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# **EXAMINING SOCIOCULTURAL INFLUENCES ON BREASTFEEDING ATTITUDES AMONG SYRIAN AND HUNGARIAN FEMALE STUDENTS**

**PhD thesis**

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## List of abbreviations

WHO	World Health Organization
UNICEF	United Nations Children's Fund
IIFAS	The Iowa Infant Feeding Attitude Scale
BBQ	The Breastfeeding Behaviour Questionnaire
IHME	The Institute of Health Metrics and Evaluation
DALYs	The diseases causing the highest proportion of disability adjusted life years
SDI	Sustainable Development Index
NGOs	Non-profit organizations
SPSS	Statistical Package for the Social Sciences, IBM SPSS Statistics
ANOVA	Analysis of Variance
KMO	Kaiser–Meyer–Olkin Measure of Sampling Adequacy
PASW	Predictive Analysis Software

## **1. INTRODUCTION**

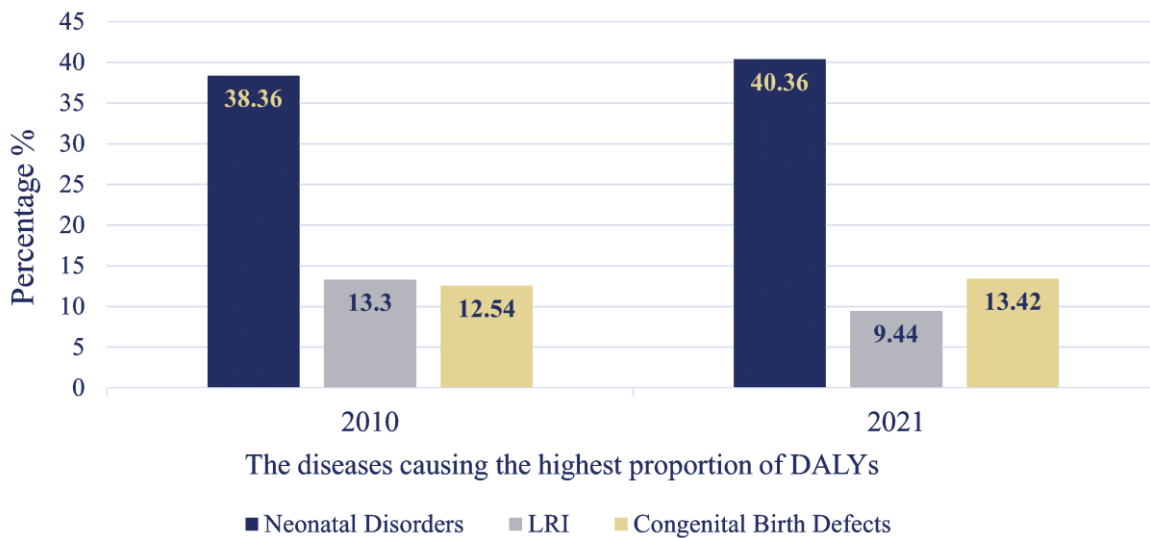
### **1.1. Breastfeeding benefits for infants and mothers**

Breastfeeding is universally acknowledged as the optimal source of nutrition essential for the survival and healthy development of infants, and the most suitable and beneficial source of sustenance (1-3). The World Health Organisation (WHO), UNICEF, and the Centres for Disease Control and Prevention (CDC) have continually promoted breastfeeding because of its well-documented benefits for both immediate and long-term health (1, 4-9). Breastfeeding has been recognised as the most effective public health intervention in decreasing mortality among children under five years mortality (10). Breastfeeding has been linked to decreased infectious morbidity rates, fewer hospital admissions (11-13), lower dental malocclusions, and better cognitive development (14).

According to the Institute of Health Metrics and Evaluation (IHME), the mortality and morbidity rates among under-5-year-old children are still high. The diseases causing the highest proportion of disability adjusted life years (DALYs) among children under 5 years old in the Middle SDI countries, like Syria, in 2010 were neonatal disorders, 38.36%, lower respiratory infections, 13.30%, and congenital birth defects, 12.54%. These proportions changed slightly in 2021, with neonatal disorders, 40.36%, lower respiratory infections, 9.44%, and congenital birth defects, 13.42% (15).

In other words, among children under 5 years in the middle SDI countries, the highest percentage of DALYs was for communicable, maternal, neonatal, and nutritional diseases (Figure 1).

One of the key benefits of breastfeeding is to enhance the immune system and protect against both infectious and chronic diseases, including diabetes, pneumonia, diarrhoea, and obesity (1, 5, 11, 14, 16-18), particularly when mothers breastfeed exclusively for six months (19). Exclusive breastfeeding also improves physical performance in adolescence, including greater flexibility and lower-body strength (20, 21).



**Figure 1.** Proportion of disability-adjusted life years (DALY) among children under 5 years in Middle SDI countries by cause in the years 2010 and 2021 (Source: own compilation based on the data of IHME) (15)

Beyond its well-established protective effects for infants, breastfeeding provides significant benefits for mothers as well. Women who breastfeed experience a markedly decreased likelihood of developing various chronic diseases, including osteoporosis, type 2 diabetes, cardiovascular disease, ovarian cancer, and breast cancer (6, 14, 22-25). Breastfeeding mothers use healthcare services less and report fewer physical and emotional health problems (26).

Breastfeeding supports mothers' mental health and decreases stress by reducing the risk of postpartum depression and promoting emotional bonding with the infant. It also helps physical recovery through weight loss and natural contraception, through the lactational amenorrhea method, especially with exclusive breastfeeding (27, 28). Consequently, breastfeeding serves not only as a biological function but also improves her overall quality of life, especially maternal mental health (29).

Additional advantages of breastfeeding extend more than health and include important economic benefits. Unlike formula, which incurs ongoing financial costs, breast milk is cost-

free and continuously available since it is naturally produced by the mother's body. Thus, breastfeeding allows most families to avoid these recurring costs, making it a more economical and accessible option overall (30-32).

Breastfeeding has numerous environmental advantages, and it is a suitable option for infant feeding. Breastfeeding, unlike formula feeding, does not require packaging, transport, or factory processing, and thus it generates no garbage and has a very minimal carbon footprint. Producing formula, on the other hand, requires many resources and relies on dairy or soy cultivation, which results in greenhouse gas emissions, water depletion, and deforestation. Additionally, formula production requires large amounts of clean water and energy for mixing and cleaning, which are difficult to obtain in most areas. Breastfeeding, on the contrary, supplies infants with optimum nutrition without causing any damage to the environment, and it aligns well with worldwide objectives for sustainability. (33, 34)

## **1.2. Global breastfeeding rates**

The Global Breastfeeding Scorecard 2024, which monitors shifts in breastfeeding behaviours and policies, highlights 12 years of progress, including a more than 10-point rise in the global rate of exclusive breastfeeding for infants under six months and significant improvement in 23 countries across Africa, Asia, and Europe. This means that 48% of infants are breastfed exclusively worldwide (35, 36). In the Middle East, the rate is about 35% (5). Similarly, low rates are seen in Arab countries (37, 38). In Syria, only 29% of infants younger than five months are exclusively breastfed (39), while in Hungary, the prevalence of exclusive breastfeeding among infants younger than six months was 36.85% in 2024. 5.04% were mostly breastfed but received supplementary fluids, 54.04% were mixed-fed, and 4.07% did not receive any breast milk or female milk (40). In Hungary, the exclusive breastfeeding rate is higher than the average of the WHO European regions, which is only 13% (41). Moreover, breastfeeding practices differ markedly across countries; breastfeeding varies widely between income levels: in low- and middle-income countries, only 4% of infants are never breastfed, whereas in high-income countries this proportion reaches 21% (14, 28, 42).

According to UNICEF data, certain countries such as Korea and Albania report relatively high exclusively breastfeeding rates, with approximately 71% and 62% of infants exclusively breastfed, respectively. By contrast, in countries like the United States of America, exclusive breastfeeding rates remain limited; only 26% of infants under five months are exclusively breastfed (43).

### **1.3. Determinants of Breastfeeding Attitudes**

Differences in breastfeeding attitudes are influenced by multiple factors, including cultural norms (44-46), societal expectations and networks (47), religious beliefs (48-50), personal experiences (51, 52), healthcare systems (48), and breastfeeding education exposure (53). In certain societies, breastfeeding is viewed as an essential maternal duty (54-56), whereas in others, formula feeding is considered an acceptable alternative (57, 58). Moreover, representations of breastfeeding in the media, healthcare professionals' recommendations, and an individual's previous breastfeeding experience all contribute significantly to shaping breastfeeding-related attitudes (46, 59).

Attitudes toward breastfeeding are strongly shaped by social context and the presence of visitors. Research has shown that while discreet breastfeeding at home in front of a limited number of guests may be considered acceptable, embarrassment and discomfort, particularly in front of multiple or male visitors, can inhibit breastfeeding and even affect feeding duration (60-62). At the same time, cultural variation exists, as some mothers appeared uninhibited about breastfeeding even in the presence of male visitors (63).

Positive attitudes and behaviours of young women toward breastfeeding represent a strong predictor of future breastfeeding intentions (64). Undergraduate students who intended to breastfeed were found to hold more favourable attitudes (65, 66). Educational interventions also play an important role in determining perceptions: a breastfeeding education module improves knowledge and attitudes toward breastfeeding among middle school students (53, 67). In contrast, individuals with limited knowledge are more likely to depend on prevailing societal norms or personal opinions when forming their attitudes toward infant feeding (68).

These differences highlight the interaction of cultural, social, and educational influences in determining attitudes toward breastfeeding.

To measure breastfeeding attitudes worldwide over the years, Many validated tools were used, such as the Iowa Infant Feeding Attitude Scale (IIFAS) (69) and the Breastfeeding Behaviour Questionnaire (BBQ) (70), which were used in our study and are well explained in the methods section. In addition to the Breastfeeding Attrition Prediction Tool (BAPT), which estimates the probability of stopping breastfeeding according to social norms, attitudes, and control beliefs, based on the Theory of Planned Behaviour (71) and was developed by Judith Janke in 1994 (72).

#### **1.4. Historical contexts in Syria and Hungary<sup>1</sup>**

Understanding the cultural and historical contexts in which breastfeeding practices develop is important for enhancing maternal and child health and creating appropriate health policies.

In Syria, breastfeeding has deep historical roots, shaped by longstanding Islamic traditions and the extended family system, where it is regarded both as a maternal duty and a religious obligation (46, 73). Islam encourages mothers to breastfeed for two full years (73, 74). In Hungary, both modern and traditional views shape breastfeeding, and national guidelines support mothers with flexible care to improve exclusive breastfeeding rates until six months (75, 76).

The comparison between Syria and Hungary shows how history and culture affect the way mothers breastfeed. In Syria, breastfeeding is strongly connected to religion and family traditions. In Hungary, it is mostly supported by health policies and medical advice. Even though they are different, both countries still face modern problems that make breastfeeding harder.

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<sup>1</sup> This majority of this section was published as an article, DOI: 10.17107/KH.2025.30.1, underlined the title: **Cultural differences in breastfeeding practices: A comparative study of Syria and Hungary**. Authors: Manar Al Kamsheh, Alexandra Dr. Zimonyi-Bakó, and Helga Judit Dr. Feith  
<http://www.kaleidoscopehistory.hu/index.php?subpage=cikk&cikkid=1008>

### 1.4.1. Syria

Breastfeeding in Syria is not only a personal decision, but also an embedded family and social framework. Many new mothers traditionally receive emotional support and practical encouragement from their extended family members, including grandmothers, aunts, and in-laws, who provide essential guidance and support to new mothers (77). Similarly, breastfeeding in Syria is deeply rooted in religion (49, 50). The Islamic teachings, specifically in the Holy Quran and the Hadith (Prophet Muhammad's sayings), guide the mothers to keep breastfeeding until the baby is two years old. The Quran clearly mentions breastfeeding in several verses in *Surah Al-Baqarah* (2:233):

*"Mothers may breastfeed their children for two complete years, for whoever wishes to complete the nursing period. Upon the father is the mother's provision and their clothing according to what is acceptable."* (66, 67) (Photo 1)

**Photo 1.** *Quranic verses about breastfeeding* (78)

❁ وَالْوَالِدَاتُ يُرْضِعْنَ أَوْلَادَهُنَّ حَوْلَيْنِ كَامِلَيْنِ لِمَنْ أَرَادَ أَنْ يُتِمَّ  
الرِّضَاعَةَ وَعَلَى الْمَوْلُودِ لَهُ رِزْقُهُنَّ وَكِسْوَتُهُنَّ بِالْمَعْرُوفِ لَا تُكَلِّفُ نَفْسٌ  
إِلَّا وُسْعَهَا لَا تُضَارَّ وَالِدَةٌ بِوَلَدِهَا وَلَا مَوْلُودٌ لَهُ بِوَالِدِهِ وَعَلَى  
الْوَارِثِ مِثْلُ ذَلِكَ فَإِنْ أَرَادَا فِصَالًا عَنِ تَرَاضٍ مِّنْهُمَا وَتَشَاوُرٍ فَلَا  
جُنَاحَ عَلَيْهِمَا وَإِنْ أَرَدْتُمْ أَنْ تَسْتَرْضِعُوا أَوْلَادَكُمْ فَلَا جُنَاحَ عَلَيْكُمْ إِذَا  
سَلَّمْتُمْ مَا آءَانَيْتُمْ بِالْمَعْرُوفِ وَأَقْوُوا اللَّهَ وَأَعْلَمُوا أَنَّ اللَّهَ بِمَا تَعْمَلُونَ  
بَصِيرٌ

These verses emphasise the duration of breastfeeding, which is two full years, and also the shared responsibilities between parents. This spiritual and emotional bond is supported by

Islamic law, which is known as “milk kinship”. A unique legal and social bond is formed when a non-biological mother breastfeeds a child. Milk kinship creates a new familial bond equal to a blood relationship (79, 80). When a woman breastfeeds a baby, that child will become her “milk child,” and this has important consequences. For example, two people who were breastfed by the same woman are not allowed to marry, just like biological brothers and sisters. This shows how important breastfeeding is in Syrian culture and religion. It affects not only health, but also influences family relationships, who can marry whom, and even rules about inheritance.

On the other hand, in recent years, Syria has faced major changes because of the war and its consequences, such as the displacement of millions of people. Displacement has always had some difficulties among breastfeeding mothers, especially in the refugee camps. Some factors negatively influence breastfeeding practices and continuing such as a) free infant formula allocation, which is common in those camps, b) the omission of privacy in these camps creates additional challenges for breastfeeding, c) the absence of extended family support systems that usually help mothers breastfeed, d) the mother's hard physical and mental health, due to trauma, death of some beloved relatives, and some injuries, and e) stress, malnutrition, and poverty which make breastfeeding even harder (81-84). All these conditions affect breastfeeding and prevent or hinder breastfeeding perfectly (85).

Research shows that the rate of exclusive breastfeeding among Syrian refugee mothers is less than that of those still living in Syria or at least their original communities. Many have turned to formula feeding because they do not have support or have received incorrect information (86). In rural areas, mothers who either do not breastfeed or discontinue breastfeeding early may encounter social disapproval or pressure from family members. However, these areas have been heavily affected by the conflict and displacement, which has made breastfeeding more difficult for mothers (87, 88).

In this situation, non-profit organisations (NGOs) have become highly important in promoting and supporting breastfeeding, as well as women’s health in general (89). These groups help in many ways, such as giving direct support to mothers, teaching about

breastfeeding, raising awareness, and including breastfeeding in wider emergency nutrition programs (87).

Although all efforts addressed by NGOs in Syria lack systematically documented and accessible data in the scientific literature creates a gap in access to the real data, reflecting the real situation in Syria, unlike the situation in Hungary, where breastfeeding-related public health campaigns and policies are more consistently reported and evaluated, which explains their stronger representation in the literature as it is clearly shown in the next paragraph

#### **1.4.2. Hungary**

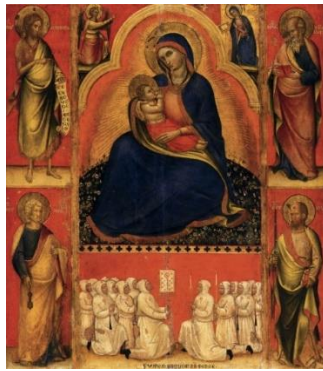
The history of breastfeeding in Hungary has evolved as a combination of the modern healthcare system and traditional cultures. Breastfeeding was the normal way to feed babies in Hungary before the 20th century, especially in the countryside. In farming families, most mothers breastfed their babies for one to one and a half years, and it was common to continue breastfeeding for 2 to 3 years. This can be clearly shown in a Hungarian ethnographic article under the title “*Our great-great-grandmothers’ babies – infant care in the past*” from the Museum of Ethnography (90), which says:

*"In peasant communities, the mother's milk was considered the best and most natural food... If she could not produce milk or died during childbirth, a wet nurse was sought, which was considered safer than cow's milk."*

Similarly, to the Islamic doctrine, the Christian cultural tradition emphasised breastfeeding as well in many verses; for example, in the Bible, Luke 11:27 reads: “*Blessed is the womb that bore you and the breasts at which you nursed!*” and this is a direct acknowledgement of Mary nursing Jesus, affirming the maternal bond. Other verses, such as 1 Peter 2:2, “*Like newborn babies, crave pure spiritual milk*”, use breastfeeding as a metaphor for divine care and spiritual nourishment, reinforcing its positive connotations.

In the same trend. Religious symbolism has long played a role in shaping cultural attitudes toward breastfeeding, particularly in Christian contexts. One of the most enduring and

powerful representations is the image of the Virgin Mary breastfeeding the infant Jesus, a motif known as *Maria Lactans* (Nursing Madonna). Common in Christian art, highlights both the humanity of Christ and the maternal care of Mary, serving as a visual affirmation of the sacred nature of breastfeeding. Some of the artistic examples that illustrate breastfeeding as holy and maternal are the “*Madonna Litta*”, traditionally attributed to Leonardo da Vinci (c. 1490) in the Hermitage Museum, St. Petersburg; and “*Virgin and Child*” by Ambrogio Bergognone (c. 1488) in the National Gallery, London (91, 92) (photo 2)



*Photo 2: Virgin of Humility with Saints (detail), Giovanni da Bologna, 1381–1383, Venice, Galleria dell'Accademia. (93)*

During the late 1800s and early 1900s, Hungary became increasingly urbanised, influenced by Urbanisation and Modern Medicine. The development of medicine, especially paediatrics, and the increasing hospital birth numbers led to new and good ideas, such as hygiene and mother-infant bonding and interaction. As a result, breastfeeding practices began to change; although many doctors encouraged breastfeeding on demand, formula advertising increased, as it is a good, educated alternative to breast milk. As a natural consequence, breastfeeding rates have dropped since the middle of the 20th century due to changing social norms and the rise of formula feeding.

Due to the high death rates among mothers and newborns in the early years of the 20th century, Hungary created a special health visitor system (*Védőnői Szolgálat Rendszere*) in 1915 (94). This system still plays a crucial role in providing care for mothers and babies today. One of the main jobs of the health visitors is to encourage mothers to breastfeed, which also became a legal focus during the latter half of the 20th century (94). This health visitor

system has been very important in supporting and promoting breastfeeding in modern Hungary (95). Health visitors make home visits before and after birth and help mothers with breastfeeding. One of the main strengths of the Hungarian Health Visitor Service is its close cooperation with physicians, which has functioned continuously for 108 years (96). Therefore, better maternal education and stronger professional support, particularly through enhanced training of health visitors, are required to improve breastfeeding outcomes (97). However, sometimes, Hungarian women reported relatively low satisfaction with the breastfeeding support provided by health visitors (98).

Besides this system, the Hungarian government also supports breastfeeding through hospitals that follow the Baby-Friendly Hospital Initiative (BFHI), a unique program supported by both the government and the World Health Organisation (76, 99). Non-governmental organisations (NGOs) are present in Hungary too, but they usually focus on support and advocacy rather than direct care. In Hungary, NGOs help promote breastfeeding and support nursing mothers. For example, *La Leche Liga Magyarország (100)* supports breastfeeding and offers breastfeeding education. Another group, *EMMA Egyesület (Emma Association)* (101), is a Hungarian women's organisation that supports women's rights and gender equality. It also supports respectful maternity care and mothers' rights. Moreover, the Hungarian Breastfeeding Association (SZME) should be mentioned here, as a professional forum for breastfeeding in Hungary, which promotes evidence-based lactation support and offers specialised training. In collaboration with Semmelweis University's lactation consultant specialist training, SZME co-organized the university's first lactation conference in January 2025. Such an event strengthens and expands breastfeeding support nationwide (102).

In recent decades, due to Revival and Policy Support in the 21st Century, Hungary has seen a renewed focus on promoting breastfeeding. The country joined the WHO and UNICEF Baby-Friendly Hospital Initiative (BFHI) in the 1990s. The program promotes initiating breastfeeding within the first hour after delivery and restricts formula use in maternity wards (76, 99).

Accordingly, in 2019, 96% of Hungarian children had been breastfed during their first six months of life (103, 104). Approximately 37% were exclusively breastfed during this period (40, 76, 105, 106)

For clear and total vision, the following table summarises the main factors identified in the literature and contextual analysis that influence the attitudes towards breastfeeding among women in Syria and Hungary. (Table 1)

**Table 1:** Summary of Influencing Factors on Breastfeeding Attitudes in Syria and Hungary (Source: own compilation)

<b>Factor</b>	<b>Effect on Breastfeeding Attitudes</b>
Religious and cultural traditions	In Syria, Islamic teachings see breastfeeding as a religious duty with legal and social implications like “milk kinship.” In Hungary, Christian traditions positively associate breastfeeding with motherhood.
Family and community support	Extended family support in Syria encourages breastfeeding. Hungary’s rural communities historically supported long breastfeeding periods and wet nursing.
Conflict and displacement	In Syria, war and displacement reduce breastfeeding due to loss of family support, stress, poverty, lack of privacy, and free formula in camps.
Healthcare systems and policies	Hungary has a health visitor system and the Baby-Friendly Hospital Initiative promoting breastfeeding. In Syria, the health system has limited implementation of structured community-based maternal and child health support.
Non-governmental organizations	NGOs in Syria provide breastfeeding education and support breastfeeding, especially in conflict settings. In Hungary, NGOs guide awareness campaigns and offer lactation consultant training.

<b>Factor</b>	<b>Effect on Breastfeeding Attitudes</b>
Media and public awareness	In Hungary, media representations and advocacy campaigns influence public acceptance and normalization of breastfeeding.
Personal experience and intentions	In both countries, Syria and Hungary, positive personal or previous breastfeeding experiences and strong intentions predict more favorable attitudes and future breastfeeding behaviors.

Taken together, the historical and cultural characteristics outlined above suggest that breastfeeding attitudes may be shaped differently in the two contexts. In Syria, where breastfeeding is embedded in religious doctrine, extended family structures, and moral responsibility, previous literature would lead to the expectation of stronger normative and value-based orientations toward breastfeeding (46, 73, 74, 87). In Hungary, where breastfeeding has increasingly been institutionalised through healthcare systems, professional counselling, and public health policies, the literature suggests that attitudes may be more strongly influenced by medical knowledge, formal support structures, and individual decision-making frameworks (75, 76, 97, 98).

These contextual distinctions provide the theoretical foundation for examining how cultural background and institutional environment may contribute to differences in breastfeeding attitudes among university students.

## 2. OBJECTIVES AND HYPOTHESES

Although previous studies have examined breastfeeding attitudes and behaviours across a variety of contexts (107-111), this study is the first to examine and compare breastfeeding behaviours and attitudes among Hungarian and Syrian female university students applying the Breastfeeding Behaviour Questionnaire (BBQ) and the Iowa Infant Feeding Attitude Scale (IIFAS).

This study explains important concepts related to comparing two populations that differ markedly in terms of cultural norms, healthcare system, and societal expectations. By examining the influence of traditions, socio-cultural and religious factors, and context-specific challenges, we seek to uncover the complex dynamics that facilitate or hinder breastfeeding practices in both societies. University students were chosen as the target group because young, educated women represent a vital segment of the population for understanding not only attitudes but also potential future behaviours related to infant feeding. Research consistently shows that highly educated students indicate more favourable breastfeeding indicators than their less-educated counterparts (37, 112).

### 2.1. Research Hypotheses Relating to The Sample

Based on the cultural, educational, and social differences between the Syrian and Hungarian samples, several hypotheses were developed to guide the analysis. It was hypothesised that nationality and study field would significantly influence breastfeeding attitudes.

*H1: Syrian university students will show significantly more positive overall attitudes toward breastfeeding, as measured by the total IIFAS score, compared to Hungarian students.*

*H2: University students with lower income levels will show significantly more positive attitudes toward breastfeeding and less support for formula feeding, as measured by the IIFAS, compared to students with higher or sufficient income.*

*H3: A higher level of education is associated with greater support for breastfeeding.*

*H4: Married participants are more supportive of breastfeeding than formula, more than unmarried participants.*

*H5: Participants who live in rural areas prefer breastfeeding more than those who live in urban areas.*

*H6: Participants from both nationalities will generally support breastfeeding in the presence of a female visitor but will be less supportive when both male and female visitors are present.*

### **3. METHODS**

#### **3.1. Participants**

This survey was carried out in two countries, Syria and Hungary, in two stages. The first one was at Damascus University during October and November 2022, including 317 female students from the Faculty of Arts and Humanities and the Faculty of Pharmacy. The second stage was carried out in Budapest, Hungary, during April and May 2023, with the participation of 303 students; two faculties were included: the Faculty of Pharmacy at Semmelweis University and the Faculty of Arts at Eötvös Loránd University.

This study was designed as a cross-sectional questionnaire survey conducted among female university students in Syria and Hungary. Participants were recruited using a non-probability convenience sampling method from selected faculties during the specified data collection periods. Inclusion criteria comprised female students enrolled in the selected institutions at the time of data collection who voluntarily agreed to participate and provided informed consent. Exclusion criteria included incomplete questionnaires and respondents who did not meet the defined study criteria.

According to the research design, respondents were not recruited in the context of a course specialising in a specific research topic; the participants were BSc, MSc, and PhD students at various year levels. According to research ethics permissions in Syria and Hungary, responses were collected anonymously and voluntarily after signing the proper information and permission forms (Table 2).

Official translators were employed to translate the questionnaire from English into two languages: Arabic and Hungarian.<sup>2</sup> The translators used the back-translation method to ensure linguistic appropriateness and participant understanding.

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<sup>2</sup> The Original, Arabic and Hungarian questionnaires are provided in the dissertation Appendix I.

**Table 2.** Summary statistics of study participants ( $N = 620$ ) (113)

		<b>Frequency</b>	<b>Percentage</b>
Valid	Syrian	317	51.0%
	Hungarian	303	48.7%
	Total	620	99.7%
Missing	System	2	0.3%
Total		622	100.0%

In Syria, the number of students who completed the survey with valid responses was 317 out of 389 potential participants, leading to a response rate of 81.5%. In Hungary, data collection was conducted separately, with 303 out of 350 participants returning valid responses, and the response rate was 86.5%.

### **3.2. Study Design**

The original questionnaire is a comprehensive, multi-section tool consisting of three modules. Two scales out of three were chosen: the Breastfeeding Behaviour Questionnaire (BBQ)<sup>3</sup>, which measures behaviours and the Iowa Infant Feeding Attitude Scale (IIFAS)<sup>4</sup>, which measures attitudes.

The BBQ was developed in 1992 by M. Kay Libbus (70). This module consists of 12 scenarios that present situations in which a woman must make decisions regarding breastfeeding. Participants were asked to read each scenario and rate their level of agreement with the statements on a 6-point Likert scale, which ranges from “strongly disagree” to “strongly agree.” Notably, the questionnaire did not include a neutral or “not sure” option, requiring participants to take a definitive stance. No responses were considered right or wrong, as the aim was to explore participants’ behavioural inclinations and decision-making patterns related to breastfeeding.

<sup>3</sup> The original BBQ questionnaire is provided in the dissertation Appendix I.

<sup>4</sup> The original IIFAS questionnaire is provided in the dissertation Appendix I.

The Iowa Infant Feeding Attitude Scale (IIFAS), which was developed by De La Mora and Russell in 1999 (69), it is a widely applied scale for assessing attitudes toward infant feeding methods, including both breastfeeding and formula feed.

The participants responded to 17 statements using a 5-point Likert scale from “strongly disagree” to “strongly agree.” “Not sure” option was included to capture uncertainty or neutrality in attitudes. (Table 4). Although a shorter version of the IIFAS questionnaire was validated in Hungary (114). The comparison between the two countries was based on the original questionnaire.

### **3.3. Sociodemographic Characteristics of the Samples<sup>5</sup>**

A structured questionnaire was employed to collect detailed sociodemographic data, covering nationality, gender, year of birth, parental education, marital status, place of residence, wealth index, and current level of education (Table 3). The sample was almost evenly divided by nationality, with 51.0% Syrian and 49.0% Hungarian participants. All respondents were female.

In terms of educational enrolment, the majority were bachelor’s students (68.3%), followed by master’s students (25.0%), and a smaller proportion pursuing PhD studies (6.0%). Regarding residence, 73.0% of respondents resided in urban areas. 44.7% of participants had one parent with university-level education, 27.0% were married, and 64.0% reported an accepted wealth index level.

Data were collected using a paper-based questionnaire administered in a group setting, with completion supervised by the researcher or trained assistants to ensure standardised conditions

A comparative analysis of the Syrian and Hungarian samples revealed significant differences in socio-economic indicators. 79.5% of Syrian respondents had a BSc degree compared to Hungarians (n= 57.1%), while Hungarian respondents had a higher representation in MSc

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<sup>5</sup> More descriptive statistics in Appendix II.

programs, 37.0% compared to a representation of 14.2% of Syrian respondents (Sig.: 0.000; Cramer's V: 0.264). Urban residency also varied significantly between the two groups (Sig.: 0.000; Cramer's V: 0.208), with 82.3% of Syrian participants residing in urban areas compared to 63.9% of Hungarians. Marital status demonstrated the most pronounced difference (Sig.: 0.000; Cramer's V: 0.596), with nearly all Hungarian participants unmarried (99.7%), whereas more than half of Syrian participants were married (53.6%). The greatest imbalance was observed in the wealth index (Sig.: 0.000; Cramer's V: 0.687), where almost all Hungarian participants (97.4%) reported "enough" income, while 66.8% of Syrians reported "less than enough". Finally, the majority of respondents in both groups were young (Sig.: 0.000; Cramer's V: 0.246). (Table 3)

**Table 3.** Socioeconomic characteristics of the Hungarian and Syrian respondents (113)

<b>Socioeconomic Status</b>	<b>Hungarian</b>	<b>Syrian</b>
Level of education (N = 620)		
BSc	57.1%	79.5%
MSc	37.0%	14.2%
PhD	5.9%	6.3%
Father's level of education (N = 620)		
University studies	40.6%	45.7%
Non-university studies	59.4%	54.3%
Mother's level of education (N = 620)		
University studies	45.9%	47.0%
Non-university studies	54.1%	53.0%
Place of residence (N = 619)		
Urban	63.9%	82.3%
Rural	36.1%	17.7%
Marital status (N = 620)		
Married	0.3%	53.6%
Unmarried	99.7%	46.4%

<b>Socioeconomic Status</b>	<b>Hungarian</b>	<b>Syrian</b>
Faculty (N = 620)		
Medical faculty	66.7%	51.4%
Non-medical faculty	33.3%	48.6%
Wealth index (N = 619)		
Less than enough	1.3%	66.8%
Enough	97.4%	32.6%
More than enough	1.3%	0.6%
Age (N = 620)		
21–25	68.3%	57.7%
26–30	31.0%	29.0%
31 and more	0.7%	13.2%

Data were statistically analysed with the Statistical Package for the Social Sciences, IBM SPSS Statistics (SPSS 25.0) software. The analysis of data was completed using Predictive Analysis Software (PASW 18, formerly known as SPSS), and a significance level of 5% was used for all statistical procedures. For sociodemographic variables, total scale scores, and individual item responses within each scale, descriptive statistics were calculated.

### **3.4. Measurements**

Many statistical methods were used in this study; therefore, the multivariate analysis was divided into two sections for clarity:

A. An ANOVA was applied to the BBQ questionnaire to examine how respondents, grouped by nationality, differed in their responses to the statements. In addition, factor analysis was employed to identify latent dimensions underlying the 12 variables. Subsequently, linear regression analyses were conducted on the resulting factors to assess their association with nationality. A cluster analysis was implemented. to detect groups of respondents with different activities.

B. In the IIFAS questionnaire, cluster analysis was performed to create clusters based on the responses. Starting from the cluster groups, the demographic characteristics of participants with differing attitudes were examined, as well as the differences between these groups, including distinctions based on nationality. Cluster analysis was conducted as a valuable method for identifying common attitudinal patterns both across and within nationalities. It served as a complementary analytical approach to facilitate comparisons between nationality groups. Based on the observed effect size, a post hoc power analysis was performed even though no a priori sample size calculation was conducted (Cramer's  $V = 0.502$ ), from the nationality and cluster membership comparison. With a total sample size of  $N = 620$ , the statistical power was greater than 0.99 for detecting medium-to-large effect sizes ( $\alpha = 0.05$ ), which confirms that the sample was sufficiently adequate to identify differences between groups.

#### **4. RESULTS<sup>6</sup>**

Since the analysis involves two separate types of modules: the BBQ and the IIFAS, the Nationality-based Comparison among Syrian and Hungarian results is presented in two parts.

##### **4.1. Similarities and differences between Syrian and Hungarian students for BBQ**

###### **4.1.1 Distribution of Agreement Levels Across the Sample**

When we compare Syrian and Hungarian responses, several interesting similarities appear. The statement regarding the husband's influence on breastfeeding decisions elicited the greatest level of disagreement among participants from both nationalities, particularly when the spouse prefers formula feeding. 94.9% of participants disagreed with the mother's choice to switch to formula feeding, while only 5.5% expressed support for this decision (Table 4). Some level of disagreement was evident in three additional scenarios. 74.1% of participants disagreed with using formulas instead of breastfeeding or considering formula to be as nutritious as breastfeeding. Likewise, 71.1% opposed the choice to use a formula for a future

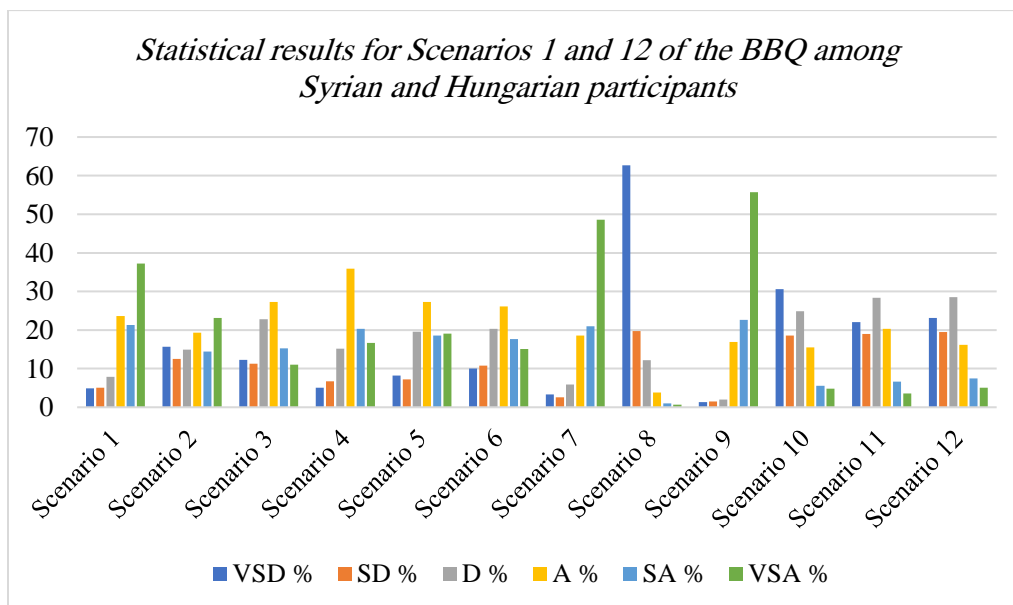
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<sup>6</sup> More descriptive statistics and Rotated Component Matrix in Appendix 2.

child due to previous breastfeeding difficulties. In the context of returning to work, 69.5% of participants viewed the decision to formula-feed a first child as inappropriate, whereas 30.5% regarded it as acceptable. (Table 4).

The findings indicated a gradual agreement on certain scenarios in many cases, for instance, a) Among respondents, 54.6% agreed that a mother who breastfeeds her baby in a restaurant, even while keeping her blouse on, should relocate to a more private area. In a related scenario, b) 72.9% of participants believed that if the mother’s friends feel uncomfortable, it would be more appropriate to move to the car to continue breastfeeding. Similarly, c) 56.9% of participants believed a mother should not breastfeed in the living room when guests are present. Moreover, d) more than half of the participants approved that breastfeeding during a church should take place outside the venue. e) A substantial percentage (88.2%) supported the mother’s choice to breastfeed in spite of a discouraging history of her family. f) The scenario with the highest agreement (95.2%) was related to a pregnant woman who initially intended to formula feed her baby but chose to breastfeed instead, according to her doctor’s advice. (Table 4).

**Table 4.** Statistical results for Scenarios 1 and 12 of the BBQ among Syrian and Hungarian participants (% , N = 620) (46)



VSD: Very Strongly Disagree, SD: Strongly Disagree, D: Disagree, A: Agree, SA: Strongly Agree, VSA: Very Strongly Agree

#### 4.1.2 Differences Between Participants

While similarities can be observed clearly among the participants, some disagreement also showed. A notable difference emerged in the responses to the first two scenarios; Hungarian respondents had considerably more supportive attitudes toward the continuation of breastfeeding when a female visitor was present, compared to their Syrian counterparts. In contrast, when the scenario involved visits from both a male and a female neighbour, Syrian participants tend to approve of ceasing breastfeeding during the visit. A similar pattern emerged in both scenarios; however, for the second statement, the association (Eta) and the proportion of explained variance were much larger, which indicates that nationality has a stronger influence when both genders are present. (Table 5).

*Table 5. ANOVA table for Scenarios 1 and 2 of the BBQ (N = 608) (46)*

Scenario	Mean			Sig.	Eta	Eta Squared
	Syrian	Hungarian	Total			
<b>Scenario 1</b>	4.17	5.12	4.63	0.000	0.333	0.111
<b>Scenario 2</b>	2.86	4.67	3.73	0.000	0.516	0.266

In the scenarios relating to religious context, a high percentage of Hungarians believed that it was more appropriate for women not only to cover the baby or breastfeed in the bathroom, but also to leave the church; while Syrian respondents, both Christian and Muslim, showed a more balanced range of opinions on these scenarios.

ANOVA tests indicated a statistically significant association between nationality and attitudes in both cases. Although the Eta coefficients reflected a moderate strength of association, the Eta squared values revealed that the explained variance was relatively low. This suggests that while nationality is a relevant factor, additional variables likely influence participants' attitudes toward breastfeeding in religious contexts (Table 6).

**Table 6.** ANOVA table for Scenarios 5 and 6 of the BBQ (N=608) (46)

Scenario	Mean			Sig.	Eta	Eta Squared
	Syrian	Hungarian	Total			
<b>Scenario 5</b>	3.44	4.56	3.98	0.000	0.378	0.143
<b>Scenario 6</b>	3.41	4.13	3.76	0.000	0.239	0.057

The majority of respondents, mainly Hungarians, agreed with June's decision to breastfeed her first baby despite her family history. Syrian respondents were also supportive, with a moderate difference between the two nationalities.

**Table 7.** ANOVA table for scenario 7 of BBQ (N = 607) (Source: own compilation)

Scenario	Mean			Sig.	Eta	Eta Squared
	Syrian	Hungarian	Total			
<b>Scenario 7</b>	4.79	5.18	4.97	0.000	0.150	0.022

In a subsequent case, the difference was already moderate, suggesting that Syrians significantly follow the advice of their doctors. The doctor's opinion is less important in Hungarians' decision-making on nutrition.

**Table 8.** ANOVA table for scenario 9 of BBQ (N = 608) (Source: own compilation)

Scenario	Mean			Sig.	Eta	Eta Squared
	Syrian	Hungarian	Total			
<b>Scenario 9</b>	5.54	4.94	5.25	0.000	0.287	0.082

The results of Jane's decision are interesting in relation to the two nationalities. It shows that, due to a particularly large effect size, Hungarians are much more likely to accept her autonomy than Syrians, even if it goes against the doctor's advice.

**Table 9.** ANOVA table for scenario 10 of BBQ (N = 605) (Source: own compilation)

Scenario	Mean			Sig.	Eta	Eta Squared
	Syrian	Hungarian	Total			
<b>Scenario 10</b>	2.03	3.25	2.61	0.000	0.427	0.182

In this case, Hungarians were more accepting, indicating that Syrians are not as tolerant as Hungarians about bottle-feeding to return to work.

**Table 10.** ANOVA table for scenario 11 of BBQ (N = 608) (Source: own compilation)

Scenario	Mean			Sig.	Eta	Eta Squared
	Syrian	Hungarian	Total			
<b>Scenario11</b>	2.31	3.35	2.81	0.000	0.382	0.146

Hungarian respondents are more empathetic to decisions based on maternal experience, while Syrians are less accepting of such decisions.

**Table 11.** ANOVA table for scenario 12 of BBQ (N = 608) (Source: own compilation)

Scenario	Mean			Sig.	Eta	Eta Squared
	Syrian	Hungarian	Total			
<b>Scenario 12</b>	2.26	3.40	2.80	0.000	0.402	0.162

#### 4.1.3 Factor Analysis

Factor analysis was used for a better understanding of the attitudes behind the statements. The KMO value was 0.689, which means the data was good enough for this type of analysis. Additionally, the significance level was found to be 0.000, confirming that the correlations among the variables were statistically meaningful and not random. This suggests that the correlation matrix significantly differed from a null matrix. Distinct and interpretable factors were identified through principal component analysis (Table 12). Specifically, four principal components emerged, revealing deeper patterns in the data that go beyond basic descriptive statistics.

Using Varimax rotation makes the association between variables and factors clearer. The first factor included four variables that reflected a practical approach to infant feeding, and based on various personal motivations, decisions about breastfeeding were made. Participants grouped in this factor generally favoured formula feeding. The second factor determining attitudes related to public breastfeeding, changes in breastfeeding plans, and the family history influence. It focused on how external perceptions, such as public opinion or family

influence, shape breastfeeding decisions. The third factor included variables that reflected how women react to discomfort when breastfeeding in public, or how/why she chooses to withdraw. Finally, the fourth factor examined the role of environmental and social pressures in determining the breastfeeding decisions (Table 12).

The factor analysis identified four main dimensions underlying respondents' breastfeeding attitudes. These factors reflect pragmatic considerations in infant feeding decisions, attitudes toward breastfeeding in public contexts, family and social influences on feeding choices, and environmental or social pressures related to avoiding discomfort. Together, these dimensions illustrate that breastfeeding attitudes are shaped by both personal and socio-cultural considerations. Furthermore, the analysis revealed notable patterns: Hungarian students tended to express more pragmatic attitudes toward bottle feeding, while Syrian participants were more strongly influenced by family traditions and social norms surrounding infant feeding.

**Table 12:** *Principal component analysis (46) (Source: own compilation)*

	1 Feeding Decision Making	2 Social and Familial Influences on Feeding	3 Public BF Acceptance	4 Environmental Comfort in Breastfeeding
Scenario 1		0.754		
Scenario 2		0.691		
Scenario 3			0.865	
Scenario 4				0.850
Scenario 5				0.738
Scenario 6			0.812	
Scenario 7		0.655		
Scenario 8		-0.431		
Scenario 9	-0.579			
Scenario 10	0.842			
Scenario 11	0.834			
Scenario 12	0.798			

A significant association was found between nationality and the first factor (Sig.: 0.000), with a strong positive coefficient (0.497), indicating that Hungarian students were more likely than Syrians to adopt a pragmatic approach to infant feeding, favouring bottle-feeding based on situational motivations. Nationality also significantly influenced the second factor (Sig.: 0.000; Beta: 0.341), suggesting that Hungarians tended to consider social opinions and the breastfeeding acceptability in public when making feeding decisions, whereas Syrians gave these factors less weight. (Table 13)

For the third factor, a significant but weaker effect of nationality was detected (Sig.: 0.000; Beta: 0.182). Hungarian women tended more than Syrian women to modify their behaviour about breastfeeding in public to avoid discomfort. (Table 13)

The fourth factor, concerning pressure related to the social and environmental considerations, also showed a statistically significant but modest effect of nationality (Sig.: 0.000; Beta: 0.142), with Hungarian participants more influenced by external social factors than their Syrian counterparts, who appeared less affected by such pressures when making breastfeeding decisions. (Table 13)

**Table 13.** *Linear regression models: Feeding Decision-Making, Social and Familial Influences on Feeding, Public Breastfeeding Acceptance, Environmental Comfort in Breastfeeding (Source: own compilation)*

<b>1. Factor - Feeding Decision-Making</b>									
<b>Model</b>		Unstandardized		Standardized		t	Sig.	Collinearity	
		Coefficients		Coefficients				Statistics	
		B	Std. Error	Beta				Tolerance	VIF
<b>1</b>	(Constant)	-1.468	0.110			-13.299	0.000		
	Nationality	0.995	0.071	0.497		14.019	0.000	1.000	1.000
<b>2. Factor - Social and Familial Influences on Feeding</b>									

Model	Unstandardized Coefficients		Standardized Coefficients		Collinearity Statistics		
	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
	1 (Constant)	-1.007	0.119		-8.431	0.000	
Nationality	0.681	0.077	0.341	8.868	0.000	1.000	1.000

### 3. Factor - Public Breastfeeding Acceptance

Model	Unstandardized Coefficients		Standardized Coefficients		Collinearity Statistics		
	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
	1 (Constant)	-0.536	0.125		-4.286	0.000	
Nationality	0.364	0.080	0.182	4.531	0.000	1.000	1.000

### 4. Factor - Environmental Comfort in Breastfeeding

Model	Unstandardized Coefficients		Standardized Coefficients		Collinearity Statistics		
	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
	1 (Constant)	-0.418	0.126		-3.318	0.001	
Nationality	0.285	0.081	0.142	3.522	0.000	1.000	1.000

#### 4.1.4 Attitude Clusters

To build on the previous analyses, a non-hierarchical K-means cluster analysis was applied to identify distinct participant groups based on their attitudes toward breastfeeding. The analysis showed four relatively homogeneous clusters:

- *Uncertain Breastfeeding Supporters* (21.2%) - cluster 1
- *Dedicated Breastfeeding Supporters* (31.7%) - cluster 2
- *Pragmatic Bottle-Feeding Supporters* (22.6%) - cluster 3
- *External Pressure Choosers* (24.5%) - cluster 4

The first cluster was called the *Uncertain Breastfeeding Supporters*. This group prefers bottle-feeding due to a strong influence from past negative breastfeeding experiences, whether personal, familial, or partner related. Cluster members expressed a preference for avoiding public breastfeeding by relocating to a private setting. In certain instances, they also found it acceptable to suspend breastfeeding at home. (Figure 2)

*Dedicated Breastfeeding Supporters* is the second cluster. These participants seem less influenced by social or environmental pressures and remain committed to breastfeeding, regardless of family history or past experiences. Like those in the first cluster, they believe mothers should breastfeed in private when in public. They are comfortable with breastfeeding at home in the presence of a woman, but women prefer it to be paused if a man is present. (Figure 2)

For the third cluster, the term *Pragmatic Bottle Feeding Supporters* was used. Respondents in this cluster prefer bottle-feeding for practical reasons such as returning to work, past negative experiences, or misinformation. However, they still prefer breastfeeding, even if they have already begun using formulas. They support breastfeeding in front of female guests and do not view withdrawing to a private space as necessary when breastfeeding in public. (Figure 2)

The fourth cluster is called the *External Pressure Choosers*, due to the influence of the paediatrician, gynaecologist, or family doctor, to change their intention. Their previous experience, return to work, or their husband's uncomfortable feeling did not influence their decision. They would not leave the church if they needed to breastfeed, but if a friend feels embarrassed, they will move to a private place. At home, they would only suspend breastfeeding if a male visitor is present. (Figure 2)

	Cluster 1	Cluster 2	Cluster 3	Cluster 4
Scenario 1	-0.425	0.418	0.662	-0.806
Scenario 2	-0.425	0.402	0.856	-0.980
Scenario 3	0.041	0.550	-0.192	-0.568
Scenario 4	0.008	0.274	-0.487	0.105
Scenario 5	0.050	0.372	-0.017	-0.527
Scenario 6	-0.074	0.662	-0.099	-0.711
Scenario 7	-0.939	0.439	0.169	0.090
Scenario 8	1.197	-0.325	-0.272	-0.392
Scenario 9	-0.760	0.411	-0.419	0.510
Scenario 10	0.395	-0.519	1.102	-0.687
Scenario 11	0.366	-0.386	0.977	-0.733
Scenario 12	0.257	-0.415	0.981	-0.618

**Figure 2.** Components of the attitude clusters (Green: "Positive (plus) values", Red: "Negative (minus) values") (46)

The cluster distribution by nationality revealed that Syrian respondents were predominantly classified as *External Pressure Choosers*, whereas only 6% were identified as *Pragmatic Bottle-Feeding Supporters*. In contrast, among Hungarian participants, the *External Pressure Choosers* cluster was the least frequent, while the *Pragmatic Bottle-Feeding Supporters* cluster emerged as the most prevalent (Table 14; Sig.: 0.000; Cramer's V: 0.552).

**Table 14.** Distribution of clusters within nationalities (46)

		Cluster Number of Cases				Total
		Uncertain Breastfeeding Supporters	Dedicated Breastfeeding Supporters	Pragmatic Bottle-Feeding Supporters	External Pressure Choosers	
Nationality	Syrian	21.8%	28.4%	6.0%	43.8%	100.0%
	Hungarian	20.8%	35.6%	40.5%	3.2%	100.0%
Total		21.3%	31.8%	22.3%	24.6%	100.0%

Regarding education level, most BSc and MSc students belonged to the *Dedicated Breastfeeding Supporters* cluster, though BSc students also had a notable share in the *External Pressure Choosers* group. *Uncertain Breastfeeding Supporters* were the least common among both. Among PhD students, however, the largest share, 36.1% fell into the *Uncertain Breastfeeding Supporters* cluster, while only 19.4% were *Dedicated Supporters* (Table 15; Sig.: 0.006; Cramer's V: 0.123).

**Table 15.** Distribution of clusters within the level of education (46)

		Cluster Number of Cases				Total
		Uncertain Breastfeeding Supporters	Dedicated Breastfeeding Supporters	Pragmatic Bottle-Feeding Supporters	External Pressure Choosers	
Level of education	BSc	18.6%	32.0%	21.0%	28.4%	100.0%
	MSc	25.3%	34.0%	26.0%	14.7%	100.0%
	PhD	36.1%	19.4%	22.2%	22.2%	100.0%
Total		21.3%	31.8%	22.3%	24.6%	100.0%

Participants were classified based on their fathers' education levels and cluster membership, too. Among those whose fathers were university-educated, most belonged to the first and second clusters (each 27.3%), while only 18.5% were *Pragmatic Bottle-Feeding Supporters*. In contrast, respondents whose fathers had lower education levels were predominantly represented in the *Dedicated Breastfeeding Supporters* cluster (35.2%), with the lowest percentage appearing in the *Uncertain Breastfeeding Supporters* cluster. (Table 16, Sig.: 0.002; Cramer's V: 0.156)

**Table 16.** Crosstab – Father's level of education and Clusters (Source: Own compilation)

		Cluster Number of Cases				Total
		Uncertain Breastfeeding Supporters	Dedicated Breastfeeding Supporters	Pragmatic Bottle-Feeding Supporters	External Pressure Chooser	
Father's level of education	University studies	27.3%	27.3%	18.5%	26.9%	100.0%
	non-university studies	16.7%	35.2%	25.2%	22.9%	100.0%
Total		21.3%	31.8%	22.3%	24.6%	100.0%

The place of residence played a role in cluster analysis, with respondents living in urban areas most frequently represented in both second and fourth clusters with percentages 28.2% and 26.9%, respectively, while the *Pragmatic Bottle-Feeding Supporters* were the least

represented. Among participants from rural areas, the most prominent clusters were the *External Pressure Choosers* and the *Uncertain Breastfeeding Supporters*. (Table 17, Sig.: 0.012; Cramer's V: 0.136)

**Table 17.** Crosstab – Place of residence and Clusters (Source: Own compilation)

		Cluster Number of Cases				Total
		Uncertain Breastfeeding Supporters	Dedicated Breastfeeding Supporters	Pragmatic Bottle-Feeding Supporters	External Pressure Chooser	
place of residence	Urban	22.6%	28.2%	22.3%	26.9%	100.0%
	Rural	18.0%	41.6%	21.7%	18.6%	100.0%
Total		21.3%	31.8%	22.2%	24.7%	100.0%

Marital status also influenced cluster membership. 46.8% of the married participants were grouped in the *External Pressure Chooser cluster*, whereas the biggest percentage of unmarried respondents (33.5%) fell into the *Dedicated Breastfeeding Supporters* cluster. (Table 18, Sig.: 0.000; Cramer's V: 0.370)

**Table 18.** Crosstab – Marital Status and Clusters (Source: Own compilation)

		Cluster Number of Cases				Total
		Uncertain Breastfeeding Supporters	Dedicated Breastfeeding Supporters	Pragmatic Bottle-Feeding Supporters	External Pressure Choosers	
Marital status	married	21.1%	27.5%	4.7%	46.8%	100.0%
	unmarried	21.4%	33.5%	29.3%	15.8%	100.0%
Total		21.3%	31.8%	22.3%	24.6%	100.0%

## 4.2. Similarities and differences between Syrian and Hungarian for IIFAS

This section presents a comparative analysis of the response patterns to the IIFAS between Syrian and Hungarian students, highlighting the variations in their attitudes toward breastfeeding (Table 19).

**Table 19.** Responses for Hungarian and Syrian students to IIFAS (N = 620) (113)

The statement	Disagree <sup>1</sup>		Neutral		Agree <sup>2</sup>	
	%	n	%	n	%	n
1. The nutritional benefits of breast milk last only until the baby is weaned from breast milk.	59.4	364	15.8	97	24.8	152
2. Formula-feeding is more convenient than breastfeeding.	67.2	412	17.6	108	15.2	93
3. Breastfeeding increases mother-infant bonding.	2.0	12	2.3	14	95.8	586
4. Breast milk is lacking in iron.	39.8	244	46.3	284	13.9	85
5. Formula-fed babies are more likely to be overfed than are breastfed babies.	20.6	126	38.2	234	41.3	253
6. Formula-feeding is the better choice if a mother plans to work outside the home.	32.9	200	23.5	143	43.6	265
7. Mothers who formula-feed miss one of the great joys of motherhood.	32.4	198	12.6	77	55.0	336
8. Women should not breastfeed in public places such as restaurants.	48.7	298	14.2	87	37.1	227
9. Babies fed breast milk are healthier than babies who are fed formula.	13.7	84	24.2	148	62.1	380
10. Breastfed babies are more likely to be overfed than formula-fed babies.	52.0	317	39.0	138	9.0	55
11. Fathers feel left out if a mother breastfeeds.	66.3	403	21.2	129	12.5	76
12. Breast milk is the ideal food for babies.	2.6	16	9.5	58	87.9	538
13. Breast milk is more easily digested than formula.	6.9	42	33.4	204	59.7	365

The statement	Disagree <sup>1</sup>		Neutral		Agree <sup>2</sup>	
	%	n	%	n	%	n
14. Formula is as healthy for an infant as breast milk.	46.1	282	31.0	190	22.9	140
15. Breastfeeding is more convenient than formula feeding.	24.5	150	20.3	124	55.2	337
16. Breast milk is less expensive than formula.	6.9	42	7.8	48	85.3	522
17. A mother who occasionally drinks alcohol should not breastfeed her baby.	12.6	77	19.6	120	67.8	415

<sup>1</sup>: Disagree includes ‘strongly disagree’ and ‘disagree’. <sup>2</sup>: Agree includes ‘strongly agree’ and ‘agree’.

#### 4.2.1 Patterns of Agreement and Disagreement on Attitude-Related Statements in Participant Responses

Many differences, similarities and uncertainties were revealed in participants’ responses. The strongest agreement was observed in the statement discussing the mother-infant bonding relationship, with 95.8% agreement. 87.9% of respondents confirmed that breast milk is the optimal nutrient source for infants. 62.1% agreed that breastfed infants are more likely to be healthier in comparison to those who are formula-fed, and 67.8% of the respondents agreed that a mother who consumes alcohol ought not to breastfeed her child. (Table 19)

Several statements revealed notable levels of disagreement among the participants. 67.2% disagreed that formula feeding is more convenient than breastfeeding, and 66.3% rejected the idea that breastfeeding may make fathers feel left out. 48.7% of respondents disagreed with breastfeeding in public (Table 19).

Differences were demonstrated in participants’ responses in the two nationalities regarding several statements. One example concerned the belief that 83.0% of Syrian respondents agreed that breast milk is more easily digested than formula, but only 34.8% of Hungarian respondents. While 77.6% of Syrian participants considered that formula-fed mothers miss great moments of motherhood, only 30.7% of Hungarian participants agreed. (Table 19)

71.5% Hungarian students were not sure regarding the statement “*Breast milk is lacking in iron*”, while about half of the Syrian participants disagreed with the statement. A similar

pattern of uncertainty was observed in responses to two contradictory statements about overfeeding (Table 19)

#### 4.2.2 Cluster Analysis

The cluster analysis discovered three distinct attitude-based groups according to participants' attitudes on infant feeding. The subsequent section details the clustering procedure and presents a comprehensive profile of each identified cluster (Figure 3).

“*Supporters of Breast Milk*” was the first cluster. Individuals in this group strongly supported the benefits of breastfeeding. They considered breast milk as the optimal form of infant nourishment, while rejecting the idea that formula is equally beneficial. Instead, they emphasised the disadvantages of formula feeding, the belief that infants who are formula-fed are more susceptible to overfeeding. Moreover, members of this cluster viewed breast milk as easier to digest and regarded breastfeeding as a more fulfilling experience for mothers. They did not consider formula feeding to be more convenient and did not see breastfeeding in public as a problem. Additionally, formula feeding, according to their opinions, is not the best solution for working mothers.

	Cluster		
	1	2	3
The nutritional benefits of breast milk last only until the baby is weaned from breast milk	0.13916	0.26811	-0.31981
Formula feeding is more convenient than breastfeeding	-0.24320	0.70635	-0.25735
Breastfeeding increases mother-infant bonding	0.37683	-0.76317	0.16890
Breast milk is lacking in iron	-0.17908	0.29373	-0.01962
Formula-fed babies are more likely to be overfed than are breastfed babies	0.58115	-0.32846	-0.35590
Formula-feeding is the better choice if the mother plans to work outside the home	-0.07264	0.55899	-0.35580
Mothers whom formula-feed miss one of the great joys of motherhood	0.73017	-0.92101	-0.08798
Women should not breastfeed in public places such as restaurants	0.14066	-0.06479	-0.12596
Babies fed breast milk are healthier than babies who are fed formula	0.57266	-0.93194	0.06556
Breastfed babies are more likely to be overfed than formula-fed babies	-0.28667	0.10525	0.20362
Fathers feel left out if a mother breast-feeds	0.47073	-0.30215	-0.27232
Breast milk is the ideal food for babies	0.51027	-1.06057	0.25108
Breast milk is more easily digested than formula	0.81495	-0.69675	-0.31783
Formula is as healthy for an infant as breast milk	-0.44121	0.78848	-0.11170
Breastfeeding is more convenient than formula feeding	0.52192	-0.75394	0.00716
Breast milk is less expensive than formula	0.15183	-0.25067	0.03602
A mother who occasionally drinks alcohol should not breastfeed her baby	0.30940	-0.15794	-0.22007

**Figure 3.** Clusters of attitudes toward breastfeeding and formula feeding. (Red: "Negative (minus) values"; Green: "Positive (plus) values") (113)

The second cluster was “*Supporters of Formula Feeding*”. Respondents in this group clearly acknowledged the advantages of formula feeding, highlighting its convenience and practicality, particularly for mothers who return to work. They believed that formula milk and breast milk are equally beneficial. Furthermore, they rejected the idea that a mother who does not breastfeed is missing a nice experience. According to this group, emotional bonding with their infants can be fully achieved without breastfeeding.

“*Flexible Thinkers*” was the last cluster. In this group, respondents maintained a balanced view; they recognised the benefits of both breast milk and formula milk. While they believed breast milk is more nutritious, they rejected rigid pro-breastfeeding or pro-formula stances. They also disagreed with the concept that breastfeeding made fathers feel excluded. Although they preferred breastfeeding overall, they considered formula feeding a practical alternative in certain circumstances.

#### 4.2.3 Sociodemographic Characteristics of Attitude-Based Groups

After creating the clusters, it is important to examine whether they differ based on sociodemographic characteristics. Nationality showed significant differences in attitudes. Most Syrians (61.1%) were in the Supporters of Breast Milk group, while only 12.7% of Hungarians shared this view. In contrast, 39.1% of Hungarians supported formula feeding, compared to 13.3% of Syrians. Flexible attitudes were more common among Hungarians (48.2%) than Syrians (25.6%) (Table 20, Sig.: 0.000; Cramer’s V: 0.502). As a result, Syrian participants preferred breastfeeding more, while Hungarians were more flexible or preferred formula feeding.

**Table 20.** *Distribution of clusters within nationality (113)*

	Cluster number of cases			Total	
	Supporters of Breast Milk	Supporters of Formula Feeding	Flexible Thinkers		
Nationality	Syrian	61.1%	13.3%	25.6%	100.0%
	Hungarian	12.7%	39.1%	48.2%	100.0%
Total		38.5%	25.3%	36.1%	100.0%

The distribution of respondents across the groups was roughly similar in all age groups, and the correlation between age group and group membership was not statistically significant ( $\chi^2 = 1.52, p = 0.823$ ). However, age was included as a predictor in the subsequent multinomial logistic regression model, allowing us to examine its effect while controlling for other sociodemographic variables. In this multivariate framework, age emerged as a relevant predictor of group membership, suggesting that age-related differences become even more apparent when other background factors are considered.”

**Table ??.** Distribution of clusters within the age (113)

	<b>21-15</b>	<b>26-30</b>	<b>31 and above</b>
<b>Supporters of breast milk</b>	37.20%	41.80%	36.40%
<b>Supporters of formula feeding</b>	25.60%	23.70%	29.50%
<b>The Flexible Thinkers</b>	37.20%	34.50%	34.10%

The proportion of *Supporters of Breast Milk* decreased with increasing educational level, being highest among bachelor’s degree holders and lowest among postgraduate degree holders (MSc and PhD). Conversely, the *Supporters of Formula Feeding* group was relatively evenly distributed across educational levels but showed a slight increase among those with higher degrees. The *Flexible Thinkers* group was most prevalent among MSc and PhD holders, whereas approximately one-third of bachelor’s degree holders belonged to this group. Overall, individuals with postgraduate degrees tended to be more flexible in their feeding attitudes, while those with bachelor’s degrees were more inclined to support breastfeeding. While the link between educational level and cluster membership was statistically significant, the effect size suggested that educational attainment had only a modest influence on infant feeding attitudes. (Table 21, Sig.: 0.012; Cramer’s V: 0.104)

**Table 21.** Distribution of clusters within the level of education (113)

		Cluster Number of Cases			Total
		Supporters of Breast Milk Feeding	Supporters of Formula Feeding	Flexible Thinkers	
Level of Education	BSc	43.0%	24.7%	32.3%	100.0%
	MSc	28.1%	26.7%	45.2%	100.0%
	PhD	29.7%	27.0%	43.2%	100.0%
Total		38.5%	25.3%	36.1%	100.0%

40.5% of respondents whose fathers did not have a university degree were in the *Supporters of Breast Milk* group compared to those whose fathers had a university degree (35.9%). A similar pattern was shown in the *Flexible Thinkers* group. The opposite pattern appeared in the *Supporters of Formula Feeding* group: 30.9% of respondents whose fathers were university-educated belonged to this group, compared to only 21.0% of those whose fathers had lower educational levels (Table 22, Sig.: 0.023; Cramer’s V: 0.113).

**Table 22.** Distribution of clusters within the father’s level of education (113)

		Cluster Number of Cases			Total
		Supporters of Breast Milk Feeding	Supporters of Formula Feeding	Flexible Thinkers	
Father’s level of education	University studies	35.9%	30.9%	33.2%	100.0%
	Non-university studies	40.5%	21.0%	38.5%	100.0%
Total		38.5%	25.3%	36.1%	100.0%

Marital status was significantly associated with attitudes toward infant feeding. Married respondents were predominantly found in the *Supporters of Breast Milk* cluster, whereas unmarried individuals were more commonly associated with the *Supporters of Formula Feeding and Flexible Thinkers* clusters. This suggests that married individuals were more

likely to prefer breastfeeding, whereas unmarried respondents tended to adopt alternative or mixed views (Table 23; Sig.: 0.001; Cramer’s V: 0.336).

**Table 23.** *Distribution of clusters within marital status (113)*

		Cluster Number of Cases			Total
		Supporters Of Breast Milk	Supporters Of Formula Feeding	Flexible Thinkers	
Marital status	Married	64.1%	12.4%	23.5%	100.0%
	Unmarried	28.2%	30.6%	41.2%	100.0%
Total		38.5%	25.3%	36.2%	100.0%

Income level showed a significant and moderately strong association with attitudinal clusters (Table 8). *Supporters of Breast Milk* were highest among low-income respondents, while *Supporters of Formula Feeding* were least common in this group. Among those with sufficient or high income, *Flexible Thinkers* and *Supporters of Formula Feeding* were more prevalent. In the highest-income group, *Flexible Thinkers* dominated (50.0%), followed by *Supporters of Formula Feeding*, indicating that higher income was associated with more varied or formula-supportive views (Table 24, Sig.: 0.001; Cramer’s V: 0.278).

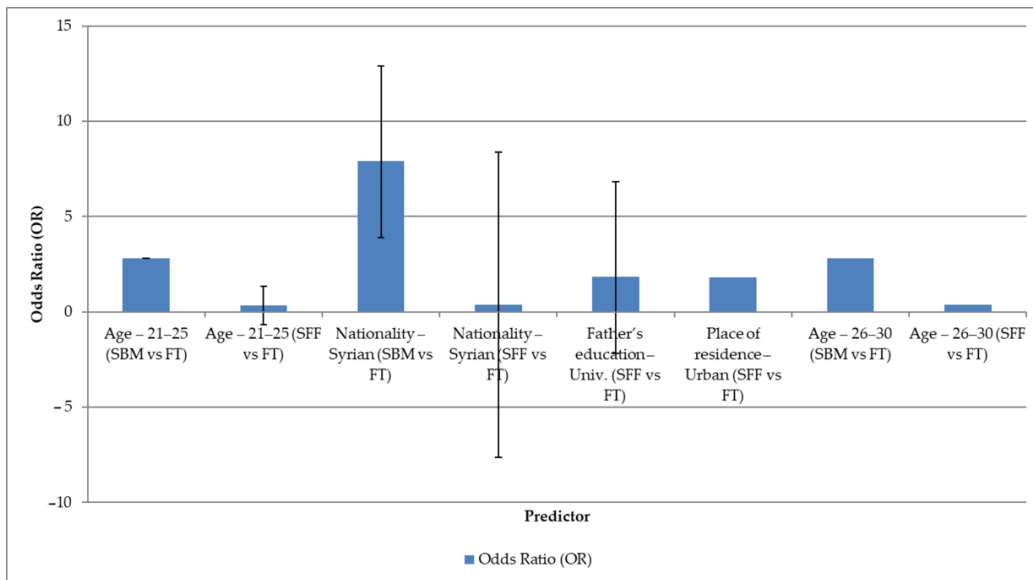
**Table 24.** *Distribution of clusters within income (113)*

		Cluster Number of Cases			Total
		Supporters Of Breast Milk	Supporters Of Formula Feeding	Flexible Thinkers	
Wealth index	Less than enough	63.6%	12.1%	24.3%	100.0%
	Enough	24.3%	32.9%	42.8%	100.0%
	More than enough	16.7%	33.3%	50.0%	100.0%
Total		38.4%	25.4%	36.2%	100.0%

#### 4.2.4 Multivariate Analysis—Logistic Regression

Several demographic variables were significantly associated with the three attitude clusters in the cross-tabulation analyses. To identify which factors remained significant when controlling for others, a multinomial logistic regression was conducted (Figure 4).

The forest plot (Figure 4) presents the model’s results, showing odds ratios and 95% confidence intervals, with the Flexible Thinkers as the reference group. The findings from the regression analysis indicated that each cluster was characterized by a distinct demographic outline, with age, nationality, and paternal education level emerging as particularly influential factors.



**Figure 4.** Forest plot of sociodemographic predictors (113)

Respondents whose age was between 20 and 31 tended to be in the *Supporters of Breast Milk* group than in the *Flexible Thinkers* or *Supporters of Formula Feeding* clusters. Nationality also played a key role: Syrians were strongly associated with *Supporters of Breast Milk* and less likely to belong to the *Supporters of Formula Feeding* group. Respondents with university-educated fathers are more likely to be classified in the *Supporters of Formula*

*Feeding* cluster (OR = 1.84; 95% CI: 1.18–2.87). Similarly, those living in urban areas had higher odds of being in the *Supporters of Formula Feeding* group than the *Flexible Thinkers* group (OR = 1.79; 95% CI: 1.08–2.97). Finally, no significant associations were found for mother’s education, marital status, or income.

## 5. DISCUSSION

### 5.1. Social-cultural differences between the two countries

Syria, situated in the Middle East, is characterised by one of the lowest exclusive breastfeeding rates globally (38), while Hungary, an Eastern European nation, demonstrates moderate levels of breastfeeding prevalence (76).

#### 5.1.1. Differences and similarities depending on BBQ

The statistics showed that cultural influences were important in determining decisions related to breastfeeding in Syria and Hungary.

Nationality emerged as a highly significant predictor, exerting a strong and statistically significant impact on all four factors. when a cover is used, both Syrian and Hungarian participants generally support breastfeeding in public. Overall, there is notable agreement among respondents, with percentages aligning closely with international studies that report restrictive attitudes toward breast exposure, viewing it as inappropriate and having to be kept private (115-118).

Cluster analysis, based on factor analysis, demonstrated different attitudinal groups that clarify the sociocultural dynamics between nationality, education, and residence. Syrians mainly fell into the *External Pressure Choosers* cluster, indicating strong influence from family and medical advice. On the other hand, most Hungarians belonged to the *Pragmatic Bottle-Feeding Supporters* group, highlighting personal convenience and challenges related to work and indicating a stronger pragmatic influence among Hungarians. Participants with fathers holding university degrees were more likely to belong to the *Uncertain and Dedicated Breastfeeding Supporters* clusters, indicating the positive influence of paternal education on attitudes. Urban residents were overrepresented in the *Dedicated Breastfeeding Supporters* and *External Pressure Choosers* clusters, suggesting stronger social influences in urban areas. Married participants were more often in the *External Pressure Chooser* cluster,

emphasising that spousal relationships strongly shape breastfeeding decisions, whereas unmarried respondents experience fewer external pressures.

Breastfeeding is deeply embedded in Islamic beliefs and values, which significantly contribute to higher rates of exclusive breastfeeding (119). In this study, traditions and religious beliefs had a stronger impact on Syrian participants compared to Hungarian participants, indicating a closer loyalty to religious standards in the Syrian community. This aligns with prior research indicating that religious individuals tend to strongly oppose public breastfeeding (120). Conversely, religious factors appeared to have little impact on breastfeeding decisions among Hungarians.

Similarly, decisions are often influenced by physicians, family, and partners, who can sway feeding choices. Social support positively influenced breastfeeding decisions and increased exclusive breastfeeding rates, especially from grandmothers and close friends, as confirmed by previous research (121-123). Husbands play an important role in encouraging breastfeeding, because their knowledge and attitude support mothers to start and continue breastfeeding (124, 125). A father's stance often influences the mother's decisions, as his role is central in the family (123, 126). Conversely, negative paternal attitudes are an essential reason to decrease breastfeeding rates and choose bottle-feeding and lowering (127). Most healthcare professionals, including paediatricians and hospital workers, have positive attitudes to encourage mothers to breastfeed, as previously documented in studies (128, 129). However, some maintain a neutral stance on exclusive breastfeeding (130). Some doctors lack practical knowledge to support breastfeeding challenges (131), and misinformation from healthcare providers can contribute to early weaning (132).

A busy schedule poses a significant challenge for nursing mothers (133). Lack of support from spouses and unsupportive work environments further complicate breastfeeding, especially for working mothers who often experience guilt when returning to work (134-136). Returning to work is a frequent cause for decreased exclusive breastfeeding, as workplace breastfeeding options are limited in certain countries (137, 138). Unemployed mothers tend to breastfeed more often, as studies have shown (137-139). However, our study

showed that 70% of students disagreed with exclusive formula feeding when returning to work, though embarrassment about breastfeeding at work lowers exclusive breastfeeding rates (138). Maternity leave is a key issue; half of Syrian students expressed willingness to continue breastfeeding upon returning to work, compared to only 14% of Hungarians, a contrast with their respective governmental maternity leave policies. Syrian Labour Law grants relatively short paid maternity leave, like many Arab countries (139, 140). This discrepancy may reflect cultural emphasis on breastfeeding, socioeconomic factors limiting formula access, or a deeper awareness of breastfeeding benefits in Syrian society. In contrast, in Hungary, working parents are entitled to paid maternity and paternity leave, with 24 weeks of paid maternity leave for new mothers, which is superior to the OECD average of 18 weeks (141).

Myths surrounding breastfeeding are common worldwide and often influence breastfeeding decisions (132, 142, 143). For example, breast size is determined by fat content rather than milk-producing alveoli. Regardless of breast size, the glandular tissue needed for milk production increases during pregnancy. Therefore, mothers with smaller breasts are capable of producing sufficient milk, provided they understand their infants' needs and follow appropriate breastfeeding practices (132). Another myth was about the “*unsatisfied baby*”, which is common globally and often leads to early weaning or formula supplementation. Many believe that a crying baby is hungry, prompting formula use despite previous breastfeeding experience (144, 145). Regression analysis demonstrated that nationality significantly influences attitudes in all factors. Syrian participants showed greater commitment to family and traditional norms, while Hungarian participants tended to take a more pragmatic approach, with external pressures exerting a significant influence

Finally, cluster differences emerged by nationality, education, and residence. Syrians mainly fell into the *External Pressure Choosers* cluster, while most Hungarians belonged to the *Pragmatic Bottle-Feeding Supporters* group, indicating a stronger pragmatic influence among Hungarians. Participants with fathers holding university degrees were more likely to belong to the *Uncertain and Dedicated Breastfeeding Supporters* clusters, indicating the positive influence of paternal education on attitudes. Urban residents were overrepresented

in the *Dedicated Breastfeeding Supporters* and *External Pressure Choosers* clusters, suggesting stronger social influences in urban areas, and that aligns with previous studies (146). Married participants were more often in the *External Pressure Choosers* cluster, highlighting the solid effect of marital relationships on breastfeeding decisions, unlike single participants who face fewer external pressures. Similar results can be shown in previous studies (147, 148)

### **5.1.2. Differences and similarities depending on IIFAS**

It was observed by us that the IIFAS statements can be thematically grouped. The groups are clarified in detail below.

#### **5.1.2.1. Perceived health and nutritional values**

Participants' attitudes toward this criterion of infant feeding play a crucial role. It is widely accepted that breastfeeding offers optimal nutrition, supporting infants' ideal growth, development, and overall health (1, 3, 149). In this study, the responses of both national groups align with existing research, suggesting that breastfed infants typically experience better health outcomes than those who are formula-fed (1, 32, 150). Breast milk is typically more easily digested by infants compared to formula, as it contains enzymes that enhance nutrient absorption. Moreover, its protein composition is primarily whey-based, making it more readily digestible than the proteins which are rich in casein and usually found in formula (151, 152). Syrian participants were more likely than their Hungarian counterparts to agree that breast milk is more readily digested than formula; nevertheless, the general response patterns align with findings from prior studies (153). Even though the iron content in breast milk is low (154, 155), its high bioavailability enables the infants to absorb it efficiently. Participants' responses vary depending on their understanding of iron bioavailability. Noticeable differences emerged between Hungarian and Syrian students answering this statement. While most Hungarian students were uncertain, Syrian ones were more split. So, the results differ from previous findings (153, 156). Although potential overfeeding has been reported in approximately 37% of infants who were fully formula fed (157, 158), the large percentage of "not sure" responses to statements about the association between feeding

method and overfeeding may indicate that this issue is inherently complex. Nevertheless, this pattern of uncertainty aligns with earlier studies in terms of the nuances of agreement and disagreement (159).

#### **5.1.2.2. Convenience and practical aspects**

Another thematic criterion relates to these practical aspects of infant feeding. Due to global organisations, breastfeeding is consistently regarded as more convenient than formula feeding, and the findings of our study support this perspective.

For many nursing mothers, returning to work remains a significant challenge and has a negative impact on the exclusive breastfeeding duration (160, 161). Previous research has indicated that formula feeding is often considered the most practical choice for mothers planning to return to work (162), a finding that is also reflected in our study results.

#### **5.1.2.3. Bonding and emotional connection**

Research has demonstrated that hormonal mechanisms play a crucial role in promoting emotional closeness and bonding between mother and infant (163, 164). Skin-to-skin contact, in particular, is recognised as an optimal practice immediately after birth, as it enhances the infant's sense of safety and calmness while initiating the bonding process (22, 32, 165, 166). Moreover, this practice has been shown to positively influence maternal mood (167). Most participants agreed that breastfeeding enhances the bonding between mother and infant, which is strongly align with previous research and with international organisations (22, 32). Fathers play a remarkable role in addressing the emotional bonding; their attitude affects mothers' decisions about breastfeeding (168, 169). These findings are not consistent with previous studies (156).

#### **5.1.2.4. Social and risk perception**

This is the last criterion. Breastfeeding in public has always divided opinions, particularly when terms such as “with discretion” or using breastfeeding coverings are not mentioned. This explains that some participants' responses are consistent with findings from

international studies (169, 170), and contradict others who consider exposing the breast to be unacceptable behaviour (116, 171). As it is known that drinking alcohol during breastfeeding can affect both infants and mothers (172, 173), it is recommended by current guidelines that mothers wait at least two hours following alcohol intake prior to breastfeeding(174, 175), allowing mothers to continue breastfeeding even while drinking alcohol. This recommendation is unfamiliar to most participants, which aligns with findings from previous studies (153).

## **5.2. Strengths and limitations**

The strength of this study depends on the comparison of Syrian and Hungarian university students, providing insight into cultural influences on attitudes and behaviors toward breastfeeding among future mothers. Concentrating on university students provides insight into the opinions of the future mothers, who may affect infant feeding practices in their societies. Using validated tools like the IIFAS and BBQ enhances reliability and comparability. Another strength of this research is that, to our knowledge, no prior study has directly compared a European country with Syria on such a complex topic

However, some limitations should be noted. The sample may not represent the wider population, as university students often come from more educated and urban backgrounds (with higher social status), which could affect their views. Self-reported answers may also be influenced by social expectations, especially on sensitive issues like public breastfeeding and family pressure. Translating the questionnaires into Arabic and Hungarian may have caused misunderstandings in some questions, even though the questionnaire was translated back and forth twice by official language experts in Arabic and in Hungarian. One methodological shortcoming is that the selection criteria did not mention whether the participant had children or not; parenthood is a major confounding factor in studies on attitudes toward infant feeding. This question was included in the sociodemographic characteristics in the questionnaire provided to Syrian participants, but it was deleted in the Hungarian version, unfortunately, by mistake. Finally, because the study is cross-sectional, it can only show associations, not cause-and-effect relationships, since it prevents conclusions about causality, allowing only

associations to be drawn. Future research should involve several samples and employ in-depth or long-term studies.

## 6. CONCLUSION

### 6.1. Research Hypotheses Examination

*H1: Syrian university students will show significantly more positive overall attitudes toward breastfeeding, as measured by the total IIFAS score, compared to Hungarian students.*

This hypothesis was **confirmed partially**. While Syrian students were expected to report significantly higher overall attitudes toward breastfeeding, the results showed that both Syrian and Hungarian students documented generally positive attitudes, with statistically significant differences in the total IIFAS scores between the two groups. Some statements discovered positive attitudes among both Syrians and Hungarians, while other statements showed noticeable differences in attitudes, confirming this hypothesis partially with the study results.

*H2: University students with lower income levels will show significantly more positive attitudes toward breastfeeding and less support for formula feeding, as measured by the IIFAS, compared to students with higher or sufficient income.*

This hypothesis was totally **confirmed** by the results since the low-income students tended to be in the *Supporters of Breast Milk* group, while students with high income were more prevalent in *Supporters of Formula Feeding* and *Flexible Thinkers*.

*H3: A higher level of education is associated with greater support for breastfeeding.*

This hypothesis was **not confirmed** by the results we had. Contrary to expectations, the results showed that as educational level increased, support for breastfeeding decreased. Breastfeeding support was highest among bachelor's degree participants and lower among participants with postgraduate degrees (MSc and PhD).

***H4: Married participants are more supportive of breastfeeding than formula, more than unmarried participants.***

This hypothesis was **not confirmed** by the results we had. Although marital status influenced cluster membership. Nearly half of the total married participants tended to be in the “*External Pressure Choosers*” group, whereas the highest percentage of unmarried respondents fell into the Dedicated Breastfeeding Supporters group, which supports breastfeeding the most.

***H5: Participants who live in rural areas prefer breastfeeding more than those who live in urban areas.***

**Confirmed.** In the cluster analysis, we observed that the place of residence played a role; respondents living in urban areas most frequently tend to be in the Dedicated Breastfeeding Supporters cluster and External Pressure Choosers, while among participants from rural areas, the most prominent clusters were in the Dedicated Breastfeeding Supporters.

***H6: Participants from both nationalities will generally support breastfeeding in the presence of a female visitor, but will be less supportive when both male and female visitors are present.***

This hypothesis was **confirmed partially**. While Hungarian participants demonstrated significantly stronger support for continuing breastfeeding in the presence of a female visitor compared to Syrian participants, both groups generally support breastfeeding in front of a female visitor. Moreover, Syrian participants are more likely to oppose breastfeeding when both male and female visitors are present than Hungarian participants.

## **6.2. The cross-cultural conclusion**

This cross-cultural contrast study evaluated attitudes and behaviours toward breastfeeding among Syrian and Hungarian female college students and determined how sociocultural, demographic, and experiential factors influence infant feeding decisions.

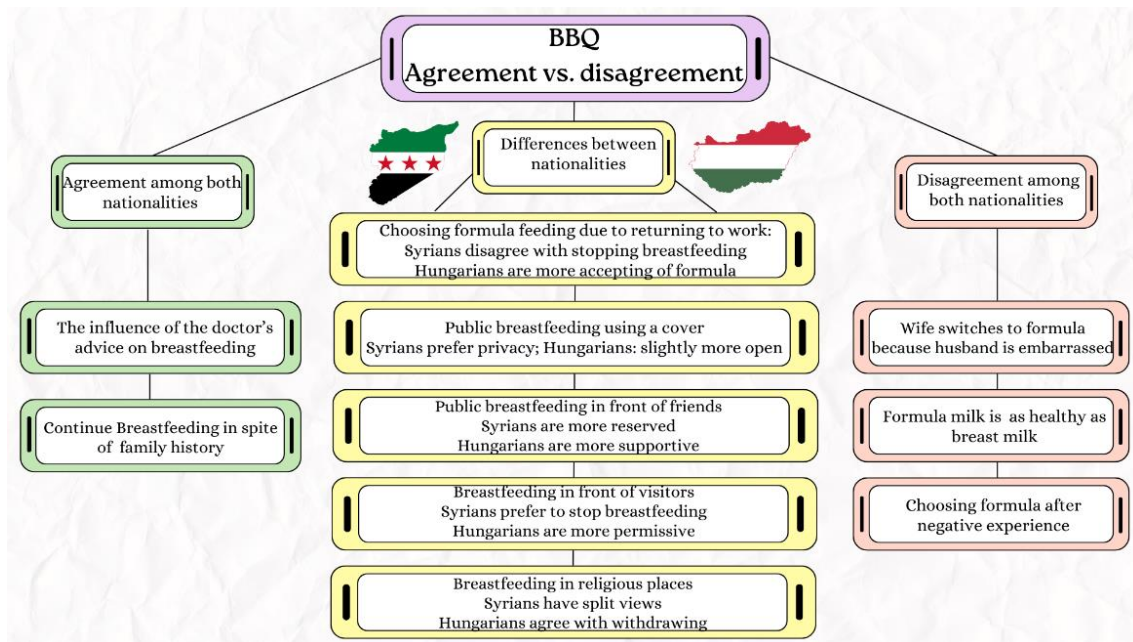
The IIFAS and BBQ scale results indicate that Syrian participants consistently reported greater support for breastfeeding due to religious, cultural, and family values. At the same time, Hungarian students favoured flexible or mixed feeding, which is usually driven by modern lifestyle reasons.

Cluster analysis separated certain groups based on attitude and type of feeding, and varied by income level, marital status, educational attainment, and father's education.

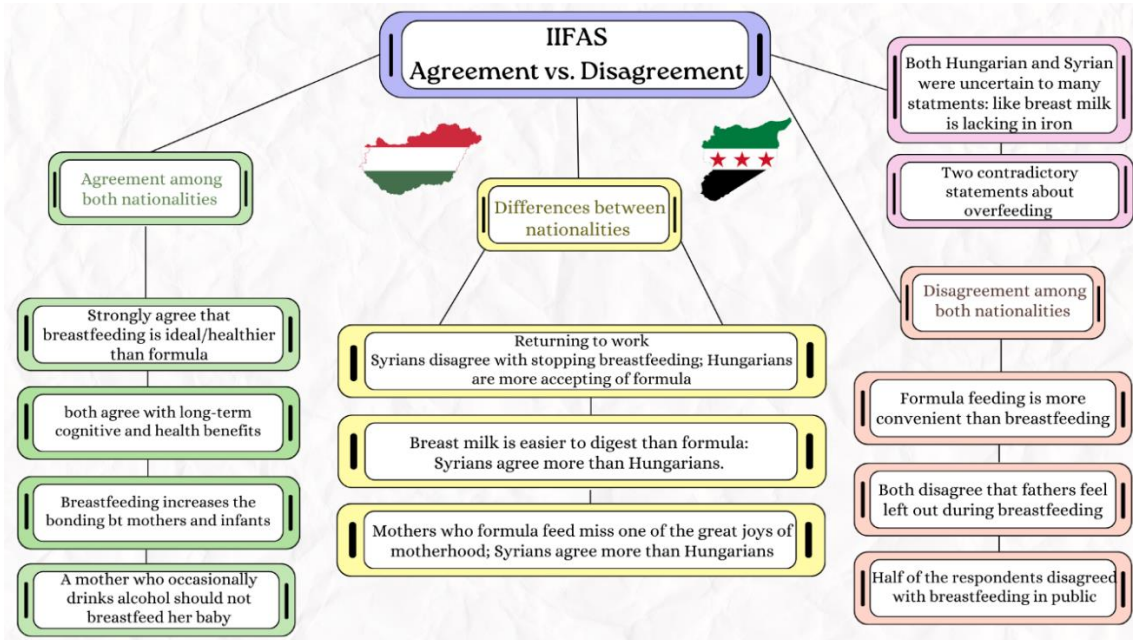
Respondents with lower incomes tended to favour breastfeeding, primarily because of its affordability and health advantages. Conversely, participants with higher incomes showed a greater inclination toward formula feeding, which may be attributed to its convenience and easier availability as an alternative

Behavioural findings also revealed differences in comfort with public and religious-space breastfeeding, physician and family affecting breastfeeding decisions, and practicality issues among working women.

Figures 5 and 6 summarize the results and highlight areas of agreement and disagreement among Syrian and Hungarian participants based on both the BBQ and IIFAS scales.



*Figure 5: Nationality-based Concept Mapping of Agreement and Disagreement among participants according to the BBQ module (source: Own compilation)*



*Figure 6: Nationality-based Concept Mapping of Agreement and Disagreement among participants according to the IIFAS module (source: Own compilation)*

These observations show that emotional bonds, social opinions, and utilitarian concerns all influence young women's choices simultaneously. Emphasis on educated students has been worth the effort, since their background and orientation relate to previous exposure to breastfeeding and future possibilities as future parents or professionals.

To provide well-informed and culturally suitable breastfeeding decisions, public health efforts must promote inclusive environments in workplaces and universities, normalise public breastfeeding by covert mechanisms, and counter campaigns to social norms. However, these measures should be further contextualised within the cultural frameworks of Syria and Hungary.

In Syria, where religious beliefs and family traditions strongly influence infant feeding decisions, recommendations should involve religious leaders and community figures who can support breastfeeding as a valued religious and cultural practice.

Including Quranic references and prophetic traditions that encourage breastfeeding may strengthen public health messages and make them more acceptable to the broader population. At the same time, the high dependence on physicians highlights the need for integrating consistent breastfeeding counselling into clinical meetings, supported by community awareness programs. Given the influence of extended families in Syria, engaging grandmothers and other female relatives through educational workshops could be an effective cultural strategy.

In contrast, Hungary, with its established health visitor system and Baby-Friendly Hospital Initiative, already provides structured support for breastfeeding. However, cultural barriers are more related to modern lifestyle patterns, professional demands, and attitudes toward public breastfeeding. Hungarian participants expressed discomfort with breastfeeding in public spaces, which indicates that campaigns normalising breastfeeding in cafés, parks, and workplaces could address these barriers. In addition, Hungarian universities and employers could be encouraged to adopt lactation-friendly policies, such as designated spaces for breastfeeding or expressing milk, which would reduce discomfort and support continuing breastfeeding after maternity leave.

These findings are relevant to health professionals, educators, and policymakers trying to enhance maternal and child health, and future research, particularly qualitative research, should explore in greater detail how evolving social structures and health systems influence attitudes and behaviour towards breastfeeding among diverse groups.

## 7. SUMMARY

This dissertation explored cultural and educational variations in breastfeeding attitudes and behaviours among Syrian and Hungarian female university students, employing a cross-sectional design and a sample of 620 students.

Data were gathered with two validated tools: the Iowa Infant Feeding Attitude Scale (IIFAS) and the Breastfeeding Behaviour Questionnaire (BBQ).

Findings indicated that although both Syrian and Hungarian students held generally positive attitudes toward breastfeeding, Syrian participants had a greater likelihood of be driven by family expectations, and social norms, whereas Hungarian participants showed greater acceptance of breastfeeding in public settings and placed more emphasis on personal choice in infant feeding practices.

Factor and cluster analyses revealed varied breastfeeding behaviour profiles influenced by nationality, educational background, and socio-demographic factors such as parental education, income, and urban or rural upbringing.

The analysis confirmed that nationality was a highly significant predictor of breastfeeding attitudes across multiple dimensions. In the factor analysis, nationality showed a strong association with the first factor (Beta = 0.497;  $p < 0.001$ ), indicating that Hungarian students were more likely to adopt a pragmatic, bottle-feeding-oriented approach. Nationality also significantly influenced the second factor (Beta = 0.341;  $p < 0.001$ ), as well as the third (Beta = 0.182;  $p < 0.001$ ) and fourth factors (Beta = 0.142;  $p < 0.001$ ), demonstrating consistent cross-national differences in social and public-context considerations. Furthermore, multinomial regression analysis revealed that respondents with university-educated fathers had significantly higher odds of belonging to the Supporters of Formula Feeding cluster (OR = 1.84; 95% CI: 1.18–2.87), and urban residence was also associated with increased likelihood of formula-supportive attitudes (OR = 1.79; 95% CI: 1.08–2.97).

The study illustrates how breastfeeding-related attitudes and behaviours are rooted in larger cultural and educational systems, underlining the need for culturally adapted and education-sensitive health promotion policies.

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## 9. LIST OF OWN PUBLICATIONS

### 9.1. Publications Related to Thesis

**Al Kamsheh, M.**, Bornemissza, K. A., Zimonyi-Bakó, A., & Feith, H. J. (2025) Examining Sociocultural Influences on Breastfeeding Attitudes Among Syrian and Hungarian Female Students. *Nutrients*, 17(2), 288. <https://doi.org/10.3390/nu17020288>

**Kamsheh, M. A.**, Bornemissza, K. A., Zimonyi-Bakó, A., & Feith, H. J. (2025) Breastfeeding Attitudes Among Female Students in Syria and Hungary. *Nutrients*, 17(13), 2121. <https://doi.org/10.3390/nu17132121>

**Manar Al Kamsheh**, Alexandra Zimonyi-Bakó, Helga Judit Feith (2025) Cultural differences in breastfeeding practices: A comparative study of Syria and Hungary. KALEIDOSCOPE: MŰVELŐDÉS- TUDOMÁNY- ÉS ORVOSTÖRTÉNETI FOLYÓIRAT 15: 30 Paper: 1008, 15 p. <http://www.kaleidoscopehistory.hu/index.php?subpage=cikk&cikkid=1008>

### 9.2. Lectures/Posters Related to Thesis

**Manar Al Kamsheh**, Dr. Feith Helga Judit Ph.D. Assessing Exclusive Breastfeeding Intentions Among Health Visitor Students at Semmelweis University Using the IFI Scale, PhD scientific days 7-9 July 2025, Semmelweis University, *Poster - Award-winning presentation (1st place)*

**Manar Al Kamsheh**, Dr. Feith Helga Judit Ph.D. The Intention of Exclusively Breastfeeding among Syrian and Hungarian Female Students, The 32nd Semmelweis Symposium, Semmelweis University, 11-13 November 2024, *Poster*

**Manar Al Kamsheh**, Dr. Feith Helga Judit Ph.D. The Breastfeeding Behaviour among Hungarian Health Visitor Female Students, PhD scientific days 2024, Semmelweis University, 9 and 10 July 2024, *Poster*

**Manar Al Kamsheh**, Dr. Feith Helga Judit Ph.D. The Impact of Socio-Cultural Factors on the Behaviours toward Breastfeeding in Syrian and Hungarian Female Students, Semmelweis Symposium, Semmelweis University, December 11-13, 2023, *Poster*

**Manar Al Kamsheh**, Breastfeeding Behaviours, Attitudes and Intention Among Female Students in Syria, PhD scientific days 2023, Semmelweis University, 22-23 June 2023, *Presentation*

## 10. ACKNOWLEDGMENT

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## **11. APPENDIX**

### **APPENDIX I.**

Questionnaires used in the research - in English (original), Arabic and Hungarian

## ENGLISH (ORIGINAL) VERSION

### Survey about Breastfeeding

#### **Sociodemographic characteristics**

Please put a tick near the correct answer.

Variable	Category
Year of birth	....
Sex	Male Female
Nationality	....
Level of education which is going on	Bachelor student Master student Ph.D. student
Studying year	1 <sup>st</sup>   2 <sup>nd</sup>   3 <sup>rd</sup>   4 <sup>th</sup>   5 <sup>th</sup>
Father's level of education	Non-university studies University studies
Mother's level of education	Non-university studies University studies
Place of permanent residency	Urban Rural
Marital status	Married Unmarried
Faculty	Health-related faculty Unhealth-related faculty
Wealth index	Not enough Enough More than enough

**The Iowa Infant Feeding Attitude Scale (IIFAS)**

**In this part of the questionnaire, you will have 17 statements, for each statement you have a 5-point scale as the table below. This part will help us to measure your attitudes toward Breastfeeding and knowledge about Infant nutrition:**

Strongly disagree	Disagree	Not sure	Agree	Strongly disagree
1	2	3	4	5

**How much do you agree with the following statements? Please choose one number according to table above.**

The statement	Agreement				
1. The benefits of breastfeeding last only as long as the baby is breastfed	1	2	3	4	5
2. Formula feeding is more convenient than breastfeeding	1	2	3	4	5
3. Breastfeeding increases mother-infant bonding	1	2	3	4	5
4. Breast milk is lacking in iron	1	2	3	4	5
5. Formula-fed babies are more likely to be overfed than breastfed babies	1	2	3	4	5
6. Formula feeding is the better choice if the mother plans to go back to work	1	2	3	4	5
7. Mothers who formula feed miss one of the great joys of motherhood	1	2	3	4	5
8. Women should not breastfeed in public places such as restaurants	1	2	3	4	5
9. Breastfed babies are healthier than formula-fed babies	1	2	3	4	5
10. Breastfed babies are more likely to be overfed than formula-fed babies	1	2	3	4	5
11. Fathers feel left out if a mother breast-feeds	1	2	3	4	5
12. Breast milk is the ideal food for babies	1	2	3	4	5
13. Breast milk is more easily digested than formula	1	2	3	4	5
14. Formula is as healthy for an infant as breast milk	1	2	3	4	5
15. Breastfeeding is more convenient than formula	1	2	3	4	5
16. Breast milk is cheaper than formula	1	2	3	4	5
17. A mother who occasionally drinks alcohol should not breastfeed her baby	1	2	3	4	5

### **The Breastfeeding Behavior Questionnaire (BBQ).**

In this part you have 12 scenarios that describe a woman's decision in specific case, you have to read them and then choose the most appropriate choice for you, the 6 scales start from very strongly disagree and end with very strongly agree, please choose the most suitable answer in your opinion, using a 6-point Likert-scale which is shown below.

There is no right answer or wrong answer; we only want to know your behavior regarding breastfeeding.

**DIRECTIONS:** For each of the following scenarios, participants are asked if they agree or disagree with the woman's choice using a 6-point Likert scale.

**VSD**= very strongly disagree

**SD** = strongly disagree

**D**= disagree

**A**=agree

**SA**= strongly agree

**VSA**= very strongly agree

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

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

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

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

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

6. Marie Schultz and her husband take their baby to church. When it is time for the baby to eat, Marie breastfeeds the baby under her blouse. She also covers the baby's head with a receiving blanket in case the blouse slips. Do you think that Marie should have taken the baby out of church to breastfeed?

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

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

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

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

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

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

### **The Infant Feeding Intention Scale (IFI)**

In this questionnaire, you will find five statements about infant feeding that are rated on a five-point Likert scale. Please choose one choice which will reflect your intention about exclusive breastfeeding in the future.

1. I am planning to only for me the seeds my baby (I will not breastfeed at all)

Strongly agree	Agree	Not sure	Disagree	Strongly disagree
----------------	-------	----------	----------	-------------------

2. I am planning to at least give breastfeeding a try

Strongly agree	Agree	Not sure	Disagree	Strongly disagree
----------------	-------	----------	----------	-------------------

3. When my baby is 1 month old, I will be breastfeeding without using any formula or other milk

Strongly agree	Agree	Not sure	Disagree	Strongly disagree
----------------	-------	----------	----------	-------------------

4. When my baby is 3 months old, I will be breastfeeding without using any formula or other milk

Strongly agree	Agree	Not sure	Disagree	Strongly disagree
----------------	-------	----------	----------	-------------------

5. When my baby is 6 months old, I will be breastfeeding without using any formula or other milk.

Strongly agree	Agree	Not sure	Disagree	Strongly disagree
----------------	-------	----------	----------	-------------------

## ARABIC VERSION

### استبيان الرضاعة الطبيعية

شكراً جزيلاً على الوقت الذي استغرقته في ملء هذا الاستبيان الذي يتعلق بالرضاعة الطبيعية.

الاستبيان يحاول فهم المواقف والسلوك والنية تجاه الرضاعة الطبيعية.

الاستبيان مؤلف من عدة أقسام وكل قسم يعكس العديد من الجوانب والأجوبة المهمة.

إجاباتك مهمة بالنسبة لنا، لأنها ستساعد في فهم سلوكك وموقفك تجاه الرضاعة الطبيعية وقياس معرفتك بها، وتكشف لنا أيضاً عن نيتك المستقبلية في مساعدة شريكك على الرضاعة الطبيعية.

سيتم الاحتفاظ بكل ما نخبرنا به بسرية تامة ولن يكون من الممكن التعرف عليك أو تحديد إجاباتك من أي بحث تجريه باستخدام المعلومات التي نحصل عليها من هذا الاستطلاع.

نظراً لأن كل إجابة تحدث فرقاً بالنسبة لنا ولجعل النتائج كاملة قدر الإمكان، سنكون ممتنين جداً إن لم تتخط أية أسئلة.

#### تصريح:

لو سمحتي ضعي علامة "صح" أمام الجملة التي تتفقين معها:

قرأت ورقة المعلومات ولقد أتحت لي الفرصة لطرح أسئلة حول الدراسة إذا كنت أرغب في ذلك، وتلقيت إجابات مرضية على الأسئلة.

أوافق على المشاركة في الدراسة.

أفهم أنه يجوز لي الانسحاب من الدراسة دون عقوبة في أي وقت بإعلام الباحثين بقراري.

أولاً: هنفاريا

القسم الأول:

1. بعض المعلومات العامة

الكود الخاص بك: الكود الخاص بك هو أول حرف من اسمك وأول حرف من كنيثك ثم تختاري ثلاثة أرقام عشوائياً مثلاً اسمي Manar Alkamsheh لذلك الكود الخاص بي هو MA789	.....
الإيميل: (اختياري)	
طريقة التواصل المفضلة:	هاتف/واتساب/إيميل/فايبر وسيلة أخرى : .....
المدينة:	

القسم الثاني:

2. العوامل الاجتماعية

لو سمحتي أشيري إلى الإجابة الصحيحة

العامل	الفئة
سنة الميلاد	
الجنسية	
المستوى التعليمي	بكالوريوس ماجستير دكتوراه
الخامسة	السنة الدراسية
الرابعة	الأولى
الثالثة	الثانية
المستوى التعليمي للأب	غير جامعي جامعي
المستوى التعليمي للأم	غير جامعية جامعية
مكان الإقامة	المدينة الريف
الحالة الاجتماعية	أعزب متزوج

كلية طبية كلية غير طبية	الكلية
	العمر
غير كافية كافية كافية و زيادة	الحالة الاجتماعية

**القسم الأول من الاستبيان: مقياس موقفك تجاه تغذية الرضع في ولاية أبوا (IIFAS) The IOWA Infant Feeding Attitude Scale**

في هذا الجزء من الاستبيان سيكون لديك 17 عبارة ولكل عبارة مقياس مكون من 5 نقاط كما هو موضح في الجدول أدناه، سيساعدنا هذا الجزء على قياس مواقفك تجاه الرضاعة الطبيعية ومعرفة حول تغذية الرضع

موافق بشدة	موافق	محايد	غير موافق بشدة
5	4	3	1

ما مدى موافقتك على العبارات التالية؟ الرجاء اختيار رقم واحد حسب الجدول أعلاه.

العبارة	مدى الموافقة				
	1	2	3	4	5
1. فوائد الرضاعة الطبيعية تنحصر فقط خلال فترة الرضاعة أي فقط في الأشهر التي يرضع خلالها الطفل	1	2	3	4	5
2. الحليب الصناعي أكثر راحة/ملائمة من الرضاعة الطبيعية	1	2	3	4	5
3. الرضاعة الطبيعية تزيد من الارتباط بين الجنين والام	1	2	3	4	5
4. يفترق حليب الأم الطبيعي الى الحديد	1	2	3	4	5
5. الأطفال الذين يرضعون حليباً صناعياً هم أكثر عرضة للإفراط في التغذية من الأطفال الذين يرضعون رضاعة طبيعية (أي من الممكن أن يشرب الحليب أكثر من حاجتهم)	1	2	3	4	5
6. الحليب الصناعي هو الخيار الأمثل إذا كتبت الأم تخطط للعودة للعمل	1	2	3	4	5
7. الأمهات اللواتي يرضعن أطفالهن حليباً صناعياً يُضغفن أو يخسرن واحدة من أجمل لحظات الأمومة	1	2	3	4	5
8. ينبغي على المرضع أن لا ترضع في الأماكن العامة مثل المطاعم	1	2	3	4	5
9. الأطفال الذين يرضعون حليباً طبيعياً يملكون صحة أفضل من الأطفال الذين يرضعون حليباً صناعياً	1	2	3	4	5
10. الأطفال الذين يرضعون حليباً طبيعياً هم أكثر عرضة للإفراط في التغذية من الأطفال الذين يرضعون حليباً صناعياً (أي يرضع أكثر من حاجته)	1	2	3	4	5
11. يشعر الآباء بالإهمال إذا كتبت الأم ترضع (الإهمال من جانب الأم)	1	2	3	4	5
12. حليب الأم هو الغذاء المثالي للأطفال	1	2	3	4	5
13. يتم هضم حليب الأم بسهولة أكبر من الحليب الصناعي	1	2	3	4	5
14. الحليب الصناعي صحي للرضيع مثل حليب الأم	1	2	3	4	5
15. حليب الأم أكثر راحة من الحليب الصناعي	1	2	3	4	5
16. حليب الأم أكثر راحة من الحليب الصناعي	1	2	3	4	5
17. الأم التي تشرب الكحول بين الحين والآخر يجب ألا ترضع طفلها	1	2	3	4	5

### القسم الثاني من الاستبيان: سلوك الرضاعة الطبيعية (BBQ) The Breastfeeding Behavior Questionnaire

في هذا الجزء ، لديك 12 سيناريو تصف قرار المرأة في حالة معينة ، عليك قراءتها ثم اختيار الخيار الأنسب لك ، المقاييس الستة تبدأ من غير موافق بشدة وتنتهي بموافقة شديدة جداً ، يرجى اختيار أنسب إجابة في رأيك ، باستخدام مقياس Lickert المكون من 6 نقاط والذي يظهر أدناه. لا توجد إجابة صحيحة أو إجابة خاطئة، نريد فقط معرفة سلوكك تجاه الرضاعة الطبيعية.

درجات المقياس: بالنسبة لكل من السيناريوهات التالية، يُسأل المشاركون عما إذا كانوا يوافقون أو لا يوافقون على اختيار المرأة باستخدام مقياس

Lickert المكون من 6 نقاط.

- غير موافقة بشدة كبيرة
- غير موافقة بشدة
- غير موافقة
- موافقة
- موافقة بشدة
- موافقة بشدة كبيرة

1. جاين جونسون، أم جديدة، ترضع طفلها في الصالون. تأتي جاريتها لروية المولود الجديد. تقوم جاين بتغطية صدرها ورأس الطفل بشوش/غطاء الرضاعة. ويستمر الطفل في الرضاعة بينما تتحدث المرأتان. هل توافقين على تصرف جاين في الاستمرار في الرضاعة الطبيعية؟

غير موافق بشدة كبيرة	غير موافق بشدة	غير موافق	موافق	موافق بشدة	موافق بشدة كبيرة
----------------------	----------------	-----------	-------	------------	------------------

2. إيسنيل، أم جديدة، ترضع طفلها في الصالون. تأتي جاريتها مع زوجها لروية المولود الجديد. تقوم إيسنيل بتغطية صدرها ورأس الطفل بغطاء الرضاعة الرقيق ويستمر الطفل في الرضاعة بينما يتحدث الجيران سوية. هل توافقين على تصرف إيسنيل في الاستمرار في الرضاعة الطبيعية في هذه الأثناء؟

غير موافق بشدة كبيرة	غير موافق بشدة	غير موافق	موافق	موافق بشدة	موافق بشدة كبيرة
----------------------	----------------	-----------	-------	------------	------------------

3. مارثا ماكديونالدز تتناول الغداء مع صديقتها، حيثاستيقظ طفلها وبدأت عليه علامات الجوع، لذا قررت مارثا ماكديونالدز أن ترضعه تحت قميصها. هل تعتقدن أنه كان على سارة أن تأخذ الطفل من المكان العام لمكان آخر لإرضاعه؟

غير موافق بشدة كبيرة	غير موافق بشدة	غير موافق	موافق	موافق بشدة	موافق بشدة كبيرة
----------------------	----------------	-----------	-------	------------	------------------

4. عندما كانت كاثي براون تتناول الغداء مع صديقتها في المطعم يستيقظ طفلها ويبدو عليه الجوع، لذا تقرر نور أن ترضعه تحت قميصها. لكن صديقتها يشعرن بالإحراج من هذا التصرف، لذا تأخذ كاثي براون إلى السيارة لإرضاعه بدلاً من المطعم. هل توافق على قرار كاثي براون بإخراج الطفل إلى السيارة لإرضاعه؟

غير موافق بشدة كبيرة	غير موافق بشدة	غير موافق	موافق	موافق بشدة	موافق بشدة كبيرة
----------------------	----------------	-----------	-------	------------	------------------

5. آنن إيفانز تذهب بصحبة زوجها ورضيعها إلى الكنيسة. عندما يحين وقت الرضاعة الطبيعية للطفل، جوليا تأخذ الرضيع خارج الكنيسة لإرضاعه إما في صالة الكنيسة أو في حمام السيدات. هل تعتقدن أنه كان من الضروري أن تأخذ أن الطفل خارج الكنيسة لترضعه؟

غير موافق بشدة كبيرة	غير موافق بشدة	غير موافق	موافق	موافق بشدة	موافق بشدة كبيرة
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6. ماري شولتز وزوجها اصطحبا طفلها إلى الكنيسة. عندما حان وقت إرضاع الطفل، قامت ماري بإرضاع الطفل تحت بلوزتها. كما أنها غطت رأس الطفل بغطاء الرضاعة/شوش في حالة انزلاق البلوزة. هل تعتقدن أنه كان من الضروري أن تأخذ أن الطفل خارج الكنيسة لترضعه؟

غير موافق بشدة كبيرة	غير موافق بشدة	غير موافق	موافق	موافق بشدة	موافق بشدة كبيرة
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7. جون موون تنتظر مولودها الأول وتريد أن ترضع طفلها رضاعة طبيعية. أخبرتها والدتها أنها لن تتمكن من الرضاعة الطبيعية، لم تتمكن أي امرأة من نساء أسرتها من الرضاعة الطبيعية بنجاح لأن جميع النساء في العائلة لديهن ثدي صغير ولا يمكنهن إنتاج ما يكفي من الحليب. قررت جون موون أن ترضع طفلها رضاعة طبيعية على أي حال. هل توافق على قرار جون موون؟

غير موافق بشدة كبيرة	غير موافق بشدة	غير موافق	موافق	موافق بشدة	موافق بشدة كبيرة
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8. تنتظر لورا باكستر مولودها الأول وقررت أن ترضع طفلها طبيعياً لكن زوجها يريد منها إرضاع الطفل حليب صناعي من الزجاجات لأن الرضاعة الطبيعية برأيه "محرجة". اقتنعت لورا باكستر برأي زوجها وقررت بعدها إرضاع المولود من الزجاجات بدلاً من الرضاعة الطبيعية. هل توافقين على عدم اختيار لورا باكستر للرضاعة الطبيعية بسبب رأي زوجها؟

غير موافق بشدة كبيرة	غير موافق بشدة	غير موافق	موافق	موافق بشدة	موافق بشدة كبيرة
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9. ليندا مارتن حامل بمفعل. أخبرها طبيبها بضرورة الإرضاع الطبيعي لطفلها الجديد. كانت ليندا تخطط لإرضاعه حليب صناعي ولكنها غيرت رأيها بعد سماعها رأي الطبيب. هل توافقين على قرار ليندا بتابع نصيحة طبيبها وتعير خططها من الحليب الصناعي إلى الطبيعي؟

غير موافق بشدة كبيرة	غير موافق بشدة	غير موافق	موافق	موافق بشدة	موافق بشدة كبيرة
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10. جاين بلاين ستصبح أم قريباً وهي حامل في شهورها الأخيرة، نصحتها بعض الأقارب أن ترضع طبيعياً لأن "حليب الأم أفضل للأطفال الرضع من الحليب الصناعي". لكن جاين بلاين قررت أن ترضع طفلها حليب صناعي من الزجاجة بدلاً من الطبيعي لأنها سمعت أن تركيبة الحليب الصناعي جيدة وصحية مثل حليب الأم. هل توافقين على قرار جاين بلاين بعدم إرضاع طفلها؟

غير موافق بشدة كبيرة	غير موافق بشدة	غير موافق	موافق	موافق بشدة	موافق بشدة كبيرة
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11. بيحي كيلي تنتظر مولودها الأول قريباً جداً. تم نصحتها بالرضاعة الطبيعية لكنها قررت الحليب الصناعي لأنها تريد العودة إلى العمل عندما يبلغ عمر الطفل 3 أشهر وسمعت أن الطفل الذي يرضع من الثدي لن يأخذ الزجاجة أبداً. هل توافق على قرار بيحي كيلي بعدم محاولة إرضاع طفلها؟

غير موافق بشدة كبيرة	غير موافق بشدة	غير موافق	موافق	موافق بشدة	موافق بشدة كبيرة
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12. جاينيت جيس في شهرها الأخير من الحمل و تتوقع طفلها الثاني قريباً جداً، على الرغم من إخبارها بأن الرضاعة الطبيعية أفضل للأطفال، لكنها قررت الاعتماد على الحليب الصناعي لأنها حاولت إرضاع طفلها الأول طبيعياً واضطرت إلى التوقف لأن الطفل فقد وزنه خلال الأسبوع الأول. هل توافق على قرار نسرين بعدم محاولة إرضاع هذا الطفل؟

غير موافق بشدة كبيرة	غير موافق بشدة	غير موافق	موافق	موافق بشدة	موافق بشدة كبيرة
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القسم الثالث من الاستبيان: مقياس نية تغذية الرضع / (IFI) The Infant Feeding Intention Scale (IFI)  
 في هذا القسم، ستجد خمس عبارات حول تغذية الرضع التي تم تصنيفها على مقياس مكون من خمس نقاط.  
 يرجى اختيار خيار واحد يعكس نيتك بشأن الرضاعة الطبيعية الحصرية في المستقبل.

1. أخطط لاستخدام الحليب الاصطناعي فقط لإطعام طفلي (إن أرضع طبيعياً على الإطلاق)

موافق بشدة	موافق	محايد	غير موافق	غير موافق بشدة
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2. أخطط لتجربة الرضاعة الطبيعية على الأقل

موافق بشدة	موافق	محايد	غير موافق	غير موافق بشدة
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3. عندي نية أنه عندما يبلغ طفلي شهره الأول من عمره سيكون يعتمد على حليبي الطبيعي فقط دون استخدام أي حليب صناعي

موافق بشدة	موافق	محايد	غير موافق	غير موافق بشدة
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4. عندي نية أنه عندما يبلغ طفلي الشهر الثالث من عمره سيكون يعتمد على حليبي الطبيعي فقط دون استخدام أي حليب صناعي

موافق بشدة	موافق	محايد	غير موافق	غير موافق بشدة
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5. عندي نية أنه عندما يبلغ طفلي الشهر الثالث من عمره سيكون يعتمد على حليبي الطبيعي فقط دون استخدام أي حليب صناعي

موافق بشدة	موافق	محايد	غير موافق	غير موافق بشدة
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شكراً على مساعدتي في ملء الاستبيان , هل تودين إضافة أي ملاحظة أو تعليق ؟

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ترجمة للملف المترجم من قبل مترجمان محلف:



# HUNGARIAN VERSION

## FELMÉRÉS AZ ANYATEJES TÁPLÁLÁSRÓL (2022-2023)

Köszönjük, hogy időt szakít az anyatejes táplálással kapcsolatos kérdőív kitöltésére. Ezzel a kérdőívvel a szoptatással kapcsolatos attitűdökről, viselkedésről és szándékokról gyűjtünk információt.

A kérdőív több különböző részből épül fel; mindegyik rész más szempontokat fogalmaz meg.

**Válaszai fontosak számunkra:** általuk megismerjük az Ön hozzáállását a szoptatáshoz, ezzel kapcsolatos viselkedését, erre vonatkozó ismereteit, és megtudhatjuk azt is, hogy a jövőben szándékozik-e szoptatni vagy támogatja-e partnerét a szoptatásban.

- Minden megosztott információt szigorúan **bizalmasan** kezelünk, és nem lesz lehetséges az Ön személyének vagy válaszáinak azonosítása semmilyen kutatásból, amelyet a felmérésből származó információk felhasználásával végzünk.
- Mivel számunkra minden egyes válasz fontos, és hogy a kutatás eredményei a lehető legteljesebbek legyenek, **kérjük, ne hagyjon ki egyetlen kérdést sem**, és mindenképpen válaszoljon az utolsó kérdésre is.

*Dr. Feith Helga Judit PhD, habil.*  
*kutatásvezető, PhD témavezető*

*Alkamsheh Manar*  
*PhD hallgató*

Kijelentem, hogy:

[Kérjük, jelölje be az összes olyan négyzetet, amellyel egyetért]

- Elolvastam a felmérésre meghívó levelet és a tájékoztatót. Volt lehetőségem kérdéseket feltenni a vizsgálatról, és kielégítő választ kaptam a kérdésekre, valamint felvilágosítást kaptam további részletekről is, amik érdekelték.
- Hozzájárulok a vizsgálatban való részvételhez.
- Tudomásul veszem, hogy bármikor visszaléphetek a kutatásban való részvételből, ha döntésemről tájékoztatom a kutatókat, és anélkül léphetek vissza, hogy ebből hátrányom származna.

I. Kérjük, húzza alá/karikázza be a helyes választ vagy töltsse ki a kipontozott részt!

Kérdés	Kategória
Születési éve	.....
Neme	Férfi Nő
Allampolgársága	.....
Jelenleg folytatott tanulmányainak szintje	Alapképzés    Mesterképzés    Doktori képzés
Évfolyama	1.    2.    3.    4.    5.
Édesapja iskolai végzettsége	Felsőfoknál alacsonyabb Felsőfokú (egyetem vagy főiskola)
Édesanyja iskolai végzettsége	Felsőfoknál alacsonyabb Felsőfokú (egyetem vagy főiskola)
Állandó lakhelye	Városi szintű település Nem városi szintű település
Családi állapota	Házaspár    Nem házaspár
Milyen tanulmányokat folytat?	Egészségüggyel kapcsolatos Nem kapcsolatos az egészségüggyel
Anyagi helyzete	Szükséges    Kielégítő    Bőséges

II. Milyen mértékben ért egyet az alábbi állításokkal? Kérjük, hogy karikázza be a megfelelő számot.

Állítások	Egyetértés kifejezése				
	Egyáltalán nem értek egyet.	Nem értek egyet.	Magam sem tudom.	Egyetértek.	Teljesen egyetértek.
1. A szoptatás előnyei addig tartanak, amíg a szoptatás véget nem ér.	1	2	3	4	5
2. A tápszeres táplálás praktikusabb, mint a szoptatás.	1	2	3	4	5
3. A szoptatás elősegíti a baba és az anya kapcsolatának erősödését.	1	2	3	4	5
4. Az anyatejben kevés a vas.	1	2	3	4	5
5. A tápszerrel táplált babák gyakrabban lesznek túltápláltak, mint az anyatejjel táplált babák.	1	2	3	4	5
6. Ha az anyának vissza kell térnie a munka világába, a tápszeres táplálás jobb választás.	1	2	3	4	5
7. Azok az anyák, akik tápszerrel táplálják a gyermeküket, nem élvezhetik az anyaság egyik örömét.	1	2	3	4	5
8. Nyilvános helyeken helyesebb elkerülni a szoptatást.	1	2	3	4	5
9. Az anyatejjel táplált babák egészségesebbek, mint a tápszerrel tápláltak.	1	2	3	4	5
10. Az anyatejjel táplált babák gyakrabban lesznek túltápláltak, mint a tápszerrel táplált babák.	1	2	3	4	5
11. Ha az anya szoptat, az apa kirekesztve érzi magát.	1	2	3	4	5
12. A babák számára az anyatej a lehető legjobb táplálék.	1	2	3	4	5
13. Az anyatejet könnyebb emészteni, mint a csecsemőtápszert.	1	2	3	4	5
14. A tápszer éppolyan egészséges a babának, mint az anyatej.	1	2	3	4	5
15. Az anyatejes táplálás praktikusabb, mint a tápszeres.	1	2	3	4	5
16. Az anyatejes táplálás olcsóbb, mint a tápszeres.	1	2	3	4	5
17. Azok az anyák, akik alkalmanként alkoholt fogyasztanak, jobb lenne, ha nem szoptatnának.	1	2	3	4	5

III. Ebben a részben 12 olyan szituációt olvashat, melyek egy-egy nő döntését írják le az adott helyzetben. Kérjük, olvassa el őket, majd válassza ki az alábbiak szerint, mi az Ön véleménye erről. Nincs jó vagy rossz válasz: csupán az Ön véleményét szeretnénk megismerni.

NNN= Egyáltalán nem értek egyet. NN= Nagyon nem értek egyet. N= Nem értek egyet. E= Egyetértek. EE= Nagyon egyetértek. EEE= Egértelműen és nagyon egyetértek.	N	N	N	E	E	E
	N	N	N	E	E	E
1. Kovács Piri első gyermekét szoptatja a nappaliban. A szomszédból beugrik a barátja megcsodálni az új babát. Piri egy könnyű takaróval befedi a mellét és a baba fejét, a baba tovább szopik. Így beszélgetnek tovább. Egyetért-e azzal, hogy Piri nem hagyta félbe, hanem folytatta a szoptatást?						
2. Kiss Évi első gyermekét szoptatja a nappaliban. A szomszéd házaspár becsenget megcsodálni az új babát. Évi egy könnyű takaróval befedi a mellét és a baba fejét, a baba tovább szopik. Így beszélgetnek tovább. Egyetért-e azzal, hogy Évi nem hagyta félbe, hanem folytatta a szoptatást?						
3. Balog Márta a barátnőivel ebédel a McDonald's-ban. Mikor felébred a kisbabája, aki láthatólag éhes, úgy dönt, hogy a blúza takarásában megszojtatja. Ön szerint helyesebb lett volna, ha Márta inkább kiviszi a kisbabát a nyilvános helyről a szoptatás idejére?						
4. Molnár Juli egy tejjóban ebédel a barátnőivel. Mikor felébred a kisbabája, aki láthatólag éhes, úgy dönt, hogy a blúza takarásában megszojtatja. A barátnői ettől zavarba jönnek, ezért inkább kiviszi az autóba, és ott szoptatja meg a babát. Ön szerint helyes volt-e, hogy Juli kivitte a babát az autóba a szoptatás idejére?						
5. Szász Anna és a férje elviszik a babájukat az istentiszteletre. Mikor eljön a szoptatás ideje, Anna kiviszi a babát a közösségi terembe. Ön szerint szükséges volt-e, hogy Anna kivigye a templomból a babát a szoptatás idejére?						
6. Német Marcsi és a férje elviszik a babájukat az istentiszteletre. Mikor eljön a szoptatás ideje, Marcsi a blúza takarásában szoptatni kezd. Egy könnyű takaróval el is fedi a baba fejét arra az esetre, ha elcsúszna a blúz. Ön szerint helyesebb lett volna, ha Marcsi kiviszi a templomból a babát a szoptatás idejére?						
7. Nagy Vivi az első babáját várja, és azt tervezi, hogy szoptatni fogja. Az anyukája azonban azt mondja neki, hogy a családban senki sem tudott rendszeresen szoptatni, mert kicsi mindenkinek a melle, és az nem ad elég tejet. Vivi kitart, és továbbra is szoptatni tervezi a babáját. Egyetért-e Vivi döntésével?						
8. Mezey Laura az első babáját várja, és azt tervezi, hogy szoptatni fogja. A férje azonban jobban szeretné, ha a baba üvegből kapna tápszert, mert a szoptatás „elég kicsi helyzer”. Laura ezért inkább a cumisüveges táplálást választja a szoptatás helyett. Egyetért-e Laura döntésével, hogy az üveget választotta a szoptatás helyett a férjére való tekintettel?						
9. Tóth Vali várandós. Az orvosa azt tanácsolja neki, hogy szoptassa a gyermekét. Vali ugyan eredetileg tápszerrel tervezte etetni a babát, de átgondolja a dolgot. Egyetért-e Vali döntésével, hogy az orvos tanácsára hallgat?						
10. Farkas Magdi, aki az első babáját várja azt a tanácsot kapta, hogy szoptasson, mert „egy kicsi emberi lénynek emberi anyatej kell”. Magdi azonban a tápszer mellett dönt, mert máshol meg azt hallotta, hogy a tápszer épp annyira megfelelő, mint az anyatej. Egyetért-e azzal, hogy Magdi úgy döntött: nem fog szoptatni?						
11. Tóth Klári babája hamarosan megszületik. Bár Klári azt a tanácsot kapta, hogy szoptasson, a cumisüveg mellett döntött, mert szeretne visszamenni dolgozni mikor a baba 3 hónapos lesz, és azt hallotta, hogy az anyatejes babák nem fogadják el a cumisüveget. Egyetért-e azzal, hogy Klári úgy döntött: nem fog szoptatni?						
12. Varga Erika a második babáját várja. Bár azt hallotta, hogy a szoptatás jobb a babáknak, tápszerrel tervezni táplálni a kicsit. Az előző gyermekét szoptatni kezdte, de abba kellett hagynia, mert a baba az első héten vesztett a súlyából. Egyetért-e azzal, hogy Erika úgy döntött: a szoptatást nem fogja megpróbálni?						

IV. Ebben a kérdőívben öt kijelentést talál, amelyeket egy 5-fokozatú Likert skálán kérünk értékelni. Kérjük, válassza ki azt az egy állítást, ami legjobban kifejezi az Ön jövőbeli szándékait a kizárólagos anyatejes táplálással kapcsolatban.

1. Azt tervezem, hogy a gyermekem tápszert fog kapni. (Egyáltalán nem fogok szoptatni.)

Teljesen egyetértek.	Egyetértek.	Magam sem tudom.	Nem értek egyet.	Egyáltalán nem értek egyet.
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2. Szeretnék megpróbálkozni a szoptatással.

Teljesen egyetértek.	Egyetértek.	Magam sem tudom.	Nem értek egyet.	Egyáltalán nem értek egyet.
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3. A gyermekemet egy hónapos koráig szoptatni fogom, nem szeretnék sem tápszert, sem más tejet adni neki.

Teljesen egyetértek.	Egyetértek.	Magam sem tudom.	Nem értek egyet.	Egyáltalán nem értek egyet.
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4. A gyermekem három hónapos koráig szoptatni fogok, nem szeretnék sem tápszert, sem más tejet adni neki.

Teljesen egyetértek.	Egyetértek.	Magam sem tudom.	Nem értek egyet.	Egyáltalán nem értek egyet.
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5. A gyermekem hat hónapos koráig szoptatni fogok, nem szeretnék sem tápszert, sem más tejet adni neki.

Teljesen egyetértek.	Egyetértek.	Magam sem tudom.	Nem értek egyet.	Egyáltalán nem értek egyet.
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*Nagyon köszönjük, hogy a kérdőív kitöltésével segítette a kutatást, az Ön válaszai fontosak a jövő szempontjából!*

**APPENDIX II.**  
**Statistical tables**

## SES Status of Sample

<i>Descriptive statistics<sup>7</sup></i>			
		Percent	Valid Percent
<b>Age Category</b>	21-25	62,7%	62,8%
	26-30	30,1%	30,1%
	31 and above	7,1%	7,1%
	Missing	0,2%	
<b>Gender</b>	Female	99,7%	100,0%
	Missing	0,3%	
<b>Nationality</b>	Syrian	51,0%	51,1%
	Hungarian	48,7%	48,9%
	Missing	0,3%	
<b>Level of education</b>	BSc	68,5%	68,5%
	MSc	25,3%	25,3%
	PhD	6,1%	6,1%
	Missing	0,3%	
<b>Studying year</b>	1	32,8%	32,9%
	2	25,6%	25,6%
	3	11,3%	11,3%
	4	14,6%	14,7%
	5	15,4%	15,5%
	Missing	0,3%	
<b>Father's level of education</b>	University studies	43,1%	43,2%
	Non-university studies	56,6%	56,8%
	Missing	0,3	
<b>Mother's level of education</b>	University studies	46,3%	46,5%
	Non-university studies	53,4%	53,5%
	Missing	0,3%	
<b>Place of residence</b>	Urban	73,0%	73,3%
	Rural	26,5%	26,7%
	Missing	0,5%	
<b>Marital status</b>	Married	27,5%	27,6%
	Unmarried	72,2%	72,4%
	Missing	0,3%	
<b>Faculty</b>	Medical faculty	58,7%	58,9%
	Non-medical faculty	41,0%	41,1%
	Missing	0,3%	
<b>Wealth index</b>	Less than enough	34,6%	34,7%
	Enough	64,0%	64,3%
	More than enough	1,0%	1,0%
	Missing	0,5%	

<sup>7</sup> Exact copy of the SPSS program result tables.

## Descriptive Statistics of SES Status by Nationality

Crosstabulation <sup>8</sup>						
			Nationality		Total	
			Syrian	Hungarian		
<b>Age category</b>	<i>21-25 years</i>	Count	183	207	390	
		% within Nationality	57,7%	68,3%	62,9%	
	<i>26-30 years</i>	Count	92	94	186	
		% within Nationality	29,0%	31,0%	30,0%	
	<i>31 and above</i>	Count	42	2	44	
		% within Nationality	13,2%	0,7%	7,1%	
<b>Level of education</b>	<i>BSc</i>	Count	252	173	425	
		% within Nationality	79,5%	57,1%	68,5%	
	<i>MSc</i>	Count	45	112	157	
		% within Nationality	14,2%	37,0%	25,3%	
	<i>PhD</i>	Count	20	18	38	
		% within Nationality	6,3%	5,9%	6,1%	
<b>Studying year</b>	<i>1</i>	Count	60	144	204	
		% within Nationality	18,9%	47,5%	32,9%	
	<i>2</i>	Count	74	85	159	
		% within Nationality	23,3%	28,1%	25,6%	
	<i>3</i>	Count	53	17	70	
		% within Nationality	16,7%	5,6%	11,3%	
	<i>4</i>	Count	49	42	91	
		% within Nationality	15,5%	13,9%	14,7%	
	<i>5</i>	Count	81	15	96	
		% within Nationality	25,6%	5,0%	15,5%	
	<b>Father's level of education</b>	<i>University studies</i>	Count	145	123	268
			% within Nationality	45,7%	40,6%	43,2%
<i>Non-university studies</i>		Count	172	180	352	
		% within Nationality	54,3%	59,4%	56,8%	
<b>Mother's level of education</b>	<i>University studies</i>	Count	149	139	288	
		% within Nationality	47,0%	45,9%	46,5%	
	<i>Non-university studies</i>	Count	168	164	332	
		% within Nationality	53,0%	54,1%	53,5%	
	<i>Urban</i>	Count	261	193	454	

<sup>8</sup> Exact copy of the SPSS program result tables.

<b>Place of residence</b>		% within Nationality	82,3%	63,9%	73,3%
	<i>Rural</i>	Count	56	109	165
		% within Nationality	17,7%	36,1%	26,7%
<b>Marital status</b>	<i>Married</i>	Count	170	1	171
		% within Nationality	53,6%	0,3%	27,6%
	<i>Unmarried</i>	Count	147	302	449
		% within Nationality	46,4%	99,7%	72,4%
<b>Faculty</b>	<i>Medical faculty</i>	Count	163	202	365
		% within Nationality	51,4%	66,7%	58,9%
	<i>Non-medical faculty</i>	Count	154	101	255
		% within Nationality	48,6%	33,3%	41,1%
<b>Wealth index</b>	<i>Less than enough</i>	Count	211	4	215
		% within Nationality	66,8%	1,3%	34,7%
	<i>Enough</i>	Count	103	295	398
		% within Nationality	32,6%	97,4%	64,3%
	<i>More than enough</i>	Count	2	4	6
		% within Nationality	0,6%	1,3%	1,0%

### Descriptive Statistics of IIFAS and BBQ by Nationality

Crosstabulation <sup>9</sup>						
			Nationality		Total	
			Syrian	Hungarian		
<b>The benefits of breastfeeding last only as long as the baby is breastfed</b>	<i>Strongly disagree</i>	Count	84	65	149	
		% within Nationality	26,5%	22,0%	24,3%	
	<i>Disagree</i>	Count	114	100	214	
		% within Nationality	36,0%	33,9%	35,0%	
	<i>Not sure</i>	Count	16	81	97	
		% within Nationality	5,0%	27,5%	15,8%	
	<i>Agree</i>	Count	65	34	99	
		% within Nationality	20,5%	11,5%	16,2%	
	<i>Strongly agree</i>	Count	38	15	53	
		% within Nationality	12,0%	5,1%	8,7%	
	<b>Formula feeding is more</b>	<i>Strongly disagree</i>	Count	106	58	164
			% within Nationality	33,4%	19,7%	26,8%

<sup>9</sup> Exact copy of the SPSS program result tables

<b>convenient than breastfeeding</b>	<i>Disagree</i>	Count	122	125	247
		% within Nationality	38,5%	42,4%	40,4%
	<i>Not sure</i>	Count	45	63	108
		% within Nationality	14,2%	21,4%	17,6%
	<i>Agree</i>	Count	32	42	74
		% within Nationality	10,1%	14,2%	12,1%
	<i>Strongly agree</i>	Count	12	7	19
	% within Nationality	3,8%	2,4%	3,1%	
<b>Breastfeeding increases mother-infant bonding</b>	<i>Strongly disagree</i>	Count	1	1	2
		% within Nationality	0,3%	0,3%	0,3%
	<i>Disagree</i>	Count	3	7	10
		% within Nationality	0,9%	2,4%	1,6%
	<i>Not sure</i>	Count	8	6	14
		% within Nationality	2,5%	2,0%	2,3%
	<i>Agree</i>	Count	57	95	152
		% within Nationality	18,0%	32,3%	24,9%
	<i>Strongly agree</i>	Count	248	185	433
	% within Nationality	78,2%	62,9%	70,9%	
<b>Breast milk is lacking in iron</b>	<i>Strongly disagree</i>	Count	41	21	62
		% within Nationality	12,9%	7,1%	10,1%
	<i>Disagree</i>	Count	128	53	181
		% within Nationality	40,4%	18,0%	29,6%
	<i>Not sure</i>	Count	73	211	284
		% within Nationality	23,0%	71,5%	46,4%
	<i>Agree</i>	Count	55	10	65
		% within Nationality	17,4%	3,4%	10,6%
	<i>Strongly agree</i>	Count	20	0	20
	% within Nationality	6,3%	0,0%	3,3%	
<b>Formula-fed babies are more likely to be overfed than breastfed babies</b>	<i>Strongly disagree</i>	Count	1	13	14
		% within Nationality	0,3%	4,4%	2,3%
	<i>Disagree</i>	Count	56	56	112
		% within Nationality	17,7%	19,0%	18,3%
	<i>Not sure</i>	Count	106	127	233
		% within Nationality	33,4%	43,1%	38,1%
	<i>Agree</i>	Count	120	84	204
	% within Nationality	37,9%	28,5%	33,3%	

	<i>Strongly agree</i>	Count	34	15	49
		% within Nationality	10,7%	5,1%	8,0%
<b>Formula feeding is the better choice if the mother plans to go back to work</b>	<i>Strongly disagree</i>	Count	18	17	35
		% within Nationality	5,7%	5,9%	5,8%
	<i>Disagree</i>	Count	83	82	165
		% within Nationality	26,2%	28,3%	27,2%
	<i>Not sure</i>	Count	87	56	143
		% within Nationality	27,4%	19,3%	23,6%
	<i>Agree</i>	Count	111	118	229
		% within Nationality	35,0%	40,7%	37,7%
	<i>Strongly agree</i>	Count	18	17	35
		% within Nationality	5,7%	5,9%	5,8%
<b>Mothers whom formula feed misses one of the great joys of motherhood</b>	<i>Strongly disagree</i>	Count	6	84	90
		% within Nationality	1,9%	28,7%	14,8%
	<i>Disagree</i>	Count	24	83	107
		% within Nationality	7,6%	28,3%	17,5%
	<i>Not sure</i>	Count	41	36	77
		% within Nationality	12,9%	12,3%	12,6%
	<i>Agree</i>	Count	104	76	180
		% within Nationality	32,8%	25,9%	29,5%
	<i>Strongly agree</i>	Count	142	14	156
	% within Nationality	44,8%	4,8%	25,6%	
<b>Women should not breastfeed in public places such as restaurants</b>	<i>Strongly disagree</i>	Count	54	61	115
		% within Nationality	17,0%	20,7%	18,8%
	<i>Disagree</i>	Count	97	85	182
		% within Nationality	30,6%	28,9%	29,8%
	<i>Not sure</i>	Count	50	37	87
		% within Nationality	15,8%	12,6%	14,2%
	<i>Agree</i>	Count	47	68	115
		% within Nationality	14,8%	23,1%	18,8%
	<i>Strongly agree</i>	Count	69	43	112
	% within Nationality	21,8%	14,6%	18,3%	
<b>Breastfed babies are healthier than formula-fed babies</b>	<i>Strongly disagree</i>	Count	6	15	21
		% within Nationality	1,9%	5,1%	3,4%
	<i>Disagree</i>	Count	34	29	63
		% within Nationality	10,7%	9,9%	10,3%
	<i>Not sure</i>	Count	56	92	148

		% within Nationality	17,7%	31,3%	24,2%
	<i>Agree</i>	Count	114	108	222
		% within Nationality	36,0%	36,7%	36,3%
	<i>Strongly agree</i>	Count	107	50	157
		% within Nationality	33,8%	17,0%	25,7%
<b>Breastfed babies are more likely to be overfed than formula-fed babies</b>	<i>Strongly disagree</i>	Count	16	32	48
		% within Nationality	5,0%	11,0%	7,9%
	<i>Disagree</i>	Count	169	100	269
		% within Nationality	53,3%	34,2%	44,2%
	<i>Not sure</i>	Count	99	138	237
		% within Nationality	31,2%	47,3%	38,9%
	<i>Agree</i>	Count	26	19	45
		% within Nationality	8,2%	6,5%	7,4%
		<i>Strongly agree</i>	Count	7	3
		% within Nationality	2,2%	1,0%	1,6%
<b>Fathers feel left out if a mother breast-feeds</b>	<i>Strongly disagree</i>	Count	25	157	182
		% within Nationality	7,9%	54,0%	30,0%
	<i>Disagree</i>	Count	135	85	220
		% within Nationality	42,7%	29,2%	36,2%
	<i>Not sure</i>	Count	91	38	129
		% within Nationality	28,8%	13,1%	21,3%
	<i>Agree</i>	Count	57	11	68
		% within Nationality	18,0%	3,8%	11,2%
	<i>Strongly agree</i>	Count	8	0	8
		% within Nationality	2,5%	0,0%	1,3%
<b>Breast milk is the ideal food for babies</b>	<i>Strongly disagree</i>	Count	0	2	2
		% within Nationality	0,0%	0,7%	0,3%
	<i>Disagree</i>	Count	3	11	14
		% within Nationality	0,9%	3,7%	2,3%
	<i>Not sure</i>	Count	8	50	58
		% within Nationality	2,5%	17,0%	9,5%
	<i>Agree</i>	Count	92	90	182
		% within Nationality	29,0%	30,6%	29,8%
		<i>Strongly agree</i>	Count	214	141
		% within Nationality	67,5%	48,0%	58,1%
<b>Breast milk is more easily</b>	<i>Strongly disagree</i>	Count	0	4	4
		% within Nationality	0,0%	1,4%	0,7%

<b>digested than formula</b>	<i>Disagree</i>	Count	12	25	37
		% within Nationality	3,8%	8,5%	6,1%
	<i>Not sure</i>	Count	42	162	204
		% within Nationality	13,2%	55,3%	33,4%
	<i>Agree</i>	Count	110	68	178
		% within Nationality	34,7%	23,2%	29,2%
		<i>Strongly agree</i>	Count	153	34
		% within Nationality	48,3%	11,6%	30,7%
<b>Formula is as healthy for an infant as breast milk</b>	<i>Strongly disagree</i>	Count	0	18	50
		% within Nationality	10,1%	6,1%	8,2%
	<i>Disagree</i>	Count	142	90	232
		% within Nationality	44,8%	30,6%	38,0%
	<i>Not sure</i>	Count	89	101	190
		% within Nationality	28,1%	34,4%	31,1%
	<i>Agree</i>	Count	51	77	128
		% within Nationality	16,1%	26,2%	20,9%
		<i>Strongly agree</i>	Count	3	8
		% within Nationality	0,9%	2,7%	1,8%
<b>Breastfeeding is more convenient than formula</b>	<i>Strongly disagree</i>	Count	5	15	20
		% within Nationality	1,6%	5,1%	3,3%
	<i>Disagree</i>	Count	40	90	130
		% within Nationality	12,6%	30,7%	21,3%
	<i>Not sure</i>	Count	42	82	124
		% within Nationality	13,2%	28,0%	20,3%
	<i>Agree</i>	Count	113	81	194
		% within Nationality	35,6%	27,6%	31,8%
		<i>Strongly agree</i>	Count	117	25
		% within Nationality	36,9%	8,5%	23,3%
<b>Breast milk is cheaper than formula</b>	<i>Strongly disagree</i>	Count	10	2	12
		% within Nationality	3,2%	0,7%	2,0%
	<i>Disagree</i>	Count	21	9	30
		% within Nationality	6,6%	3,1%	4,9%
	<i>Not sure</i>	Count	24	24	48
		% within Nationality	7,6%	8,2%	7,9%
	<i>Agree</i>	Count	111	132	243
		% within Nationality	35,0%	44,9%	39,8%
		<i>Strongly agree</i>	Count	151	127
		% within Nationality	47,6%	43,2%	45,5%

<b>A mother who occasionally drinks alcohol should not breastfeed her baby</b>	<i>Strongly disagree</i>	Count	3	7	10
		% within Nationality	0,9%	2,4%	1,6%
	<i>Disagree</i>	Count	25	42	67
		% within Nationality	7,9%	14,3%	11,0%
	<i>Not sure</i>	Count	61	59	120
		% within Nationality	19,2%	20,1%	19,6%
	<i>Agree</i>	Count	99	101	200
		% within Nationality	31,2%	34,4%	32,7%
	<i>Strongly agree</i>	Count	129	85	214
	% within Nationality	40,7%	28,9%	35,0%	
<b>Jane Johnson, a new mother, is breastfeeding her baby in the living room. Her girlfriend from next door comes to see the new baby. Jane covers her breast and the baby's head with a receiving blanket, and the baby continues to nurse while the two women talk.</b>	<i>Very strongly disagree</i>	Count	26	4	30
		% within Nationality	8,2%	1,4%	4,9%
	<i>Strongly disagree</i>	Count	27	4	31
		% within Nationality	8,5%	1,4%	5,1%
	<i>Disagree</i>	Count	40	8	48
		% within Nationality	12,6%	2,7%	7,9%
	<i>Agree</i>	Count	76	68	144
		% within Nationality	24,0%	23,4%	23,7%
	<i>Strongly agree</i>	Count	70	60	130
		% within Nationality	22,1%	20,6%	21,4%
	<i>Very strongly agree</i>	Count	78	147	225
		% within Nationality	24,6%	50,5%	37,0%
<b>Estelle Green is breastfeeding her baby in the living room. The man and woman from next door come to see the new baby. Estelle covers her breast and the baby's head with a receiving blanket, and the baby continues to breastfeed</b>	<i>Very strongly disagree</i>	Count	91	5	96
		% within Nationality	28,7%	1,7%	15,8%
	<i>Strongly disagree</i>	Count	64	12	76
		% within Nationality	20,2%	4,1%	12,5%
	<i>Disagree</i>	Count	51	40	91
		% within Nationality	16,1%	13,7%	15,0%
	<i>Agree</i>	Count	48	70	118
		% within Nationality	15,1%	24,1%	19,4%
	<i>Strongly agree</i>	Count	34	54	88
		% within Nationality	10,7%	18,6%	14,5%
	<i>Very strongly agree</i>	Count	29	110	139

<b>while the neighbours talk.</b>		% within Nationality	9,1%	37,8%	22,9%
<b>Martha Smith is at McDonald's eating lunch with her girlfriends. When her baby wakes up and seems hungry, she decides to breastfeed him under her blouse.</b>	<i>Very strongly disagree</i>	Count	49	25	74
		% within Nationality	15,5%	8,6%	12,2%
	<i>Strongly disagree</i>	Count	31	38	69
		% within Nationality	9,8%	13,1%	11,4%
	<i>Disagree</i>	Count	78	60	138
		% within Nationality	24,6%	20,7%	22,7%
	<i>Agree</i>	Count	78	88	166
		% within Nationality	24,6%	30,3%	27,3%
	<i>Strongly agree</i>	Count	48	45	93
		% within Nationality	15,1%	15,5%	15,3%
<b>Kathy Brown is eating lunch at Dairy Queen with her girlfriends. When her baby wakes up and seems hungry, she decides to breastfeed him under her blouse. Her friends are embarrassed by this, so she takes him out to the car to breastfeed him instead.</b>	<i>Very strongly disagree</i>	Count	16	14	30
		% within Nationality	5,0%	4,8%	4,9%
	<i>Strongly disagree</i>	Count	19	22	41
		% within Nationality	6,0%	7,6%	6,7%
	<i>Disagree</i>	Count	52	40	92
		% within Nationality	16,4%	13,7%	15,1%
	<i>Agree</i>	Count	113	106	219
		% within Nationality	35,6%	36,4%	36,0%
	<i>Strongly agree</i>	Count	66	58	124
		% within Nationality	20,8%	19,9%	20,4%
<b>Anne Evans and her husband take their baby to church. When it is time for the baby to breastfeed, Anne takes her into the ladies' bathroom.</b>	<i>Very strongly disagree</i>	Count	46	4	50
		% within Nationality	14,5%	1,4%	8,3%
	<i>Strongly disagree</i>	Count	34	10	44
		% within Nationality	10,7%	3,5%	7,3%
	<i>Disagree</i>	Count	76	43	119
		% within Nationality	24,0%	14,9%	19,6%
	<i>Agree</i>	Count	87	78	165
	% within Nationality	27,4%	27,0%	27,2%	

	<i>Strongly agree</i>	Count	42	71	113	
		% within Nationality	13,2%	24,6%	18,6%	
	<i>Very strongly agree</i>	Count	32	83	115	
		% within Nationality	10,1%	28,7%	19,0%	
<b>Marie Schultz and her husband take their baby to church. When it is time for the baby to eat, Marie breastfeeds the baby under her blouse. She also covers the baby's head with a receiving blanket in case the blouse slips.</b>	<i>Very strongly disagree</i>	Count	47	14	61	
		% within Nationality	14,8%	4,8%	10,0%	
	<i>Strongly disagree</i>	Count	42	24	66	
		% within Nationality	13,2%	8,2%	10,9%	
	<i>Disagree</i>	Count	66	57	123	
		% within Nationality	20,8%	19,6%	20,2%	
	<i>Agree</i>	Count	89	70	159	
		% within Nationality	28,1%	24,1%	26,2%	
	<i>Strongly agree</i>	Count	41	67	108	
		% within Nationality	12,9%	23,0%	17,8%	
		<i>Very strongly agree</i>	Count	32	59	91
			% within Nationality	10,1%	20,3%	15,0%
<b>June Moon is expecting her first baby and wants to breastfeed. June's mother tells her that no one in their family has been able to successfully breastfeed since all the women have small breasts and can't make enough milk. June decides to breastfeed anyway.</b>	<i>Very strongly disagree</i>	Count	18	2	20	
		% within Nationality	5,7%	0,7%	3,3%	
	<i>Strongly disagree</i>	Count	13	3	16	
		% within Nationality	4,1%	1,0%	2,6%	
	<i>Disagree</i>	Count	20	15	35	
		% within Nationality	6,3%	5,2%	5,8%	
	<i>Agree</i>	Count	53	60	113	
		% within Nationality	16,7%	20,7%	18,6%	
	<i>Strongly agree</i>	Count	76	52	128	
		% within Nationality	24,0%	17,9%	21,1%	
		<i>Very strongly agree</i>	Count	137	158	295
			% within Nationality	43,2%	54,5%	48,6%
<b>Laura Baxter is expecting her first baby and wants to breastfeed.</b>	<i>Very strongly disagree</i>	Count	211	169	380	
		% within Nationality	66,6%	58,5%	62,7%	
	<i>Strongly disagree</i>	Count	55	64	119	

<b>Laura's husband wants her to bottle-feed the baby because he says that breastfeeding is "embarrassing". Laura decides to bottle-feed instead of breastfeeding.</b>		% within Nationality	17,4%	22,1%	19,6%
	<i>Disagree</i>	Count	36	38	74
		% within Nationality	11,4%	13,1%	12,2%
	<i>Agree</i>	Count	10	13	23
		% within Nationality	3,2%	4,5%	3,8%
	<i>Strongly agree</i>	Count	5	1	6
		% within Nationality	1,6%	0,3%	1,0%
	<i>Very strongly agree</i>	Count	0	4	4
<b>Linda Martin is pregnant, and her doctor tells her that she should plan to breastfeed her new baby. Linda had planned to bottle-feed but changes her mind.</b>		% within Nationality	0,0%	1,4%	0,7%
	<i>Very strongly disagree</i>	Count	4	4	8
		% within Nationality	1,3%	1,4%	1,3%
	<i>Strongly disagree</i>	Count	4	5	9
		% within Nationality	1,3%	1,7%	1,5%
	<i>Disagree</i>	Count	1	11	12
		% within Nationality	0,3%	3,8%	2,0%
	<i>Agree</i>	Count	24	79	103
		% within Nationality	7,6%	27,1%	16,9%
	<i>Strongly agree</i>	Count	60	78	138
		% within Nationality	18,9%	26,8%	22,7%
	<i>Very strongly agree</i>	Count	224	114	338
<b>Jane Blaine, who is expecting her first baby, was advised to breastfeed her new baby because "human milk is better for human babies." Jane decides to bottle-feed instead because she has heard that formula is every bit as good as breastmilk.</b>		% within Nationality	70,7%	39,2%	55,6%
	<i>Very strongly disagree</i>	Count	136	49	185
		% within Nationality	42,9%	17,0%	30,6%
	<i>Strongly disagree</i>	Count	82	31	113
		% within Nationality	25,9%	10,8%	18,7%
	<i>Disagree</i>	Count	70	81	151
		% within Nationality	22,1%	28,1%	25,0%
	<i>Agree</i>	Count	17	77	94
		% within Nationality	5,4%	26,7%	15,5%
	<i>Strongly agree</i>	Count	8	25	33
		% within Nationality	2,5%	8,7%	5,5%
	<i>Very strongly agree</i>	Count	4	25	29
	% within Nationality	1,3%	8,7%	4,8%	

<b>Peggy Kelly is expecting her first baby very soon. She was advised to breastfeed but decides to bottle-feed because she wants to go back to work when the baby is 3 months old and has heard that a breastfed baby won't take a bottle.</b>	<i>Very strongly disagree</i>	Count	99	36	135
		% within Nationality	31,2%	12,4%	22,2%
	<i>Strongly disagree</i>	Count	78	38	116
		% within Nationality	24,6%	13,1%	19,1%
	<i>Disagree</i>	Count	96	76	172
		% within Nationality	30,3%	26,1%	28,3%
	<i>Agree</i>	Count	32	91	123
		% within Nationality	10,1%	31,3%	20,2%
	<i>Strongly agree</i>	Count	10	30	40
		% within Nationality	3,2%	10,3%	6,6%
	<i>Very strongly agree</i>	Count	2	20	22
	% within Nationality	0,6%	6,9%	3,6%	
<b>Jeanette James is expecting her second baby. Even though she has been told that breastfeeding is better for babies, she decides to bottle-feed. She tried to breastfeed her first baby and had to stop because the baby lost weight during the first week.</b>	<i>Very strongly disagree</i>	Count	109	32	141
		% within Nationality	34,4%	11,0%	23,2%
	<i>Strongly disagree</i>	Count	80	39	119
		% within Nationality	25,2%	13,4%	19,6%
	<i>Disagree</i>	Count	83	90	173
		% within Nationality	26,2%	30,9%	28,5%
	<i>Agree</i>	Count	31	68	99
		% within Nationality	9,8%	23,4%	16,3%
	<i>Strongly agree</i>	Count	10	36	46
		% within Nationality	3,2%	12,4%	7,6%
	<i>Very strongly agree</i>	Count	4	26	30
	% within Nationality	1,3%	8,9%	4,9%	

### Rotated Component Matrix<sup>a</sup>

	Component			
	1	2	3	4
<i>Jane breastfeeds in the living room. Her friend visits, and Jane covers herself and the baby with a blanket while they talk. Is it okay for Jane to keep breastfeeding?</i>	0.214	0.754	0.164	
<i>Estelle breastfeeds in the living room. Neighbours visit, and she covers herself and the baby with a blanket while they talk. Should Estelle have stopped breastfeeding?</i>	0.306	0.691	0.354	-0.233
<i>Martha breastfeeds her baby at McDonald's under her blouse. Should she have gone somewhere private to breastfeed?</i>			0.865	
<i>Kathy breastfeeds at Dairy Queen, but her friends are uncomfortable, so she moves to the car. Do you agree with her decision?</i>	-0.136			0.850
<i>Anne breastfeeds her baby in the church bathroom. Was it necessary to leave the church to breastfeed?</i>	0.190	0.127	0.226	0.738
<i>Marie breastfeeds in church, covering the baby with a blanket. Should she have taken the baby out of the church to breastfeed?</i>		0.161	0.812	0.176
<i>June, expecting her first baby, plans to breastfeed despite family history. Do you agree with her decision?</i>	-0.216	0.655	-0.101	0.286
<i>Laura, expecting her first baby, chooses bottle-feeding because her husband finds breastfeeding embarrassing. Do you agree with her decision influenced by her husband's opinion?</i>	0.394	-0.431		0.199
<i>Linda, pregnant, originally planned to bottle-feed but changes to breastfeeding based on her doctor's advice. Do you agree with her decision?</i>	-0.579	0.320	-0.101	0.164

*Jane, expecting her first baby, was advised to breastfeed but chooses bottle-feeding, believing formula is as good as breast milk. Do you agree with her decision?*

0.842

*Peggy, expecting her first baby, chooses bottle-feeding to facilitate returning to work at 3 months. Do you agree with her decision?*

0.834 0.121

*Jeanette, expecting her second baby, opts for bottle-feeding after challenges with breastfeeding the first. Do you agree with her decision based on her past experience?*

0.798