, including eating healthy foods, sleep when their baby sleeps (which is an especially important habit for new moms to adopt), exercise, take a little time for oneself to do something you love, and write in a journal to vent your stress. In segment three, 'Breastfeeding is causing me stress!', teen mothers are reminded that breastfeeding can be difficult at first and a lot of mothers have trouble, "so stick with it!" because breastfeding is a rewarding experience for both mother and infant and is a special time to bond with your baby and to reduce the stress levels of both mother and infant. Teen mothers are advised to seek out and talk with other mothers who are breastfeeding as they can be a great source of support and advice. Teen mothers are also advised to contact a local La Leche League or lactation consultant at their hospital for breastfeeding support and advice. And finally, the video closes with a gentle reminder from our infant health expert that "breastfeeding may not be for everyone" and if you decide it is not for you "don't feel guilty" but instead "choose the option that works best for you and your baby." At the end of the video, teen mothers are directed to the eBaby4u website for more information.

HOW ARE WE DOING?

One metric we can assess to determine eBaby4u's outreach is the traffic to the YouTube channel that we created, which can be accessed at https://www.youtube.com/channel/ UCVDBC0

w6lT9TbBA9jrBdn9w. The nine eBaby4u teen parent education videos that have been posted on our YouTube channel have had a total of 1,845 views as of October 10, 2015. This amount of views is excellent validation for the value provided by the videos and for the reach of the eBaby4u program.

To date, the most-often viewed video is DAY IN THE LIFE OF A TEEN MOM, which has 563 views, while BREASTFEEDING: PART 1 is an extremely close second at 556 views. The third most viewed video is INTRODUCING YOUR BABY TO SOLID FOODS, which has 196 views, followed by BREASTFEEDING MYTHS, which has 108 views and PRENATAL NUTRITION, which has 107 views.

Video ranked according to views	Views
Day in the life of a teen mom	564
Breastfeeding: Part 1	556
Introducing your baby to solid foods	196
Breastfeeding myths	108
Prenatal nutrition	107
Breastfeeding: Part 2	92
Sleep: For you & your baby	80
Bottle feeding myths	72
My baby is stressing me out!	70
Total Views	1,845

SUSTAINING eBABY4u

USING A SERVICE-LEARNING APPROACH TO EXPAND THE PROGRAM'S OUTREACH

S ustainability is a key component of any health intervention, including eHealth outreach such as eBaby4u. To help meet the need to sustain the eBaby4u program, we are conducting a series of interrelated eBaby4U Service-Learning Projects, which are spearheaded by three Mississippi State University (MSU) professors (K. Ragsdale, M. Loehwing, and M. Breazeale). Each of these projects is organized around a definition of service-learning that encompasses the:

> method under which students learn and develop through active participation in thoughtfully organized service that is conducted in and meets the needs of a community...is integrated into and enhances the academic curriculum of the students...and provides structured time for the students or participants to reflect on the service experience. (CNCS, 1990, p. 5)

Furco further elaborates that service-learning projects "are distinguished from other approaches to experiential education by their intention to equally benefit the provider and the recipient of the service as well as to ensure equal focus on both the service being provided and the learning that is occurring" (Furco, 1996, p, 5). Service-learning's goal — which links academic coursework to meaningful community service — is to develop students who have increased critical thinking skills and cultural awareness (Kezar, 2002; Mitchell, 2008).

These principles form the backbone of our three eBaby4U Sustainability Projects, which are designed to harness harnessing the service-learning model in order to link academic coursework among tech-savvy students with public health persuasion targeting a hard-to-reach teen audience.

● eBaby4u Service-Learning Project I (Spring 2015)

Loehwing was the Professor of Record for two sections of *Elements of Persuasion* (CO 4253), an undergraduate course in the MSU Department of Communication used to implement this project in Spring 2015. Loehwing led the research team in designing the service-learning curriculum that used Borchers' (2013) *Persuasion in the Media Age* as the project's theoretical framework, recruiting an expert panel of judges, and evaluating the 12 group proposals. Each group was evaluated on the following required components: 1) audience analysis report; 2) credibility analysis report; 3) slogan proposal; 4) visual advertisement; 5) sample argument texts; 6) social media toolkit; and 7) in-class presentation to the expert panel.

The expert panel of six judges with backgrounds in eHealth/media outreach — including Loehwing and Ragsdale — evaluated the 12 toolkits and group presentations and selected a winning entry for the eBaby4u Service-Learning Project I. This project was so successful that we were invited to present a poster based on the eBaby4u Service-Learning Project I results at the CDC- and NIPHIC-sponsored *2015 National Conference on Health Communications, Marketing & Media* (poster is reproduced below).

Sustainability Project: Public Health Persuasion Targeting African American Teen Moms

Melanie Loehwing PhD[1] Kathleen Ragsdale PhD[2] April Heiselt PhD[3] Sydney Harper MS CHES[4] Laura Walton PhD[5]
[1]Department of Communication, Mississippi State U [2]Social Science Research Center, Mississippi State U [3]School of Medicine, U Nevada [4]Counseling Center, U Alabama-Huntsville [5]GoHMM

Background

eBaby4u is a multiphase project to improve infant feeding & health outcomes—including breastfeeding—among African American teen mothers. To our knowledge, eBaby4u is the **only** online resource that specifically targets this audience.

eBaby4u's smartphone-enabled website and nine videos deliver evidence-based, culturally relevant infant feeding/health information. It fills an important gap in culturally relevant outreach to African American teen mothers, who have extremely low breastfeeding rates (Li et al 2005).
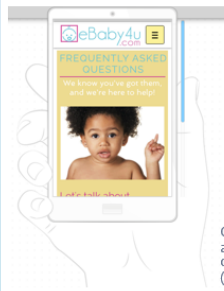
eBaby4u Phase I

For Phase I (Ragsdale, PI), we produced, pilot-tested, and launched the eBaby4u.com website and 9 parent education videos:

- Prenatal Nutrition
- A Day in the Life of a Teen Mom
- Breastfeeding Myths
- Breastfeeding Part 1
- Breastfeeding Part 2
- Introducing Your Baby to Solid Foods
- Bottle Feeding Myths
- SLEEP: For You & Your Baby
- My Baby is Stressing Me Out!

eBaby4u Phase II

For Phase II (Ragsdale, PI), we conducted in-depth interviews and surveys (N=112) among minority teen/young mothers at Early Head Start Centers to collect data on:

- How participants access online infant feeding and health information
- Their perceived barriers to optimal infant feeding (including breastfeeding)

eBaby4u Sustainability Project

During Phases I-II, we determined that **sustainability** is a key component of eHealth sites like eBaby4u. In particular, eHealth content must be updated regularly because fresh content is integral to retaining audiences on social media—especially **heavy media consumers** such as teens.

To cost-effectively create fresh content, we developed a service learning project to enlist the talents of tech-savvy students enrolled in *Elements of Persuasion* in developing social media toolkits to drive African American teen moms to eBaby4u.

Our goals were to link academic coursework to community service and increase students' critical thinking (Kezar 2002, Mitchell 2008). Our four objectives included:

Service Learning Goals

- Develop *Elements of Persuasion* into a university-designated service learning course for Spring 2015
- Create and implement a theory-driven curriculum for *Elements of Persuasion*
- Convene an expert panel to judge students' campaigns produced in the course
- Evaluate content to inform eBaby4u's social media strategy

Borchers' (2013) *Persuasion in the Media Age* formed the project's theoretical framework. It includes five key elements necessary for effective persuasion:

Social Media Theory

- **Form relationships** with your target audience through language and images
- **Repetition.** Repeat logos so your audience is constantly exposed to them
- **Electronic eloquence.** Create 'buzz' to retain and expand your audience
- **Commoditization.** Ensure communicated info is truly valuable to your audience
- **Storytelling.** Use real-world examples that resonate with your audience

Twelve teams (~70 students) developed culturally relevant social media toolkits for eBaby4u's target audience of African American teen mothers:

Results

- Teams were required to incorporate all five of Borchers' elements of persuasion into their professional-quality campaigns
- Teams pitched their campaigns to their 'clients' (eBaby's PI and an expert panel of judges with backgrounds in social media) during in-class presentations
- The judges evaluated the 12 in-class presentation on a scale of 0-5 (0=missing entirely, 5=outstanding) and selected 1st and 2nd place winners

Results (cont.)

Criteria on which the in-class presentations were judged:

- **Argument**—Ex: Did the team convince you of their campaign's persuasive effectiveness?
- **Campaign materials & content**—Ex: Were campaign materials and content creative and visually appealing?
- **Printed portfolio**—Ex: Was the team's portfolio professional and credible?
- **Delivery**—Ex: Did their performance enhance the team's argument?
- **Organization**—Ex: Was the structure of the presentation logical, easy to follow?

Recommendations…

Conclusions

The eBaby4u Sustainability Project is a case study in successfully harnessing the service learning model to link academic coursework among tech-savvy students with public health persuasion after grant funds are expended.

● eBaby4u Service-Learning Project II (Fall 2015)

This project is currently being implemented. Loehwing is the Professor of Record for *Elements of Persuasion* (CO 6253/CO 4253), a graduate/undergraduate course in the MSU Department of Communication used to implement this project in Fall 2015. For this project, Loehwing is tasking students with creating new eBaby4u social media content based on Just In Time Parenting, eBaby4u, and other evidence-based infant health/care resources (i.e., BabyCenter, WebMD). Loehwing will lead students in translating these evidence-based infant health/care resources into eHealth resources specifically designed to appeal to minority teen

mothers. Students are using Borchers' (2013) *Persuasion in the Media Age* as the theoretical framework to produce educational messages appropriate to a variety of social media platforms (e.g., Facebook, Twitter, Instagram, Pinterest, and Google+) in order to reach this target audience most effectively. Our panel of expert judges with backgrounds in eHealth/media outreach — including Ragsdale and Breazeale — will evaluate the group proposals at the end of the semester and select an eBaby4u Service-Learning Project II winner.

● eBaby4u Service-Learning Project III (Fall 2016)

As the Professor of Record for *Strategic Brand Management* (Marketing 4423), Breazeale will lead Service-Learning Project III in Fall 2016. This MSU College of Business course includes graduate and undergraduate students from multiple disciplines. Breazeale will task students with developing a strong brand presence for [eBaby4u](#) and producing promotional/branding materials to extend eBaby's reach to minority teen mothers. Service-Learning Project III's particular focus will be on the social media analytics evaluation and on development of: 1) the mobile app; 2) social media profiles and content; 3) weekly eNewspaper for our primary target audience of teen/young mothers; and 4) daily eNewspaper for our secondary audience of health care providers, WIC service providers, lactation consultants, MSU Extension Specialists and other direct service providers who serve pregnant and parenting teen mothers. Our panel of expert judges with backgrounds in eHealth/media outreach — including Ragsdale and Loehwing — will evaluate the group proposals at the end of the semester and select an eBaby4u Service-Learning Project III winner.

GOOGLE ANALYTICS

AND RELATED APPS TO MEASURE THE EBABY4U PROGRAM'S REACH

O nce the eBaby4u website has been 1) promoted to our target audience of teen mothers using the results of eBaby4u Service-Learning Project I-III, and 2) expanded to our secondary audience of direct service providers who serve pregnant and parenting teens (e.g., health care providers, WIC service providers, lactation consultants, and MSU Extension Specialists), several tools are available to us to measure not only the number of visitors that access the content but also the relative effectiveness of that content. Google Analytics provides a suite of dashboards that enable us to measure a myriad of outcomes. Although some of these reports overlap in the information delivered, when considered together they will provide a 360 degree view of the website and social media accounts.

- ## Occam's Razor Awesomeness

  This app produces custom reports and dashboards that allow us to define six different user segments, based on their number of return visits and length of time spent viewing content during each visit. This app also produces several reports that describe the source of all traffic to the website and the search engines that produce the most effective referrals.

- ## Landing Page Analysis Custom Report

This app produces a report that covers data related to the numbers of new sessions and total users of the site, the percentage of users that remain on the site beyond the landing page, and the percentage that leave without viewing any additional content. The value of this information is that it demonstrates the effectiveness of the landing page content for driving interest in the site.

- ## Sessions by Hour of Day

  This app identifies strategic times of day for the posting of new content based on the performance of the website. It also provides insight regarding the optimum times for conversions, or visitors who remain on the site and access more content.

- ## Social Media Dashboard

  This dashboard provides a view of activity that occurs off-site via our social media accounts as well as the 1) traffic to those social media accounts that is generated by the website and 2) traffic to the website that is generated by social media.

- ## Audience Snapshot Dashboard

  This dashboard provides insights regarding where our users are geographically located, how much they share our content with others, and what devices they use to access our content.

A FEW LOW-TECH TOOLS
TO MEASURE SOCIAL AUDIENCE REACH

In addition to the valuable tools available through Google Analytics, we will also be able to track the reach of eBaby4u content by compiling readily available social media statistics. Next steps for eBaby4u include the creation of Facebook, Twitter, and Pinterest accounts. Each of these social media platforms will allow us to reach our target audience in different ways, which will serve to 'cast a wider net' across mutiple social media platforms popular among both our primary audience of teen mothers and our secondary audience of direct service providers who serve pregnant and parenting teens (e.g., health care providers, WIC service providers, lactation consultants, and MSU Extension Specialists).

For example, Facebook will allow the eBaby4u research team to post relevant information while also allowing for interaction among eBaby4u users, which will include both our primary audience of teen mothers and our secondary audience of direct service providers who serve pregnant and parenting teens. Twitter will allow the eBaby4u research team to post updates, useful tips and links to relevant information in real time for both

our primary audience of teen mothers and our secondary audience of their direct service providers. And Pinterest will allow the eBaby4u research team to post photos and web links of interest to both our primary audience of teen mothers and our secondary audience of their direct service providers.

Expanding our audience will help ensure that we effectively grow eBaby4u's online reputation as a primary resource for information relevant to infant nutrition — including encouraging the initiation and duration of breastfeeding among teen mothers and proper timing of the introduction of solid foods to their infants — and as a primary resource for information relevant the general health and well-being of both infants and their adolescent mothers. The number of Facebook Likes, a count of Twitter followers and retweets, the volume of YouTube subscribers, and the total number of pins from our Pinterest boards will provide a fairly holistic view of the value that our target audience places on the eBaby4u content we provide via those social channels. Overall, utilization of these tools in concert will allow us to easily determine:

- **What eBaby4u content is most interesting to our primary audience of teen mothers.**

- **What eBaby4u content is most interesting to our secondary audience of direct service providers.**

- **Where our users are located.**

- **How our users are finding us.**

- **How engaged our users are by eBaby4u content.**

- **Which of our users are most likely to share our content with others.**

　　When accessed in a timely fashion, this information, will allow us to quickly make modifications to 1) the eBaby4u content we provide and 2) the methods we use to disseminate that content. This will help to ensure that our target audience remains engaged and willing to spread the word about eBaby4u to new audiences of pregnant and parenting teens. This will also help us build a secondary audience of direct service providers who serve pregnant and parenting teens (e.g., health care providers, WIC service providers, lactation consultants, and MSU Extension Specialists).

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