

# Marital Status and Its Effect on Depression in Indonesia: A Case Study of the 2014 Indonesian Family Life Survey

Adrian Kevianta Anggana\*, Aviliani, Patron Natadjaya Ramadhanu Badrudin, Estro Dariatno Sihalo

Department of Economics & Development Studies, Faculty of Economics & Business, Padjadjaran University, Indonesia

\*corresponding author, email: [adrian18003@mail.unpad.ac.id](mailto:adrian18003@mail.unpad.ac.id)

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## ABSTRACT

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**Background:** Depression is a mental health disorder that makes the sufferer unmotivated and unproductive. This is caused by some factors such as loneliness, perfectionism, and marital status. *Riset Kesehatan Dasar (Riskesdas)* in 2018 shows that 6.1 percent of the population aged 15 and above in Indonesia experienced depression. Therefore, this study aims to see how marital status affects depression in Indonesia. **Method:** This study uses logistic regression, marginal effect, and the Rasch model using data from the Indonesian Family Life Surveys (IFLS) in 2014/2015. **Result:** Analyses showed that married observations have a lower prevalence of depression compared to those who are not married, divorced, or widowed. **Conclusion:** Therefore, an increase in divorce cases will increase the prevalence of depression in Indonesia. More effort in educating marriage to young couples is needed to reduce the number of divorces in Indonesia.

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## 1. Introduction

Depression is considered a mental health problem that manifests in the feeling of sadness and pressure. The symptoms of depression consist of depressed mood, loss of interest in activities low concentration and energy, feeling empty, guilty, and low self-worth [1]. It has negative effects on people's way of thinking, acting, and feeling. The impact of this mental health problem not only affects the sufferer's quality of life, but it has also become an important economic problem [2].

According to Basic Health Research (*Riset Kesehatan Dasar*) in 2018, the average level of depression in Indonesia is 6.1% [3]. The highest prevalence is in a group the age of 75 years (above) and the group of age 23-24 years old around 5.4%. Many factors may cause depression such as feeling loneliness, income level, level of education, perfectionism, and marriage [2,4].

Marital status can be one of the psychological states that determine an individual [5]. A study shows that married individuals have a better psychological state, shown by depression level, and suicide risk, [6,7] This phenomenon happens because marriage can protect an individual from external events that can trigger depression. Although marriage status cannot solve external problems, such as economic matters, marriage status can decrease the psychological effect which is caused by the mentioned problem [8].

On the other hand, the psychological advantage of marriage is mostly experienced by males instead of females. It is because traditional gender role in marriage (where females do housekeep and caretaking roles) that enhances a female's [9]. Psychological benefits from marriage are mostly experienced more by individuals who are diagnosed depressed before marriage than individuals who are mentally healthy before marriage Meanwhile, an individual not married is in the second position, followed by a divorcee, and widower [10].

Based on data from BPS, the prevalence of divorce cases in Indonesia increases around 0.23% (1.78% in 2014 and 2.01% in 2018), prevalence widow cases increase around 0.30% (6.01% in 2014 and 6.31% in 2018), meanwhile married prevalence decreases to 0.39% (59.88% in 2014 and 59.49% in 2018) [11]. If marriage status takes effect on the depression level in Indonesia, depression prevalence will gradually increase along with the enhancement of the trend. Thus, the purpose of this research is to find out whether marital status influences depression prevalence in Indonesia, as well as to discover whether there is a difference in depression prevalence between males and females in Indonesia.

## 2. Materials and Method

This research uses secondary data taken from Indonesia Family Life Survey (IFLS) 5, which uses 3 models with 10,822 observations for model 1, 6,019 observations for model 2, and 3,562 observations for model 3. The method utilizes cross-section with logistic regression and marginal effects through data processing using STATA 14 and Winsteps.

Logistic regression (logit model) is a common statistical method used in empirical studies that involve categorical (Binary, Multinomial, and ordinal) dependent variables and is used to derive a correlation [12,13]. The coefficients of logit models are usually determined using the maximum likelihood method. The use of marginal effects is to examine whether the regressor has the same effect on the probable outcomes of both groups for the regression model with binary outcomes [14].

The use of the logistic model is often combined with the odds ratio by epidemiologists and clinical researchers [15], while social science researchers use the logistic regression combined with marginal effects [16]. Marginal effects in nonlinear models such as logistic regression will be more informative in answering research questions because they reveal how the probability of a binary outcome changes with changes in risk factors [17].

The depression variable is made based on 10 depression symptoms listed in the Center for Epidemiologic Studies Depression Scale (CESD-R). The CESD-R consists of 10 questions with answers varying from 1 to 4, where 1 means never (<1 day), 2 means a few times (1-2 days), 3 means sometimes (3-4 days), and 4 means often (5-7 days). Answers from CESD-R form are then processed through the Rasch model using the Winsteps 3.73 software.

The Rasch model is a statistical approach founded by Georg Rasch in 1960 as a psychometric tool in the social field. This model is usually utilized in education, business, psychology, and health economics [18]. This model places respondents on a scale at the same interval and has several unique features that can be used to analyze ordinal data [19,20]. The use of the Rasch model is necessary because it doesn't have the assumption of normal distribution, can be used to analyze ordinal data, and proves formal statements from a perfect scale [21]. A score more than  $-0.52$  means an individual suffers from depression and a score less than or equal to  $-0.52$  means an individual doesn't suffer from depression [22].

Furthermore, the control variables used in this study consist of gender, wages, insurance, years of schooling, age, age squared, working male, male age, male age squared, male education, male insurance, working female, female age, female age squared, female education, and female insurance. *Marstat* is an independent variable of marital status in the form of a dummy variable defined if the individual is married which is symbolized by 1 or unmarried is represented by 0. The control variables are *lwage*, *age*, *agesq*, *educ*, *male age*, *maleagesq*, *maleeduc*, *femaleage*, *femaleagesq*, *femaleeduc* and control variables in the form of a dummy is male, insurance which represents have insurance yes or no, *malework* which represents working men or not, *femalework* which represents working women or not, *maleinsu* which represents whether or not male respondents has insurance, and *Femaleinsu* which represents whether or not women respondents has insurance.

## 3. Results and Discussion

### 3.1. Results

Based on observations from 22,794 respondents, 18.93% of respondents are experiencing depression. A majority of those experiencing depression are males (56.03%). In addition, cases of depression are observed in 77.58% of married respondents and 92.23% of working respondents

(Table 1). Table 2 shows the result of the variable marriage status on three models, which are model 1 (95% CI= (-0.073) – (-0.034);  $p < 0.05$ ), model 2 (95% CI= (-0.090) – (-0.045);  $p < 0.05$ ), dan model 3 (95% CI= (-0.091) – (-0.033);  $p < 0.05$ ). It also shows the result of log wage variables on three models, model 1 (95% CI= (-0.028) – (-0.011);  $p < 0.05$ ), model 2 (95% CI= (-0.030) – (-0.009);  $p < 0.05$ ), and model 3 (95% CI= (-0.037) – (-0.012);  $p < 0.05$ ).

**Table 1.** Respondents Characteristics

Variable	n	%
Depression		
Yes	4,315	18.93
No	18,479	81.07
Marstat		
Married	17,684	77.58
Unmarried	5,110	22.42
Work		
Yes	21,024	92.23
No	1,770	7.77
Male		
Yes	12,771	56.03
No	10,023	43.97
Insurance		
Yes	11,238	49.34
No	11,539	50.66
Malework		
Yes	11,175	87.51
No	1,595	12.49
Maleinsu		
Yes	6,344	49.71
No	6,418	50.29
Femalework		
Yes	8,678	86.59
No	1,344	13.41
Femaleinsu		
Yes	4,929	49.24
No	5,082	50.76

### 3.2. Discussion

In general, marriage status can decrease an individual's prevalence of depression by 5.38 percentage points. This finding is in line with the previous research which shows that marital status can improve an individual's psychological condition [23]. Other finds are also consistent. The second and third model shows that marital status can decrease the prevalence of depression by 6.78 percentage point in males and 6.23 percentage point in females. A bigger effect is experienced by males because when they are married, males tend to receive more advantages than females. On the other hand, females are most likely bound emotionally to marriage compared to males [24].

On the other side, if we only look at the correlation between gender and depression independently without considering marriage status, males have a lower prevalence of depression of around 1.24 percentage points. YouGov's survey in 2019 shows similar findings where males in Indonesia have lower rates of depression and are more likely to seek professional help compared to females [25]. Depression in gender is caused by several factors, namely biological factors, genetic factors, affective factors, and cognitive factors [26]. There are lots of factors that can explain why females are more prone to depression compared to males. First, genetic factor plays a big part. When females are in puberty, the prevalence of depression increases more than males, with a 2:1 ratio in puberty. This ratio tends to increase as females get older. The risk of depressive symptoms also will increase during menopausal transition by 45-68%, with an increased risk of mood disorders in perimenopause [27]. Second, abuse to females become the trigger of being prone to depression for females. Abuse during childhood is more likely experienced by females rather than males. This explanation is supported by data released from United Nations Population Funds (UNFPA) with *Kementerian Pemberdayaan Perempuan dan Perlindungan Anak*

(KEMENPPA) in 2017 which stated that more than 41% of Indonesian females Have experienced at least one out of some types of abuses, such as physical abuse, sexual abuse, emotional abuse, and economical abuse [28].

**Table 2.** Bivariate Analysis Results

Variables	Marginal Coefficient (dy/dx)	Standard Error	P-Value	95% CI
Marital Status 1	-0.0538	0.00985	0.000	(-0.073) – (-0.034)
Marital Status 2	-0.0678	0.01141	0.000	(-0.090) – (-0.045)
Marital Status 3	-0.0623	0.01491	0.000	(-0.091) – (-0.033)
Log Wage 1	-0.0201	0.00424	0.000	(-0.028) – (-0.011)
Log Wage 2	-0.0200	0.00553	0.000	(-0.030) – (-0.009)
Log Wage 3	-0.0254	0.00644	0.000	(-0.037) – (-0.012)
Work	-0.00528	0.01851	0.776	-0.041 – 0.031
Male	-0.0124	0.00801	0.121	-0.028 – 0.003
Age	0.00305	0.00250	0.223	-0.001 – 0.007
Age squared	-8.36e-05	0.00003	0.012	(-0.00014)–(-0.00001)
Years of Schooling	-0.00613	0.00099	0.000	(-0.008) – (-0.004)
Insurance	-0.00847	0.00782	0.279	-0.023 – 0.006
Male Work	-0.0172	0.01783	0.336	-0.052 – 0.017
Male Age	-0.00344	0.00311	0.270	-0.009 – 0.002
Male Age squared	2.08e-05	0.00003	0.576	-0.00005 – 0.00009
Male Education	-0.00528	0.00125	0.000	(-0.007) – (-0.002)
Male Insurance	-0.00574	0.01020	0.574	-0.025 – 0.014
Female Work	-0.0552	0.02408	0.022	(-0.102) – (-.007)
Female Age	-0.00641	0.00428	0.135	-0.014 – 0.001
Female Age squared	5.22e-05	0.00005	0.300	-0.00004 – 0.00015
Female Education	-0.00572	0.00158	0.000	(-0.008) – (-0.002)
Female Insurance	-0.0245	0.01387	0.078	-0.051 – 0.002

This study also shows that there is a significant relationship between income and depression, where increasing income can lower the individual depression prevalence in model 1 by a 2.01 percentage points. By gender, income lowers the prevalence of depression by around 2 percentage points in males and 2.54 percentage points in females [29]. In addition to that, some previous study shows that low-income individuals cannot avoid the pathology of poverty which consists of crimes, abuse, and infectious diseases which can increase depression prevalence. Loss of income can affect some problems in mental health. This is because the uncertainty and worries about income and expenditure related to job insecurity affect the prevalence of depression [30].

To add more, the result of regression shows that in general, depression prevalence tends to increase by 0.3 percentage points as an individual gets older, but after hitting a certain age, the depression prevalence will decrease by 0.00836 percentage points as they get older. A Study explains that when the individual gets older, the activity of specific autonomous nervous systems will decrease and cause the individual to become less responsive to negative emotions. But if we look at the gender of an individual, the depression level which is felt by the individual is different. Older adults are more effective at regulating emotions and improving strategies for resistance to problems [31].

The second model shows that depression prevalence in males tends to decrease around 0.344 percentage points as they get older and when they have reached a certain age, it increases around 0.00208 percentage points. The third model also shows a similar result, where depression prevalence in females tends to decrease around 0.641 percentage points as they get older to a certain age limit. After passing through a certain age, depression prevalence in females will increase by around 0.00522 percentage points. Aging is followed by the enhancement of maturity, authority, and individual experiences so it lowers an individual depression level [31]. However, after passing through a certain age, the productivity and physical ability of an individual starts to

decrease as they age. This phenomenon causes the individual to feel like they are losing control of themselves and the depression increases.

Moreover, this study also finds that health insurance ownership has a negative relation to depression in model three. Although, only model three has a significant result, where insurance ownership can decrease the depression prevalence in females by 2.45 percentage points. This finding is similar to the previous study, which stated that mental health insurance decreases one's mental health treatment visits [32].

The result also suggests that every one year of an individual's education, the depression prevalence decreases by around 0.613 percentage points. Similar relation can be found in models two and three, where one-year addition of individual education can lower the depression prevalence by around 0.528 percentage points in males and 0.572 percentage points in females. The level of education can affect access to health care when someone who has a low level of education can be more prone to depression [38]. On the other side, a higher education level can provide a good quality of life and cognitive function [34].

This study also finds that an individual who works has a lower depression prevalence, 1.72 percentage points for males and 5.52 percentage points for females. A study shows that being unemployed can double the prevalence of depression, so being unemployed provides opportunities for fostering depression [35].

#### 4. Conclusion

Based on this research, it can be concluded that Indonesians who are married, male, educated, working, have a high income, and also own health insurance tend to have lower depression prevalence. As the rate of divorce increases in Indonesia, the researchers recommend that the government intervene to prevent the escalation of divorce cases. This is done to suppress the rate of depression in Indonesia.

Although this study finds that there is a correlation between marital status and depression, it did not include an indicator of a marriage's happiness within the model. Further study is recommended to research whether a marriage's happiness can affect depression prevalence in Indonesia.

#### Declaration

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