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The social context of exclusive breastfeeding among mothers in Bulukumba, Indonesia: The role of the theory of planned behavior

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Abstract

Exclusive breastfeeding is scientifically known to reduce child mortality; however, coverage remains low in Bulukumba Regency, which has the lowest rates in South Sulawesi Province, Indonesia. This study aimed to examine the influence of the Theory of Planned Behavior (TPB) on exclusive breastfeeding behavior among mothers in the region. A quantitative cross-sectional study was conducted with 161 mothers of infants aged 6–12 months. Data were collected using a validated and reliable questionnaire and analyzed using Structural Equation Modeling-Partial Least Squares (SEM-PLS). The findings indicate that maternal attitudes towards exclusive breastfeeding (β=0.619) and perceived control (β=0.338) had significantly positive effects on breastfeeding intention, whereas subjective norms were not significantly associated with breastfeeding intention (p=1.000). Furthermore, attitudes, subjective norms, perceived control, and intentions did not have a significant direct effect on exclusive breastfeeding behavior (p>0.05). The results highlight a gap between intention and actual breastfeeding practice, suggesting that strong intentions alone are insufficient to ensure exclusive breastfeeding. These findings underscore the importance of strengthening maternal attitudes and perceived control while addressing contextual and social barriers to behavior change. *(Afr J Reprod Health 2026; 30 [9]:88-99).*

Keywords: Maternal intention, infant feeding practice, behavioral determinant**.**

Résumé

L'allaitement maternel exclusif réduit la mortalité infantile, mais sa couverture reste faible dans le district de Bulukumba, le plus bas de la province de Sulawesi du Sud. Cette étude visait à analyser l'influence des construits de la Theory of Planned Behavior (TPB) sur le comportement d'allaitement exclusif. Une étude quantitative transversale a été menée auprès de 120 mères d'enfants âgés de 6 à 12 mois. Les données ont été recueillies à l'aide de questionnaires validés et analysées par la méthode SEM-PLS. Les résultats montrent que l'attitude maternelle (β = 0,619) et le contrôle comportemental perçu (β = 0,338) ont un effet positif significatif sur l'intention d'allaiter, tandis que les normes subjectives ne sont pas significatives (p = 0,012). En revanche, aucun effet direct significatif des construits de la TPB sur le comportement réel d'allaitement exclusif n'a été observé (p > 0,05). Ces résultats révèlent un écart entre l'intention et la pratique, indiquant que des intentions fortes seules ne suffisent pas à garantir l'allaitement exclusif et soulignant la nécessité de renforcer les attitudes maternelles, le contrôle perçu et de surmonter les barrières sociales et contextuelles au changement de comportement. *(Afr J Reprod Health 2026; 30 [9]: 88-99).*

Mots-clés: Allaitement maternel exclusif, théorie du comportement planifié, comportement maternel**.**

Introduction

Exclusive breastfeeding is a critical factor in reducing child mortality, surpassing the impact of any other health intervention.[1] The World Health Organization (WHO) and UNICEF recommend initiating breastfeeding within the first hour after birth and continuing exclusive breastfeeding for the first six months of life.[2] Evidence suggests that exclusive breastfeeding could prevent 595.379 child deaths annually due to diarrhea and pneumonia.[3] In addition to its benefits for children survival, exclusive breastfeeding contributes to reduce risk of long-term health outcomes including obesity, to protect mothers against breast cancer, ovarian cancer, and type II diabetes, and to enhance child growth and development.[4] Economically, breastfeeding can reduce healthcare cost at both family and nation, and inadequate coverage of exclusive breastfeeding contributes to global losses

of up to 0.70% of the world's gross national income.[3]Despite extensive evidence demonstrating benefits of exclusive breastfeeding, exclusive breastfeeding coverage remains suboptimal and below the WHO target of 50%,[5] with the coverage achieving only 44% in 2023 globaly.[2] In Indonesia, exclusive breastfeeding coverage has shown a declining trend in recent years, decreasing from 67.74% in 2019,[6] to 66.06% in 2020,[7] and declined sharply to 56.9% in 2021.[8] Although the trend increased rise to 61.5% and 63.9% in 2022 and 2023,[9,10] the coverage still falls short of the national target of 80%.[11]

A similar trend was been observed in South Sulawesi Province. In 2020, the coverage of exclusive breastfeeding reached 87.8%,[7] but declined significantly to 70,5% and 70.1 in 2021 and 2022 respectively.[8,9] Although there was a slight increase to 71.8% in 2023,[10] this figure remains below the national target and has resulted in a decline in the national ranking. At the district level, Bulukumba recorded the lowest exclusive breastfeeding coverage in the province over the past two years, at only 38.34% and 29% in 2022, and 2023 respectively.[12]

The low rates of exclusive breastfeeding are influenced not only by medical and socioeconomic factors but also by cultural beliefs and practices in the country. Research conducted in Jeneponto and Gowa which are neighboring districts of Bulukumba, indicates that various myths persist within the community, such as the notion that small breasts produce less milk, the concept of "tasinta" or blocked milk production, the prohibition of breastfeeding during meals, and beliefs regarding the benefits of rice water and honey for newborns.[13,14] A systemtic review also identified knowledge, beliefs, family support, and the role of health professionals as significant sociocultural factors affecting exclusive breastfeeding behavior.[15] Therefore, existing social values in local community must be consider in breastfeeding intervention programs along with medical interventions.

Furthermore, the Theory of Planned Behavior (TPB), which serves as the framework for this research, is employed to explore the significance of maternal subjective norms, attitudes toward behavior, and intentions to breastfeed as key predictors of breastfeeding practices.[16] Therefore, this study aims to investigate the influence of the TPB from a social perspective on shaping maternal behavior regarding exclusive breastfeeding in Bulukumba Regency.

Conceptual framework

The Theory of Planned Behavior (TPB), developed by Fishbein and Ajzen, posits that an individual's behavior is directly influenced by intention, which is shaped by three core constructs: attitude toward the behavior, subjective norms and perceived behavioral control.[17] This framework is particularly relevant for understanding exclusive breastfeeding behavior, as breastfeeding decisions are influenced not only by individual beliefs but also by social expectations and perceived constraints.

Beliefs regarding the advantages of breastfeeding, including enhanced immunity for the infant, strengthened mother-child bonding, and reduced risk of breast and ovarian cancer, contribute to a positive attitude that fosters a mother's intention to exclusively breastfeed. Attitude toward the behaviour reflects a mother's evaluation of exclusive breastfeeding as beneficial or favourable. Positive attitudes are often shaped by knowledge of breastfeeding benefits, previous experiences, and beliefs about child health and maternal responsibility. Studies conducted in Indonesia have consistently shown that positive maternal attitudes are significantly associated with stronger intentions to exclusively breastfeed.[18,19] Educational interventions based on brainstorming have also proven effective in altering attitudes and intentions, as evidenced by a study in Surabaya that recorded significant improvements in mothers' intentions to breastfeed.

Subjective norms refer to perceived social pressure from significant others, including husband, family members, and the broader community. In collectivist societies, such as those found in many parts of Indonesia, social norms and expectations can strongly influence maternal behavior. Conversely, the subjective norm variable reflects the extent to which a mother perceives that key individual in her life, such as her husband, biological mother, in-laws, neighbors, or community leaders, expect her to exclusively breastfeed. This norm embodies the social pressure that can influence a mother's intentions and subsequent behavior.[20] However, empirical findings regarding the role of

subjective norms in breastfeeding decisions remain inconsistent, suggesting the need for context-specific investigation.[21,22]

Globally, mothers' perceptions of community practices are significant predictors of exclusive breastfeeding decisions. This indicates that culturally embedded social norms directly influence intentions and behaviors.[16] Based on the TPB framework, this study examines how attitudes, subjective norms, and perceived behavioral control influence maternal intention and actual exclusive behavior within the social context of Bulukumba Regency.

Methods

Study design and setting

This study employed a quantitative cross sectional design to examine the relationships between constructs of the Theory of Planned Behavior (TPB) and exclusive breastfeeding behaviour. The study was conducted in Bulukumba Regency, South Sulawesi Province, Indonesia, an area that has consistently reported low exclusive breastfeeding coverage over the past two years.

Study population and sampling

The study population consisted of all breastfeeding mothers with infants aged 6-12 months residing in Bulukumba Regency, totalling 382 individuals. The sample size was calculated using the Slovin formula with a 5% margin of error, resulting in a minimum required sample of 161 respondents. Participants were recruited using an accidental sampling technique at Integrated Health Posts (Posyandu). Mothers who met the inclusion criteria and provided informed consent were invited to participate in this study.

Data collection and administration

Data were collected using a structured questionnaire developed based on the Theory of Planned Behavior (TPB), encompassing five core constructs - attitude, subjective norms, perceived behavioural control, intention, and cultural behaviour related to exclusive breastfeeding support. The initial pool of questionnaire items was generated through a review of relevant literatures and was adapted to reflect the social culture context of Bulukumba District, South Sulawesi.The questionnaire underwent a two-stage validation process to ensure both conceptual relevance and psychometric robustness. In the first stage, the questionnaire draft instrument was reviewed and pilot tested to assess item clarity, cultural appropriateness, and alignments with the intended TPB constructs. This stage aimed to ensure that items were well understood, culturally less relevant, or insufficiently representative of local breastfeeding support practices. The feedback from this stage was used to refine the wording, eliminate ambiguous items, and improve contextual suitability.

In the second stage, the revised questionnaire was subjected to statistical validity and reliability tests. Item validity was assessed using the corrected item-total correlation, with a minimum threshold corresponding to the r table value ($\geq$0.3687). Items that did not meet this criterion were further reviewed or removed to ensure construct validity. Reliability analysis was based on Cronbach's alpha, with a minimum acceptable value of 0.70. The final instrument demonstrated strong internal consistency across all TPB constructs, with Cronbach's alpha values ranging from 0.841 to 0.0993, indicating high reliability.

Following the validation process, the finalized questionnaire was administered to respondents through face-to-face interviews conducted by trained enumerators. Enumerators received prior training in interview techniques, ethical considerations, and standardized administration procedures to minimize interviewer bias and ensure data quality. All respondents were informed of the study objectives, and informed consent was obtained prior to participation. Completed questionnaires were checked daily for completeness and consistency prior to data entry.

Data analysis

Data Analysis was performed using Structural Equation-Modeling Partial Least Squares (SEM-PLS), which is suitable for theory driven models with complex relationships and relatively small to moderate sample sizes. The analysis was performed using SmartPLS software, following a two-stage analytical procedure that involved evaluating of the measurement model and the structural models.

Initially, descriptive statistics were generated to summarized respondents' characteristics and key study variables. The measurement model was evaluated to assess the construct validity and reliability. Convergent validity was examined through indicator loadings and internal consistency reliability, while construct reliability was assessed using Cronbach's alpha and composite reliability, with acceptable values set at ≥0.70. These procedures ensured that the latent constructs were measured reliably and consistently.

Subsequently, the structural model was assessed to examine the hypothesized relationships among the TPB constructs. Path coefficients were estimated to evaluate the direct effects of attitudes, subjective norms, and perceived behavioural control on intention and exclusive breastfeeding behavior The significance of these relationships was tested using a bootstrapping procedure with standard errors, generating *t* statistics and *p* values. A significance level of $p < 0.05$ was used to determine statistically significant associations.

In addition to direct effects, specific indirect effects were analyzed to examine the mediating role of intention in the relationship between the TPB constructs and exclusive breastfeeding behaviour. The interpretations of results focused on the magnitude, direction, and statistical significance of path coefficients to explain both significant pathway and the absence of direct or indirect effects.

Ethical considerations

Ethical approval for the study was obtained from the Health Research Ethics Committee of the Maluku Husada College of Health Sciences, under the reference number RK.194/KEPK/STIK/VI/2025, approved on 11th June 2025.

Results

Descriptive analysis

Table 1 presents the education level of breastfeeding mothers with infants aged 0-6 months, which ranges from no formal education to a bachelor's degree. The predominant educational attainment among these mothers is high school, accounting for 32.09%, followed by bachelor's degree holders at 23%. Similarly, 43.05% of the completed high school, while those with a Associate Degree I education level represent the smallest percentage (0.6%). Regarding religious affiliation, nearly all breastfeeding mothers and their husbands identify as Muslim (99.4%), which also represent the proportion on religion distribution in the district. Additionally, ninety-three percent of respondents are of Bugis.Table 2 shows that mothers with positive attitudes exhibited a high intention rate of 99.4% (159 individuals) to feed their baby with breastmilk exclusively in the first six month of life. Based on the statistical test, there is a statistically significant relation between maternal attitudes towards exclusive breastfeeding behavior and intention. Based on $p = 0.012$ (<0.05), suggesting a significant relationship between maternal attitudes towards exclusive breastfeeding behavior and intentions.

Table 1: Distribution of characteristics of breastfeeding mothers in Bulukumba (N=161)

Characteristics	Breastfeeding mothers n (%)	Husband n (%)
Level of education		
No school	2 (1.0)	2 (1.0)
Elementary School	35 (21.1)	39 (24.0)
Junior High School	22 (13.1)	21 (13.0)
Senior High School	53 (32.1)	70 (43.1)
Associate Degree I	1 (0.6)	1 (0.6)
Associate Degree II	1 (0.6)	0 (0)
Associate Degree III	6 (3.1)	3 (1.1)
Associate Degree IV	3 (1.1)	0 (0)
Bachelor's Degree	37 (32.0)	21 (13.0)
Profession	1 (0.6)	0 (0)
Masters Degree	0 (0)	4 (2.1)
Religion		
Islam	160 (99.4)	160 (99.4)
Christian	1 (0.6)	1 (0.6)
Ethnic group		
Bugis	150 (93.0)	151 (93.1)
Bugis/Makassar	1 (0.6)	1 (0.6)
Konjo	6 (3.1)	5 (3.0)
Konjo Bugis	2 (1.0)	1 (0.6)
Makassar	0 (0)	2 (1.02)
Toraja	0 (0)	1 (0.6)

Relationship between variables

Most respondents showed positive subjective norms and 98.4% of those with positive subjective norms reported high intention to perform exclusive

Table 2: Relationship between independent variables and intention

Variable	Intention		Total	Fisher (p-value)
	High	Low		
	n (%)	n (%)	n (%)	
Attitude toward Behavior				
Positive	159 (99.4)	1 (0.6)	160 (100)	0.012
Negative	0 (0)	1 (100)	1 (100)	
Subjective norm				
Positive	122 (98.4)	2 (1.6)	124 (100)	1.000
Negative	37 (100)	0 (0)	37 (100)	
Perceived behavioural control				
Positive	159 (99.4)	1 (1.6)	160 (100)	0.012
Negative	0 (0)	1 (1.6)	1 (100)	

Table 3: Relationship between independent and moderate variables and exclusive breastfeeding behaviour

Variabel	Breastfeeding Behavior		Total	Fisher (p value)
	EBF	Not EBF		
	n (%)	n (%)	n (%)	
Attitude toward behavior				
Positive	60 (37.5)	100 (62.5)	160 (100)	1.000
Negative	0 (0)	1 (100)	1 (100)	
Subjective Norm				
Positive	46 (37.1)	78 (62.9)	124 (100)	1.000
Negative	14 (37.8)	23 (62.20	37 (100)	
Perceived behavioural control				
Positive	60 (37.5)	100 (62.5)	160 (100)	1.000
Negative	0 (0)	1 (100)	1 (100)	
Intention				
High	59 (37.1)	100 (62.9)	159 (100)	1.000
Low	1 (50)	1 (50)	1 (100)	

breastfeeding and only 1.6% have low intention. The Fisher test result *_p value_* of 1.000 (>0.05), indicating no significant relationship between subjective norms and intentions to perform exclusive breastfeeding. Furthermore, breastfeeding mothers with positive perception of behavioral control showed that 99.4% have high intentions, with only 0.6% indicating low intentions. Conversely, mothers with negative perceptions of behavioral control exhibit a 100% rate of low intentions. The Fisher test result yields a *p value* of 0.012 (<0.05), indicating a significant relationship between perceived behavioral control and the intention to provide exclusive breastfeeding.

Table 3 reveals that none of the predictors shows statistically significant relationship with Exclusive Breastfeeding Behavior. Although most respondents showed positive attitude toward behavior only 37.5% of them performed exclusive breastfeeding, while 62.5% did not. All mothers (100%) with negative attitudes did not provide exclusive breastfeeding. Statistical analysis shows no significant relationship between attitudes and exclusive breastfeeding behavior based on p = 1.000.

Futhermore, only 37.5% of mothers showing positive subjective norms breastfeeding their infant exclusively in the first six month of life, while the majority (62.9%) did not. Statistical tests indicate that subjective norms do not significantly relate to exclusive breastfeeding behavior. Likewise, only 37.5% of mothers showing positive perceived behavioral controls practiced exclusive breastfeeding; while the rest of them did no. The statistical test yielded p value of 1.000, indicating no significant relationship between perceived behavioral control and exclusive breastfeeding. For the intention variable, among the 159 mothers with high intention, 37.1% were exclusively

breastfeeding, while 62.9% were not. The p-value of 1.000 shows no significant association between intention and exclusive breastfeeding practice.

Structural relationship among theory of planned behavior (TPB) constructs

The structural model analysis showed that attitude toward exclusive breastfeeding had a strong and positive effect on intention ((β = 0.619; ***p*** < 0.001). Perceived behavior control was also positively associated with intention ((β = 0.338; ***p*** < 0.001). In contrast, subjective norms were not significantly associated with intention ((β = 0.013; ***p*** < 0.722)

Regarding exclusive breastfeeding behavior, none of the Theory of Planned Behavior constructs demonstrated a statistically direct relationship. Attitude ((β = 0.613; ***p***=0.653), perceived behavioral control (β=-0.484; ***p***=0.0342), subjective norm (β = -0.079; ***p*** = 0.644), and intention (β = 0.453; ***p***= 0.352) were not significantly associated with behavior.

Analysis of the direct effect further indicated that intention did not significantly mediate the relationships between TPB constructs and exclusive breastfeeding behavior. Overall, these results indicate the presence of an intention – behavior gap in exclusive breastfeeding practice among mothers in Bulukumba RegencyThe perceived control variable exhibited a coefficient of 0.338, indicating a positive influence on intention. This finding is further supported by a statistical significance value of 0.000, suggesting that perceived behavioral control positively affects the intention to exclusively breastfeed infants.

Conversely, the variable concerning the perception of breastfeeding behavior displayed a path coefficient value of -0.484, indicating a negative association with breastfeeding behavior. The associated statistical result of 0.342 suggests that the perception of behavioral control is not significantly related to the exclusive breastfeeding behavior.

Additionally, the path coefficient for the indirect effect of perceived behavioral control on exclusive breastfeeding behavior through intention was determined to be 0.153. The t-statistical test yielded a result of 0.923 (<1.96) and a p-value of 0.356 (>0.05), indicating insignificance. Consequently, although higher perceived behavioral control tends to enhance exclusive breastfeeding behavior through intention, the statistical evidence does not support this relationship.

The positive effect of intention on breastfeeding behavior was reflected in a path coefficient of 0.453. However, the statistical test revealed a p-value of 0.351, indicating that intention had no significant direct effect on breastfeeding behavior.

Discussion

This study found that attitudes toward exclusive breastfeeding and perceived behavioral control significantly influenced mothers' intentions to exclusively breastfeed, whereas subjective norms did not demonstrate a significant association. These findings partially support the Theory of Planned Behavior, which posits that intention is shaped by attitudes, subjective norms, and perceived behavioral control, and serving as the most proximal predictor of behavior.[17]

The strong influence of attitude on intention suggests that mothers' positive evaluations of exclusive breastfeeding, particuralrly beliefs regarding its health benefits for infants, are a central motivational driver. This result is consistent with meta analytic and empirical evidence demonstrating that favorable attitudes are among the strongest predictors of breastfeeding intentions across diverse settings. [23] These findings indicate that the informational and belief-based components of breastfeeding promotion remain relevant but may be insufficient on their own to ensure sustained practice.

Perceived behavioral control was also positively associated with intention, highlighting the importance of mothers' confidence and perceived capacity to exclusively breastfeed. This finding aligns with previous evidence suggesting that peceived control and self-efficacy play critical roles in shaping breastfeeding intentions.[23] However the absence of a direct effect of perceived behavioral control on actual breastfeeding behavior suggests that individual confidence may be constrained by contextual and structural barriers beyond personal control.

Attitude toward behavior

In the Theory of Planned Behavior (TPB), attitude refers to the degree to which an individual evaluates

a specific behavior favorably or unfavorably.[17] This study focused on the behavior of exclusive breastfeeding. The more positive the attitude toward behavior were regarding exclusive breastfeeding, the stronger mother's intention to engage in exclusive breastfeeding. Positive attitudes generally stem from a robust understanding of the benefits of exclusive breastfeeding, personal experiences, and a belief in the advantages of breast milk for infants. The findings of this study indicated that positive attitudes significantly enhance the intention to exclusively breastfeed. Most mothers perceive exclusive breastfeeding as the correct and responsible choice, viewing it as an obligation of motherhood and an integral aspect of their cultural identities.

The results demonstrated that attitude had a positive and significant effect on the intention to exclusively breastfeed (0.619, $p = 0.000$). Consistent with the TPB, attitude serves as a primary determinant of intention, as individuals with a positive assessment of a behavior are more likely to intend to perform it.

According to TPB, attitudes are one of the most potent predictors of intention. When mothers have positive experiences or sufficient informational support, they are more likely to develop a strong intention to exclusively breastfeed. This aligns with an intervention research focusing on premature infants, which suggests that fostering positive attitudes toward exclusive breastfeeding among mothers can enhance both the intention and duration of exclusive breastfeeding.[24] However, this contrasts with studies on nulliparous mothers (those who have never given birth to a live baby), which found that attitudes do not directly predict intention.[25]

Attitude influences intention through individual assessment; when a mother perceives exclusive breastfeeding as beneficial, safe, and meaningful for her child, she is more inclined to form a strong intention to exclusive breastfeed. This finding corroborates various TPB studies on breastfeeding, which have identified attitude as a critical predictor of intention. For instance, research on postpartum mothers had confirmed that exclusive breastfeeding intention is a significant factor in breastfeeding behavior.[26] Similarly, a study involving mothers with six-month-old infants found that enhancing attitudes and perceptions regarding breastfeeding can substantially increase the likelihood of breastfeeding.[27]

This study also revealed an important distinction in attitudes. While attitudes influenced intentions, intention did not directly affect exclusive breastfeeding behavior. The indirect effect of intentions on behavior was insignificant. In the TPB, attitudes do not directly influence behavior; rather, intentions typically function as a mediator. Technical and environmental obstacles can impede behavior, even if the mother has a positive attitude. This study supports the TPB, which posits that attitudes can shape human behavior, although this influence may vary across different behaviors.[17] Specifically, breastfeeding behavior, particularly exclusive breastfeeding, is a behavior that, despite being under individual control, can be influenced by situational factors. Consequently, this study also assessed the antecedent factors of perceived behavioral control.

Subjective norm

According to the Theory of Planned Behavior (TPB), subjective norms refer to the perceived social pressure to perform or refrain from performing a specific behavior.[17] In this study, mothers did not experience anxiety regarding their ability to exclusively breastfeed, as their social environment did not perceive it negatively. Additionally, mothers did not feel guilty if they were unable to provide exclusively breastfeed. This indicates that subjective norms at the research location had no significant impact on intentions. Social norms are weak, suggesting that social support or pressure regarding exclusive breastfeeding within the Bulukumba community is limited.

The findings indicated that positive subjective norms account for 98.4% of mothers' intentions to provide exclusively breastfeed; however, only 37.1% were able to practice it. This aligns with a study examining subjective norms in preventive behavior, where 54.9% of dentists expressed intentions to engage in preventive practices, yet only 7.6% actually implemented them.[28] This study corroborates other behavioral research demonstrating that subjective norms do not significantly influence intentions.[29] This outcome contrasts with previous studies indicating that a mother's subjective beliefs are more closely related to perceived social pressure, with peer or friend approval receiving the highest ratings. The study

also suggests a divergence in the role of the mother's social environment on intentions, where subjective norms are significantly influenced by the intention to engage in specific behaviors.[30] Some research has shown a significant relationship between subjective norms and intentions.[31] For instance, research conducted in Nigeria found that simple strategies based on dimensions of social support effectively promoted positive breastfeeding practices.[32]

In this study, subjective norms did not significantly affect intentions or behaviors to practice exclusive breastfeeding. This suggests that the decision to exclusively breastfeed is more personal than influenced by social pressure. Social norms appear to be weak, with minimal social support or pressure in the Bulukumba community to promote exclusive breastfeeding. Furthermore, individual influences were more pronounced among the sample, with personal attitudes and perceived control affecting intention more than the opinions of others. Breastfeeding behavior, particularly in the context of exclusive breastfeeding, may be viewed as a personal choice rather than a social obligation.

The insignificant role of subjective norms in predicting intention may reflect the complex and sometimes contradictory nature of social influences on breastfeeding practices. While mothers may perceive verbal approval of exclusive breastfeeding from family members or community figures, such approval does not necessarily translate into practical or instrumental support for exclusive breastfeeding. This finding indicates that perceived norms alone may be insufficient to motivate intention when not accompanied by tangible assistance or enabling conditions.

From a theoretical perspective, this result underscores the potential limitations of the conventional application of the Theory of Planned Behavior. In collectivist or socially embedded contexts, normative influence may operate indirectly through structural expectations rather than explicit social pressure. [17] Future breastfeeding promotion efforts should therefore consider expanding normative interventions to incorporate family centered and community-based support mechanisms that extend beyond perceived approval.

Perceived behavioral control

In the Theory of Planned Behavior (TPB), perceived behavioral control refers to an individual's perception of the ease or difficulty associated with performing a specific behavior. This construct is assumed to be influenced by past experiences as well as anticipated barriers and obstacles. Favorable attitudes and subjective norms regarding a behavior enhance perceived behavioral control, thereby strengthening an individual's intention to engage in that behavior.[17]

In this context, behavioral control significantly and positively influenced the intention to exclusively breastfeed (0.338, $p < 0.001$). Mothers who perceived themselves as capable of overcoming barriers to exclusive breastfeeding exhibited stronger intentions to do so. This variable was particularly significant, as many mothers expressed confidence in their ability to refuse food before six months, implement correct breastfeeding techniques independently, manage their emotions, and maintain consistent exclusive breastfeeding without the use of formula. This significant correlation suggests that mothers' confidence in overcoming obstacles is directly correlated with their intention to exclusively breastfeed. According to Bandura, self-efficacy is a critical factor in initiating and sustaining health-related behaviors.[33,34]

Furthermore, self-efficacy closely aligns with the concept of perceived behavioral control and serves as a determinant of intentions. Research indicates that self-efficacy is a prominent predictor of intention, revealing an interconnected relationship between perceived behavioral control and intention. Studies have shown that self-efficacy is a more influential factor than perceived control in shaping intentions.[35] Additionally, research has demonstrated that mothers who understand the benefits of providing nutritious breast milk exhibit the highest levels of perceived behavioral control.[30] A study conducted in Egypt, which implemented an interactive digital educational program on breastfeeding, found that both the study and control groups initially demonstrated poor knowledge, attitudes, and self-efficacy regarding breastfeeding. However, following the program, breastfeeding self-efficacy was positively correlated with improved knowledge and attitudes.[36] Moreover, mothers receiving peer support in low- and middle-income countries were more likely to initiate breastfeeding within the first hour of life than to those without such support. Furthermore, peer support has been shown to reduce the incidence of pre-lacteal feeding in newborns in these settings. A separate systematic

review also identified peer support as an effective intervention for promoting breastfeeding initiation among low-income mothers.[37]

Furthermore, statistical analyses of the indirect effect indicated that perceived behavioral control did not significantly influence behavior through intentions. While perceived behavioral control accounted for 99.4% of mothers' intentions to exclusively breastfeed, it only facilitated 37.5% of mothers in successfully practicing exclusive breastfeeding.

There is often a discrepancy between perceptions and reality. Initially, mothers may feel confident in their ability to exclusively breastfeed, but they may encounter unexpected challenges in the process. Participants in the study location exhibited a strong belief in their capacity to breastfeed exclusively for six months, despite the likelihood of facing obstacles later on. Many mothers believed they had complete control over their decisions, and some respondents expressed confidence in their ability to breastfeed exclusively without using formula. However, this perception shifted when they confronted the realities of childbirth and the initiated breastfeeding. This phenomenon was similarly observed in a study conducted in China, which highlighted the persistent discomfort mothers experienced during breastfeeding due to nipple pain from ineffective latching.[38]

The intention to breastfeed did not significantly influence exclusive breastfeeding behavior. This finding aligns with the results of 80 studies in the Saudi Arabia, which noted that while breastfeeding intentions were high, the intention to exclusively breastfeed was considerably lower.[39] High intentions do not necessarily translate into behavior due to practical barriers, such as employment, health issues, or lack of support. Additional factors, including infant health problems, familial pressure to use formula, and certain cultural practices, can impede breastfeeding despite strong intentions. Moreover, an extended interval between measuring intention and actual behavior may weaken this correlation.

Although intention exhibited a positive correlation with behavior (0.453), the result was not statistically significant (p=0.351). This reflects an intention-behavior gap, whereby robust intentions may not materialize due to external obstacles or situational changes.[40] Behavior often fails to occur due to the time lag between the formation of the intention and action. This prolonged duration allows for various circumstances to arise that may diminish the translation of intention into behavior.[40,41] As noted in a narrative review, maternal pessimism and fear can significantly impact a mother's decision to exclusively breastfeed.[42] Additionally, early cessation of breastfeeding is often linked to insufficient social support. In this study, most mothers believed that the decision to exclusively breastfeed was heavily influenced by their families surrounding environment. Other research has identified prolonged mother-infant separation, inverted nipples, anxiety, and depression as risk factors for the failure to achieve exclusive breastfeeding.[38]

Despite the significant influence of attitude and perceived behavioral control on intention, intention did not significantly predict exclusive breastfeeding behavior. This finding suggests the presence of an intention-behavior gap, a phenomenon well documented in behavioral science literature, whereby individuals with strong intentions fail to translate them into action due to situational, environmental, or structural constraints.[43]

Study strengths and limitations

This study has several strengths. First, it applies the Theory of Planned Behavior to explore exclusive breastfeeding within a specific social and cultural context marked by persistently low breastfeeding coverage. By focusing on a district-level setting, this study provides context-sencitive evidence that enhances existing national and international research. Second, the use of structural equation modelling-partial least squares (SEM-PLS) allowed for the simultaneous assesment of direct and indirect relationships among the TPB constructs, offering a comprehensive understanding of the dynamics between intention and behavior in exclusive breastfeeding.

However, this study had some limitations. The cross-sectional design restricts the ability to draw casua inferences between the TPB constructs and breastfeeding behavior. Additionally, the data on exclusive breastfeeding were collected retrospectively and relied on self-reported maternal recall, which may have introduce recall bias. Despite these limitations, the study provides valuable insights into the psychosocial determinants of

exclusive breastfeeding within insights into the psychosocial determinants of exclusive breastfeeding within a socially embedded context. Finally, as the study was conducted in a specific sociocultural context, the findings may not be directly generalizable to other regions with different social and structural characteristics.

Implications for policy and practice

These findings have significant implication for maternal and child health policies and practices. While mothers expressed strong intentions to exclusively breastfeed, these intentions often did not translate into actual behavior, revealing a considerable intention-behavior gap. Therefore, health promotion strategies should extend beyond knowledge-based interventions to strengthens maternal attitudes and perceived behavioral control through practical and ongoing support.

Policy interventions should prioritize community-based breastfeeding support programs that address the contextual barriers mothers face, such as social expectations, work-related constraints, and cultural practices. Enhancing the roles of community health workers and families. Members and peer support groups may help bridge the gap between intention and practice. Additionally, integrating cculturally sensitive counseling approaches into routine maternal health services may enhance mothers' confidence and ability to maintain exclusive breastfeeding.

Conclusion

This study demonstrates that positive attitudes and perceived behavioral control among breastfeeding mothers significantly influence their intention to breastfeed. However, subjective norms did not significantly impact the shaping of these intentions. Additionally, high levels of intention have not been shown to directly increase exclusive breastfeeding practices, highlighting the challenges in translating intentions into concrete behavior. This translation is affected by social factors, limited support, and environmental conditions that mothers encounter daily. The results of this study indicate that increasing exclusive breastfeeding coverage in Bulukumba Regency necessitates a health program intervention approach targeted at both individuals and the community to improve breastfeeding practices.

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Conflict of interests

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Contribution of authors

Fairus Prihatin Idris conceived and designed the study, supervised data collection, performed data analysis, and drafted the manuscript. Suchi Avnalurini Sharief participated in data collection and contributed to interpretation of findings. Dedy Atmajaya contributed to data analysis and provided technical support for data processing. Andi Asrina assisted in data collection and critically revised the manuscript for important intellectual content. All authors read and approved the final versiob of the manuscript.

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