A Cross-Sectional Analysis of the Sociodemographic Determinants of Depression in Indonesian Women: Comparison between Working Mothers and Housewives

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Abstract. The high prevalence of depression among adult women in Indonesia is influenced by various complex factors. This widespread issue, particularly among working mothers, not only threatens individual physical well-being but also leads to economic losses. This study aims to identify external sociodemographic factors contributing to the likelihood of depressive symptoms among Indonesian working mothers and housewives. This study utilized cross-sectional data from the Indonesia Family Life Survey 5, encompassing 5,594 respondents, comprising 2,303 working mothers and 3,291 housewives. The findings of this study indicate that 22.7% of working mothers and 21.8% of housewives experienced depression. While age, subjective socioeconomic status, and area of residence were common sociodemographic determinants for both groups, additional factors differed between them. The level of education was identified as a risk factor among working mothers; with those with lower levels of education demonstrating a 1.694-fold increased risk of developing depression (CI = 1.251–2.293). Housewives who were not involved in the decision-making process regarding their family's health were 1.256 times more likely to experience depression (CI = 1.048–1.504). It is imperative to gain an understanding of these distinct risk in order to develop targeted interventions that will reduce depression rates and improve the well-being of Indonesian women.

1 Introduction

Mental health, which encompasses the emotional, psychological, and social well-being of an individual, is an integral aspect of overall health and quality of life. This issue is a complex subject with a complex cause-and-effect relationship that is influenced by a multitude of factors and has become one of the primary focuses of health studies.

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Depression is the 13th out of 25 leading causes of global health-related burden and is among the most disabling mental disorders [1]. From 1990 to 2017, there was an increase of up to 49.86% in cases of depression [2]. In 2019, approximately 5% of adults were estimated to have experienced or to be currently facing depression [3]. It is estimated that the global treatment rate is only 38.4%, with an even smaller percentage in middle-income and lower-income countries [4].

The prevalence of depression among adults in Indonesia is higher than the global average, with 6.1% of the Indonesian population aged 15 years and above experiencing the disorder [5,6]. The province of Southeast Sulawesi exhibits the highest prevalence of depression, with 12.3% of cases. Only 9% of the total population experiencing depression receives medical treatment [5]. Prior research confirmed the considerable prevalence of depression in Indonesia. A study of urban residents revealed a depression rate of 15%, with a higher prevalence observed among women and individuals in early adulthood [7]. Another nationwide study indicated a depression rate of 27.86% among Indonesian young adults, predominantly among lower-income groups [8]. Based on the level of severity, 15% of Indonesian adults experience depression at the moderate level and 6.9% at the severe level [9].

It has been demonstrated that women are more susceptible to experiencing depressive symptoms than men. In Indonesia, 22.3% of adult women report moderate or severe depressive symptoms, which is slightly higher than the 21.4% reported by adult men facing similar conditions [9]. A substantial body of research has underscored the profound impact of depression on women's health and well-being. Women with depressive disorders are more susceptible to severe forms of cardiovascular disease than men [10], and experience more intense endometriosis pain symptoms than their non-depressed counterparts [11]. Among postmenopausal women, depression is associated with an increased odds ratio of disability in mobility, self-care, usual activities, and pain or discomfort, which collectively diminish their health-related quality of life [12]. The economic impact of depression is significant, particularly given the growing proportion of working women in the labor force. A study conducted in Singapore indicated that employees with depression miss an additional 17.7 workdays and are 40% less productive than their non-depressed peers on average, resulting in economic losses amounting to SGD 15.7 billion annually [13].

Depression in women has been linked to hormonal fluctuations occurring at various life stages [14]. In addition to internal factors such as hormonal fluctuations, external triggers for depression include sociodemographic variables such as age, economic status, marital status, place of residence, and level of education [7,9,15,16]. The risk of depression is also influenced by the number of children residing in the same household [16,17]. With regard to economic status, subjective social status (SSS) is an equally effective or potentially superior predictor of health and depression compared to objective economic status. This is because SSS has been associated with self-rated health [18] and may play a role in the pathogenesis of depression [19]. Furthermore, women engaged in one-sided household decision-making, whether led by the husband or the wife, face an elevated risk of depression [20].

The literature on the relationship between employment and women's mental health is inconclusive. It is possible that women may derive benefit from an increase in social

networks, an enhancement of self-esteem, and a greater degree of financial independence from regular remunerated employment [21]. However, the presence of unfavorable social networks in the workplace, which are more prevalent among working women with young children, has been observed to exert a contradictory influence on women's mental health. Furthermore, research indicates that job insecurity, skill underutilization, low-status work, low pay, and high workload are associated with an increased risk of depression [22]. Furthermore, the demands of the job can alter the mothers' perception of time spent with their children by increasing the parental time pressure and, consequently, the likelihood of depression [23]. Thus, working mothers, in particular, may experience elevated levels of stress and depression as they bear the burden of balancing multiple roles, including employment, family, and personal well-being.

It is conceivable that Indonesia may experience a considerable economic impact as a consequence of the growing participation of women in the labor force. At the present time, the female population in Indonesia who are gainfully employed constitutes 38.98% of the overall labor force, with a total of 52.74 million women in the workforce [24]. As an increasing number of women enter the workforce, the economic impact of untreated mental health issues, particularly depression, could become a significant burden on Indonesia's economy, affecting both productivity and healthcare costs. It is therefore imperative to gain an understanding of the risk factors associated with depression among working mothers.

Notwithstanding the aforementioned necessity, the research focusing on working women, particularly working mothers in Indonesia, remains limited. The majority of studies on depression in Indonesia do not examine women in general [8,9]. When women are the focus of these studies, they tend to concentrate on specific life stages (e.g., perinatal, postpartum) or specific area of residence [7]. Furthermore, there is a lack of research comparing the risk factors for depression between working mothers and stay-at-home mothers in Indonesia. Therefore, the objective of this study is to examine the influence of employment status on depression among Indonesian women and aims to identify external factors contributing to the likelihood of depressive symptoms among Indonesian working mothers by comparing the risk factors of depression with those of stay-at-home mothers. This study focuses on sociodemographic factors, which provides a foundation for a broader research agenda.

2 Methods

2.1 Data and Samples

The data for this study were derived from the Indonesia Family Life Survey (IFLS), which is the sole large-scale longitudinal socioeconomic and health survey currently available in Indonesia. The sample represents 83% of the Indonesian population in half of Indonesia's provinces. The IFLS collects data on economic and non-economic well-being (including extensive health status measures) at the individual and household levels, as well as on communities and healthcare facilities. This provides comprehensive data on interrelated issues [25]. The requisite ethical clearance was obtained from RAND's

Human Subjects Protection Committee (RAND's IRB) (reference number s0064-06-01-CR01) [6].

This study employs cross-sectional data from the most recent IFLS survey, conducted in late 2014 (IFLS-5). The analysis is focused on a sample subset of 5,594 women in the working age range of 19 to 64 years who have been married. The sample is limited to individuals engaged in either income-generating profession or domestic activities. The analysis excluded respondents with missing data in any variable, except for decision-making variables, which were specifically posed to married respondents. This study did not apply cross-sectional weights to adjust for sample design and attrition in the current analysis, despite the availability of these weights in the IFLS5 dataset. It is important to note that the unweighted results may not fully represent the Indonesian population, particularly in terms of oversampling in urban areas and regions outside Java.

The data analysis was conducted in four stages. In the initial stage of the analysis, the prevalence of depression was calculated using descriptive statistics. Subsequently, both bivariate and multivariate analysis were employed to determine the risk factors associated with depression. The process was initiated with a bivariate Chi-square analysis. A p-value of less than 0.05 was deemed significant in relation to the dependent variable. Subsequently, all variables were incorporated into a multivariate logistic regression, regardless of the p-value derived from the bivariate analysis. This approach aimed to account for suppressor variables [26]. Finally, suppressor variables were identified through a forward stepwise multivariate analysis, whereby additional variables exhibiting a strong Pearson correlation with the suppressed variables were introduced.

2.2 Depression

In IFLS-5, depressive symptoms were assessed using the Centre for Epidemiologic Studies Depression Scale 10 (CES-D 10), a shortened version of the original 20-item CES-D [27]. The scale is considered as a reliable and valid instrument for measuring depressive symptoms in developing societies, including Indonesia [28,29]. The CES-D 10 score ranges from 0 to 30, with a cutoff value for depressive symptoms of 10 [27]. Previous research on similar instruments has reported Cronbach's α coefficients for CES-D 10 between 0.72 and 0.77 [6,8,9]. In the present study, the Cronbach's α reliability coefficient of the 10-item scale was 0.702.

2.3 Sociodemographic variables

The sociodemographic questionnaire covered a range of factors, including age, highest level of education attained, marital status, area of residence (urban or rural), number of children residing in the same household, primary activities (professional or domestic), involvement in household decision-making processes, and socioeconomic status. The respondents were classified into two age groups: young adults (19–39 years old) and middle-aged adults (40–64 years old) [7]. Education attainment was classified according to whether the individual had completed more than 12 years of compulsory education or not [30]. The study included mothers who were not living with their children, as the questionnaire focused on children living with the participants and may not have captured

other living arrangements, such as children living elsewhere or adopted children. The data were grouped into three categories: no children, one child, and two or more children [16].

The involvement of each individual in household decision-making was assessed by the question "In your household, who makes decisions about" and was grouped into financial-related decisions ("Expenditure on food eaten at home" and "Routine purchases for the household of items such as cleaning supplies") and health-related decisions ("Choice of food eaten at home" and "Your children's health"). The respondents' SSS was assessed using a question: "Please imagine a six-step ladder where on the bottom (the first step), stand the poorest people, and on the highest step (the sixth step), stand the richest people. The categorization of SSS in this study was based on a previous study on depression in Indonesia [9] which classified a scale of 1–2 classified as low, 3 as middle, and 4–6 as high.

3 Result

This study involved 2,303 working mothers and 3,291 housewives in Indonesia. Table 1 presents a summary of the characteristics of each group. In general, the prevalence of depression among women aged 19–54 years old who have been married was 22.1%. The rate of depression was slightly higher among working mothers (22.7%) than among housewives (21.8%). In this study, there were notable differences between the professional and domestic respondents with regard to age, education, and marital status. The proportion of working mothers classified as young adults (58.1%) was lower than that of the overall respondents (66.5%). Conversely, more than two-thirds (72.3%) of housewives were within the 19–39 age range. In regard to education, a greater proportion of working mothers had enrolled in tertiary education (19.9%) compared to housewives (9.2%). The proportion of working mothers who had experienced separation, widowhood, or divorce was approximately twice as high as that of their counterparts engaged in domestic activities (14.9% vs. 7.9%).

Both groups exhibited a similar distribution of individuals residing in rural and urban areas, with 58.4% of working mothers and 56.7% of housewives residing in urban areas. In general, the majority of Indonesian women, irrespective of their employment status, had one child residing with them and perceived themselves to be situated within the middle socioeconomic stratum. A greater proportion of working mothers and housewives made joint decisions together with their spouse for health-related matters (65.1% and 63.9%, respectively) compared to financial decisions (23.5% and 21%, respectively).

The correlation between respondents' socio-demographics characteristics and depressive symptoms is presented in Table 2. Among working mothers, statistically significant correlations were observed between depressive symptoms and several socio-demographic variables, including age, education, SSS, and health decision-making (p-value < 0.05). In contrast, fewer variables demonstrated a significant correlation with depressive symptoms in the housewives group. Specifically, age, SSS, and health decision-making demonstrated a significant correlation with depressive symptoms in this group. It is noteworthy that marital status, number of children residing in the same household,

place of residence, and financial decision-making did not show a statistically significant correlation with depressive symptoms in either group.

Table 1. Respondents' characteristics

Variable	Overall		Working mothers		Housewives	
	n	%	n	%	n	%
Age						
Young adult	3,718	66.5	1,339	58.1	2,379	72.3
Middle adult	1,876	33.5	964	41.9	912	27.7
Education						
≤ 12 years of education	4,833	86.4	1,844	80.1	2,989	90.8
> 12 years of education	761	13.6	459	19.9	302	9.2
Marital status						
Married	4,992	86.4	1,961	85.1	3,031	92.1
Others (separated, widowed, divorced)	761	13.6	342	14.9	260	7.9
Residence						
Urban	3,213	57.4	1,346	58.4	1,867	56.7
Rural	2,381	42.6	957	41.6	1,424	43.3
Number of children						
No child	716	12.8	395	17.2	321	9.8
1 child	2,894	51.7	1,145	49.7	1,749	53.1
2 or more children	1,984	35.5	763	33.1	1221	37.1
SSS						
Low	1,305	23.3	512	22.2	793	24.1
Middle	2,614	46.7	1,075	46.7	1,539	46.8
High	1,675	29.9	716	31.1	959	29.1
Finance decision-making[a]						
One-sided	3,896	78.0	1,501	76.5	2,395	79.0
Joint	1,096	22.0	460	23.5	636	21.0
Health decision-making[a]						
One-sided	1,777	35.6	684	34.9	1,093	36.1
Joint	3,215	64.4	1,277	65.1	1,938	63.9
Depression						
Depressed	1,238	22.1	522	22.7	716	21.8
Not depressed	4,356	77.9	1,781	77.3	2,575	78.2

Note: SSS = Subjective Socioeconomic Status

[a]The total sample for decision making is 4,992 respondents, 1,961 for working mothers and 3,031 for housewives

In Table 3 and Table 4, the results from the multivariate analysis for both groups are presented. Similar to the bivariate analysis, working mothers are more likely to have a greater number of risk factors for depressive symptoms. In the case of working mothers, age, education, residence, and SSS were identified as risk factors for depressive symptoms. Whereas for housewives, age, residence, SSS, and health decision-making were identified as risk factors for depressive symptoms.

The bivariate analysis revealed that residence was not significantly correlated with depressive symptoms. However, in the multivariate analysis of both groups, residence was identified as a risk factor. This observation indicated the potential existence of suppressor variables that could alter the relationship between residence and depression [31]. As a suppressed variable, residence had a stronger relationship with education, age, and SSS than other independent variables. Consequently, a forward stepwise multivariate logistic regression was conducted to identify the suppressor variables among those with a stronger relationship with residence.

Table 5 shows the result of the logistic regression of residence in comparison with the regression result of residence, education, and SSS for working mothers. Meanwhile, in Table 6 presents the result of logistic regression of residence in comparison with the regression result of residence, age, and SSS for housewives. The incorporation of these variables not only altered the p-value of residence but also contributed to an increased R^2 value for the entire model [26].

Table 2. Correlation between respondents' characteristics and depressive symptoms

Variable	Working mothers			Housewives		
	D n (%)	ND n (%)	p	D n (%)	ND n (%)	p
Age						
Young adult	331 (24.7)	1,008 (75.3)	**0.006**	543 (22.8)	1,836 (77.2)	**0.016**
Middle adult	191 (19.8)	773 (80.2)		173 (19)	739 (81)	
Education						
≤ 12 years of education	451(24.5)	1,393 (75.5)	**0.000**	659 (22)	2,330 (78)	0.214
> 12 years of education	71 (15.5)	388 (84.5)		57 (18.9)	245 (81.1)	
Marital status						
Married	433 (22.1)	1,528 (77.9)	0.108	653 (21.5)	2,378 (78.5)	0.309
Others	89 (26)	253 (74)		63 (24.2)	1,97 (75.8)	
Residence						
Urban	318 (23.6)	1,028 (76.4)	0.207	422 (22.6)	1,445 (77.4)	0.186
Rural	204 (21.3)	753 (78.7)		294 (20.6)	1,130 (79.4)	
Number of children						
No child	84 (21.3)	311 (78.7)	0.572	60 (18.7)	261 (81.3)	0.355
1 child	256 (22.4)	889 (77.6)		390 (22.3)	1,359 (77.7)	
2 or more children	182 (23.9)	581 (76.1)		266 (21.8)	955 (78.2)	
SSS						
Low	149 (29.1)	363 (70.9)	**0.000**	218 (27.5)	575 (72.5)	**0.000**
Middle	250 (23.3)	825 (76.7)		316 (20.5)	1,223 (79.5)	
High	123 (17.2)	593 (82.8)		182 (19)	777 (81)	
Finance decision-making[a]						
One-sided	327 (21.8)	1,174 (78.2)	0.564	534 (22.3)	1,861 (77.7)	0.051
Joint	106 (23)	354 (77)		119 (18.7)	517 (81.3)	
Health decision-making[a]						
One-sided	169 (24.7)	515 (75.3)	**0.046**	259 (23.7)	834 (76.3)	**0.034**
Joint	264 (20.7)	1,013 (79.3)		394 (20.3)	1,544 (79.7)	

Note: D = Depressed, ND = Not depressed

Table 3. Multivariate logistic regression of depressive risk factors among working mothers

Variable	B	SE	p-value	OR	CI (95%)
Age (ref. Middle adult)					
Young adult	0.381	0.120	0.001***	1.464	1.157–1.852
Education (ref. > 12 years of education)					
≤ 12 years of education	0.527	0.155	0.001***	1.694	1.251–2.293
Residence (ref. Rural)					
Urban	0.230	0.114	0.044*	1.258	1.006-1.573
SSS (ref. High)					
Poor	0.628	0.158	0.000***	1.873	1.374–2.554
Middle	0.299	0.134	0.026*	1.348	1.037–1.752
Health decision making (ref. Joint)					
One-sided	0.218	0.116	0.061	1.243	0.990–1.561

Note: OR = Odd Ratio, CI = Confidence Interval
*p < 0.05; **p < 0.01; ***p < 0.001

Table 4. Multivariate logistic regression of depressive risk factors among housewives

Variable	B	SE	p-value	OR	CI (95%)
Age (ref. Middle adult)					
Young adult	0.321	0.112	0.004**	1.379	1.107–1.718
Education (ref. > 12 years of education)					
≤ 12 years of education					
Residence (ref. Rural)					
Urban	0.184	0.091	0.043*	1.202	1.006-1.438
SSS (ref. High)					
Poor	0.459	0.122	0.000***	1.582	1.247–2.009
Middle	0.077	0.107	0.476	1.080	0.857–1.332
Health decision making (ref. Joint)					
One-sided	0.228	0.092	0.013	1.256	1.048–1.504

Note: OR = Odd Ratio, CI = Confidence Interval
*p < 0.05; **p < 0.01; ***p < 0.001

4 Discussion

The objective of this study was to examine the risk factors associated with depression among Indonesian working mothers and to compare their conditions with those of Indonesian housewives. The study revealed a high prevalence of depressive symptoms among working-age women who have been married in Indonesia, with rates of 22.7% among working mothers and 21.8% among housewives. In comparison to prior studies

employing the same measurement instrument, these findings align closely with two earlier studies reporting depression rates among Indonesians aged over 15, yielding rates of 21.8% [9] and 27.86% respectively [8]. However, this result is higher than that of a previous study conducted in 2015, which found that 15% of Indonesian women of working age in Indonesia's major cities (Jakarta, Surabaya, Medan, and Bandung) showed symptoms of depression [7]. The difference in findings may be attributed to the selection of sample areas; the previous study did not account for areas in provinces with the highest prevalence of depression, such as Central Sulawesi and Gorontalo [5].

Table 5. Regression of depressive symptoms on residence, education, and SSS for working mother

Model 1 : Regression of residence on depressive symptoms		
Model information		
Cox & Snell R^2	0.000	
Parameter estimates	**B**	**p-value**
Residence	-0.133	0.192
Model 2 : Regression of residence, age, and education on depressive symptoms		
Model information		
Cox & Snell R^2	0.026	
Parameter estimates	**B**	**p-value**
Residence	0.228	0.028*
Education	0.480	0.001*
SSS	0.614	0.000***

Note: Variable significant at *p < 0.05; **p < 0.01; ***p < 0.001

Table 6. Regression of depressive symptoms on residence, age, and SSS for housewives

Model 1: Regression of residence on depressive symptoms		
Model information		
Cox & Snell R^2	0.000	
Parameter estimates	**B**	**p-value**
Residence	-0.116	0.178
Model 2: Regression of residence, age, and education on depressive symptoms		
Model information		
Cox & Snell R^2	0.015	
Parameter estimates	**B**	**p-value**
Residence	0.193	0.027*
Age	0.279	0.005*
SSS	0.525	0.000***

Note: Variable significant at *p < 0.05; **p < 0.01; ***p < 0.001

The prevalence of depression among working mothers was found to be associated with a number of socio-demographic factors, including age, level of education, area of residence, and SSS. In contrast, age, area of residence, SSS, and involvement in health-related decision-making were identified as risk factors for depression among housewives. The effect of age on depressive symptoms has been consistently observed across several studies with similar context and measurement methods. This study, along with other

previous studies, has demonstrated that young adults are at a higher risk of developing depression than middle-aged adults [7–9]. This phenomenon may be attributed to hormonal fluctuations during the reproductive age [14], or external factors such as socioeconomic and cultural changes in Indonesia experienced by the younger respondents in this study [8,9].

The findings indicated that lower levels of education are associated with an increased susceptibility to depression among working mothers, but not among housewives. Working mothers with less than 12 years of primary education exhibited a 1.7-fold increased likelihood of having moderate or severe depressive symptoms relative to those with higher levels of education. This finding is consistent with the results of an earlier national longitudinal study, which identified education attainment as a predictor of depression [6]. Another study, which employed a similar national dataset, identified higher education and lack of education as protective factors against depression [9]. However, as this study did not differentiate between respondents with no education and those with less than 12 years of education, it was not possible to determine the specific impact of no education on depression among working mothers or housewives. Two potential explanations exist for the inverse relationship between higher education and depression among working mothers. First, the working mother respondent has a higher proportion of middle-aged women, and the protective effect of education accumulates over a lifetime. Therefore, the older cohort respondents, who are predominantly working mothers, have benefited from having higher education [32]. Second, there is a positive correlation between higher education and wage growth for Indonesian female workers [33]. As income serves as a mediator between education and depression [6], highly-educated working mothers are more protected against depression.

The concept of urbanicity, or the impact of residing in an urban environment, emerged as a significant risk factor for depression among both working mothers and housewives. This finding contradicts previous studies that utilized the IFLS dataset, which concluded that the area of residence was not associated with depression among Indonesian adults [8,9]. In this research, residence was not a significant factor in the bivariate analysis, but it was a significant factor in the multivariate analysis, indicating the presence of a suppressor effect exerted by other variables [31]. Specifically, for working mothers, education and SSS served as suppressors for residence. As for housewives, age and SSS changed the relationship between residence and depression.

The highest likelihood of developing depressive symptoms is observed among respondents with poor SSS, regardless of their employment status. When compared to women with high SSS, working mothers with poor SSS had a 1.851 times higher chance of developing depressive symptoms, while housewives with poor SSS were 1.582 times more likely to experience depression. This finding is consistent with the results of a previous study that identified a high prevalence of depression among Indonesians with poor subjective economic status [9]. A low perceived socioeconomic status indicates a sense of relative deprivation, leading to negative emotions and stress [18]. If left unaddressed, this can potentially lead to the development of depression. Subjective perception of economic status also correlates with objective socioeconomic status and mediates the effect of objective socioeconomic status on depressive symptoms [19].

Therefore, this study affirms the finding from another study stating that depressive symptoms are more prevalent in women with lower economic status [7].

In a marital relationship, the decision-making process may be a collaborative one involving both partners or it may be the responsibility of one individual. The correlation between depressive symptoms and shared agency over health decisions is negative for both working mothers and housewives groups. In this study, one-sided health decisions were identified as a risk factor for depression exclusively among housewives. This finding is consistent with previous research indicating that an unequal distribution of decision-making is associated with an increased likelihood of depression by a factor of 1.09 (CI= 0.93–1.27) among Southeast Asian housewives [20]. Similarly, among Ethiopian women, one-sided decision-making, particularly regarding health matters, is associated with psychological stress [34]. The absence of a significant effect of decision-making on depression among working mothers may be attributed to the greater autonomy and power that working mothers possess in comparison to housewives. Such empowerment may enable working mothers to demonstrate greater competence in decision-making or active participation in decision-making processes within their partnerships and families [20].

5 Conclusions

Depression represents a substantial threat to the mental health of working mothers, with the potential for significant economic implications given the growing number of women in the workforce. In Indonesia, the prevalence of depression is reported to be 22.7% among working mothers and 21.8% among housewives. The data indicated that younger age, poor subjective socioeconomic status, and urban residence were associated with elevated rates of depression among both working mothers and housewives. Additionally, lower education attainment was identified as a risk factor for depression specifically among working mothers, while one-sided health decision-making was found to be a contributing factor among housewives. It can thus be inferred that the sociodemographic risk factors associated with depression differ slightly between the two groups. Further research could investigate more risk factors, such as health conditions and behaviors, to enhance our understanding of the causes of psychological stress among working mothers.

A key limitation of this study is the lack of sample weighting. The IFLS5 dataset includes cross-sectional weights designed to correct for both sample attrition and oversampling in urban and off-Java areas, which were not applied in this analysis. As a result, the findings may not fully reflect the demographic composition of the 2014 Indonesian population. This limitation should be considered when interpreting the results, and future research should incorporate the appropriate weights to improve the representativeness of the data.

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