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Article

Breastfeeding Attitudes Among Female Students in Syria and Hungary

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Abstract: Background: Breastfeeding is known as the perfect nutrition for babies. Despite its benefits, breastfeeding practices and attitudes vary across cultures, influenced by societal norms, education, and personal experiences. This article studies the attitude differences among female students in Syria and Hungary and how sociocultural aspects impact their attitude towards breastfeeding. **Methods:** The questionnaire was a part of a multi-section questionnaire presented to 317 Syrian students from Damascus University and 303 Hungarian students from Semmelweis University and Eötvös Loránd University. It assessed students' attitudes towards breastfeeding through the Iowa Infant Feeding Attitude Scale (IIFAS). SPSS was used to analyse data. **Results:** Participants in both countries demonstrated strong agreement with statements highlighting the emotional and nutritional advantages of breastfeeding. Many participants disagreed with the idea that formula feeding is more convenient or that breastfeeding causes fathers to feel emotionally excluded. Attitudes toward breastfeeding in public were more divided, reflecting the sensitivity of the topic and varying degrees of acceptance. Notable cultural differences emerged, with Syrian participants generally expressing more traditional and favourable views of breastfeeding, especially regarding ease of digestion and emotional fulfilment. In contrast, Hungarian participants tended to be more neutral or uncertain on several issues, particularly those related to nutritional content and concerns about overfeeding. **Conclusions:** This study shows the differences in attitude among Syrian and Hungarian female students, which is rooted in cultural diversity and its effect on individuals' decisions.

Keywords: breastfeeding; formula-feeding; Syria; Hungary; attitude; IIFAS; infant; university students; female

1. Introduction

Breastfeeding is well-recognised as the best nutrition for infants [1–3], providing both mother and infant with numerous health benefits and long-term advantages [1,4–6]. Human breast milk is specifically adapted to the infants' biological requirements and is the optimal source of sustenance for infants [2]. Breastfeeding protects against diarrhoea and common childhood illnesses such as pneumonia, can have longer-term advantages, like lowering the risk of childhood and adolescent overweight and obesity [1,7–9], and provides necessary support for the developing immune system [10,11]. Exclusive breastfeeding is related to low levels of morbidity [9,12] and fewer hospitalisations [13]. Centres for Disease Control and Prevention in the United States (CDC) consider breastfeeding as the optimal nutrition for infants [14].

Similar to its protective effects against various diseases in infants, it has several benefits for mothers, including reducing the incidence of premenopausal breast cancer and ovarian cancer in mothers [15,16]. Women who breastfeed have a lower risk of developing breast cancer, type 2 diabetes, ovarian cancer, heart disease, osteoporosis, and postpartum depression [4,7,17].

Additional benefits of breastfeeding include economic advantages. Breastmilk is less expensive than formula; due to its natural secretion from the mother's body, breastmilk is free and always available. There is no need to pay for, prepare or store breast milk as opposed to formula. Formula feeding generates extra costs: formula, bottles, sterilising equipment, and, in exceptional cases, special types of formula for allergic babies or those with specific dietary needs. In fact, most often, through breastfeeding, families avoid these expenses, and therefore, it is more economical and accessible [18–20].

Nonetheless, infant formula is still a healthy alternative for mothers who cannot or decide not to breastfeed. While it provides babies with the nutrients they need to grow and thrive, its benefits are still fewer than those of breast milk [21]; therefore, manufacturers have proposed a diverse range of new ingredients in an effort to develop formulas that mimic the perceived and potential advantages of human milk [22].

Differences in participants' attitudes toward breastfeeding can be attributed to cultural norms [23–25], societal expectations, social networks [26], personal experiences [27,28], and exposure to breastfeeding education [29]. In certain societies, breastfeeding is seen as a duty for all mothers [30–32], while in some others, formula feeding is accepted as an alternative [33,34]. Additionally, media representation, healthcare recommendations, and prior exposure to breastfeeding within one's social environment play a significant role in shaping attitudes [25,35].

Some countries like Korea and Albania have high exclusive breastfeeding rates, with almost 71% and 62% respectively, according to UNICEF data. While in the United States, for example, exclusive breastfeeding until five months is only 26% [36].

The prevalence of breastfeeding in Hungary is 53.9%, while exclusive breastfeeding was 25.1% [37]. These numbers are higher than in the WHO European Region, which has some of the lowest rates of exclusive breastfeeding, with just 13% of infants exclusively breastfed for the first 6 months. [38]

Education can impact students' perspectives in terms of breastfeeding knowledge, resulting in more evidence-based views [29], while those with limited information may rely on societal norms or personal opinions [39]. These variations highlight the interplay between cultural, social, and educational factors in shaping attitudes toward infant feeding.

Although studies documenting breastfeeding attitudes have been reported previously in a range of settings [40–44], this is the first time, to our knowledge, that the comparison in attitudes between Syrian and Hungarian female university students has been assessed using the IIFAS scale.

This study aims to understand how attitudes influence mothers' final decisions. Focusing on university students who represent future parents helps to understand the young generation's attitude towards breastfeeding, providing insights into how cultural and educational factors impact breastfeeding beliefs, which may be helpful for international public health initiatives.

This study fills a gap by comparing two distinct populations, Syrian and Hungarian university students, who differ in cultural norms, healthcare exposure, and social expectations. Exploring these differences can also inform future interventions that address misconceptions, promote breastfeeding awareness, and support women's choices in distinct cultural contexts.

2. Materials and Methods[40–44]

2.1. Participants

The survey was conducted in Syria and Hungary in two phases. The first phase occurred at Damascus University in October and November 2022, with a sample of 317 female students. The second phase was conducted in Budapest, Hungary, during April and May 2023, involving 303 Semmelweis University and Eötvös Loránd University students (Table 1). To ensure linguistic accuracy, the questionnaire was administered exclusively in paper format in the native languages of each country: Arabic and Hungarian. Independent professional translators translated the survey from English to Arabic and Hungarian using the back-translation method.

Table 1. Summary statistics of study participants (N = 620).

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

2.2. Study Design

This research is part of an extensive survey using a multi-section questionnaire with three modules. The present study investigates the Iowa Infant Feeding Attitude Scale (IIFAS)¹, which is a widely used tool designed to assess attitudes about infant feeding methods, including breastfeeding and formula feeding, developed by De La Mora and Russell in 1999 [45]. The scale evaluates individuals' beliefs and preferences regarding infant feeding practices. Participants were required to read the statements and choose the most appropriate response from a 5-point Likert scale, ranging from "strongly disagree" to "strongly agree", with the "not sure" option provided.

2.3. Socio-Demographic Characteristics of the Samples

This study utilised a questionnaire to collect data on participants' socio-demographic characteristics, including nationality, gender, birth year, parental education levels, marital status, permanent residency, and wealth index. Additionally, participants' current level of education was recorded (Table 2).

Table 2. Socioeconomic Characteristics of the Hungarian and Syrian Respondents.

Socioeconomic status	Hungarian	Syrian
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%
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%

¹ The Iowa Infant Feeding Attitude Scale (IIFAS) can be found in the appendix file.

Age (N=620)		
21-15	68.3%	57.7%
26-30	31.0%	29.0%
31 and more	0.7%	13.2%

Comparing the Hungarian and the Syrian samples revealed significant differences in several socio-economic dimensions. In terms of educational level, a larger percentage of Syrians (79.5%) had a BSc degree than Hungarians (57.1%), while Hungarians had a higher percentage of MSc degrees (37.0% vs. 14.2%). Differences were less marked in parental education, with similar percentages of fathers (40.6% Hungarian, 45.7% Syrian) and mothers (45.9% Hungarian, 47.0% Syrian) having a university degree. By place of residence, a significantly higher percentage of Syrian respondents lived in an urban neighbourhood (82.3%) than Hungarians (63.9%). Marital status presented a marked difference: while almost all Hungarian respondents were unmarried (99.7%), more than half of Syrian respondents (53.6%) were married. The wealth indicator showed the greatest imbalance: almost all Hungarians (97.4%) said they had "enough" income, while two-thirds of Syrians (66.8%) said they had "less than enough" for their necessities. Finally, the distribution of age showed that most respondents in both groups were in the younger age category (21-25 years).

The samples from the two countries were nearly balanced regarding nationality, with 51.0% Syrian and 49.0% Hungarian respondents. All participants were female, with the majority, 68.3%, enrolled in bachelor's programs, 25.0% pursuing master's degrees, and a smaller proportion, 6.0%, engaged in PhD studies.

2.4. Measurements

The methodology for this study utilised a statistical analysis with the Statistical Package for the Social Sciences (SPSS) software. Data analysis was carried out using the Predictive Analysis Software (PASW 18, formerly known as SPSS). Statistical procedures were completed at a significance level of 5%. Descriptive statistics were performed for demographic variables, scale scores, and the responses to all statements within each scale.

3. Results

The findings of this study regarding the comparison between Hungarian and Syrian students present the distribution of responses to the IIFAS, highlighting their attitudes toward breastfeeding (Table 3).

Table 3. Responses for Hungarian and Syrian students to IIFAS (N = 620)

The statement	Disagree ¹		Neutral		Agree ²	
	%	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
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

1: Disagree includes 'strongly disagree' and 'disagree' 2: Agree includes 'strongly agree' and 'agree'.

3.1. Agreement and Disagreement

The most vigorous agreement was in the statement discussing whether breastfeeding boosts the connection between mother and infant; it can be observed that 95.7% of participants agree with this statement (Table 3). Similarly, 87.9% agreed that breast milk is the ideal food for babies. Likewise, slightly fewer, but still 62.0% of participants, agreed that breastfed babies are healthier than formula-fed babies.

The disagreements among students were shown in many statements; 67.2% of participants disagreed that the formula is more suitable or comfortable than breastfeeding. 66.2% of participants showed disagreement that fathers feel left out if a mother breastfeeds. Regarding the statement related to breastfeeding in public places, participants showed 48.6% disagreement with not breastfeeding publicly.

Many differences emerged in participants' responses, one of which related to the statement that breast milk is more easily digested than formula. While 83.0% of Syrian participants agreed with this statement, only 34.8% of Hungarian participants shared this agreement. Similarly, 77.6% of Syrian participants agreed with the statement that mothers who formula-feed miss one of the great joys of motherhood. In comparison, only 30.7% of Hungarian students agreed with this sentiment.

Hungarian students were notably more uncertain about the statement "Breast milk is lacking in iron" 71.5% of Hungarian participants were unsure about this claim, while 53.3% of Syrian participants opposed it. Along similar lines, for the two statements about overfeeding, which have opposite meanings, the percentages of participants who selected "not sure" were notably high and comparable across groups. Regarding the statement "Formula-fed babies are more likely to be overfed than are breastfed babies" 38.9% of participants were unsure, while for "Breastfed babies are more likely to be overfed than formula-fed babies" 38.1% expressed uncertainty (Table 3).

3.2. Cluster Analysis

Based on the attitudes towards breastfeeding and formula feeding, the cluster analysis detected three well-distinct clusters. In the following, the process of cluster formation is firstly described and the description of the clusters that emerged (Figure 1).

	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	0.30940	-0.15794	-0.22007

Figure 1. Clusters of Attitudes Toward Breastfeeding and Formula Feeding

In the process of clustering, it was observed that the groups were well separated, and the differences between the clusters became explicitly clear. The maximum distance between cluster centres was 10.257, meaning the respondents' opinions were explicitly divergent.

The significance level for all variables used for cluster analysis was below 0.05, indicating that the differences between clusters were statistically significant. It could be seen during the process that three variables were explicitly determinant and discriminating factors between the clusters. The three variables were positive statements about breastfeeding: "Mothers who formula feed miss one of the great joys of motherhood" ($F = 212.750$); "Breast milk is the ideal food for babies" ($F = 214.941$); "Breast milk is more easily digested than formula" ($F = 209.261$).

The three clusters had distinct characteristics, and based on these characteristics, each cluster was named, which name is used in the following.

Our first cluster was called "Supporters of breast milk" (SBM). Respondents who belong to this cluster explicitly believed in the benefits of breastfeeding and breast milk. They thought breast milk is ideal for babies. In relation to formula feeding, they rejected the idea that formula is as healthy as breast milk and preferred to see the disadvantages; for example, they believed that formula-fed babies are more likely to be overfed. At the same time, cluster members considered breast milk to be more digestible for babies and breastfeeding a more positive experience for mothers. They did not seem to believe that formula feeding is more convenient, nor did they think of breastfeeding in public as a problematic situation. Furthermore, they did not believe that formula feeding is a better option for working mothers.

The second group was called "Supporters of formula feeding" (SFF). They were those who explicitly accepted the benefits of formula feeding and emphasised the convenience and practicality of formula, especially for mothers returning to work. They did not believe that breast milk makes babies healthier than formula because they believed that the two feeding methods are equally healthy and that by not breastfeeding, a mother is not missing out on an important experience. Even without breastfeeding, they believed that a mother can fully connect with her child and raise it.

The last cluster was called the "Flexible Thinkers" (FT). Respondents in this cluster acknowledged that there are advantages to breast milk, but at the same time, they did not reject formula. They believed that both methods have their advantages and disadvantages. They acknowledged that breast milk is a more natural and healthy food for the baby but rejected extreme pro-breast-milk views. However, they also disagreed with the more extreme pro-formula opinions. Additionally, they did not believe that fathers are missing the experience of raising a child because of breastfeeding. They even favoured breastfeeding but believed that in certain situations it is more practical to use formulas.

Thus, it can be said that in the cluster analysis, the three attitude groups were explicitly distinct on different issues related to breast milk and infant formula. SFF strongly believed in the benefits of breast milk and rejected formulas. SFF believed that formulas are more convenient and healthier. Those with a flexible approach took a balanced view, accepting both methods in certain circumstances.

3.3. Sociodemographic Characteristics of Groups Defined by Attitudinal Measurement

After establishing clusters, it is important to examine whether the three groups are separated along sociodemographic lines.

In terms of nationality, two-thirds of Syrian respondents were in the SBM group (61.1%), while only one-tenth of Hungarians thought this way (12.7%). However, the proportion of Hungarians in favour of infant formula feeding was much higher (39.1%), while a tenth of Syrians shared their attitude (13.3%). The proportion of Hungarians thinking flexibly was 48.2%, while it was only a quarter (25.6%) of Syrian respondents (Table 4).

The relationship between nationality and feeding preferences was significant and moderately strong, so nationality was a significant factor in determining cluster membership in relation to feeding preferences. Syrian participants were more in favour of breastfeeding, while Hungarians were more flexible or even in favour of formula feeding. (Table 4, Sig.: 0.000; Cramer's V: 0.502)

Table 4. Distribution of clusters within nationality.

		Cluster Number of Case			Total
		SBM	SFF	FT	
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 proportion of SBM decreased with increasing educational attainment. It was highest among those with a BSc (43.0%), while only a quarter of those with a higher degree fell into this cluster (MSc: 28.1%, PhD: 29.7%). The distribution of the SFF group was relatively even, but the proportion was moderately increased among those with a higher degree (BSc: 24.7%, MSc: 26.7%, PhD: 27.0%). The proportion of FT was highest among MSc and PhD graduates (MSc: 45.2%, PhD: 43.2%), while a third of those with a bachelor's degree belonged to this group (32.3%) (Table 5).

Thus, those with MSc and PhD degrees were more likely to be FT, while those with lower degrees (BSc) were more likely to be in favour of breastfeeding.

Although the relationship between educational attainment and clustering was statistically significant, the level of education had only a moderate influence on feeding attitudes (Table 5, Sig.: 0.012; Cramer's V: 0.104).

Table 5. Distribution of clusters within the level of education.

		Cluster Number of Case			Total
		SBM	SFF	FT	
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%

There was also a significant relationship between parental education and respondents' cluster group membership, but this relationship was very weak (Table 6, Sig.: 0.023; Cramer's V: 0.113).

A higher proportion (40.5%) of children of fathers who did not have a university degree tended to belong to the SBM group, while a third (35.9%) of children of fathers who had a university degree belonged to this attitude group. Similar proportions were found in the FT group. Among children of

fathers with lower education, a higher proportion (38.4%) appeared in this group than among children of fathers with university education (33.2%). The reverse was observed for the proportions of those who were SFF. Children of fathers with a high level of education were more likely to be in the SBM group (30.9%), and children of fathers with a lower level of education were less likely (21.0%) (Table 6).

Table 6. Distribution of clusters within the father's level of education.

		Cluster Number of Case			Total
		SBM	SFF	FT	
Father's level of education	University studies	35.9%	30.9%	33.2%	100.0%
	Non-university studies	40.5%	21.0%	38.4%	100.0%
Total		38.5%	25.3%	36.1%	100.0%

The following comparison shows that the majority of married respondents (64.1%) were in the SBM group, while the proportion of unmarried respondents was significantly lower in this group. The SFF was dominated by unmarried respondents (30.6%), while only one-tenth of married respondents belonged to this cluster (12.4%). The FT included 41.2% of unmarried respondents, while only one quarter of married respondents (23.5%) had similar attitudes. Married people were much more likely to support breastfeeding, while unmarried people were more likely to support formula feeding and to be flexible (Table 7).

Marital status was statistically significant for the feeding preference groups, and a moderately strong effect could be seen (Table 7, Sig.: 0.001; Cramer's V: 0.336).

Table 7. Distribution of clusters within marital status.

		Cluster Number of Case			Total
		SBM	SFF	FT	
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%	36.1%	100.0%

Income was also significantly related to the attitudes that made up the clusters, and the association was moderately strong (Table 8, Sig.: 0.001; Cramer's V: 0.278). The low-income group had the highest proportion of SBM (63.6%), while the lowest proportion was of those in the SFF (12.1%). Among those with sufficient income, the proportions were more interesting. Both the proportions of SFF (32.9%) and FT (42.9%) were above 30%, so they had a higher proportion than SBM. FT tended to dominate among those with the highest incomes (50.0%), and SFF accounted for 33.3%. Those with lower incomes were more likely to support breastfeeding, while those with higher incomes were more inclined towards formula feeding or a flexible approach (Table 8).

Table 8. Distribution of clusters within income.

		Cluster Number of Case			Total
		SBM	SFF	FT	
Wealth index	Less than enough	63.6%	12.1%	24.3%	100.0%
	Enough	24.3%	32.9%	42.9%	100.0%
	More than enough	16.7%	33.3%	50.0%	100.0%
Total		38.4%	25.4%	36.2%	100.0%

4. Discussion

It can be noted that IIFAS statements can be grouped by thematic criteria.

1. The participants' attitudes toward **perceived health and nutritional values** are the most important. There is no doubt that breastfeeding is the optimal nutrition for the ideal growth, development, and health of infants [1,3,46]. In our study, the responses among the two nationalities are logical and consistent with research, which indicates that breastfed infants generally experience better health outcomes compared to formula-fed infants [1,20,47]. Infants generally digest breast milk more easily than formula because breast milk contains enzymes that facilitate better absorption of nutrients. Additionally, the proteins in breast milk are predominantly whey proteins, which are softer and more easily digestible than the casein-dominant proteins found in many formulas [22,48]. Syrian participants agree more than Hungarians that breast milk is more easily digested than formula, but the percentages align with previous studies [49]. Breast milk indeed contains relatively low amounts of iron [50,51], but it is highly bioavailable, meaning that infants can absorb it efficiently. Thus, students' choices may differ based on how they interpret the fact of iron bioavailability. There were notable differences in how Hungarian and Syrian students responded to this statement. Most of the Hungarian participants were uncertain. In comparison, Syrian participants were more divided. Thus, these results do not resemble previous studies [49,52]. Potential overfeeding occurs in 37% of fully formula-fed infants [53,54]. However, the high rate of "not sure" responses among the two statements regarding the relationship between feeding methods and overfeeding could reflect the complexity of the topic; still, this finding is consistent with previous research in particular details: agreement and disagreement [55].
2. Another thematic criterion pertains to the **convenience and practical aspects**. According to international organizations, breastfeeding has always been more convenient than formula feeding [1,40], and our study's results comply with this finding. Although only about half of the participants expressed their agreement with this statement, it aligns with previous studies [52]. Returning to work is one of the significant challenges nursing mothers face and affects the duration of exclusive breastfeeding [56,57]. Previous studies showed that formula feeding is the best option when the mother plans to return to work [58], which is what we also found in our results.
3. **Bonding and emotional connection** are criteria that can clearly be shown. Research shows that hormones are associated with bonding and emotional closeness between mother and child [59,60]. Skin-to-skin contact is an ideal method for greeting the newborn. It fosters a sense of safety and tranquillity in the infant while initiating the bonding process [17,20,61,62] and positively affecting the mother's mood [63]. The majority of the participants agreed that breastfeeding increases mother-infant bonding, making their decisions strongly consistent with the results of previous studies [3,6] and with global organizations [17,20]. In addressing emotional connection, fathers have a remarkable role in supporting mothers, and their attitudes usually significantly influence mothers' decisions to breastfeed [64,65]. Our findings showed that these results are different from the findings of previous studies [52].
4. The last criterion is related to **social and risk perception**; Breastfeeding in public spaces always has conflicting opinions among participants, especially when the "breastfeeding with discretion" phrase is missing or when the location or use of a cover is not determined, and that is why it is noticeable that, in general, there is concord in the responses among the participants, making the approximate percentages consistent with other international research [65,66], and conflict with others who found restrictive attitudes toward exposure to the breast, considering it unacceptable behaviour and to be kept private [67,68]. Consuming alcohol during breastfeeding undoubtedly has effects on both infants and mothers [69,70]. However, current recommendations emphasise waiting a minimum of two hours after consuming alcohol before breastfeeding [71,72]. This fact, which encourages mothers not to stop breastfeeding even if they drink alcohol, considering the recommendations, is unknown to the majority of the participants, making the results consistent with other studies [49].

5. Conclusions

This study highlights the significant role of cultural norms and personal experiences in shaping breastfeeding attitudes among female university students in Syria and Hungary.

The cluster analysis produced distinct groups along the lines of breastfeeding and formula-feeding attitudes. These clusters differed not only in terms of feeding preferences but also in terms of demographic factors (nationality, education, marital status, income differentials, father's education).

It was found that low-income respondents were more likely to support breastfeeding, probably due to cost-effectiveness and perceived benefits. However, higher-income respondents tended to prefer formula feeding or a flexible approach, presumably because of either better access to financial resources or convenience and lifestyle factors.

Differences between clusters by nationality were also clearly visible. Syrians were more in favour of breastfeeding, which may be due to cultural and religious reasons. At the same time, Hungarians preferred a more flexible approach or even the use of a formula, which may indicate that Hungarians tend to have a more modernised, convenience-focused approach.

These findings indicate that economic and cultural factors influence infant feeding decisions and how society views breastfeeding or formula feeding.

Understanding these differences is crucial for developing targeted health promotion strategies that encourage informed breastfeeding choices while respecting cultural diversity. Future research should further explore how societal changes, healthcare policies, and exposure to breastfeeding education influence young adults' perspectives across different regions.

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Abbreviations:

The following abbreviations are used in this manuscript:

IIFAS	The Iowa Infant Feeding Attitude Scale
SPSS	Statistical Package for the Social Sciences
PASW	Predictive Analysis Software

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