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Family Support and Exclusive Breastfeeding: The Mediating Role of Breastfeeding Self-Efficacy

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ABSTRACT
Family support is widely acknowledged as a key determinant of breastfeeding; however, the psychological mechanism linking it to exclusive breastfeeding remains inadequately examined in Indonesia, as no published study has formally tested breastfeeding self-efficacy as a mediator using path analysis frameworks. This study aimed to analyze the mediating role of breastfeeding self-efficacy in the relationship between family support and exclusive breastfeeding among postpartum mothers. A cross-sectional analytical study was conducted with 250 postpartum mothers in Tangerang City and Regency, recruited through purposive sampling across multiple healthcare settings. Data were collected using two validated instruments and analyzed via Partial Least Squares Structural Equation Modeling (PLS-SEM), with indirect effects examined through indirect effect analysis. Family support had no significant direct effect on exclusive breastfeeding ($\beta = 0.097$; $p = 0.422$), yet strongly predicted breastfeeding self-efficacy ($\beta = 0.887$; $p < 0.001$). Breastfeeding self-efficacy significantly predicted exclusive breastfeeding ($\beta = 0.761$; $p < 0.001$), and the indirect effect was confirmed ($\beta = 0.675$; $p < 0.001$), indicating full mediation. The model explained 45.1% of variance in exclusive breastfeeding and 78.6% in breastfeeding self-efficacy, though causal inference remains constrained by the cross-sectional design. These findings demonstrate that family support promotes exclusive breastfeeding only insofar as it simultaneously strengthens maternal psychological confidence. Exclusive breastfeeding promotion programs should integrate self-efficacy-building components as a core intervention element rather than targeting family support in isolation.

Keywords: Breastfeeding Self-Efficacy, Exclusive Breastfeeding, Family Support, Mediation, PLS-SEM.

ABSTRAK
Dukungan keluarga diakui sebagai determinan penting praktik menyusui, namun mekanisme psikologis yang menghubungkannya dengan ASI eksklusif belum diteliti secara memadai di Indonesia; khususnya, belum ada studi yang secara formal menguji efikasi diri menyusui sebagai mediator menggunakan kerangka analisis jalur. Studi ini bertujuan menganalisis peran mediasi efikasi diri menyusui dalam hubungan antara dukungan keluarga dan ASI eksklusif pada ibu postpartum. Penelitian kuantitatif dengan desain analitik cross-sectional ini melibatkan 250 ibu postpartum di Kota dan Kabupaten Tangerang yang direkrut melalui purposive sampling di berbagai fasilitas kesehatan. Data dikumpulkan menggunakan dua instrumen tervalidasi dan dianalisis dengan Partial Least Squares Structural Equation Modeling (PLS-SEM), dengan efek tidak langsung diuji melalui analisis indirect effect. Hasil menunjukkan bahwa dukungan keluarga tidak berpengaruh langsung secara signifikan terhadap ASI eksklusif ($\beta = 0{,}097$; $p = 0{,}422$), namun berpengaruh kuat terhadap efikasi diri menyusui ($\beta = 0{,}887$; $p < 0{,}001$). Efikasi diri menyusui secara signifikan memprediksi ASI eksklusif ($\beta = 0{,}761$; $p < 0{,}001$), dan efek tidak langsung terkonfirmasi ($\beta = 0{,}675$; $p < 0{,}001$), mengindikasikan mediasi penuh. Model menjelaskan 45,1% varian ASI eksklusif dan 78,6% varian efikasi diri menyusui, meskipun inferensi kausal tetap terbatas oleh desain cross-sectional. Temuan ini menunjukkan bahwa dukungan keluarga hanya efektif meningkatkan ASI eksklusif apabila secara bersamaan memperkuat kepercayaan diri ibu dalam menyusui. Program promosi ASI eksklusif hendaknya mengintegrasikan penguatan efikasi diri ibu sebagai komponen inti intervensi.

Kata Kunci: ASI Eksklusif, Dukungan Keluarga, Efikasi Diri Menyusui, Mediasi, PLS-SEM.

INTRODUCTION

Exclusive breast milk is the most basic form of nutritional intervention in the early stages of a baby's life, defined as the practice of breastfeeding alone without any added fluids or solid foods during the first six months of life. The World Health Organization emphasizes that this practice provides optimal protection for babies through the content of immunoglobulins, bioactive factors, and essential nutrients that formula milk is unable to replicate. Scientific evidence shows that babies who receive exclusive breastfeeding have a lower risk of respiratory infections, diarrhea, allergic diseases, and have long-term benefits in the form of reduced risk of obesity, type 2 diabetes, and neurocognitive disorders (Victora, et al., 2016). Although the benefits of exclusive breastfeeding have been comprehensively documented in the literature, the gap between recommendations and actual practice in the field is still a serious public health issue. Data from the 2022 Indonesian Nutrition Status Survey recorded that the coverage of exclusive national breastfeeding only reached 65.1%, a figure that is still far below the National Medium-Term Development Plan's target of 80%. This condition shows the existence of various complex factors that systematically hinder the continuity of exclusive breastfeeding practices in postpartum mothers in Indonesia, so a deep understanding of these determinants is very important for the development of effective and evidence-based intervention strategies (Kementerian Kesehatan Republik Indonesia, 2022).

Despite extensive documentation of exclusive breastfeeding benefits, the academic literature still exhibits a critical methodological limitation in explaining the precise psychosocial pathways through which social environmental factors translate into sustained breastfeeding behavior. Prior investigations conducted in the Indonesian context have predominantly employed bivariate and multivariate regression approaches, which are structurally incapable of disentangling direct from indirect causal pathways operating simultaneously within a complex behavioral system. Consequently, whether family support exerts its influence on exclusive breastfeeding through a psychological intermediary mechanism, or operates solely through a direct behavioral pathway, remains empirically unresolved (Hossain & Mihrshahi, 2022). Furthermore, existing studies yield inconsistent conclusions: several investigations report statistically significant associations between family support and breastfeeding continuation, whereas others demonstrate attenuated or non-significant effects when confounding variables are adequately controlled, suggesting that an unmeasured mediating construct may account for this explanatory inconsistency.

Critically, no published study within the Indonesian postpartum population has formally tested breastfeeding self-efficacy as a mediator between family support and exclusive breastfeeding using Structural Equation Modeling or path analysis frameworks, which are methodologically required to substantiate mediation claims with adequate statistical rigor. This absence represents a substantial gap in the evidence base, as mediation analysis would clarify not only whether family support matters, but precisely through which cognitive mechanism its effect is transmitted. Without this mechanistic understanding, intervention programs targeting breastfeeding promotion remain theoretically underdeveloped, as they cannot distinguish whether increasing family support, strengthening maternal self-efficacy, or both simultaneously, would yield the greatest behavioral impact (Nasir, 2024). The present study addresses this gap by employing a structural path analysis approach to empirically test breastfeeding self-efficacy as a formal mediator, thereby generating mechanistic evidence that neither bivariate correlations nor standard regression analyses are equipped to provide. This methodological contribution constitutes the primary novelty of the current investigation and directly responds to the theoretical and empirical deficiencies identified in preceding literature.

In the social ecology of breastfeeding, family support has been identified as a key determinant that consistently influences the mother's decision and ability to provide exclusive breastfeeding. The support includes four interrelated dimensions, namely emotional, informational, instrumental, and assessment support. The active involvement of nuclear and extended family members, especially husbands, biological mothers, and mothers-in-law, is a cultural characteristic of Indonesian society that distinguishes it from the social context of Western countries. Studies in Indonesia have consistently shown that mothers with strong family support have a greater chance of maintaining exclusive breastfeeding until six months of age (Pakilaran et al., 2022). However, the psychological mechanisms that explain how family

support turns into sustained breastfeeding behavior have not been fully understood in the Indonesian literature. This knowledge gap hinders the design of precise intervention programs. The Social Cognitive Theory developed by Bandura provides the most relevant conceptual framework in understanding the mechanism, especially through the central role of self-efficacy, which is the individual's belief in his or her ability to carry out certain behaviors that operate as a mediator between the influence of the social environment and real actions.

The breastfeeding self-efficacy construct, conceptualized by Dennis through the Breastfeeding Self-Efficacy Scale (BSES-SF), refers to a mother's confidence in her ability to breastfeed her baby. Mothers with high levels of self-efficacy tend to be more persistent in facing breastfeeding challenges, while mothers with low self-efficacy are more prone to stop breastfeeding prematurely (Dennis, 2003). Empirical evidence from the meta-analysis of Brockway et al. confirms that increased breastfeeding self-efficacy is consistently positively correlated with breastfeeding initiation rates, duration, and exclusivity (Brockway, Benzies, & Hayden, 2017). Previous studies have established a significant relationship between family support and exclusive breastfeeding practices in Indonesia, but the mediating mechanisms have not been systematically explored. This gap is the basis for the need for research with a more comprehensive structural path analysis approach (Pakilaran et al., 2022). This study aims to analyze the influence of family support on exclusive breastfeeding with breastfeeding self-efficacy as a mediating variable in postpartum mothers in Tangerang City and Regency.

RESEARCH METHODS

This study was designed using a quantitative approach with a cross-sectional analytical design, which was selected based on considerations of data collection efficiency and suitability in testing the relationships between variables at the same point in time. The implementation of the research took place during the period from March to May 2025 in the Tangerang City and Regency area, Banten Province, taking into account the diversity of sociodemographic backgrounds of postpartum mothers in urban and semi-urban areas of Indonesia. The study population was all postpartum mothers with infants aged 0–6 months who were domiciled in the study area.

Sampling was carried out using the purposive sampling Based on the inclusion criteria that have been set strictly, including postpartum mothers aged 18–45 years, are or have been breastfeeding, live with at least one family member, are able to read and write, and are willing to participate voluntarily as evidenced by the signing of an approval sheet (informed consent). Exclusion criteria include mothers with medical contraindications to breastfeeding and mothers whose babies have anatomical abnormalities that hinder the breastfeeding process. Sample size refers to guidelines that recommend a minimum of 200 respondents for structural equation modeling, and by taking into account the potential incomplete data of 10%, a target of 220 respondents is set. This study succeeded in collecting valid data from 250 respondents (Hair et al., 2019).

To mitigate selection bias inherent in purposive sampling, respondents were recruited across multiple healthcare settings, including community health centers (Puskesmas), posyandu units, and maternal clinics distributed across both urban and semi-urban zones of Tangerang. This multi-site recruitment strategy was intended to enhance sample representativeness, although generalizability beyond the study area remains a recognized limitation. Regarding sample size justification, the threshold of 200 respondents was determined not solely by conventional PLS-SEM guidelines, but also by statistical power analysis using G*Power 3.1, which confirmed adequate power ($1-\beta = 0.80$) for detecting medium effect sizes at a significance level of $\alpha = 0.05$.

The dependent variable in this study is exclusive breastfeeding practices, which are measured using one indicator (Single indicator) in the form of a dichotomous question regarding the status of exclusive breastfeeding to the respondent's infants at the time of data collection, with a score of 1 = yes (still providing exclusive breastfeeding) and a score of 0 = no (no longer providing exclusive breastfeeding). Usage Single indicator in this variable can be justified methodologically within the framework of PLS-SEM because the construct measured is single-faceted with a specific, directly measurable operational definition, as recommended by

(Hair et al., 2019). Value Outer Loading resulting in 1,000 is a mathematical consequence of the use of Single indicator and does not indicate a measurement problem.

To strengthen measurement rigor, exclusive breastfeeding status was operationalized in accordance with the World Health Organization's standard definition, wherein infants receive only breast milk without any supplementary food or liquids during the first six months of life. Furthermore, three potential confounding variables maternal age, parity, and prior breastfeeding experience were incorporated into the analytical model as covariates to reduce the risk of confounding bias. Concerning causal inference limitations, the cross-sectional design adopted in this study inherently restricts the ability to establish temporal precedence among variables. Accordingly, the mediation pathways identified through bootstrapping procedures should be interpreted as indicative of statistical associations rather than definitive causal relationships, consistent with methodological recommendations for cross-sectional mediation analysis (Meek & Noble, 2022).

Data collection used two validated instruments. First, Family Support for Breastfeeding Scale (FSBS) which consists of 20 items includes four subdimensions namely emotional support (items 1–5), informational support (items 6–10), instrumental support (items 11–15), and assessment support (items 16–20), using a 5-point Likert scale from strongly disagree (1) to strongly agree (5) with a total score ranging from 20–100, and Cronbach's alpha of 0.949. Second, Breastfeeding Self-Efficacy Scale-Short Form (BSES-SF) consisting of 14 items using a 5-point Likert scale from completely unsure (1) to very confident (5) with a total score ranging from 14–70, and Cronbach's alpha of 0.946, developed by (Dennis, 2003). Both instruments have gone through the process of adaptation into Indonesian using the Forward-backward translation by a competent bilingual translator, followed by a readability test on 30 postpartum mothers outside the study sample, as well as a validity and reliability test in the target population before being used in the main data collection.

Given that all data were collected from a single source at one point in time (self-report), the potential for common method bias was controlled through a procedural design in the form of guaranteeing respondent anonymity using respondent codes without complete identity and separation of question blocks between variables in the questionnaire. The common method bias test was statistically conducted using a full collinearity test based on Variance Inflation Factor (VIF), where the results showed that all inner VIF values were below the critical threshold of 3.3, so that common method bias did not pose a serious threat to the validity of the study's findings.

Data analysis was carried out using SmartPLS software with an approach Partial Least Squares Structural Equation Modeling (PLS-SEM). Evaluation Outer model Includes convergent validity tests through checks Outer Loading (≥0.60) and Average Variance Extracted (AVE ≥0.50), as well as the discriminant validity test using Fornell-Lacker Criterion. Evaluation Inner model includes the assessment of the determination coefficient (R^2) and the path coefficient. Testing of the mediation effect was carried out using the procedure Bootstrapping with 5,000 subsamples, where mediation is confirmed if Confidence interval does not pass zero (Ghozali & Latan, 2014). All aspects of research ethics have been fulfilled through ethical approval from Politeknik TEDC Bandung, Health Research Ethics Committee (Protocol: 56PKE-240225, Date: 24 February 2025), as well as sheet signing informed consent by all respondents before data collection begins. The confidentiality of the respondent's identity is fully guaranteed by the use of the respondent's code throughout the research process.

RESULTS

This study succeeded in collecting data from 250 postpartum mothers who met all inclusion criteria and were willing to participate voluntarily. The sociodemographic characteristics of the respondents were comprehensively analyzed to provide a comprehensive picture of the population profile studied, as presented in Table 1 below.

Table 1. Sociodemographic Characteristics of Respondents (n=250).

No.	Characteristics	Categories	n	%
1	Age	< 20 years old	19	7.6
		20–35 years old	173	69.2

No.	Characteristics	Categories	n	%
		> 35 years old	58	23.2
2	Education	Elementary (Elementary/Junior High)	40	16.0
		Middle (SMA)	100	40.0
		Higher (Diploma/Bachelor)	110	44.0
3	Jobs	Not Working	139	55.6
		Work	111	44.4
4	Parity	Primipara (1 child)	107	42.8
		Multipara (2–3 children)	117	46.8
		Large Multipara (>3 children)	26	10.4
5	Types of Childbirth	Normal/Spontaneous	168	67.2
		Caesarea Section	82	32.8
6	Early Breastfeeding Initiation	Yes (< 1 hour)	189	75.6
		No	61	24.4
7	Household Family Members	Husband only	87	34.8
		Husband + Parents	98	39.2
		Husband + In-Law	45	18.0
		Big Family	20	8.0

Table 1 reveals that the majority of participants fell within the 20–35-year age range (69.2%), representing the physiologically and psychologically optimal cohort for lactation. Tertiary-educated respondents comprised the largest educational subgroup (44.0%), potentially enhancing receptivity to breastfeeding guidance. Although non-employed mothers predominated (55.6%), the substantial proportion of employed mothers (44.4%) underscores occupational factors as determinants of exclusive breastfeeding continuity. Multiparous women constituted the largest parity category (46.8%), contributing diverse lactation experiences. Spontaneous vaginal delivery was most prevalent (67.2%), while cesarean section rates (32.8%) carried implications for early initiation success, with 75.6% achieving initiation within the first postnatal hour. Spousal and parental cohabitation (39.2%) indicated considerable familial support availability.

Table 2. Outer Loading Results of All Indicators.

Indicator	Construct	Outer Loading
FSBS1	Family Support	0.672
FSBS2	Family Support	0.616
FSBS3	Family Support	0.640
FSBS4	Family Support	0.694
FSBS5	Family Support	0.771
FSBS6	Family Support	0.749
FSBS7	Family Support	0.769
FSBS8	Family Support	0.651
FSBS9	Family Support	0.726
FSBS10	Family Support	0.628
FSBS11	Family Support	0751
FSBS12	Family Support	0.719
FSBS13	Family Support	0.773
FSBS14	Family Support	0.661
FSBS15	Family Support	0.721
FSBS16	Family Support	0.802
FSBS17	Family Support	0.723
FSBS18	Family Support	0.735
FSBS19	Family Support	0.645
FSBS20	Family Support	0.780

BSES1	Self-Efficacy of Breastfeeding	0.804
BSES2	Self-Efficacy of Breastfeeding	0.723
BSES3	Self-Efficacy of Breastfeeding	0.813
BSES4	Self-Efficacy of Breastfeeding	0.810
BSES5	Self-Efficacy of Breastfeeding	0.825
BSES6	Self-Efficacy of Breastfeeding	0.777
BSES7	Self-Efficacy of Breastfeeding	0.865
BSES8	Self-Efficacy of Breastfeeding	0.811
BSES9	Self-Efficacy of Breastfeeding	0.786
BSES10	Self-Efficacy of Breastfeeding	0.814
BSES11	Self-Efficacy of Breastfeeding	0.605
BSES12	Self-Efficacy of Breastfeeding	0.743
BSES13	Self-Efficacy of Breastfeeding	0.629
BSES14	Self-Efficacy of Breastfeeding	0.715
Breast milk	Exclusive Breast Milk	1.000

Based on Table 2, all indicators from the three constructs show an *outer loading value* that exceeds the minimum threshold of 0.60, so that the convergent validity at the indicator level is met. Where the item that measures the ability to manage breastfeeding activities satisfactorily makes the strongest contribution to the construct. The exclusive ASI indicator as a single-indicator variable has a perfect outer loading of 1,000.

Table 3. Average Variance Extracted (AVE) Value.

Construct	AVE
Family Support	0.509
Self-Efficacy of Breastfeeding	0.592

Table 3 shows the AVE values of both constructs beyond the 0.50 threshold, confirming the adequacy of convergent validity at the construct level. The AVE value that meets this threshold indicates that each construct is able to explain more than half of the variants of the indicators, so that the FSBS and BSES-SF instruments are proven to be convergently valid in measuring the dimensions in question.

Table 4. Fornell-Lacker Criterion Matrix.

Construct	Family Support	Exclusive Breast Milk	Self-Efficacy of Breastfeeding
Family Support	0.871		
Exclusive Breast Milk	0.579	1.000	0.877
Self-Efficacy of Breastfeeding	0.787	0.676	

Table 4 shows that the square root value of each construct is consistently greater than its correlation with other constructs, so that the discriminant validity is met. Similarly, the root value of AVE Self-Efficacy Breastfeeding (0.877) surpasses its correlation with other constructs. This pattern confirms that each construct has an adequate measurement uniqueness and does not overlap excessively with other constructs, so that discriminant validity is met.

Table 5. Cross Loading Results (Partially Representative).

Indicator	Family Support	Exclusive Breast Milk	Self-Efficacy of Breastfeeding
FSBS16	0.802	0.536	0.685
FSBS13	0.773	0.353	0.687
FSBS20	0.780	0.503	0.760
BSES7	0.745	0.621	0.865
BSES5	0.752	0.381	0.825
BSES10	0.708	0.604	0.814
Breast milk	0.579	1.000	0.676

Table 5 confirms that each indicator shows the highest loading value in the target construct compared to the other constructs, which is a fundamental criterion for fulfilling the validity of cross-loading-based discriminant. The FSBS indicators consistently have the highest loading in the Family Support construct, the BSES indicators consistently have the highest loading in the Breastfeeding Self-Efficacy construct, and the Breastfeeding indicator has the highest and perfect loading in the Exclusive Breastfeeding construct.

Reliability Assessment

Internal consistency evaluation was conducted through two complementary metrics, namely Cronbach's alpha coefficient and composite reliability (rho_c), applied to each construct embedded in the measurement model. The Family Support construct yielded a Cronbach's alpha value of 0.949 alongside a composite reliability value of 0.954. Correspondingly, the Breastfeeding Self-Efficacy construct produced a Cronbach's alpha of 0.946 and a composite reliability of 0.953. Both constructs substantially surpassed the minimum acceptable threshold of 0.70 that is conventionally required in structural equation modeling research. These figures were obtained through the administration of the Family Support and Breastfeeding Scale (FSBS) and the Breastfeeding Self-Efficacy Scale–Short Form (BSES-SF) instruments, both of which demonstrated exceptionally high internal consistency in capturing the intended theoretical constructs, thereby affirming that the measurement results possess a level of precision and reproducibility suitable for rigorous scientific inference.

Regarding the structural model's explanatory capacity, the coefficient of determination (R^2) was computed for each endogenous variable in the model. The Exclusive Breastfeeding variable obtained an R^2 value of 0.458, with an adjusted R^2 of 0.451, signifying that 45.1% of the total variance observed in exclusive breastfeeding behavior was collectively accounted for by the combined contribution of the family support and breastfeeding self-efficacy variables within the structural framework. Simultaneously, the Breastfeeding Self-Efficacy variable yielded a considerably higher R^2 value of 0.787, accompanied by an adjusted R^2 of 0.786, indicating that as much as 78.6% of the variability in breastfeeding self-efficacy was explained solely by the family support variable. This latter figure is conventionally categorized as reflecting a substantial explanatory effect within the behavioral sciences literature.

Effect size estimation was subsequently performed using the f-square (f^2) statistic to quantify the practical magnitude of each hypothesized pathway independently of sample-size considerations. The pathway linking Family Support to Breastfeeding Self-Efficacy registered an f^2 value of 3.700, which is classified as a large effect size, representing the most dominant relational magnitude among all pathways examined in the model. The pathway from Breastfeeding Self-Efficacy to Exclusive Breastfeeding produced an f^2 value of 0.228, categorized within the medium-to-large range, indicating a practically meaningful degree of influence. Conversely, the direct pathway connecting Family Support to Exclusive Breastfeeding yielded a markedly diminished f^2 value of 0.004, corresponding to a small effect size that suggests minimal practical contribution of this direct link to the outcome variable.

Hypothesis Testing

The hypothesis testing phase encompassed both direct and indirect pathway analyses. Concerning direct effects, three hypotheses were subjected to empirical examination. The first hypothesis (H1), which proposed a significant direct relationship between family support and exclusive breastfeeding, was rejected on the basis of the statistical evidence. The standardized path coefficient for this pathway was $\beta = 0.097$, with a t-statistic of 0.804 and a p-value of 0.422, all of which collectively indicated a non-significant association that did not meet the required inferential criteria. The second hypothesis (H2), positing a significant positive influence of family support on breastfeeding self-efficacy, was accepted with strong empirical support. The path coefficient reached $\beta = 0.887$, accompanied by a t-statistic of 37.638 and a p-value of 0.000 ($p < 0.001$), confirming an exceptionally robust and statistically significant directional relationship. The third hypothesis (H3), asserting a significant positive influence of breastfeeding self-efficacy on exclusive breastfeeding, was likewise accepted. The corresponding path coefficient was $\beta = 0.761$, with a t-statistic of 6.431 and a p-value of 0.000 ($p < 0.001$), establishing breastfeeding

self-efficacy as a statistically and practically significant predictor of exclusive breastfeeding behavior.

The mediation hypothesis (H4), which constituted the central inferential objective of this investigation, was assessed through indirect effect analysis. This hypothesis proposed that breastfeeding self-efficacy functions as a mediating variable in the relationship between family support and exclusive breastfeeding. The indirect effect coefficient for the pathway Family Support → Breastfeeding Self-Efficacy → Exclusive Breastfeeding was β = 0.675, supported by a t-statistic of 6.128 and a p-value of 0.000 ($p < 0.001$), leading to the acceptance of H4. The mediation pattern was further characterized by comparing the direct and indirect effects. Given that the direct effect of family support on exclusive breastfeeding was statistically non-significant (β = 0.097; p = 0.422), whereas the indirect effect transmitted through breastfeeding self-efficacy was highly significant (β = 0.675; p = 0.000), the data collectively indicated the presence of a full mediation pattern. Under this configuration, the totality of the influence exerted by family support on exclusive breastfeeding behavior was channeled exclusively through the mediating variable of breastfeeding self-efficacy, with no statistically detectable direct path remaining between the exogenous and outcome constructs.

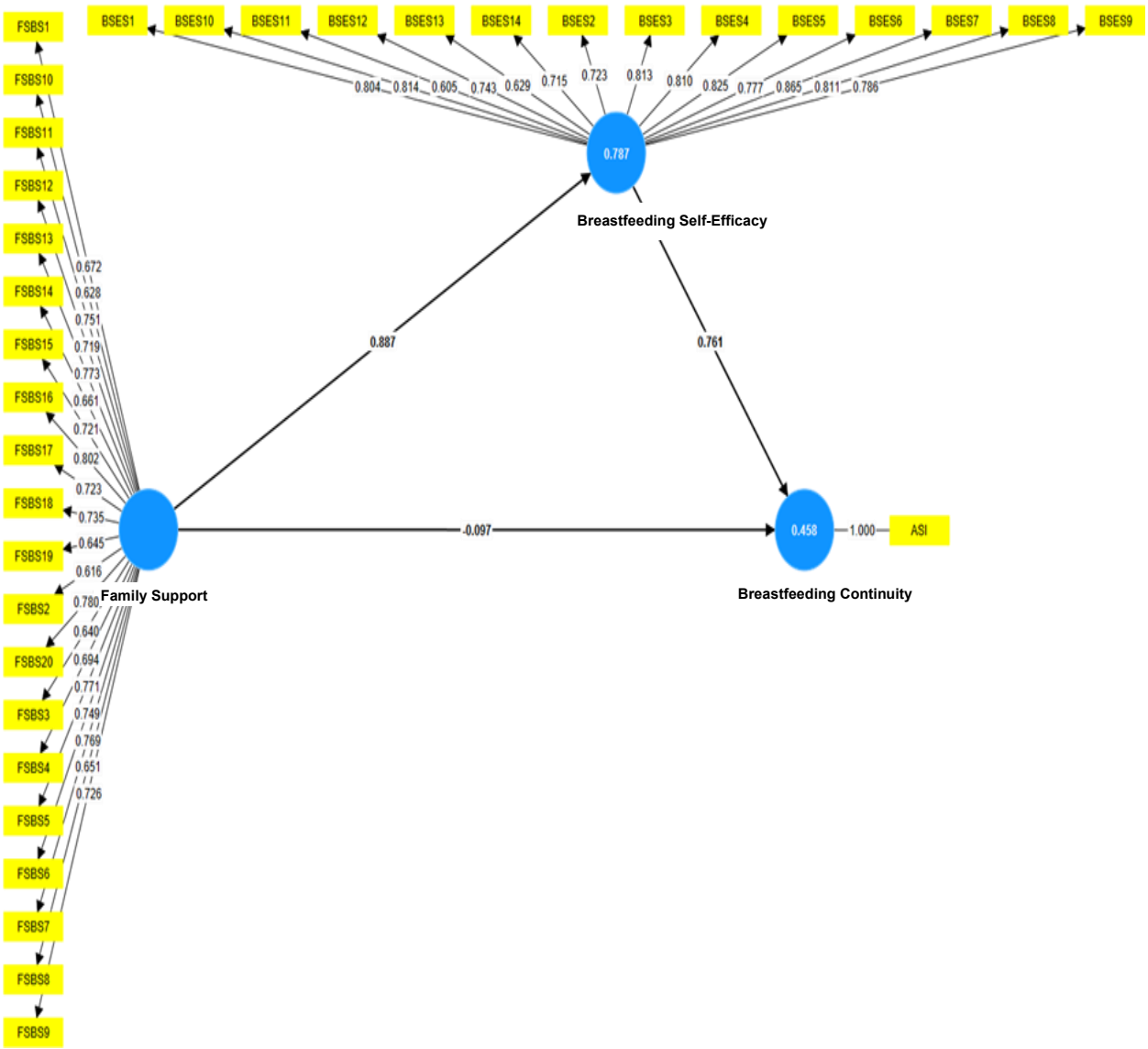

Figure 1. Outer Model PLS-SEM.

Figure 1 visualizes the overall structure of the *PLS-SEM* outer model along with the *loading* value of each indicator.

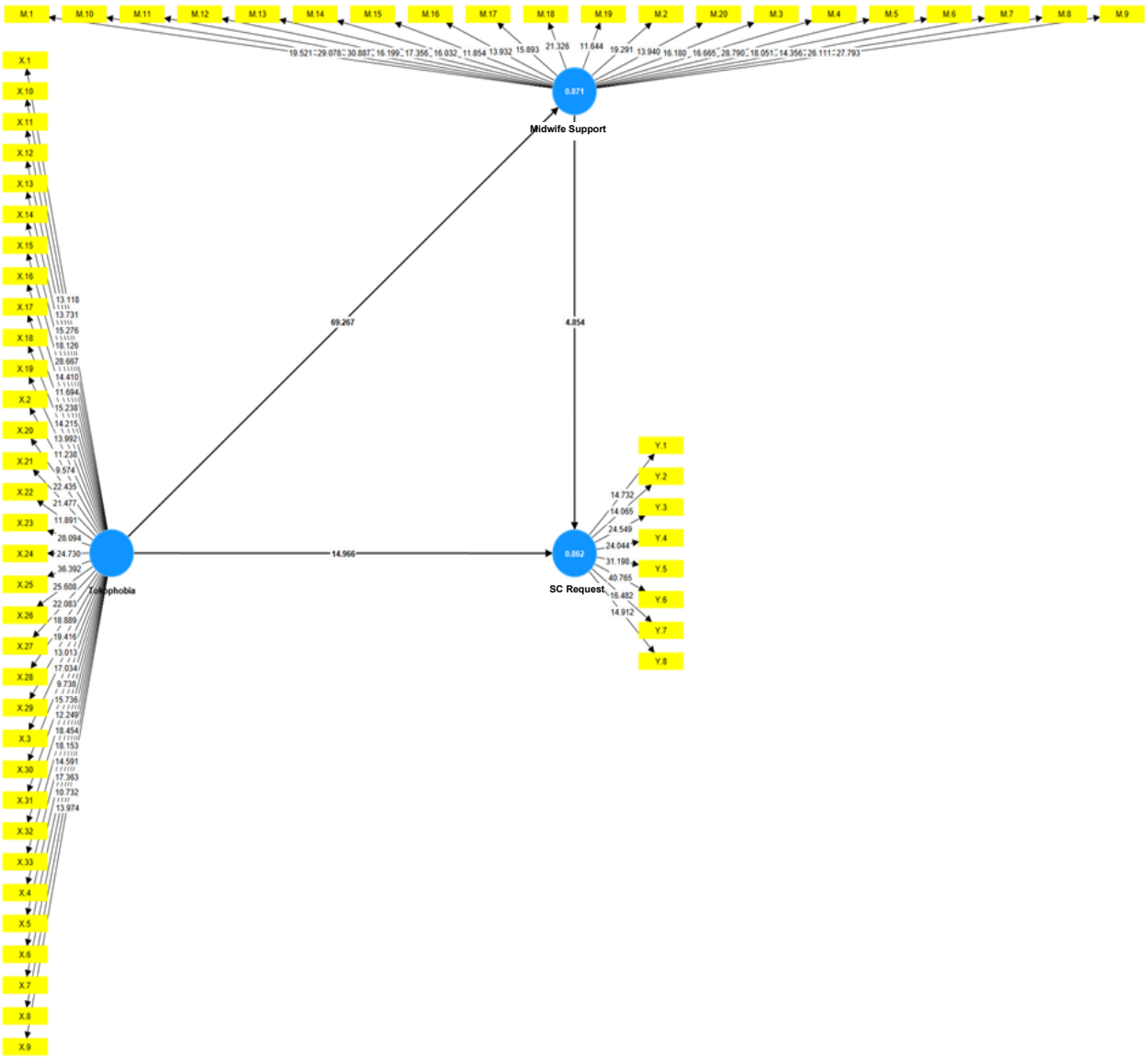

Figure 2. Inner Model (Inner Model) PLS-SEM.

Figure 2 shows the inner structure of the model that visualizes the overall structural path in the research model along with its path coefficients. The path with the largest and most dominant coefficient was the Family Support → Breastfeeding Self-Efficacy path (β=0.887), which was visualized as the path with the largest line thickness in the diagram. The Breastfeeding → Exclusive Breastfeeding Self-Efficacy pathway showed substantial coefficients (β=0.761), while the Family Support → Exclusive Breastfeeding direct pathway appeared to have a very small coefficient (β=0.097) and were insignificant. This visualization intuitively illustrates that the mechanisms of influence of family support on exclusive breastfeeding operate almost entirely through indirect channels via breastfeeding self-efficacy, forming a pattern of full mediation that is the most important finding of this study.

DISCUSSION

The findings of this investigation provide meaningful insight into the behavioral mechanisms underpinning exclusive breastfeeding, yet a careful and critical interpretation of the results demands both theoretical precision and methodological humility. The structural equation modeling analysis revealed that family support does not exert a statistically significant direct influence on exclusive breastfeeding behavior; rather, its effect is fully channeled through breastfeeding self-efficacy, which functions as the sole active mediating pathway in this model.

While this pattern is theoretically coherent, it is important to resist interpreting this full mediation as definitive causal evidence, given the cross-sectional nature of the data. The direction of relationships and the temporal ordering of variables cannot be empirically verified within a single-timepoint design, and therefore the term "mediation" in this context should be understood as a statistically inferred pathway rather than a causally established mechanism. Ekayanthi and Besral (2024), previously affirmed that the controversy in the literature regarding the direction and strength of the influence of family support on breastfeeding practices depends largely on the quality of support provided and the analytical method chosen, rather than solely reflecting differences in real-world phenomena (Ekayanthi, & Besral, 2024).

The absence of a significant direct relationship between family support and exclusive breastfeeding is theoretically noteworthy, though its interpretation must be tempered by acknowledging the role of unmeasured confounders. Socioeconomic status, maternal education, parity, employment conditions, and access to healthcare services are well-documented determinants of breastfeeding practices that were not fully modeled as covariates in the structural path analysis. The mere presence of family support, without first building the mother's psychological confidence in her breastfeeding capacity, appears insufficient to automatically produce sustained exclusive breastfeeding behaviors, a condition that Christoffel et al. identified as a theoretically significant finding warranting rigorous analytical attention (Christoffel et al., 2021). Studies conducted in Indonesian populations have further demonstrated that household wealth index and employment status operate as independent predictors of exclusive breastfeeding, suggesting that contextual structural factors may exert influences that partially account for variance attributed to psychosocial variables in models that omit them (Nurokhmah, Rahmawaty, & Puspitasari, 2022). Consequently, the non-significance of the direct family support pathway may partly reflect model specification decisions rather than a pure absence of direct behavioral influence, and this interpretive nuance is essential for avoiding overclaiming the scope of full mediation.

The pathway through which family support strengthens breastfeeding self-efficacy, which in turn predicts exclusive breastfeeding, aligns with the foundational premises of Social Cognitive Theory, particularly Bandura's conceptualization of vicarious experiences, verbal persuasion, and physiological states as sources of efficacy formation. Li et al., using structural equation modeling, found that perceived social support had an indirect effect on exclusive breastfeeding practices through psychological mediators rather than through direct channels, reinforcing the proposition that psychosocial mediation represents a theoretically coherent and empirically supported mechanism rather than a methodological artifact (Li et al., 2023). However, it is methodologically important to distinguish between statistical mediation as detected by path coefficients and theoretical mediation as conceptualized within this framework. The former represents an associative pattern in cross-sectional data, whereas the latter implies a developmental and temporally ordered cognitive process. Breastfeeding self-efficacy is not a static construct; it evolves dynamically across the postpartum period in response to accumulated breastfeeding experiences, physiological feedback, and changing social interactions. Measuring self-efficacy at a single postpartum timepoint therefore captures only a snapshot of a longitudinally evolving psychological process, which constrains the depth of mechanistic conclusions that can be legitimately drawn.

The high proportion of variance in breastfeeding self-efficacy explained by family support in this model underscores the relational and socially embedded nature of maternal confidence in the Indonesian cultural context, where extended kinship networks constitute the primary social infrastructure of postpartum care. The active involvement of husbands, parents, and parents-in-law as reflected in the sample composition creates a multidimensional support environment that collectively shapes maternal efficacy beliefs. Nguyen et al. found that each unit increase in family support significantly raised the likelihood of exclusive breastfeeding for six months, with this relationship operating in part through the reinforcement of maternal self-efficacy, confirming that the quantitative accumulation of supportive behaviors translates into meaningful changes in maternal confidence (Nguyen & Prasopkittikun, 2026). Hu et al. similarly documented a significant positive association between family support and breastfeeding self-efficacy among mothers with infants aged zero to six months, reinforcing the theoretical proposition that social support functions as a proximal cognitive resource rather than a direct

behavioral catalyst (Hu, 2025). Furthermore, Nie et al. confirmed that the quality of knowledge and active engagement of family members as primary caregivers was positively correlated with maternal breastfeeding self-efficacy, suggesting that the substantive content and quality of support, rather than its mere presence, determines its efficacy-building capacity (Nie et al., 2023). Various supportive interventions, including oxytocin massage, have been demonstrated to facilitate breast milk production and improve breastfeeding outcomes among postpartum mothers, further underscoring that the mechanism of family support operates through multiple physiological and psychological channels simultaneously.

The finding that breastfeeding self-efficacy significantly predicts exclusive breastfeeding is consistent with a substantial body of international evidence. Thaithae et al. identified breastfeeding self-efficacy as a significant independent predictor of six-month exclusive breastfeeding even after statistical adjustment for family support variables, demonstrating that maternal self-confidence retains autonomous predictive capacity beyond the contribution of social contextual factors (Thaithae, Yimyam, & Polprasarn, 2023). Gebrekidan et al. further illustrated that mothers with elevated breastfeeding self-efficacy demonstrate greater capacity to mobilize cognitive and behavioral resources in response to common breastfeeding barriers, including perceived insufficient milk supply and difficulties with infant attachment technique (Gebrekidan et al., 2021). Isiguzo et al. extended this understanding by finding that social support moderates the relationship between stress and exclusive breastfeeding practices, affirming that internal psychological mechanisms of the mother function as non-negligible mediators in the causal chain of breastfeeding behavior (Isiguzo et al., 2023). However, it is analytically important to acknowledge that the magnitude of the self-efficacy effect on breastfeeding duration may diminish progressively beyond the initial postpartum months. Saavedra Sanchez et al., through a systematic review encompassing eighteen studies, documented that breastfeeding self-efficacy declined significantly after six months, implying that external social and structural determinants may assume progressively greater explanatory weight in the later stages of the breastfeeding continuum (Sanchez et al., 2024). This temporal dimension of self-efficacy's predictive relevance warrants more explicit theoretical integration than is typically offered in cross-sectional research.

The confirmation of full mediation in this study carries significant intervention implications, yet these must be calibrated carefully to the inferential boundaries of the analytical design. Programs designed exclusively to enhance family support without concurrently addressing the maternal self-efficacy dimension are theoretically unlikely to generate sustained improvements in exclusive breastfeeding coverage (Kinshella et al., 2021). Zhou et al., through meta-analytic synthesis, confirmed that paternal involvement interventions significantly increased exclusive breastfeeding rates across multiple postpartum timepoints, with effect mechanisms operating primarily through the reinforcement of maternal confidence rather than through direct behavioral prescription (Zhou et al., 2024). Chang et al., in a qualitative systematic review, further emphasized that structured practical guidance and meaningful family participation in breastfeeding discussions are indispensable components of effective promotion programs, provided they are integrated within a comprehensive framework that explicitly targets the strengthening of maternal self-confidence (Chang et al., 2026). Comprehensive support programs that incorporate breastfeeding technique education have been demonstrated to significantly improve the effectiveness of postpartum mothers in breastfeeding, reinforcing the value of integrating practical skill-building components alongside psychosocial support strategies (Fatmasari & Wirastri, 2024).

A critical engagement with the existing literature also requires acknowledging studies that diverge from the mediation pattern identified in this investigation. Sartika et al., in a mixed-methods study involving 225 mothers in West Java, identified low paternal support as a direct and independent predictor of exclusive breastfeeding failure at three months, reporting an adjusted odds ratio of 2.84 that positioned paternal support as a predictor of comparable magnitude to maternal psychological variables within a multivariate logistic regression framework (Santika et al., 2024). Al-Thubaity et al., in a cross-sectional descriptive study of 1,577 breastfeeding mothers in Saudi Arabia, found that high breastfeeding self-efficacy levels were directly predicted by demographic variables such as employment status, education level, parity, and previous breastfeeding experience, without identifying family support as a significant

mediating variable in the model, suggesting that the relative contribution of family support to self-efficacy formation may vary considerably across sociocultural contexts (Al-Thubaity, Alshahrani, & Elgzar, 2023). This discrepancy with the current findings is not necessarily indicative of a substantive population difference, but may more parsimoniously reflect a methodological divergence: logistic regression models are not constructed to decompose direct and indirect effects and therefore structurally preclude the identification of mediation pathways (Andini, Laohasiriwong, & Mahato, 2025). When the analytical framework does not include mediation modeling, indirect effects through psychological variables are absorbed into the total effect estimate and appear as direct associations. Supriatin et al., in their systematic review of couple and household determinants of breastfeeding, similarly concluded that paternal support operates through complex and multidimensional pathways involving both direct and mediated mechanisms, and that no single analytical conclusion regarding pathway dominance can be regarded as universally applicable across contexts (Supriatin et al., 2024).

Several methodological constraints must be explicitly acknowledged in interpreting the scope of these findings. The cross-sectional design employed in this study renders temporal causal inference untenable; while structural equation modeling enables the statistical decomposition of direct and indirect pathways, this does not constitute evidence of causal ordering between variables measured concurrently. The application of purposive sampling further constrains the generalizability of findings beyond postpartum mothers in urban and semi-urban Indonesian settings with sociodemographic characteristics comparable to the study sample (Masang, 2023; Pakilaran et al., 2022). Additionally, the collection of all variables through self-report at a single timepoint introduces the risk of common method bias, which may inflate inter-variable correlations. Although full collinearity diagnostics using variance inflation factor indices did not indicate statistically significant multicollinearity, the possibility of social desirability response bias cannot be fully excluded in a cultural context where exclusive breastfeeding carries substantial normative expectations. Furthermore, variables such as maternal employment, household income, parity, and healthcare access were not comprehensively incorporated into the structural model, representing potential confounders whose omission may have influenced the magnitude and significance of the estimated path coefficients. Addressing these limitations will require longitudinal designs with probabilistic sampling across geographically diverse regions and multi-source data collection strategies to strengthen causal inference and improve external validity. Future investigations should also integrate time-varying measures of breastfeeding self-efficacy to more accurately capture the dynamic and evolving nature of maternal confidence across the full duration of the recommended exclusive breastfeeding period.

CONCLUSION

This study demonstrates that family support does not have a direct significant effect on exclusive breastfeeding; instead, its influence is fully mediated through breastfeeding self-efficacy. This finding highlights maternal confidence as the key mechanism through which social support is translated into sustained breastfeeding behavior. The results are consistent with Social Cognitive Theory, emphasizing the central role of psychological factors in shaping health-related behaviors. However, the use of a cross-sectional design limits the ability to establish causal relationships, and the exclusion of structural variables such as socioeconomic status and employment may have influenced the findings. Therefore, the results should be interpreted with caution.

These findings suggest that intervention programs should adopt integrated approaches that not only enhance family support but also strengthen maternal breastfeeding self-efficacy. Providing support alone, without fostering maternal confidence, appears insufficient to sustain exclusive breastfeeding practices. In clinical settings, healthcare providers are encouraged to incorporate structured strategies to build self-efficacy, including practical breastfeeding training and positive reinforcement, into postpartum care.

Future research should employ longitudinal designs with representative sampling across diverse populations to clarify causal pathways and temporal relationships. Additionally, studies should consider dynamic assessments of breastfeeding self-efficacy, include relevant structural determinants, and explore cross-cultural variations in the relationship between family support,

self-efficacy, and exclusive breastfeeding to improve generalizability and theoretical robustness..

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