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Murphy, Michelle M. ***Factors Influencing Hmong Women's Decision to Breastfeed in La Crosse County, WI***

Abstract

The objective of this study was to identify behavioral intentions specific to the Hmong population using the Theory of Planned Behavior. A convenience sample of 25 Hmong mothers in western Wisconsin participated in the study as part of a brunch for Hmong women held at the La Crosse Public Health Building. Participants completed a questionnaire that measured theoretical constructs (behavioral beliefs, control beliefs, and normative beliefs) that measured their intentions to exclusively breastfeed their infants for six months. Forty percent of mothers reported infant health as an advantage to exclusive breastfeeding and 40% of mothers reported difficulty balancing work as a disadvantage to breastfeeding. Forty percent of mothers identified convenience as a facilitator of exclusive breastfeeding and 80% of mothers reported returning to work as a barrier. Forty percent of women felt no disapproval to performing exclusive breastfeeding, and 40% of mothers felt disapproval from an employer, themselves, or family. Interventions and polices to increase breastfeeding among Hmong mothers in western Wisconsin should focus on facilitating links within the Hmong community that support traditional breastfeeding practices, educating Hmong women to take advantage of their workplace breastfeeding rights, and encouraging an emphasis on cultural competency in healthcare settings.

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Chapter I: Introduction

Hmong refugees in the United States have a rich history and culture. Several centuries ago, the Hmong migrated to Laos from northern China where they led a largely agrarian, clan-based society that was separate from Laotian culture (Allen, Matthew, & Boland, 2004). During the Vietnam War the Hmong fought alongside the United States. During the war and after the Communist takeover in Vietnam in 1975, the Hmong escaped to United Nations' refugee camps in Thailand. From there many Hmong resettled in other countries.

In the early 1980s the United States government granted the Hmong preferred refugee status and began a policy of dispersal, which allowed only eight family members to emigrate as a group (Cobb, 2010). This policy had the unintentional consequence of reducing valuable support systems by dissolving historical Hmong clan affiliations after settlement in the United States. Once in the United States, many Hmong families emigrated a second time from California to communities in Wisconsin and Minnesota to be nearer to their extended families (Cobb, 2010). Here, it seemed social services were more hospitable to Hmong needs. According to the Hmong American Partnership (2010) it is estimated that more than 260,000 Hmong are living in the United States; the vast majority of Hmong individuals reside in California, Minnesota, and Wisconsin.

Exploring the barriers and attitudes towards performing certain health promoting behaviors in vulnerable populations is critical to reducing racial and ethnic health disparities. An unfortunate and well-known trend in the United States is that the longer a foreign born immigrant resides in the United States, the worse their health outcomes appear to be (Allen, Matthew, & Boland, 2004). Refugee populations likely have worse health outcomes compared

with immigrant populations due to lower income, higher uninsured rates, increased mental health problems related to experience in war zones, and significant language barriers.

Healthy People 2020, a nationwide goal setting program developed to promote health and disease prevention by the United States Department of Health and Human Services, set several breastfeeding objectives to promote maternal and infant health. Some of the goals set include: increasing the rate of infants ever breastfed from a baseline level of 74.0% to a target goal of 81.9% by 2020 and increasing the rate of mothers breastfeeding their infant at six months from a baseline level of 43.5% to 60.6% by 2020 (U.S. Department of Health and Human Service, 2013).

When compared with these national baselines and goals, Hmong breastfeeding incidence and duration rates in western Wisconsin appear critically low. The Centers for Disease Control and Disease Prevention reported the state of Wisconsin's breastfeeding initiation and duration rates in 2009 to be 81.3% and 48.7%, respectively (U.S. Department of Health and Human Services, 2012). The Wisconsin WIC Program (2013) reports in La Crosse County, Hmong breastfeeding initiation and breastfeeding duration at six months were abysmal, only 49.4% and 8.6%, respectively. However, when compared with anecdotal Hmong breastfeeding rates across the state of Wisconsin, these rates are high.

Statement of the Problem

Hmong women in Laos and Thailand had no other choice than to exclusively breastfeed their infant (Rice, 2000). Hmong women had no access to formula and adhered to strict spiritual beliefs surrounding infant feeding. With little research on traditional breastfeeding behaviors in the Hmong culture, anecdotal evidence can give insight. Moumoua Vue, a Hmong Registered Dietitian (RD) with the La Crosse County WIC Department, reports that traditional Hmong

culture in Thailand regarded breastfeeding to be so powerful that it is said that lightning would strike the earth where drops of breast milk fell (M. Vue, personal communication, November 9, 2013). Low breastfeeding rates among Hmong mothers in Wisconsin present an interesting case because the decrease in behavior represents a shift away from traditional practices.

To date there has been no research examining critically low breastfeeding rates among Hmong populations in western Wisconsin. Numerous studies on breastfeeding behaviors and barriers within various racial, ethnic, immigrant, and geographic sub-groups of women have been published (Bai, Wunderlich, & Fly, 2011). However, it is impossible to extrapolate those studies' results to the Hmong population. The Hmong are not immigrants; they are refugees. They have a distinct history and culture, and similarly their health behaviors are unique.

Purpose of the Study

The decision and ability to initiate and maintain breastfeeding is complex. The purpose of this study was to identify behavioral intentions specific to this population using the framework of the Theory of Planned Behavior. Results of this study may be useful in the development of culturally targeted interventions to increase breastfeeding and duration rates among this special population.

Definition of Terms

The following terms are defined to provide clarification and understanding of the study's content and provides operational definitions used by the researcher.

Breastfeeding initiation. For the purposes of this research study, breastfeeding initiation is defined as whether the infant has ever been fed with human breast milk at the mother's breast or through the mother's expressed milk. This study did not explore behaviors including utilizing a milk bank or a wet nurse.

Breastfeeding duration. For the purposes of this research study, breastfeeding duration is defined as the length of time for any breastfeeding. This includes periods of exclusive breastfeeding and complementary feedings up until weaning or breastfeeding cessation occurs.

Methodology

A convenience sample of 25 Hmong mothers residing in La Crosse County was included in this study. Hmong WIC participants were invited to participate in a brunch over the phone by Maomoua Vue, Registered Dietitian with WIC, at the La Crosse County Health Department. Women were incentivized to participate in the brunch by the provision of a meal, a chance for socializing with the women in their community, and door prizes. Ms. Vue delivered an educational piece on the traditions and importance of breastfeeding in the Hmong community in the Hmong language. Prior to the delivery of the educational piece, a survey provided in both Hmong and English was administrated to the participants. The survey gathered data on demographic variables and breastfeeding behaviors. The survey also used the Theory of Planned Behavior (TPB) to gather qualitative information about the behavioral intentions of Hmong mothers' decisions surrounding exclusively breastfeeding their infants for six months.

Chapter II: Literature Review

Breastfeeding is an elaborate biological process. The reasons why a mother may choose or not choose to perform positive breastfeeding behaviors are similarly complex. The purpose of this chapter is to provide recommendations as a benchmark for defining optimal infant feeding, assess the positive benefits of breastfeeding to the mother and her infant, and provide evidence for breastfeeding disparities among minority populations in the United States. The Hmong American woman's experience and traditional Hmong practices are explored to gain insight on low breastfeeding rates in this population.

Breastfeeding Recommendations

> First, it is necessary to set the stage by acknowledging that breastfeeding is an amazingly complex and incredibly adaptable system…. It is concerned with creating a new person, establishing an effective immune system, building brain function, developing socialization, and promoting long-term health. Another way of looking at this is that the infant develops for 9 months in the woman and then another 9-12 months out of the womb, with an intrinsic dependence on the mother for optimal sustenance. (Godfrey & Lawrence, 2010, p. 1597)

The American Academy of Pediatrics considers breastfeeding the "normative standard for infant feeding and nutrition" and promotes exclusive breastfeeding for six months and continued breastfeeding for at least one year after birth (Eidelman & Schanler, 2012, p. 827). Nearly all new mothers are capable of breastfeeding sufficiently, and there are few contraindications to breastfeeding. Breastfeeding contraindications are rare but include: infantile phenylketonuria and galactosemia, certain maternal infections including HIV, and potential

breast milk contamination due to certain pharmaceuticals, drug abuse, or environmental contaminants.

Benefits of Breastfeeding to the Infant

Empirical evidence confirms short and long-term health benefits to the breastfeeding mother and her infant (Eidelman & Schanler, 2012). The benefits of breastfeeding to infants in both the developed and industrialized world have been vigorously studied and the results categorically report the superiority of human milk over commercial infant formulas (Eidelman & Schanler, 2012).

When compared with formula fed infants, infants who are exclusively breastfed suffer fewer chronic and acute diseases (Eidelman & Schanler, 2012). A dose-dependent response between breastfeeding duration and exclusivity has been determined for many conditions including: otitis media, upper and lower respiratory tract infections, asthma, atopic dermatitis, inflammatory bowel disease, obesity, celiac disease, type 1 and 2 diabetes, leukemia, and even sudden infant death syndrome (Eidelman & Schanler, 2012). Because breastfeeding is considered immunoprotective, it is particularly important that breastfeeding continue while complementary solid foods are being introduced for the prevention of allergic disease (Eidelman & Schanler, 2012).

In addition to chronic and infectious disease prevention, numerous studies have purported that breastfeeding may have potential benefits to neurodevelopment, specifically intelligence scores (Eidelman & Schanler, 2012). These studies are often contentious due to the difficulties inherent in disentangling neurodevelopmental benefits from confounding variables such as socioeconomic status and parental education. Less disputed, however, are studies showing long-

term neurodevelopmental benefits to pre-term infants supplemented with human milk (Eidelman & Schanler, 2012).

Benefits of Breastfeeding to the Mother

Although the benefits of breastfeeding for mothers are not as well studied as the advantages to infants, it appears that similarly there is a dose-dependent effect for disease prevention. Documented benefits to women who breastfeed include: hormonal changes that result in an attenuated stress response that may reduce postpartum depression; a significantly reduced risk of coronary heart disease; reductions in rates of certain reproductive and breast cancers and type 2 diabetes, and ovulation suppression that can serve as a natural form of contraception (Godfrey & Lawrence, 2010). Other maternal benefits include increased energy expenditure which could result in more rapid return to pre-pregnancy weight, strong bonding between the mother and infant, and time and money saved in not preparing and purchasing formula ("Position", 2009). Additionally, working mothers who breastfeed have lower rates of absenteeism and higher levels of productivity at work compared to women that do not (Murtagh & Moulton, 2011).

National Breastfeeding Rates

The Centers for Disease Control and Prevention report that breastfeeding initiation and duration rates in the general population have been steadily increasing in recent years (U.S. Department of Health and Human Services, 2012). Some 76.9% of mothers reported initiating breastfeeding in 2009, which is up from 74.6% the previous year. Also, 47.2% of mothers reported continuing breastfeeding at six months in 2009, which is up from 44.3% in the previous year. Wisconsin boasted breastfeeding rates above the national averages for initiation and

duration at six months with 81.3% and 48.7%, respectively (U.S. Department of Health and Human Services, 2012).

Breastfeeding Disparities

Despite increased rates of breastfeeding among the general population, significant socioeconomic disparities in breastfeeding behaviors exist. These disparities serve to exacerbate health disparities in vulnerable populations. Lower-income, minority, immigrant, lower educated, rural, younger, and single women have repeatedly been shown to be significantly less likely to initiate and continue breastfeeding (Sparks, 2011).

Hmong Breastfeeding Rates

Even when compared with other vulnerable minority populations which are typically low, Hmong WIC participants' in western Wisconsin breastfeeding initiation and duration rates appear alarmingly low. A 2013 report from the La Crosse County Women, Infants, and Children (WIC) program showed Hmong breastfeeding initiation and duration rates at six months were 49.4% and 8.6%, respectively (Wisconsin WIC Program, 2013).

Acculturation and Breastfeeding

Mexican American women experience breastfeeding rates significantly lower than native Mexican women. Harley, Stamm, and Eskenazi (2007) found that breastfeeding rates at 6 and 12 months among Mexican women decreased significantly in relation to duration of time lived in the United States. The researchers found that for all Mexican women, those that had lived their entire lives in the United States had the lowest breastfeeding rates. Studies have shown that in general the longer an immigrant woman has lived in the United States, the more acceptable they find it to use infant formula (Bai, Wunderlich, & Fly, 2011). Immigrant Hispanic women who live in communities with strong ties to their native cultures and have support from older women

in the community have been shown to have higher breastfeeding rates than those without strong cultural influences (Hurley, Black, Papas, & Quigg, 2008). It is difficult to compare the acculturation process of Hispanic women who immigrated to the United States to Hmong refugees; however, Hispanic women facing hardship in their native Mexico more or less forced to immigrate to the United States due to violence and lack of opportunity may represent the closest benchmark.

The majority of Hmong have assimilated well to life in the United States; Lee and Green (2010) found that assimilation to the United States has been greater for those Hmong who were younger when arriving in the United States and literate in English. It is therefore intuitive to think that perhaps Hmong breastfeeding behaviors may resemble those immigrant groups with similar degrees of acculturation. Lee and Green (2010) described the challenges faced by Hmong finding refuge in the United States:

> They did not know how to speak English, had never lived in a house with electricity or indoor plumbing, and did not have much prior knowledge about the United States. When they first arrived, they went though drastic and incomprehensible experience of change, and many of them had a hard time adjusting to U.S. society. (p. 3)

Hmong Family Life

Hmong are characterized as being highly family oriented. Hmong families are patriarchal, and the traditional role of women in the family is child-rearing. Data from the University of Wisconsin Extension & Applied Population Laboratory (2002) showed that in 2002 over 98% of Wisconsin's Hmong population lived in family households, with almost 70% of these homes including a married coupled and their children. The Hmong put great value on large families; data showed Wisconsin Hmong families averaged 6.4 people per household, a

figure that is twice the average for the state (University of Wisconsin Extension & Applied Population Laboratory, 2002). Many families reported living in the same house or neighborhood as their in-laws from whom they received child care help.

Jambunathan and Stewart (1997) interviewed 52 postpartum Hmong women from Wisconsin to explore postpartum family support and life satisfaction. While the study may be considered outdated, it nonetheless provides rare and valuable insight into Hmong family life. Hmong mothers reported to enjoy a high degree of social support from their spouses and extended family; 75% of women were satisfied with their husband's support during the postpartum period. Despite this, only 13.7% of the Wisconsin Hmong mothers surveyed reported they were satisfied with the time and energy they had left at the end of the day. Jambunathan and Stewart (1997) reported that this was likely due to the stressors inherent to having many small children to care for simultaneously. When asked what Hmong mothers would change about their lives if they could change anything, the women answered they would like to have fewer children, become educated, learn to speak English, and become employed (Jambunathan & Stewart, 1997). In the time since this study was published, many of the desires of the Hmong mothers have come to fruition.

Only 17 years following the publication of Jambunathan and Stewart's study, Hmong women's traditional roles have evolved in the United States "allowing them to incorporate new and additional roles and responsibilities over the traditional gender expectations… [Hmong] women today are no longer regarded as the inferior and enjoy more equality" (Lor, 2013, p. 44). These changes are largely the result of economic factors as Hmong-American families, like most American families, require a dual income household. Hmong women are seeking higher education and serving more often in leadership roles (Lor, 2013).

Postpartum Traditions

In traditional Hmong culture, the first 30 days following childbirth, or nyo dua hli, is a dangerous and vulnerable time for the mother and cultural practices necessitates strict adherence to rituals and practices. Postpartum rituals during this time include: being confined to a sleeping area for 30 days, following strict dietary rules, segregation from the community, and avoiding sexual intercourse. During this time, husbands take special care of the new mothers (Rice, 2000).

Hmong also have special beliefs and practices during this time period that relate to lactation. This reflects the historical importance Hmong women place on breastfeeding when artificial milk was not available. Pregnant mothers, those wearing shoes, and those carrying bags are not allowed to see the new mother during the confinement period for fear that the mother's breast milk would be taken away (Rice, 2000). Many women believe that once the milk is taken away it cannot be retrieved. In her study of nyo dua hli, Rice (2000) cites a Hmong woman discussing losing her milk: "if they come and after they leave they take the milk away you have to wait until their baby is born then you will have a very hard time…" (p. 28). Traditional post partum practices surrounding breastfeeding reveal the importance the Hmong place on breastfeeding.

With little research on the cultural infant feeding practices of the Hmong, anecdotal evidence from a member of the Hmong community becomes extremely valuable. Maomoua Vue anecdotally described the connection between lightning and breast milk in Hmong culture. Hmong lore in Southeast Asia fosters the belief that lightning would strike the ground where drops of milk had been spilt due to how powerful breast milk is believed to be. In the United States, where expressing breast milk with a breast pump for later use is a possibility due to refrigeration and breast pumps, the belief has evolved. Vue stated that some Hmong women

were hesitant to express milk and store it for later in the refrigerator because if anyone other than the infant, such as the baby's father, drank the milk they would be struck by lightning (M. Vue, personal communication, November 9, 2013). The effect that Hmong traditional beliefs may have on breastfeeding behaviors in the Western world has not been studied.

Medical Beliefs

Hmong Americans are typically open to Western medicine, but many still hold beliefs in animism (Cobb, 2010). Animism is the belief in a spirit world that is connected to living things. When ill, many Hmong consult a traditional healer or shaman for healing and disease prevention (Cobb, 2010). As a part of these beliefs, many Hmong believe that illnesses are the result of spiritual factors (Cobb, 2010).

Refugee and immigrant populations have been shown to have worse health outcomes than those who were born in the United States for multiple reasons including: poverty, low education rates, high uninsured rates, difficulty accessing medical care, cultural inadequacies within the health care system, language barriers, distrust of Western organizations, and increased mental health problems related to refugee status (Allen et al., 2004). Allen and coworkers (2004) conducted health screening in Wausau, Wisconsin, and determined that among the elderly Hmong there were very high incidences of hypertension, diabetes, and kidney problems. Some 39.5% of Hmong children in the Wausau schools demonstrated two or more cardiovascular risk factors, while only 27.2% of Caucasian children did (Allen et al., 2004).

Cultural Competency

A campaign to prevent neural tube defects in babies in Wisconsin demonstrates the need for culturally competent health messages in diverse populations (Viste, 2007). In the early 2000s, the Wisconsin Folic Acid Council produced materials translated verbatim into Hmong for

the prevention of neural tube defects through folic acid supplementation, but soon realized that these materials would be totally ineffective with the Hmong population (Viste, 2007). Many Hmong believe that illnesses and birth defects in babies are caused by wrongs committed by the baby's parents or the baby in a past life (Viste, 2007). The researchers learned that because many Hmong believe that birth defects cannot be prevented, their education materials emphasizing prevention were not culturally competent (Viste, 2007). Similarly, health education materials promoting breastfeeding for the prevention of disease in the infant and mother may not be appropriate with the Hmong population, particularly with older Hmong mothers or those that hold tightly to cultural traditions.

Language and Literacy

For any immigrant or refugee in a new country, finding health information and resources is part of assimilating to a new place. Cobb (2010) reported that 58.6% of Hmong households in the United States do not have family members who speak English well, and only 4.4% of Hmong households report English as the only language spoken inside their homes. High rates of illiteracy in the Hmong population due to lack of educational opportunities have proved to make assimilation in a new country difficult. As of 2000, only 4.4% of Hmong households reported English to be the only language spoken in the home (Cobb, 2010). Additionally, many Hmong are literate in languages other than Hmong or English such as French, Laotian, and Vietnamese. This facet of their culture makes translation, interpretation, education, and research a delicate task. The Hmong maintain their rich culture through a strong oral tradition that often involves the use of story cloths (Cobb, 2010). Culturally competent health interventions with Hmong populations use oral tradition to their advantage and involve individualized, face-to-face education rather than pamphlets or documents (Allen et al., 2004).

Social Support Networks

Educators have long encouraged health initiatives to take advantage of existing social networks, such as church affiliations, to promote health behaviors among targeted at-risk populations. Attending church or religious services on a weekly basis is associated with a 55% increase in the odds of initiating breastfeeding when compared with those who are unaffiliated (Burdette & Pilkauskas, 2012). Extrapolating Burdette and Pilkauskas' (2012) research on social networks and breastfeeding to the Hmong population suggests that the United States refugee policy of dispersion that effectively dissolved historical Hmong clan affiliations likely reduced valuable support systems after settlement in the United States. Reduced social support networks may have negative effects on the health behaviors such as breastfeeding in Hmong women. Social support networks that are seemingly available to Hmong mothers may not be as supportive to Hmong women as they are to other demographics because of the reliance on family affiliations that are not present in the communities.

As in many other Asian cultures, family takes priority over oneself, and the family groups are paternalistic. "Traditionally the daughter is prepared for the next phase of her life to be the wife of another man and the daughter-in-law of another family" (Lee, 2006, p. 15). It has been reported that one of the best indicators of continuation of breastfeeding is support from the infant's father (Brownell, Hutton, Hartman, & Dabrow, 2002). Given Hmong family organization, it is likely that social factors that typically affect breastfeeding in other demographics may be even more influential with Hmong mothers.

Strong support for breastfeeding within the first few hours following the birth of an infant in the hospital has been identified as critical for the foundation of long-term breastfeeding (Perrine, Shealy, Scanlon, Grummer-Strawn, Galuska, & Cohen, 2011). Hospital staffs who

adopt strong breastfeeding culture in their maternity wards create a powerful social support system (Perrine et al., 2011). Hospitals, maternity wards, the WIC program, and other places Hmong women could receive support for breastfeeding may not be serving the Hmong population well without considering language and cultural competency when allocating resources and providing education.

Women, Infants, and Children

The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) was authorized by the Child Nutrition Act of 1966 and is funded by the United States Department of Agriculture (Jensen, 2011). The WIC program allocates federal money to states to provide low-income pregnant women, nursing mothers, and infants up to age five with supplemental foods, nutrition education, and healthcare referrals (Jensen, 2011). One of the primary goals of WIC is to increase initiation and duration of breastfeeding rates through education, social support, and positive incentives among a diverse population of low-income women. Despite their intentions, Ryan and Zhou (2006) show participation in WIC to be negatively associated with breastfeeding. Mothers who participate in WIC have been shown to be half as likely to initiate breastfeeding and twice as likely to cease breastfeeding before their infant reaches six months of age when compared with non-participants (Ryan & Zhou, 2006).

The WIC program is not without controversy. Jensen (2011) suggests that by providing an option for mothers to receive infant formula in their food packages WIC disincentivizes breastfeeding and encourages low-income women not to breastfeed. Kent (2006) argues that the knowledge that WIC provides free formula has been critical in attracting clients, and that although there is no campaign promoting formula feeding, there is an implicit message endorsing formula use: “It is difficult to see how offering free formula could fail to be an incentive to use

formula" (Kent, 2006, p. 20). Jiang, Foster, and Gibson-Davis (2010) argue that due to selective enrollment into the program it is impossible to determine a causal effect of WIC on breastfeeding rates, and disparities between WIC participants and non-WIC participants can be explained by socio-demographic differences between the groups. In 2009, WIC made changes to the food packages by increasing the values of food packages for fully breastfeeding mothers (Whaley, Koleilat, Whaley, Gomez, Meehan, & Saluja, 2012). Whaley et al. (2012) suggest that these changes have been associated with reduced formula use among WIC participants.

Duration Barriers

Rojjanasrirat and Sousa (2010) showed that certain groups of low-income women are very aware of the superiority of human breast milk over formula, but the barriers to performing the task outweighed their best intentions. For some women, this resulted in despair and feelings of helplessness (Rojjanasrirat & Sousa, 2010). The Hmong are a unique population in the United States; the struggle inherent to being a refugee in the United States creates unique challenges and barriers to performing traditionally performed health behaviors.

There are many different potential barriers to breastfeeding including: lack of knowledge of the health benefits, lack of social support, embarrassment, inconvenience upon returning to work or school, perceived low milk supply, and many others (Brownell et al., 2002). Barriers can be different for different demographic populations. For instance, Hispanic women, more than any other group, commonly cite the misinformed belief that their baby cannot get enough nutrients through breast milk as a barrier (Hurley et al., 2008). With new programs and policies, barriers change over time, and certain barriers can be more influential in certain demographics over others.

One study of low-income Mexican American women reported four main reasons for breastfeeding cessation: not enough breast milk, the mother not wanting to continue, difficulty while working, and the child not wanting to continue (Harley et al., 2007). A study of factors affecting breastfeeding decisions of 130 WIC participants from central Louisiana reported that the two main barriers to breastfeeding were lack of motivation and having to return to work or school in 29% and 22% of the study population, respectively (Murimi, Dodge, Pope, & Erickson, 2010). Other barriers to breastfeeding duration in this population were: not having enough milk, having sore nipples, and having to return to work or school (Murimi et al., 2010). A study of low-income rural women in the eastern part of the United States reported their top barriers to breastfeeding as: never actively considering it as an option, discomfort or pain, embarrassment, lack of social support, and inadequate milk supply (Flower, Willoughby, Cadigan, Perrin, & Randolph, 2007).

Returning to Work

Many Hmong women have entered the labor force and moved away from more traditional roles inside the home. Workplace barriers to breastfeeding are cited as the most significant reason women discontinue breastfeeding before reaching recommendations in nearly every demographic. This barrier may disproportionately affect low-income women who need to return to work more quickly after the birth of their child due to financial constraints or lack of protection in certain employment sectors (Sparks, 2011). Murtagh and Moulton (2011) state that among mothers with infants less than one year of age, 35.5% work full time and 16.1% work part time outside the home.

In 2010, federal law mandated as part of the Patient Protection and Affordable Care Act that working mothers be provided “reasonable break time” to express milk for children less than

one year of age (Murtagh & Moulton, 2011). Despite legislation promoting mothers breastfeeding in the workplace, many women may still feel that their work environment is unsupportive, are reluctant to act upon their rights, or are unknowledgeable about their rights (Murtagh & Moulton, 2011).

The Theory of Planned Behavior

The Theory of Planned Behavior (TPB) is a health behavior model concerned with individual motivational factors that determine the likelihood of performing certain health behaviors (Ajzen, 1991). The TPB theorizes the most important determinant of health behavior is behavioral intention. The TPB asserts that behavioral intention is determined by three mutually exclusive determinants: attitude towards performing the behavior, subjective norms associated with the behavior, and perceived behavioral control. Attitudes are determined as the positive or negative feelings towards breastfeeding. Subjective norms refer to the societal normative beliefs surrounding breastfeeding, or the extent to which the women feel they should or should not perform the breastfeeding behavior. The perceived behavioral control construct accounts for the degree to which a behavior is believed to be under volitional control. This construct may be of particular importance when ascertaining which women would like to breastfeed but feel the demands of work, family, or school limit them from doing so.

The TPB has proved useful in exploring psychosocial factors that affect mother's breastfeeding behaviors; it has also successfully been used to compare breastfeeding intentions among different racial and ethnic groups. In a convenience sample of 25 women in central Indiana, Bai, Middlestat, Joanne-Peng, and Fly, (2009) used the TPB to identify salient belief structures affecting mothers' decisions about exclusive breastfeeding for six months. The results

of the study showed that while the mothers felt approval from their family and friends, the mothers felt disapproval from society and mixed signals from health care professionals.

The Theory of Planned Behavior (TPB) has been utilized in evaluating intentions to breastfeed in racial and ethnic minorities with success. Bai, Wunderlich, and Fly (2011) revealed differences in behavioral beliefs between different racial and ethnic groups using the TPB. The authors found the most influential predictor for African American mothers was subjective norms, while perceived behavioral control most strongly predicted breastfeeding behaviors in Latin American mothers. The results of these studies speak to the complexities of breastfeeding behaviors. It is likely that the determinants affecting Hmong women's decisions to breastfeed cannot be extrapolated from seemingly similar populations. Culturally competent interventions require exclusive evaluation of this unique population.

Chapter III: Methodology

The purpose of this study was to identify behavioral intentions of performing exclusive breastfeeding for six months among Hmong mothers in western Wisconsin. The theoretical framework of the TPB was employed to determine behavioral, control, and normative beliefs specific to this special population. The results of this study may be useful in the development of culturally competent health campaigns targeted at increasing Hmong mothers' breastfeeding rates in western Wisconsin.

Setting

On Saturday November 9, 2013 a brunch was held for Hmong WIC participants in the La Crosse County Health Department building. The setting was intended to create social support networks and to encourage participation in dialogue that fostered positive health behaviors. A Hmong Registered Dietitian employed with the La Crosse County WIC department, Maomoua Vue, provided an educational piece to educate mothers on the benefits of breastfeeding for infants and mothers, to dispel common cultural misconceptions about infant feeding practices, and to empower Hmong mothers to address common barriers to breastfeeding duration. The educational piece was given in the Hmong language. Hmong WIC staff members made invitations to the brunch for Hmong WIC participants; the mothers were encouraged to bring their family members and friends to the brunch. Phone calls were deemed a culturally appropriate form of invitation due to strong oral traditions and word of mouth practices in the Hmong community.

Incentives

Women were incentivized to participate in the brunch with the provision of a meal, an opportunity to socialize with members of their community, and door prizes. Door prizes included self-care products such as lotions, soaps, nail polish, and gift certificates to salons.

Participants/Sample

A convenience sample of 25 Hmong women residing in La Crosse County was included in this study. Inclusion criteria were minimal and included: identifying as Hmong, residing in La Crosse County, and having borne children. There were no criteria of recency of birthing children so as not to limit the perspective of the sample to younger women. Participation in the WIC program was not mandated by the criterion on the survey due to the nature of the setting so as not to limit the perspective to younger women.

Procedure

Data collection for this project occurred prior to the educational piece and provision of any incentive to prevent bias in survey responses. Prior to receiving the survey, participants were provided with a consent form to participate in UW-Stout Approved Research (Appendix A). The consent form described the purpose of the survey, outlined risks and benefits of participation in the project, assured confidentiality with participation, and affirmed the survey had been approved by the University of Wisconsin-Stout's Institutional Review Board (IRB). After reading the consent form, the women were provided with a survey and a writing utensil. After handing the completed survey into the investigator, the women were provided with a number matched to their door prize and were invited to help themselves to the brunch buffet table. Only when all the surveys were collected did the educational piece begin.

Language

To avoid potential literacy concerns during data collection, the consent form and survey were translated and validated for cultural competency by Maomoua Vue, RD, and Nor Moua, Breastfeeding Peer Counselor at the La Crosse County Health Department. Hmong translators were also available for assistance during the survey. The women were therefore able to complete the survey in four ways: verbally in English or Hmong facilitated and written by a translator, or written in English or Hmong.

Survey

The survey (Appendix B) was written in both English and Hmong. Demographic variables were measured through both multiple choice and open-ended questions. These variables included: maternal age, education level, employment status, time in the United States, and number of children. Open-ended survey questions measured intention to breastfeed through theoretical concepts of the TPB with open-ended questions. Table 1 provides the survey questions that measured behavioral beliefs, normative beliefs, and control beliefs.

Table 1

Survey Questions Eliciting Underlying Beliefs About Exclusive Breastfeeding for Six Months

Predictors of Intention	Survey Questions
Behavioral Beliefs	What are the good things that would happen if you fully breastfed your baby for six months? What are the bad things that would happen if you fully breastfed your baby for six months?
Control Beliefs	What things make it difficult or impossible to you fully breastfed your baby for six months? What things make it easier for you to fully breastfed your baby for six months?
Normative Beliefs	Who do you think would disapprove or try to stop you if you fully breastfed your baby for six months? Who do you think would approve or support if you fully breastfed your baby for six months?

Data Analysis

Demographic variables including age, education level, time in the United States, employment status, and number of children were analyzed using appropriate descriptive statistics using the Excel Data Analysis tool. Open-ended questions were analyzed with thematic analysis. Answers for each open-ended question were coded into mutually exclusive themes and then described using frequencies. Answers to open-ended questions were not limited to one dominant theme or the first recorded theme, but rather as many themes as were present in the answer.

Limitations

There were many limitations to this study. Homogeny of the sample limits the ability for the results of the study to be reliably extrapolated to other Hmong populations. Although precautions were taken to protect the study results from bias, survey bias inherent to the location

of the survey, to the presence of known nutrition professionals, and to the presence of peers was present. Significant language barriers created a potential for confusion while taking the survey and the TPB has not been validated for use in the Hmong language. The qualitative nature of the study and the small sample size prevented the results from being translated into quantitative responses for tests of statistical significance. Additionally, the sample size was too small to measure for significance between sub-groups within the sample.

Chapter IV: Results

This study explored the behavioral intentions to perform exclusive breastfeeding for six months among Hmong mothers in western Wisconsin using the Theory of Planned Behavior. Other studies have successfully used the theory theoretical model to identify predictors of intention that determine actual behavior for mothers of different races/ethnicities.

Sample Characteristics

There were 25 Hmong women that participated in this study. Demographic variables presented in Table 2 show a diverse group of women. There was a large spread of age groups represented in the sample with younger and older women (40 years or older) being more highly represented than women in their thirties. Thirty-two percent of participants were between 18 and 25 years of age, 32% of participants were between the age of 26 and 40, and 36% of participants were above age 41. Unexpectedly, many of the women present appeared to be quite advanced in age. Forty percent of the participants had education beyond high school, 28% had a high school education or the equivalent to a high school education, and 24% had less than a high school education. Forty-four percent of women worked full time, and 32% were unemployed. Given the advanced age of some of the participants many would be of retirement age, but the survey did not delineate this group.

Table 2

Demographic Variables Among La Crosse County Hmong Mothers as a Percentage of the Sample (n = 25)

Characteristics	Mothers Percent (n)
Mother's age	
18-25 years	32.0 (8)
26-30 years	16.0 (4)
31-35 years	8.0 (2)
36-40 years	8.0 (2)
41 years or older	36.0 (9)
Maternal education	
Less than high school	24.0 (6)
High school/GED	28.0 (7)
Beyond high school	40.0 (10)
Missing	8.0 (2)
Employment status	
Full time	44.0 (11)
Part time	16.0 (4)
Unemployed	32.0 (8)

Note: Missing means that the participant did not respond to this survey question.

Descriptive statistics of the number of children per participant and years spent in the United States are illustrated in Table 3. Family size data from this sample shows a large range of

number of children, with a trend towards fewer children. Table 3 also shows that this sample of women on average have spent decades in the United States.

Table 3

Descriptive Statistics of Family Size and Years Lived in the United States

	Number of Children	Years Lived in the US
Mean	4.3	21.8
Median	4	24.0
Standard Deviation	2.6	10.5
Minimum	1	4.0
Maximum	11	34.0

Breastfeeding Behaviors

Eighty percent of the women in this sample initiated breastfeeding as shown in Table 4. This value is much higher than the initiation rate of 49.4% reported by WIC in 2013 for Hmong breastfeeding initiation (Wisconsin WIC Program, 2013). Given the advanced age of many of the participants and the time spent in the United States it can be assumed that this value reflects higher breastfeeding rates among the older generation of participants. Of the women that initiated breastfeeding, 33% reported breastfeeding beyond the APA recommendation of exclusive breastfeeding for six months, and 27.8% reported breastfeeding only for the first month of the infant's life.

Table 4

Breastfeeding Initiation Rates as a Percentage of the Sample (n = 25)

Initiation	Mothers' Percent (n)
Ever Breastfed	80 (20)
Never Breastfed	20 (5)

Table 5 provides the most commonly reported reason provided by the mothers for discontinuing breastfeeding their most recent baby. Nearly 40% reported discontinuing breastfeeding due to work or school obligations and 22.2% reported discontinuing breastfeeding because they were not producing enough milk or were experiencing breastfeeding difficulties. Some 16.7% reported to discontinue breastfeeding because they reached their breastfeeding goal and had breastfed for as long as they had intended to without discontinuing due to another barrier.

Table 5

Barriers to Breastfeeding Duration as a Percentage of the Sample (n = 16)

Barrier	Mothers Percent (n)
Had to return to work/school	38.9 (7)
Not enough milk/difficulties	22.2(4)
Reached goal	16.7 (3)
Time/inconvenience	11.11(2)

Behavioral Beliefs

Appendix C provides a table of frequency and percent responses of behavioral beliefs, control beliefs, and social referents translated into mutually exclusive themes. Appendix D

provides verbatim answers to the open-ended questions that illustrate the most commonly provided themes.

The behavioral beliefs, or consequences, of exclusively breastfeeding an infant for six months are separated into advantages and disadvantages. Forty-eight percent of mothers reported knowledge of the benefits of exclusively breastfeeding their babies to improved immune function, and 44% of mothers reported infant/mother bonding as an advantage of exclusive breastfeeding. The most commonly reported disadvantages to breastfeeding were difficulty balancing work or school.

Control Beliefs

The perceived behavioral control beliefs, or circumstances, of exclusively breastfeeding an infant for six months are separated into facilitators and barriers. Forty percent of mothers identified convenience as a facilitator of exclusive breastfeeding. The majority of mothers, 80%, reported having to return to work or school as a barrier to breastfeeding.

Normative Beliefs

The normative beliefs, or social referents, of exclusively breastfeeding infants for six months are separated into who provides approval and disapproval for the act. Mothers reported (28%) their husband and the baby's father to be the biggest supporter of breastfeeding, followed closely by their own self-motivation (24%). Forty percent of women reported that they felt disapproval from no one for exclusive breastfeeding, but 40% felt disapproval from their employer, themselves, in-laws or other family members.

Chapter V: Discussion

When asked to report the barriers to performing exclusive breastfeeding for six months, 80% of Hmong mothers in this study reported that work and school prevented them from doing so. When compared with other race/ethnicities, this is a deviation as shown by Flower, Willoughby, and Cadigan (2007) who studied rural mothers in Appalachia and found that the most often reported barrier to breastfeeding duration was a low milk supply. While employment certainly affects all working mothers' decisions surrounding breastfeeding, it appears that Hmong mothers in particular struggle with this issue.

> In America, the changing roles and responsibilities of Hmong women in the home is by far perhaps one of the biggest changes among the Hmong. The women's roles have moved beyond the home as the homemaker toward the role of one who is striving to achieve economical success for her family. Today, there exists the simple need for a two-income household. (Lor, 2013, p. 44)

Hmong Women and the Workplace

Certainly Hmong mothers' workplaces represent a significant target for public health intervention to increase breastfeeding in this special population. Targets for research on this topic should include: where Hmong mothers work, Hmong women's knowledge of polices and legislation in the workplace, their attitudes and behaviors toward acting upon their breastfeeding rights in the workplace, and views about expressing milk with a breast pump.

Maternal Motivation and Empowerment

Glimpses of the results of this study showed a group of women who operated with a strong sense of responsibility to their family. To demonstrate this point, in an answer to the question regarding who would approve of exclusive breastfeeding, one mother said, "[its] up to

you as a mother to breastfeed nobody else should have a say." Fourteen percent of the Hmong mothers recognized maternal motivation as a facilitator of exclusive breastfeeding, and 24% recognized themselves as a strong social referent for approving exclusive breastfeeding. While these numbers are not statistically significant, these answers are unique when compared with other racial/ethnic minorities. Bai, Middlestadt, and Peng (2009) evaluated rural Indiana mothers' intentions to exclusively breastfeed their infants for six months using the TPB. The researchers did not reveal any percentage of the mothers reporting themselves as a social referent, rather the participants identified that health professionals, peer groups, friends, and spouses shaped their normative beliefs about breastfeeding behaviors (Bai et al., 2009). Empowering Hmong women to act upon their breastfeeding rights in the workplace and assisting them with reproductive control may be important targets to increase breastfeeding rates given high motivation levels to perform the behavior.

Generational Social Referents

Hurley, Black, Papas, and Quigg (2008) showed that immigrant Hispanic women who live in communities with strong ties to their native cultures and have support from older women in the community breastfeed more than women without similar cultural support (Hurley et al., 2008). Similarly, interpretation of current research shows that among the elders of the Hmong community lies the potential for strong lactation support. When asked about who would be supportive of breastfeeding behavior, one woman reported, "I think my mom would be happier if I was breastfeeding my children because she believes that the breastfeed is the best for the baby. She breastfed 12 of her children." Activities that bring together older generations with younger generations, lactation counseling with peer counselors, and health events that strengthen existing social networks would likely be more beneficial to a population with a strong oral culture.

A qualitative anthropologic study focused on only the unique practices and rituals surrounding lactation and breastfeeding in the Hmong population would be beneficial. Recordings of these practices would not only be protected for posterity, but could be shared with younger generations of Hmong women who, through acculturation, may not have learned about these traditions. Perhaps knowledge of these traditions would be an incentive for Hmong mothers to practice their heritage.

Cultural Competency

In many studies of barriers and facilitators of breastfeeding, WIC has been involved. One would suspect that in an event organized by WIC members, some data points about the organization would show up. Interestingly WIC, hospitals, and medical professionals were absent from the data collection as either a positive or negative influence on infant feeding practices. This may suggest that none of these potential advocates are influential with this population. The La Crosse County WIC Department has the benefit of employing two bilingual Hmong women, an RD and a breastfeeding peer counselor. WIC reports that La Crosse County has the highest rates of Hmong breastfeeding in the whole state (Wisconsin WIC Program, 2013). Certainly employing members of the Hmong community has had an affect.

Assessing breastfeeding education materials for cultural competency in the Hmong population would be beneficial, particularly if a member of the Hmong community handled this delicate task. Materials that focus on continuing tradition, mother/infant bonding, and the superiority of human milk over formula may resonate better with a population with traditions of animism (beliefs that natural objects have souls).

Limitations

There were many limitations to this study. As the preferred method of invitation was word of mouth, many of the women were connected to each other in close friendships or in familial ways. Many of the women were members of the same clan. This suggests that the group was very homogenous, and the results of this study may not be reliably extrapolated to other groups of Hmong women. While the intended survey population was Hmong WIC participants and only WIC participants were invited, it was apparent during the brunch that many members could not have been WIC participants due to their advanced age. However, this diversity in age group provided interesting generational beliefs regarding breastfeeding behavior.

Although precautions were taken to protect the integrity of the research, data collected in this research was subjected to bias towards reporting positive breastfeeding behavior. Potential bias was introduced in this study by: invitations to the event by a nutrition professional, the location of the event at the La Crosse Public Health Department, and by bias inherent to survey taking in the company of peers.

There are several limitations to this study related to the potential for significant language barriers within the study population. Answers to survey questions, particularly open-ended questions, may not be as accurate as those given by a native English speaker. Additionally, the Theory of Planned Behavior has not been validated for use in the Hmong language. Nuances of the Hmong language unknown to the investigator may result in the method being less powerful than when used with other languages.

The qualitative nature of the study and the small sample size limited the ability to perform tests of significance on the results of the study. Qualitative answers to open-ended questions using the TPB framework could not be translated into quantitative equivalents for tests

of significance. The sample size was too small to measure for significance between sub-groups within the sample.

Conclusions

It is apparent that as Hmong women take on fundamentally new roles in their families, in the workplace, and through educational pursuits, child-rearing traditions that spanned generations of mothers are becoming more difficult to carry out. It is not for lack of desire, motivation, or knowledge on the part of Hmong mothers that their infants are less and less frequently reaping the benefits of their mother's milk. As Hmong women continue to carve out new roles for themselves in modern culture and Hmong society, the best course of action for policy makers and health professionals concerned about low breastfeeding rates will be to: facilitate links within the Hmong community that supports a regression back to traditional breastfeeding practices, empower Hmong women to know and take advantage of their rights within the workplace, and encourage an emphasis on cultural competency wherever Hmong seek care.

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Appendix A: Consent Form

Consent to Participate in UW-Stout Approved Research
Title: Factors Influencing Hmong Women's Decision to Breastfeed in La Crosse County

Kev Tso Los Koom UW-Stout Tshawb Fawb

Daim Ntawv Tshawb: Yam Dab Tsis Ua Rau Poj Niam Hmoob Nyob Hauv Nroog La Croose Txiav Txim Siab Pub Niam Mis Rau Me Nyuam.

Description:
A survey will be distributed that will ask you questions about your thoughts on breastfeeding your children. The survey can be taken in either Hmong or English, and interpreters will be here to assist you. After completion of the survey a meal and door prizes will be provided.

Kev Piav Qhia Txog:
Daim ntawv soj ntsuam muab no yuav nug txog koj kev xav ntawm kev pub niam mis rau koj cov me nyuam. Daim ntawv soj ntsuam no teb ua lus Hmoob los yog lus Mekas, thiab muaj cov txhais lus yuav pab koj. Tom qab teb daim ntawx soj ntsuam no tag, yuav muaj me ntsis khoom txom ncauj noj thiab khoom plig.

Risk and Benefits:
The risks of participation in this research are very low, but risks include a small time commitment and a potential difficult time taking the survey. However, interpreters will be available to assist. Your participation in this research will help WIC programs better serve the Hmong population. Your decision to participate or not to participate in no way affects your WIC benefits. Benefits include receiving a meal and door prizes.

Yam Tsi Tsis Zoo thiab Zoo Txog Koj Kev Koom Rau Qhov Kev Tshawb Fawb No:
Yam uas tsis zoo ntawm qhov kev tshawb fawb no yuav tsis muaj ntau, tiam sis yuav siv koj sij hawm me ntsis thiab yuav nyuaj me ntsis thaum teb cov lus ntawm daim ntawv soj ntsuam. Tab sis, yuav muaj neeg txhais lus pab koj thiab. Koj kev koom tes rau qhov kev tshawb fawb no yuav pab tau WIC cov kev pab rau poj niam Hmoob kom zoo dua. Koj kev txiav txim siab koom tes thiab tsis koom los yuav tsis cuam tshuam koj txoj kev pab ntawm WIC program. Yam zoo ntawn qhov kev tshawb fawb no ces yog yuav noj me ntsis khoom txom ncau us ke thiab tau txais khoom plig.

Time Commitment:
The survey is expected to take no more than 10 minutes to complete.

Sij Hawm Teev Tseg:
Daim ntawv soj ntsuam no yuav siv sij hawm tsis tshaj li 10 feeb xwb tiav lawm.

Confidentiality:
Your name will not be included on any documents. We do not believe that you can be identified from any of this information.

Kev Ceev Lus:
Koj lub mpe yuav tsis muaj nyob rau ntawn ib daim ntawv twg li. Peb tsis ntseeg tias yuav muaj neeg paub koj los ntawm cov ntaub ntawv no.

Right to Withdraw:
Your participation in this study is entirely voluntary. You may choose not to participate without any adverse consequences to you. Your decision to participate or not to participate in no way affects your WIC benefits. You have the right to stop the survey at any time. However, should you choose to participate and later wish to withdraw from the study, there is not way to identify your document after it has been turned into the investigator.

Muaj Cai Tshem Tawm:
Koj keev koom tes rau qhov kawm no yog txaus siab los ntawm koj tus kheej. Koj muaj cai xaiv tsis koom los yeej tsis ua li cas rau koj li. Koj kev txiav txim siab koom tes los yog tsis koom yeej tsis cuam tshuam koj kev pab los ntawn WIC. Koj muaj cai tsis teb daim ntawv soj ntsuam no lub sij hawm twg los tau. Tab sis, yog tias koj twb txiav txim siab koom lawm es ho xav tshem koj daim ntawv tawm tom qab koj muab rau peb tag lawm, ces peb yuav tsis paub tias daim ntawv twg yog koj li.

IRB Approval:
This study has been reviewed and approved by the University of Wisconsin-Stout's Institutional Review Board (IRB). The IRB has determined that this study meets the ethical obligations required by federal law and University policies. If you have questions or concerns regarding this study please contact the Investigator or Advisor. If you have any questions, concerns, or reports regarding your rights as a research subject, please contact the IRB Administrator.

Kev Tso Cai Los Ntawm IRB:
Qhov kev kawm no yeej muab ntsuam xyuas thiab tau kev tso cai los ntawm lub University of Wisconsin-Stout's Institutional Review Board (IRB). Lub IRB pom zoo lawm hais tias qhov kev tshawb kawm no yeej ua raws kev raws cai los ntawm nom tswv thiab tsev kawm ntawv qib siab cov cai. Yog koj muaj lus nug los yog txhawj xeeb txog qhov kev tshawb kawm no, thov hu rau cov thawj coj Investigator thiab Advisor nram qab no. Yog koj muaj lus nug, txhawj xeeb, los yog qhia txog cov cai siv rau koj thaum tuaj koom qhov kev tshawb fawb no, hu rau IRB Administrator.

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Statement of Consent:
By completing the following survey you agree to participate in the project entitled,
Factors Influencing Hmong Women's Decision to Breastfeed in La Crosse County

Lus Tso Cai:
Teb daim ntawv soj ntsuam no koj txaus siab koom tes rau qhov kev kawm,
Yam Dab Tsis Ua Rau Poj Niam Hmoob Nyob Hauv Nroog La Croose Txiav Txim Siab Pub Niam Mis Rau Me Nyuam.

Appendix B: Breastfeeding Survey

By completing the following breastfeeding survey you agree to participate in the project entitled, **Factors Influencing Hmong Women's Decision to Breastfeed in La Crosse County**

Teb cov lus ntawm daim ntawv soj ntsuam pub niam mis no koj yeej txaus siab koom tes rau qhov kev sib tham txog, **Yam Dab Tsis Ua Rau Poj Niam Hmoob Nyob Hauv Nroog La Croose Txiav Txim Siab Pub Niam Mis Rau Me Nyuam**.

Please circle your answers or fill in the blank.
Thov kos lub voj voog los is teb cov lus nug.

Did anyone help you take this survey? Yes No
Puas muaj neeg pab koj teb daim ntawv soj ntsuam **Muaj** **Tsis Muaj**

1. How old are you? *Koj muaj tsawg xyoo?*

    a. 18-25 years of age *(18-25 xyoos)*
    b. 26-30 years of age *(26-30 xyoo)*
    c. 31-35 years of age *(31-35 xyoos)*
    d. 36-40 years of age *(36-40 xyoo)*
    e. 40 years of age or older *(40 xyoo los laus dua)*

2. Were you born in the United States? *Koj puas yog yug hauv teb chaw Mekas?*
    a. Yes *(Yog)*
    b. No *(Tsis yog)*

3. How long have you lived in the United States?
    _____ years

    Koj nyob hauvteb chaws Mekas no ntev npaum li cas?
    _____ years *(xyoo)*

4. What is your highest level of education? *Koj kawm ntawv tiav qib siab li cas?*
    a. Less than high school *(qis tshaj High School)*
    b. High school/GED *(High School/GED)*
    c. Beyond high school *(dhau High School)*

5. Describe your current employment status. *Qhia seb tam sim no koj ua hauj lwm li cas.*
    a. Full-time *(8 teev)*
    b. Part-time *(tsawg dua 8 teev)*
    c. Unemployed *(tsis ua hauj lwm)*
    d, Student *(Tseem kawm ntawv)*

6. How many children do you have? _____ Children

Koj muaj tsawg tus me nyuam? _____ Me nyuam

7. How old is your youngest child? *Koj tus me nyuam yau muaj tsawg xyoo?*
   a. 0-4 months *(0-4 hli)*
   b. 5-8 months *(5-8 hli)*
   c. 9-12 months *(9-12 hlis)*
   d. 12 months or older *(12 hlis los yog loj dua lawm)*

8. Did you ever breastfeed any of your children? *Koj puas tau pub niam mis rau koj ib tug me nyuam li?*
   a. yes *(Pub lawm)*
   b. no *(Tsis pub)*

9. Did you ever breastfeed your youngest child?

Koj puas tau pub niam mis rau koj tus me nyuam yau?

a. Yes *(Pub)*
   If yes, if you are no longer breastfeeding your youngest child, how old was your baby when you stopped breastfeeding?_____
   *Yog pub, tab sis tam sim no koj tsis pub niam mis lawm, yog li koj tus me nyuam muaj hnub nyoog li cas xwb koj ho tsis pub lawm?*_____

   If yes, why did you decide to stop breastfeeding?_____
   *Yog pub, vim li cas koj ho txiav siab tsis pub niam mis lawm*_____

b. No *(Tsis pub)*
   If no, why did you decide to never begin breastfeeding?_____
   _____
   *Yog tsis pub, vim li cas koj thiaj txiav txim siab tsis pub niam mis*_____
   _____

The rest of the questions are asking your thoughts about fully breastfeeding for 6 months. Please write your answer below the question.

Cov lus nug ntxiv no mus yog yuav nug txog koj kev xav hais txog kev pub niam mis nkaus xwb mus kom tus me nyuam muaj hnub nyoog 6 hli. Thov sau koj cov lub teb rau cov lus nug nram qab no.

10. What are the **good things** that would happen if you fully breastfed your baby for 6 months? *Yam zoo uas muaj tshwm sim yog tias koj pub niam mis nkaus xwb kom tus me nyuam muaj 6 hli?*

11. What are the **bad things** that would happen if you fully breastfed your baby for 6 months? *Yam tsis zoo uas muaj tshwm sim yog tias koj pub niam mis nkaus xwb kom tus me nyuam muaj hli?*

12. What things make it **difficult or impossible** to you fully breastfed your baby for 6 months? *Yam uas nyuaj rau koj yog tias pub niam mis nkaus xwb kom tus me nyuam muaj 6 hli?*

13. What things make it **easier** for you to fully breastfed your baby for 6 months? *Yam uas yooj yim rau koj yog tias pub niam mis nkaus xwb kom tus me nyuam muaj 6 hli?*

14. Who do you think would **disapprove or try to stop you** if you fully breastfed your baby for 6 months? *Koj xav hais tias leej twg yog tus tsis pm zoo los yog txiav koj kev pub niam mis nkaus xwb kom koj tus me nyuam muaj 6 hli?*

15. Who do you think would **approve or support** if you fully breastfed your baby for 6 months? *Koj xav hais tias leej twg yog tus pom zoo thiab muaj kev txhawb siab rau koj kom pub niam mis nkaus xwb kom tus me nyuam muaj 6 hli?*

Appendix C: Behavioral Beliefs, Control Beliefs, and Social Referents Translated into Mutually Exclusive Themes

	Frequency* (n = 25)	Responses(%)
Consequences (behavioral beliefs)		
Advantages		
Reduced infant morbidity	12	48
Infant/mother bonding	11	44
Good for growth/development	7	28
Reduced expense	5	20
More nutritious than alternatives	4	16
Maternal health benefits	2	8
Child more disciplined	2	8
Disadvantages		
Difficulty balancing work/school	8	32
Difficult when child is with sitter	2	8
More difficult to wean to bottle	2	8
Negative for growth/development	4	16
Inconvenience/ time constraints	4	16
Baby doesn't bond with rest of family	1	4
Nothing, n/a, misunderstood question	13	52
Circumstances (control beliefs)		
Facilitators		
Convenience	10	40
Reduced cost	4	16
Maternal motivation	4	16
Ability to be a "stay at home mom"	3	12
Working mothers' breastfeeding rights	1	4
Nothing, n/a, misunderstood question	5	20
Barriers		

Having to return to work/school	20	80
Time constraints	6	24
Difficulty/low milk supply	4	16
Negative for growth/development	1	4
Nothing, n/a, misunderstood question	2	8
Social referents (normative beliefs)		
Approval		
Husband or baby's father	7	28
Myself	6	24
Other family	5	20
Mother/mother-in-law	4	16
WIC/Physician	3	12
Disapproval		
No one	10	40
Employer	3	12
Myself	3	12
In-laws/family	2	8
Husband or baby's father	2	8
Nothing, n/a, misunderstood question	5	20

* The total frequency does not add up to 25 because often mothers' answers could be categorized into multiple themes

Appendix D: Quotations Illustrating Behavioral Intentions Regarding Exclusive Breastfeeding

Construct	Illustrative Quotation
Advantages	"Save on money, wouldn't need to buy formula, baby gets nutrients from me, bonding with my baby"
	"Help my baby know me more and also listen to me when I saying something"
Disadvantages	"Hard to stop my kid when they growing up and hard because Hmong culture have a lot of work to do"
	"Hard to leave a child w/ a sitter while going away to school or work"
Facilitators	"No worry about buying formula, no preparing or carrying formula with while going away, less sickness"
	"Because I am stay at home mom that why I have time breastfeeding my baby"
Barriers	"Things make it difficult when I have to go to work and nobody take care"
	"Working and unable to pump breast milk at work"
Approval	"I think my mom would be more happier it I was breastfeeding my children because she believe that the breastfeed is the best for the baby. She breastfeed 12 of her children"
	[its]up to you as a mother to breastfeed nobody else should have a say"
Disapproval	"No one disapproved of me, I have too many children and no time to BF"