

Factors affecting mothers of young children to work and leave their children in non-daycare or daycare type in four cities of South Sumatra Province of Indonesia

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This article is a summary of some prior research and is based on the theory of supply labor in the household, especially for married women is about the factors that affect working mothers. The difference is the mother's work, noting the presence of young children (under five years) who left the mother to work and move-owned child care to child care. Child care nominal data type that is dummy type non daycare and type of daycare. The purpose of this study was to determine the factors that mothers of young children to keep working after a period of maternity leave is over. Respondents from four cities located in the province of South Sumatra Indonesia. The sample size was measured by using the formula of Isaac and Michael as many as 348 respondents. The unit of analysis is the study of working mothers of young children, who have a clear working hours are from 08:00 to 16:00 pm. Using multiple linear regression analysis techniques *and non-parametric technique using the Jackknife method on Stata software*. It was found that the significant effect only partial variable income respondents, respondents duration in years of work and dummy types of child care on the number of hours worked per day mothers. Meanwhile the other independent variables only have a significant impact simultaneously to the number of working hours per day mothers. It was concluded that the mother continued to work because of personal respondents themselves. From the interviews that the respondents had regular work, self-contained and have their own income. Supported data as much as 71.55% of respondents who work the newly married first. The findings in this study differs from previous research studies regarding the factors working mothers and child care, which take into consideration the type variable child care for working mothers as the independent variable is dummy type of child care.

Keywords: Working Mothers of Young Children, Childcare

1. INTRODUCTION

Indonesia is a country that preserves the culture. One of the cultures in the household is patriarchy values, which traditionally that as a mother and wife as a housekeeper only, serving her husband, care for and educate their children. Traditional values of this means that if there are women who wish to work outside the home, strayed from its central role and is not regarded as a mother and a good wife.¹ Along with the times, the role of women began to shift toward gender equality or women's emancipation. Struggle for the emancipation of women, began to gain widespread recognition due to the struggle of Raden Ajeng Kartini. As quoted from the official website of the Cabinet Secretary, explained that Kartini indeed been the Netherlands to be displayed as a warrior progress indigenous women in Indonesia. It is known from searches conducted by Professor of the University of Indonesia.² Now the Indonesian women have the same right to

educate as men, and even a change in the prevailing norms in society, especially in the urban areas of the roles that deserve performed by women due to the demands of socioeconomic, educational and modernization.³

The participation of women in the working world increasingly open higher when employment opportunities outside of her role as a housewife, so women need to adjust the role of homemaker and breadwinner. Female workers have the potential in the industrial sector in addition to its role in the formation of economic income families (household economy). Formal education for women is relatively low, then the motivation to work even encouraged for the economic needs of the family, while women are more intellectual education, especially higher education, the motivation is driven by career development.⁴ These findings correspond well with the theory Elfindri and Bactiar,³ one of the reasons women decide to go to work due to an increase of women's education from year to year. The following secondary data on the level of women working in the province of South Sumatra Indonesia is:

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Table 1 is describes general number of men working more in number according to the highest educational attainment. But the number of women employed by the highest educational attainment of the Diploma level I / II / III / Academy / University turned out to be more numerous than the number of men working. This phenomenon is a picture that, men are more expected to get to work than to get school higher anymore, so it is generally men who worked enough in school to senior high school no longer continue to university. In contrast to the women, where that school to university more resolve to work. The data is recommended for secondary data is working mothers who have a young child by higher educational attainment. But based on preliminary research, the data turned out to working mothers who have young children was not found during the process of collecting secondary data. So that data working mothers and have young children has changed with data girls working as proxies on the data likes in Table 1 above. Considering that data for women work is broader sense than working mothers. Women work with married or unmarried status maybe has young child in their family.

Table 1: Residents of South Sumatra Aged 15 Years on by Educational Attainment and Total Employment, August 2014

Educational Attainment	Men Work	Women Work
No/not attending school	17.522	26.956
Not passed elementary school	359.302	283.418
Elementary school	715.163	451.218
Junior high school	425.466	203.577
Senior high school	584.436	264.541
Diploma level I/II/III/Academy/University	176.148	185.059

Table 2 are secondary data on the population of South Sumatra Province 2014. It appears that the largest population is aged 0-4 years and 5-9 years. Children 0-4 years of age are infants and toddlers, who need special attention from his mother. With phenomena such as Table 1 and Table 2 may raise the question that the number of women a lot of work and a lot of babies and toddlers age population in the province of South Sumatra, to whom infants and toddlers of working mother is deposited and cared along while his mother worked outside the home. And we all know that the mother has a duty to care for and protect children especially in under five years which is a golden period (golden age) for children's development. Therefore, this research seeks to analyze the factors that affect women who have children early age to work and leave their children in daycare or non-care types in four cities in the province of South Sumatra Indonesia.

2. EXPERIMENTAL DETAILS

From theory and previous research is then the equation model in this study are:

$$Hm = a_0 + a_1 Ywife + a_2 Yhusband + a_3 Child + a_4 Education + a_5 Tech + a_6 Years + a_7 AgeW + a_8 AgeM + a_9 People + e_1$$

- where: Hm = working hours mothers
- Ywife = income respondents
- Yhusband = revenue husband
- Child = number of early childhood
- Education = length of the respondents last education
- Tech = aid of technology in households
- Years of experience working mothers = (respondents)
- AgeW = age began working respondents
- AgeM = age at marriage respondents
- People = number of dependent people
- a0 = constant
- a1- a11 = coefficient of independent variable

e1 = factor disorder

Table 2: Population of South Sumatra (in thousands) 2014

Age	Quantity	
	Men	Women
0-4	416504	398094
5-9	396274	375104
10-14	378636	360773
15-19	368635	352840
20-24	370201	356398
25-29	367082	353241
30-34	345181	334701
35-39	310404	296592
40-44	267483	258374
45-49	226427	223162
50-54	190167	185670
55-59	148451	138681
60+	250544	271876

This research was conducted in the formal sector. The reason is (1) the level of participation of working mothers who have high levels of education, preferring to work in the formal sector. (2) the mother who request child care as an employee and the employee which have standard working hours. Limits the scope is in line with statements from BPS South Sumatra that in urban areas, most of the type of work is more formal and require certain qualifications for workers who will enter it.⁷ The unit analysis of study is working mothers of young children, who have a clear working hour are from 08:00 to 16:00 pm, in accordance with UU RI No.13 Year 2003 on employment, in Article 77, paragraph 2 of the working time is 8 hours 1 day and 40 hours a week for 5-day work a week.⁸ The sample size in the book Research Methodology can use a formula developed from Isaac and Michael, for an error rate of 1%, 5%, and 10%,⁹ was calculated by:

$$s = \frac{\lambda^2 \cdot N \cdot P \cdot Q}{d^2 (N - 1) + \lambda^2 \cdot P \cdot Q}$$

where:

- λ^2 = chi quadrate with error rate 5% = 3,481
- N = Population
- P = Q = 0,5
- d = 0,05

$$\begin{aligned}
 s &= \frac{3,481 \times 354.506 \times 0,5 \times 0,5}{(0,05^2 \times 354.505) + (3,481 \times 0,5 \times 0,5)} \\
 &= \frac{308.508,8}{887,1328} \\
 &= 347,7594 \\
 &\approx 348
 \end{aligned}$$

From Table 3 population and sample size calculations obtained information on the number of respondents as the research sample was 348 women working in the formal sector will be taken from 4 cities in the province of South Sumatra, namely Palembang, Prabumulih, Lubuklinggau and Pagaralam City.

3. RESULTS AND DISCUSSION

Estimation model using multiple linear regression model, because of the many factors that affect the dependent variable. Linear regression models were either require classic assumption deviation detection to avoid multicollinearity problems, heterokedastisitas and auto correlation.¹⁰ In the

classical assumption, primary data have problems heterokedastisitas. Then trying eliminated *heterokedastisitas* by transform the data that is taking the natural log (ln). *Heterokedastistas* problem passable reduced but still patterned (using graphs plot residual values). According to Gujarati, the problem *heterokedastisitas* usually found on cross section data (data cross sectoral). So the problem occurs at the primary data *heterokedastisitas* this study. So after doing a parametric procedure on research data and have been trying to cure the problem *heterokedastistas* but the variant data is still not homogeneous (*homoskedastisitas*).

If the parametric procedure has been done and still there is an assumption that is not fulfilled, there is no other way then can be considered use of non-parametric procedures. Because of nonparametric methods is change the process data that can not be done parametric, then systematic discussion for non parametric is equal to the parametric methods, namely descriptive statistics and statistical inference.¹¹ Technical analysis using multiple linear regression. In non parametric techniques using Jackknife method in *Stata* software. Jackknife is a non parametric and re sampling techniques aimed at estimating the regression parameters.¹²

In the model estimation, totaling there are nine independent variables. In the calculation process known figures R square was small and in an effort to increase the number of R square then add three new variables are dummy type (Dtipe), dummy married status (Dmarried) and dummy perceived benefits of working mothers (Dutilitas). Then try to eliminate the variables people, because of the type of child care is almost similar definition to the type of care types non care. So try to eliminate variable people. Results by eliminating variables people give the best results. Type of child care are grouped into two non care and daycare, be classified as nominal data types. Where 0 = non care and 1 = daycare. Type non care is the type of care involves the role of the family such as grandparents, neighbors and even fathers with or without the presence of caregivers at home. While daycare is the type of care that is professional, independent agency that is paid per month. Type daycare nursery also started much present in Indonesia, including in South Sumatra province. So that the results of the analysis models is:

Table 4: Test results F for significance coefficient regression model

Model	Statistic F	P-value
Hm	3,56	0,0002*

Significant to a significant degree (α) of 5%.

From the results of the output table, the statistics generated F [see F (10, 347)] of 3.56 with a P-value [see Prob> F] is equal to 0.0002 (P-value <0.05) so that in this test are given conclusion that there is a significant influence of the independent variables simultaneously RYwife, RYhusband, Child, Education, Years, AgeW, agem, Dtipe, Dmarried, and Dutilitas to variable Hm.

On testing the partial / individual model coefficients with t-test, given the significant influence when the value of P-value $\leq \alpha$ with α was set at 10%, 5%, or 1%.

From the results of the output table, this test gives a conclusion that:

1. There is a significant influence on Hm RYwife variables of 0.176472 (positive effect); meaning that if there is an increase *Redominasi* of respondents monthly income of 1 million, then the mother's working hours per day will increase by 0.176472 hours; otherwise if there is a decrease *Redominasi* of respondents monthly income of 1 million, then the mother's working hours per day will be decreased by 0.176472 hours.

2. There is a significant effect on the variable Years Hm at - 0.0598176 (negative effect); meaning that every year duration (experience) working mother (respondent) increases one year, mothers working hours per day will be reduced 0.0598176 hours.
3. There is a significant influence on Hm Dtipe variables of 0.2909778 (positive effect); means that there are differences in working hours per day on type maternal child care, namely: daycare mothers effect more working hours per day of 0.2909778 hours than non care.
4. There is no significant influence of each variable RYhusband, Child, Education, AgeW, and Agem against Hm; meaning that if there is an increase / decrease in RYhusband, Child, Education, AgeW, and Agem each by 1 unit, then the mother's working hours per day will not be affected.
5. There is no significant influence of each variable to variable Dmarried and *Dutilitas* Hm; meaning there is no difference in maternal working hours per day on the status of married respondents and the benefits felt by the mother-child.

Thus mathematically, the formulation of multiple linear regression models were formed described as follows:

$$Hm = 8.240282 + 0.176472 RYwife + 0.0203377 + 0.0981237 RYhusband - 0.0598176 Years - 0.0283026 + 0.0146407 + 0.2909778 Agem + 0.2305292 Dmarried + 0.2987676 Dutilitas + e1$$

For the validation process, used size-fit Goodness-of-d coefficient of determination (R^2) and Mean Square Error (MSE). The greater the R-square value, the better the multiple linear regression models were

formed. In addition, measures of goodness is also used linear regression models that MSE (is expected to be small). To assess the goodness of the model can also be used MSE size with the following formula:

RMSE value is obtained from the output value Root MSE.

Table 6: Results of Multiple Linear Regression model validation

Model	R-Square	Root MSE	MSE
Hm	0,1066	1,2957	1,678838

From the results table, the size of the goodness-of-fit is R-Square and MSE generated good value for linear regression models. R-square value obtained was 0.1066 means that the diversity of the dependent variable explained Hm capable of independent variables RYwife, RYhusband, Child, Education, Years, AgeW, Agem, Dtipe, Dmarried, and Dutilitas simultaneously / together amounted to 10.66% which the remaining 89.34% is explained by error (e), or other variables that are not included in the multiple linear regression models. In other words, goodness Linear Regression models were formed amounted to 10.66%. In addition, the MSE also obtained the good that is equal to 1.678838 (small).

From the calculation on the model Hm multiple linear regression, it is known that the only variable income respondents (Ywife), the length of years (experience) working mothers (Years) and dummy type of child care (Dtipe) have a significant effect on the test partial to the dependent variable, namely the working hours mothers (Hm). Although, other independent variables simultaneously significant effect on the dependent variable.

The findings of the study authors between Ywife affect Hm accordance with the opinion of Borjas¹³ that there is a positive relationship between women's working hours and income women, so there is a substitution effect dominates the income effect among women working ($Es = 0.1$), including

inelastisitas that changes the number of hours of work offered women work less than women working wage changes. The substitution effect occurs when there are changes in prices (wages of working women) to change the number of hours women deals offered. While the income effect occurs if a price change led to changes in purchasing power.¹⁴ Different from this study that the respondents are working mothers who have children while in case of Borjas of respondents working woman, unmarried and certainly without the presence of children. With two different cases defined income working women in the presence of children and families affect the number of hours women work positively and significantly. The findings differ from Nicolau and Mumford¹⁵ that mothers who work in the UK do not increase their working hours even though hourly wages increased.

The duration of the year (experience) working mother affects the working hours significantly. The results of this study together with the findings of Rosmiyati Chodijah,¹⁶ which distinguishes the type of data used. In this study, the definition of experience is the number of years the respondent worked, so that kind of data rate, while research Chodijah manifold nominal data taking dummy variables. On Bellante and Jackson,¹⁷ which affects the participation of working women is the level of education and fun job, so different from this study. The existence of the child (Child) also affects the participation of working women, as well as the findings of Hidayat,¹⁸ Lefebvre and Merrigan,¹⁹ Bellante and Jackson.¹⁷ But these results were not significant that the number of early childhood possessed mother affects the working hours in the office. The results are more interesting that early age children (under six years) of working mothers with childcare deposited, that working mothers think of the existence of early childhood, with whom the child is entrusted. So no matter how many children (Child) held a working mother but the type of child care (Dtipe) what can be used so that the mother remains a mother works outside the home.

The other variables that have no effect partially to the number of hours mothers work (Hm) is the amount of income of the husband (RYhusband), the number of early childhood (Child), the latest education respondent (Education), the number of units the technology used in the household (Tech), age at work (AgeW), and age at marriage (agem). So changes in each of these variables did not affect the number of hours mothers work outside the home.

This means it can be concluded that working mothers of young children will continue to work outside the home due to factors from the mother herself. The reason of the results of interviews with respondents working mothers that they're used independently, have their own income, this was confirmed from Table descriptive statistics respondents that as many as 249 respondents (71.55%) who worked first then got married and variable experience (Years) are significantly affected the number of hours the mother (Hm). After getting married and having children, entered a period of pregnancy and childbirth, the mother gets time off from work (usually 3 months) to employees, mothers returning to work. But because the respondents have awareness of child maintenance primarily in early childhood, the mother works did the demand for child care. Awareness of respondents (working mothers) are also due to the high formal education that of university graduates.

4. CONCLUSION

It was concluded that the mother continued to work because of personal respondents themselves. From the interviews that the respondents had regular work, self-contained and have their own income. Supported data as much as 71.55% of

respondents who work first then got married. This would constitute a cultural shift in Indonesia that women can keep working while having early childhood responsibility.

The findings in this study differs from previous research studies regarding the factors working mothers and child care, which take into consideration the type variable child care for working mothers as the independent variables that affect the number of hours mothers work. Due to technical analysis using multiple linear regression and use the data of child care, wear nominal data types. The results of this study stated that the respondents have awareness of child maintenance primarily in early childhood, the mother works did the demand for child care. Awareness of respondents (working mothers) are also due to the high formal education that of university graduates.

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Table 3: Population and Sample of Women Working in Cities in South Sumatra province in August 2014

City	Population	Proportion	Proportion number	Sample
Palembang	265,791	74.98%	260.913	261
Prabumulih	30,727	8.67%	30.163	30
Lubuklinggau	33,731	9.51%	33.112	33
Pagaralam	24,257	6.84%	23.812	24
Total	354,506	100%		348

Table 5: Results of the t test for significance of regression model coefficients

Variable Dependent	Variable Independent	Coefficient Regress	Standard Error	Statistic t	P-value
Hm	Rywife	0,176472	0,0539757	3,27	0,001***
	RYhusband	0,0203377	0,0384974	0,53	0,598
	Child	0,0981237	0,1356577	0,72	0,470
	Education	-0,0690792	0,0814622	-0,85	0,397
	Years	-0,0598176	0,0158827	-3,77	0,000***
	AgeW	-0,0283026	0,0175745	-1,61	0,108
	AgeM	0,0146407	0,027141	0,54	0,590
	Dtipe	0,2909778	0,1470748	1,98	0,049**
	Dmarried	0,2305292	0,3445698	0,67	0,504
	Dutilitas	0,2987676	0,433305	0,69	0,491
	Konstanta	8,240282	1,317178	6,26	0,000***

*** Significant to a significant degree (α) of 1%.

** Significant to a significant degree (α) of 5%.

* Significant to a significant degree (α) of 10%.

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