

# Influence of a Wife's Education on Her Partner's Health Status: Evidence from Married Couples in Indonesia

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**Abstract**—Health is an important part of human capital investment. One of the greatest factors affecting one's health is his educational attainment. Individuals with longer years of schooling tend to have better health as adults and, theoretically, an individual's health is not only affected by their own behavior but also the environment where they have lived—particularly with respect to their marriage partner. Therefore, this study aims to find out whether there is any association between a wife's education on her partner's health status and the mechanism behind it. Using data from the *Indonesia Social and Economic Survey (SUSENAS) 2016*, there were 172,939 households meeting the criteria of this study. In order to answer the research question, a multinomial logistic regression was applied to the analysis. The author's found that in Indonesia, a wife's education was significantly associated with her partner's health status, even after controlling for her partner's own education and other variables. The results also indicate that a husband will be healthier when his wife is better educated.

**Keywords**—health; education; marriage partner

## I. INTRODUCTION

The socioeconomic condition of a person is an important factor that determines his level of health. Inequality in the achievement of socioeconomic status will result in a lower ability of people to achieve prosperity, especially quality of health. Education is one of the dimensions in socioeconomic status that affects health, because education is known to be closely related to health through direct and indirect mechanisms [1]. People with less education tend to be less healthy and have a poorer lifestyle than highly educated people [2]. According to Torssander & Erikson [3], education provides a person knowledge to help him better understand health risks he faces and how to overcome them.

Nevertheless, it is important to examine the effect of education on health from other dimensions. Healthy conditions that can be achieved by a person are not only influenced by the behavior of the individual himself, but also his environment—especially with whom he lives [4]. Several studies have proven that the level of a partner's education in the household will affect the health of the other partner [5, 6]. This might happen because both marital partners will influence each other's lifestyle, especially the influence of a

wife in the household, since men have a tendency to have poorer health due to their lack of desire to adopt a healthy lifestyle [7]. Traditionally, a wife will be more responsible for household management than her husband, especially in the family lifestyle habits such as food consumption habits [3]. De Montigny et al. [8] found that wives might be able to influence her husband to modify his health-consciousness and related behavior. Therefore, a wife's education may provide a significant influence on her partner's health status in the household.

Considerable research on education and health has already been done, but studies about the influence of partners on one's health has not been widely looked into, especially in Asia [9]. Therefore, this research analyzes the influence of education on health in marriage partners in Indonesia.

Research conducted by Pinkhasov, et al. [7] showed the tendency of men to pursue a risky and unhealthy lifestyle that could lessen their life expectancy. Similarly, in 2014 the life expectancy of a male in Indonesia was 68.87 years whereas females enjoyed a longer life expectancy at birth: 72.59 years. And in the last five years *Statistics Indonesia (BPS)* showed that the life expectancy disparity between men and women differed from 3.72 to 3.94 years. This disparity may be reduced by improving the health of men—especially husbands—by looking at the influence of their partners. Moreover, wives in Indonesia are still looked to as those who play a major role in managing household affairs. Besides working, 58.94% of married women in Indonesia also play a significant role in the household [10]. Accordingly, women in Indonesia, or in this case wives, will have a great influence on her partner's level of health. Therefore, this study aims to discover the association between a wife's education and her husband's health status in Indonesia. In addition, it seeks to determine the possible mechanisms of an education spillover effect on a husband's health status.

## II. LITERATURE REVIEW

Education is known to affect health through a direct mechanism (i.e., raising health awareness) and an indirect one (i.e., access to safer jobs and higher incomes) [1, 11]. Monden, Van Lenthe, De Graaf & Kraaykamp [6] stated that an individual's education not only increases his income, but also the educational system itself serves to expand his social

network and escalate his knowledge of healthier lifestyles, lead to less-risky behavior.

Grossman [12] developed a theory-related health behavior framework and found that education influences one's health behavior, where more educated people tend to allocate available inputs to produce health efficiently. With high productivity, more educated people are also able to earn higher incomes, so they can be productive in non-market activities such as health production [13]. Accordingly, Fuchs [14] stated that the health status of the population in the United States is closely related to the years of schooling. The same results are shown both when health is measured objectively (i.e., the mortality rate) and subjectively (i.e., one's self-evaluation health rate), and that relationship remains strong even when controlled by other variables such as income. Rose & Marmot [15] found that Individuals with longer years of schooling tend to have better adult health. Liu, Hermalin, & Chuang [16] found a significant association between education and health among older Taiwanese, through different pathways that involved higher income, securer jobs, living in environments with lower exposure to risk, better housing, and access to health care resources.

Schooling also known to causally affect adult health through indirect mechanisms such as increasing income, that escalate access to better health care; improving the position in society which is associated with better adult health and mental health [17]. Although schooling causally affects health, Amin, Behrman & Kohler [17] stated that most of theoretical discussion argues that positive effects of schooling on health overcome the result.

Another dimension in research on the effect of education on health was proposed by Monden, et al. [6]. In his research in the Netherlands, Monden found that one's partner's education is important for health and health behavior of his partner. Therefore, research on a person's health level should take into account the social context in which he lives. Becker [18] also stated that marriage will garner a couple's utility by allocating resources between partners to produce household commodities such as health capital. Therefore, through marriage the sharing of resources (level of education) between couples can affect each other's health conditions. Couples in their household will affect each other's lifestyles, such that romantic partners will tend to have quite similar health-related behavior [19]. Sutton [20] supported this statement, finding that when one partner smokes then it is normal that the other will have the same behavior, too.

Education on a partner's health status in the household was indicated by a study conducted in Sweden [5]. This study showed that the tendency of husbands to have poor health status and die from coronary health disease was reduced by having a wife who is highly educated, after controlling for the age and education of husband. Conversely, research conducted by Hurt, Ronsmans & Saha [21] in Bangladesh found that the level of education and occupation of the husband, did not affect the woman's survival. While the effect of women's education was particularly significant, as husbands with educated wives had a lower mortality rate for diseases promoted by unhealthy lifestyles. Similarly, findings produced by Torssander & Erikson [3] suggest that the educational level of husband does not show a significant effect on the mortality rate for diseases promoted by unhealthy

lifestyle of their wives; it was wife's education level that affected the health of her husband. In contrast, Wilson [22] found that a husband's education positively affects the health status of his wives whereas, on the contrary, the higher level of the wife's education actually worsened the health status of her partner. Li, et al. [9] also found that more educated husbands will benefit his wife's self-rated health status, whereas no association was found between a husband's health status and his partner's education level after controlling for the presence of chronic condition, lifestyle factors (e.g., smoking, physical activity and body weight) and social support.

Willemsen, Vink, & Boomsma [23] found that there are other mechanisms that affect the level of health of a couple in the household. This mechanism is called similarities between spouse that are associated with social factors and their personality traits, one of them is defined in terms of educational attainment and is known as educational assortative mating. Therefore, this study included educational assortative mating as a control variable, to procure wider results than those found in previous studies.

### III. RESEARCH METHODOLOGY

#### A. Research Method

In order to answer the research question, this study uses data from the *Indonesia Social and Economic Survey* (SUSENAS) 2016. SUSENAS is a national survey containing information on the socioeconomic status of both individuals and households. The questionnaire was divided into two parts, i.e., SUSENAS CORE and SUSENAS MODULE. Information on health, employment status, and educational status was obtained for each household member from the former, while data on consumption were collected for household that was listed in the latter.

Couples occupying a household is the unit of analysis in this study. Households restricted to those that contained married couples. Respondents younger than 25 years old were also excluded from this study. This lower-bound age limit was chosen to ensure that almost everyone had completed his education [6, 24]. To prevent bias when measuring couple's expenditure as a proxy for income, households with working children and other employed members (e.g., parents, parents-in-law, son-in-law, et al.) were also excluded from the analysis [25, 26] In total, 172,939 households met the criteria.

#### 1) Measures

Health status. Health status is the dependent variable in this study. Measured through self-rated health (SRH) evaluation, this variable is formed from three questions in SUSENAS CORE, i.e.:

- a. Did you have any health complaints during the past month?
- b. Did it result in disruption of work, school, or daily activities?
- c. Has the health disorder caused you to suffer seriously?

Adapted from previous research by Farida [10], this study categorizes health status into three levels, namely:

1. A healthy condition exists when a respondent reports no health issues, that is, when the respondent gives "no" answer or code "5" to the question of what

health complaints are felt in the questionnaire SUSENAS CORE, Block VII, details 703.

2. The A minor illness exists when a respondent has either a health complaint or a health complaint that causes some disruption of daily activities, i.e., when respondent answers “yes” or “1” to questions about health complaints and answer “yes” (code “1”) or “no” (code “5”) for questions about whether health complaints interfere with daily activities in the SUSENAS KOR Block VII questionnaire, details 703 and 704.
3. A severe illness occurs when one experiences health complaints and severe health problems, i.e., when respondents provide “yes” or “1” answers to questions about health complaints and when severe health problems are noted in the questionnaire SUSENAS CORE Block VII, details 703, 704, and 706.

#### a) Educational attainment

The main independent variable in this study is the highest level of education attained by wives in the household. This variable is obtained through the question designating the highest degree or diploma completed by the respondent (questionnaire SUSENAS CORE Block V 510 details). The level of education is divided into five categories: (1) no education, (2) elementary school, (3) junior high school, (4) senior high school, (5) college and above.

#### b) Other variables

This study includes other control variables in the model. To evaluate the possible association between assortative mating and husband’s health status as recommend by several studies [8, 23] this research applied educational attainment as a measure of assortative mating. The educational assortative mating divide into four categories, i.e.:

1. Both partner’s educational attainment is primary school (i.e., no schooling or only elementary school)
2. Both partner’s educational attainment is secondary school (junior and/or senior high school)
3. Both partner’s educational attainment is tertiary school (college and above)
4. Both partners have different educational attainment

Other variables that are included in this study are husband’s educational attainment, husband’s employment status, husband’s age, couple’s income (measured by proxy of household expenditure), health insurance coverage, residence, and husband’s smoking behavior.

#### B. Data Analysis

This study uses multinomial logistic regression to estimate the relationship between wife’s educational level and her partner’s health status. Primary analysis will be applied to determine the direct interaction between the two variables. The next analysis will include control variables including husband’s educational attainment, husband’s employment status, husband’s age, couple’s income (expenditure

approach), educational assortative mating, health insurance ownership residence, and husband’s smoking behavior.

The feasibility of endogeneity problem from the regressor might be developed when estimating health status. Couple’s income is the variable that caused endogeneity in this study. Endogeneity occurs because the income variable will be influenced by other independent variables such as employment status and educational level. However, in a study conducted by Wilson [22], the endogeneity that occurred as a result of the income variable was ignored. This approach was applied because the formation of instrumental variables for income by not involving independent variables that affect health is not possible. Furthermore, if the income variable is omitted from the model to prevent endogeneity, then this will result in even larger bias. Therefore, endogenous problems that occur in the model is left as a weakness in the study, so the interpretation of the results must be handled more cautiously.

All analyses in this study were performed with SPSS 21.

## IV. RESULT

### A. Descriptive Statistics

A descriptive overview of all variables used in the analysis is presented in Table 1, and this section will highlight both dependent on independent variables. Most men or husbands in this study are healthy (69.34%), while husbands with a severe illness only account for 4.88%.

When a wife’s education is involved in this study, as seen in Table 1, the number of husbands with a normal healthy status increases when his wife is more educated, in line with that, the higher the wife’s education is, the number of husbands with minor and severe illness decreases. And what about the husband’s education level affecting his own health? In general, husbands with healthy status will increase as his education level rises. Interestingly, when husbands have higher education (college and above), the number of husbands with minor and severe illnesses actually increased compared to when the husband’s educational attainment was only senior high school.

Regarding a couple’s income, those with high incomes actually showed a lower percentage of having a normal healthy status than those with low income. On the contrary, husbands with severe illness status actually show a lower percentage when their income level is high. Turning into educational assortative mating, this independent variable is divided into four categories. The descriptive analysis results show that the percentage of husbands with healthy status will be greater when he is married to someone with the same level of education. Otherwise, when a husband is low-educated and so is his partner, the percentage of husbands with a normal healthy status will decrease and produce the largest percentage group to experience severe illness (6.19%).

Given the ownership of in terms of being covered by health insurance, it appears that the percentage of husbands with normal healthy status is lower when compared to husbands who do not have coverage. This happens because there is a tendency for Indonesian people who use national health insurance in the form of BPJS *Kesehatan*, and only enroll in this national insurance after experiencing illness [27].

**TABLE I. DESCRIPTIVE ANALYSIS OF RESPONDENT CHARACTERISTIC**

Independent variables	Husband's health status		
	Healthy	Minor illness	Severe illness
(1)	(2)	(3)	(4)
<b>Wife's educational attainment</b>			
No school	61.34	30.97	7.68
Elementary school	68.87	26.18	4.95
Junior high school	72.80	23.52	3.68
Senior high school	74.11	22.50	3.39
College and above	74.98	22.10	2.92
<b>Husband's educational attainment</b>			
No School	60.66	31.60	7.73
Elementary School	68.59	26.36	5.05
Junior High School	71.81	24.25	3.94
Senior High School	74.76	21.98	3.26
College and Above	74.10	22.57	3.33
<b>Husband's employment status</b>			
Working on formal sector	73.14	23.56	3.29
Working on informal sector	69.48	26.38	4.15
Not working	44.38	33.75	21.87
<b>Couple's income*</b>			
Low	70.22	24.73	5.05
Middle	68.78	26.38	4.85
High	68.69	26.68	4.63
<b>Educational assortative mating (EAM)</b>			
Both with primary school	65.18	28.62	6.19
Both with secondary school	75.11	21.86	3.03
Both with tertiary school	75.59	21.68	2.73
Different level of education (non-EAM)	72.07	23.85	4.08
<b>Health insurance</b>			
No	70.67	25.08	4.25
Yes	68.52	26.20	5.27
<b>Residence</b>			
Rural	69.31	25.61	5.08
Urban	69.37	26.02	4.61
<b>Smoking</b>			
Current smoker	70.85	25.44	3.81
Former smoker	53.16	34.26	12.58
Never smoking	68.68	25.44	5.89
<b>Total</b>	69.34	25.78	4.88

This fact is also seen in the status of severe illness, where the percentage is even greater when the husband has health insurance. Based on the status of the area where respondents

live, the percentage of husbands who live in rural areas with a normal healthy status were greater than those living in urban areas, but when husband have a severe illness, he who lives in a rural area will show a larger percentage.

In order to represent the husband's health behavior, husband's smoking behavior was used as a control variable. Table 1 shows that husbands with a normal healthy status were mostly smokers (70.85%) while former smokers made up the smallest percentage of normal healthy condition (53.16%). In line with this result, husbands with severe illnesses were mostly those who were former smokers (12.58%).

### B. Multinomial Logistic Regression

As mentioned before, to answer the research question, this study using multinomial logistic regression. The result can be seen in Table 2. This study used three models to answer the research question and show the result of robustness checks for all variables involved. Our estimates show the relationship between the wife's educational attainment and her partner's health status. In the model, a normal healthy condition is the reference group for each dependent variable, namely, minor and severe illnesses.

As seen in Table 2, model 1 shows a statistically significant relationship between wife's educational attainment and her partner's health status without any control variables. This model shows a direct association between dependent and independent variable in this study. The regression result shows that statistically, a husband with a wife with a very low educational attainment (no school) is 1.713 times more likely to have minor illness rather than one that has a normal healthy status. When having a wife with an elementary school level education, a husband will be 1.29 times more likely to have minor illness, and the tendency of having a minor illness such as a worse health status diminishes when his wife's educational attainment is junior high school. In line with minor illness, severe illness regression results also show a statistically significant association with all level of wife's educational attainment. The tendency of having a severe illness compared to being healthy is 3.215 times higher when his wife has very low educational attainment (no school). And the propensity of couples experiencing severe illness will lessen, in line with a better-educated wife. Overall, this result shows that through the direct mechanism, an educated wife will make her partner live a healthier life. In contrast to model 1, model 2 includes a husband's educational attainment as a control variable [5].

Once controlled for by the husband's educational attainment, a wife's education level still remains associated with her partner's health status, though not all of the education levels were statistically significant. The tendency of husbands to experience a minor illness is 1.337 times more likely than being healthy when the education level of his partner is low (no school) compared with college-educated wives (used as a reference). A similar trend also occurs when the wife's level of education is elementary school. While significant relationships are not formed between the wife's educational attainment and her partner's health status (minor illness) when the education level of the wife is junior and senior high school. Significant association between a wife's education and a husband's severe illness showed up in each educational level of the wife—although the tendency is attenuated when controlled for by the level of education of the husband. The



husband's tendency to experience severe illness is 2.158 times more likely than being healthy when his wife does not have any diploma (i.e., no schooling). When a wife's level of education ended with elementary school, her partner's tendency to experience a severe illness was 1.549 times more likely to be healthy, as compared with a college-educated wife.

And when a wife's educational attainment went through junior and/or senior high school, a husband's tendency to experience severe illness was, respectively, 1.209 times and 1.164 times more likely than to be healthy, as compared with having a college-educated wife.

TABLE II. RESULT OF LOGISTIC REGRESSION ANALYSIS WITH EXP (B) AND STANDARD ERROR (SE)

Independent variables	Husband's health status						
	Model 1		Model 2		Model 3		
	Health status (Minor illness)	Health status (Severe illness)	Health status (Minor illness)	Health status (Severe illness)	Health status (Minor illness)	Health status (Severe illness)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	
<b>Constant</b>		(0.019)	(0.048)	(0.022)	(0.054)	(0.064)	(0.128)
<b>Wife's educational attainment</b>							
No school	1.713*** (0.023)	3.215*** (0.052)	1.337*** (0.029)	2.158*** (0.066)	1.198*** (0.040)	1.984*** (0.092)	
Elementary school	1.290*** (0.021)	1.844*** (0.051)	1.158*** (0.026)	1.549*** (0.061)	1.165*** (0.036)	1.731*** (0.087)	
Junior high school	1.096*** (0.029)	1.297*** (0.067)	1.039 (0.032)	1.209** (0.075)	1.219*** (0.051)	1.755*** (0.112)	
Senior high school	1.030 (0.023)	1.18*** (0.060)	1.017 (0.025)	1.164** (0.061)	1.112** (0.047)	1.591*** (0.102)	
College and above (reference)							
<b>Husband's educational attainment</b>							
No school			1.379*** (0.029)	1.638*** (0.063)	1.476*** (0.040)	2.039*** (0.087)	
Elementary school			1.126*** (0.026)	1.198** (0.058)	1.239*** (0.037)	1.553*** (0.082)	
Junior high school			1.045 (0.033)	1.011 (0.074)	1.297*** (0.051)	1.565*** (0.107)	
Senior high school			0.928*** (0.025)	0.844*** (0.058)	1.139*** (0.046)	1.325*** (0.097)	
College and above (reference)							
<b>Husband's age</b>					1.027*** (0.001)	1.025*** (0.001)	
<b>Husband's employment status</b>							
Working on formal sector					0.738*** (0.027)	0.187*** (0.040)	
Working on informal sector					0.754*** (0.026)	0.181*** (0.036)	
Not working (reference)							
<b>Couple's income*</b>							
Low					0.823*** (0.017)	0.834*** (0.036)	
Middle					0.939*** (0.016)	0.960 (0.034)	
High (reference)							
<b>Educational assortative mating (EAM)</b>							
Both with primary school					0.984 (0.048)	0.930 (0.104)	
Both with secondary school					0.941 (0.050)	0.797** (0.108)	
Both with tertiary school					1.065 (0.055)	1.203 (0.124)	
Different level of education (non-EAM) (reference)							
<b>Health insurance</b>							
No					0.94*** (0.012)	0.883*** (0.025)	
Yes (reference)							
<b>Residence</b>							
Rural					0.953*** (0.013)	1.179*** (0.026)	
Urban (reference)							
<b>Smoking</b>							
Current smoker					1.046*** (0.013)	0.776*** (0.026)	
Former smoker					1.583*** (0.027)	2.300*** (0.042)	
Never smoking (reference)							

Model 3 shows the relationship between wife's educational attainment and her husband's health status after controlled for all independent variables. Even after controlled for the husband's employment status, husband's age, couple's income (by proxy using household expenditure), educational assortative mating, health insurance ownership, residence, and smoking behavior of husband, the association between wife's educational attainment and her husband's health status remain statistically significant, even though the relationship was attenuated. The tendency of husband to experience a minor illness is 1.198 times more likely than being healthy when his wife has low level of education (i.e., no schooling), as compared to a college-educated wife. The higher a wife's level of education, the stronger the tendency for her husband to experience a minor illness is diminished. In line with that finding, the tendency of husbands to experience severe illness is 1.984 times greater than being healthy when his partner has a low level of education (i.e., no schooling). This tendency is lower when his wife's educational attainment is higher. When a wife's level of education was senior high school, then the tendency for her husband to experience a severe illness is 1.591 times, which is less than when compared with low-educated wives.

The result from the third model indicated that almost all control variables affect the dependent variable: the husband's health status. In line with previous results, increasing the husband's education level will reduce his tendency to experience minor and severe illnesses. Moreover, the older the husband's is, the greater tendency to experience sickness will be (although the tendency is still quite low). It is interesting to analyze the differences in health status trends with respect to the husband's work status. Where the tendency of the husband is to experience minor and severe illness when he is working (in both the formal and informal sectors) was diminished compared with a non-working husband. Dahlgren & Whitehead [28] also stated that unemployment can worsen someone's health and cause premature death. However, this result may be due to a causal influence between the two variables, i.e., there is a good possibility that the husband is not working due to his severe illness. Based on the results of the descriptive analysis, 21.87% of husbands who do not work have some severe illness.

From the earnings side of the couple (taking an expenditure approach), it can be seen that when a couple's income was considered to be low or middle, then the husband was less likely to experience a minor illness compared to when the couple's income was high. In line with that finding, the tendency of couple's with low income to experience severe illness is lower than that of high income. But there is no significant relationship when couple's income was considered mid-level.

## V. DISCUSSION

As mentioned before, it is known that education influences one's health behavior. Therefore, the level of education has been recognized as affecting the level of one's health [1, 6, 11, 12, 14].

To author's knowledge, this is the first study to address the potential spillover effects of education on the health status of marital partner in Indonesia. In univariate models, this study found that there is significant and positive association between the wife's education and her husband's health status. This

finding is in line with a previous study that was conducted in China [9].

After controlling for a husband's own level of education, there is still a significant and positive association between the wife's education and her husband's health status, even though the association with wife's education was attenuated, suggesting that the influence of her education was partly explained by this factor. These results are in line with the findings conducted by Egeland, Tverdal, Meyer, & Selmer [5] in Sweden, where they found that a husband's poor health status will diminish when he has a wife who is highly educated, after controlled for the husband's age and education level.

The third model of this study explores the possible mechanisms that underlie the relationship between the wife's educational attainment and her partner's health status by involving all of the covariate variables: husband's employment status, husband's age, couple's income (using an expenditure approach), health insurance ownership, and residence. In line with the previous model, with all control variables, the result showed a sufficient but clear association between the wife's education and her husband's health status.

When looking at each control variable, a couple's income showed a significant association with the husband's health status, although the relationship was negative. This result showed that with lower income, the tendency of husband having a minor or severe illness will lessen compared the couple's income was higher. This finding differs from prior work that has shown that education along with higher income and other variables lead older Taiwanese people to indicate better SRH [16]. The difference in results from prior studies might be due to the fact that the author used consumption expenditure as an approach for couple's income, although some criteria have been applied to prevent this bias, as mentioned earlier. Moreover, when analyzing the result through descriptive statistics results, it can be seen that the distribution of the husband's health status in each category of couple's income is not very different. But this outcome might have developed since there is a tendency for people with higher economic status to have unhealthy eating habits that lead them into poor health [12].

As suggested by previous studies [8, 23], this study uses educational assortative mating as a control variable. Unfortunately, statistically significant variables only show that the husband will be less likely to experience severe illness when having an equally educated partner at the secondary school level, compared with couples who have different levels of education (non-educational assortative mating). These results are in line with the study conducted by Willemsen, Vink, & Boomsma [23], where they found that similarities between spouses that are associated with social factors and personality traits will affect the level of health of the couple living in the household.

Using smoking as husband's health behavior variable, Table 2 shows that the tendency of husbands to experience a severe illness will be lower when smoking. While the tendency of husbands who never smoked to experience illness either minor or severe, it is greater than when not smoking. These outcomes indicate that husbands who smoke, are less likely to experience an illness than non-smokers. Conversely, previous research found that a person's tendency to have an

illness will be greater when smoking [9, 22]. This result occurs because there is a propensity for someone to quit smoking when experiencing health problems [29], while smoking behavior will be engaged in continuously while a person still feels healthy. This result is also indicated by the large percentage of husbands who experienced a severe illness when they smoked previously (see Table 1).

## VI. CONCLUSION

This study found an association between the wife's educational attainment her husband's health status, even after controlling for other variables. A husband will be healthier when his wife is better educated. The influence of wife's education on her husband's normal health status may be partly mediated by his own educational attainment and other related factors.

SUSENAS, the data source used in this study, is a cross-sectional survey. As a cross-sectional study this research has many shortcomings. The author recommends using longitudinal data for future research so the study can give better interpretations about how changes in education affect health among couples. A desirable improvement would be to discover the class of diseases suffered by the respondent can be known, rather than just relying on the SRH report used in this study. Moreover, it will be more interesting if further research would also study the influence of husband's educational attainment on his wife's health status, so that inter-spousal health status differences may be seen.

Future research is recommended as this subject is important. By knowing the mechanism underlying one's health, further policy implications might be better-informed.

## REFERENCES

- [1] R. Fuhrer, M. J. J. Shipley F. Chastang, A. Schmaus, I. Niedhammer, S. A. Stansfeld, and M. G. Marmot, "Socioeconomic position, health, and possible explanations: a tale of two cohorts," *American Journal of Public Health*, vol. 92, pp. 1290–1294, 2002.
- [2] A. E. A. Cavelaars, E. J. Kunst, J. Geurts, R. Crialesi, L. Grotvedt, U. Helmert, et al., "Educational differences in smoking: International comparison," *British Medical Journal*, vol. 320, pp. 1102–1107, 2000.
- [3] J. Torssander and R. Erikson, "Stratification and mortality—A comparison of education, class, status, and income," *European Sociological Review*, vol. 26, pp. 465–474, 2009.
- [4] N. Rice, Carr-R. Hill, P. Dixon, & Suttons M, "The influence of households on drinking behaviour: A multilevel analysis," *Social Science & Medicine*, vol. 46, pp. 971–979, 2000.
- [5] G. M. Egeland, A. Tverdal, H. E. Meyer, and R. Selmer, "A man's heart and a wife's education: a 12-year coronary heart disease mortality follow-up in Norwegian men," *International Journal of Epidemiology*, vol. 31, pp. 799–805, 2002.
- [6] C. W. Monden, Van F. Lenthe, De N. D. Graaf, and G. Kraaykamp, "Partner's and own education: does who you live with matter for self-assessed health, smoking and excessive alcohol consumption?," *Social science & medicine*, vol. 57, pp. 1901–1912, 2003.
- [7] R. M. Pinkhasov, J. Wong, J. Kashanian, M. Lee, D. B. M. Samadi M. Pinkhasov et al., "Are men shortchanged on health? Perspective on health care utilization and health risk behavior in men and women in the United States," *International journal of clinical practice*, vol. 64, pp. 475–487, 2010.
- [8] De Montigny, F. et al. "Spousal positive social control and men's health behaviors and self-efficacy: the influence of age and relationship satisfaction." *Journal of Social and Personal Relationships*, vol. 50, no. 4, pp. 1-18, 2016.
- [9] Y. Li, H. Fu, F. Zhao, J. Luo, and I. Kawachi, "Influence of spousal education on partner's self-rated health: cross-sectional study among 1382 married couples in Shanghai, China," *Asia Pacific Journal of Public Health*, vol. 25, pp. 398–408, 2014.
- [10] R. Farida (2014). *Studi tentang pengaruh status peran ganda terhadap kesehatan perempuan menikah di Indonesia (analisis data Susenas 2012)*. Universitas Indonesia.
- [11] Lleras-A. Muney, "The relationship between education and adult mortality in the United States," *The Review of Economic Studies*, vol. 72, pp. 189–221, 2005.
- [12] M. Grossman, *The demand for health: a theoretical and empirical investigation*. New York: Columbia University Press for the National Bureau of Economic Research, 1972
- [13] R. T. Michael, "Education in nonmarket production," *Journal of Political Economy*, vol. 81(2, Part 1), pp. 306–327, 1973.
- [14] V. R. Fuchs (1982). *Time Preference and Health: An Exploratory Study*. NBER Working Paper No. 539.
- [15] G. Rose, and M. G. Marmot, "Social Class and Coronary Heart Disease." *British Heart Journal*, vol. 45, pp. 13-19. 1981. <http://dx.doi.org/10.1136/hrt.45.1.13>
- [16] X. Liu, A. I. Hermalin, and Y. L. Chuang, "The effect of education on mortality among older Taiwanese and its pathways," *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, vol. 53, pp. S71–S82, 1998.
- [17] V. J. Amin, R. Behrman, and H. P. Kohler, "Schooling has smaller or insignificant effects on adult health in the US than suggested by cross-sectional associations: new estimates using relatively large samples of identical twins," *Social science & medicine*, vol. 127, pp. 181–189, 2015.
- [18] G. S. Becker, "A theory of marriage: Part I," *Journal of Political economy*, vol. 81, pp. 813–846, 1973.
- [19] G. G. Homish and K. E. Leonard, "Spousal influence on smoking behaviors in a US community sample of newly married couples," *Soc Sci Med*, vol. 61, pp. 2557–2567, 2005.
- [20] G. C. Sutton, "Do Men Grow to Resemble Their Wives, or Vice Versa?," *Journal of Biosocial Science*, vol. 25, pp. 25–29, 1993.
- [21] L. S. Hurt, C. Ronsmans, and S. Saha, "Effects of education and other socioeconomic factors on middle age mortality in rural Bangladesh," *Journal of Epidemiology & Community Health*, vol. 58, pp. 315–320, 2004.
- [22] S. E. Wilson, "The health capital of families: an investigation of the inter-spousal correlation in health status," *Social science & medicine*, vol. 55, pp. 1157–1172, 2002.
- [23] G. Willemsen, J. M. Vink, and D. I. Boomsma, "Assortative mating may explain spouses' risk of same disease," *BMJ*, vol. 326, p. 396, 2003.
- [24] D. M. Cutler and Lleras-A. Muney, "Education and health: evaluating theories and evidence (No. w12352)," *National bureau of economic research*, 1973.
- [25] J. Greenwood, N. Guner, G. Kocharkov, and C. Santos, "Marry your like: Assortative mating and income inequality," 2014 [NBER Working Paper Series 19829].
- [26] R. Samudra, *Love between us: educational assortative mating and expenditure inequality in Indonesia*. Indonesia: Universitas Indonesia, 2015.
- [27] S. S. Endartiwi, L. Trisnantoro, and Y. Hendrartini, "Dampak kebijakan kepesertaan mandiri Jaminan Kesehatan Nasional (JKN) di Yogyakarta," *Jurnal Kesehatan Masyarakat*, vol. 10, pp. 744–757, 2017.
- [28] G. Dahlgren and M. Whitehead, *Policies and strategies to promote social equity in health*. Stockholm: Institute for future studies, 1991.
- [29] C. Pisinger, M. Aadahl, U. Toft, and JøT. rgensen, "Motives to quit smoking and reasons to relapse differ by socioeconomic status," *Preventive medicine*, vol. 52, pp. 48–52, 2011.