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THE IMPACT OF EDUCATION ACROSS DIFFERENT SUBJECTIVE WELL-BEING DOMAINS

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Abstract

This paper investigates how education affects subjective well-being. As subjective well-being is relatively difficult to describe and measure among individuals, subjective well-being could be represented by its component, also known as the domain. There are three subjective well-being domains used, which are happiness, life satisfaction, and job satisfaction. While controlling several characteristics, including demographic, family-related, health status, earning, social capital, personality, and work-related variables, evidence from Indonesia shows that individuals with higher education levels have a higher self-reported level of happiness and life satisfaction. This positive impact is observed across all levels of education from elementary school graduates to graduate degree holders. The empirical finding for both happiness and life satisfaction is also robust across a different set of control variables. However, the direction of impact is reversed for job satisfaction, despite only significant in a certain level of education depending on included control variables. In the full model, individuals who have completed senior high school or undergraduate level shows a lower job satisfaction compared to those who are unschooled.

Keywords: education, subjective well-being, happiness, life satisfaction, job satisfaction

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1 Introduction

Education has been a prominent and relevant policy across governments all over the world. Providing education is not only one of the universal human rights, but also a systematic way in the economic development of a nation. The importance of education could be justified as an increase in human capital, that lead to the increase of productivity and consequently impact the output positively. There is a wide array of literature shows that the investment in education could lead to a growth of economic in macro level (Barro, Mankiw, & Martin, 1995; Griliches, 1997; Klenow & Bils, 2000; Krueger & Lindahl, 2001). Individually, accumulation of education could lead more educated people to have better job opportunities, healthier lives, more accomplished in social life, and increase their earning (Oreopoulos & Salvanes, 2011).

The result of previous studies about the relationship between education and subjective well-being has been inconclusive. Several pieces of literature have documented a positive relationship between education and subjective well-being (Blanchflower & Oswald, 2004; Cunado & de Gracia, 2012; Oreopoulos, 2007) and it could be significant for a certain level of education, such as middle education (Stutzer, 2004) or higher education (Yakovlev & Leguizamon, 2012). However, data on British worker shows that satisfaction levels are strongly declining in the level of education (Clark & Oswald, 1996). Another possibility is that the direct effect of education to income is negative, despite a positive indirect effect is existed through education (Powdthavee, Lekfuangfu, & Wooden, 2015; Ruiu & Ruiu, 2018). This contrasting result may be due to the higher expectation, in the form of ambition or aspiration, alongside the higher education. Higher expectation reduces subjective well-being since it is more difficult to achieve higher expectation (Clark, Kamesaka, & Tamura, 2015; Clark & Oswald, 1996; Stutzer, 2004).

This paper will examine the direct effect between education and three subjective well-being domains, namely happiness, life satisfaction, and job satisfaction. Both happiness and life satisfaction are generally used in the discussion of subjective well-being, whereas job satisfaction despite not that common, has been used on previous economics literature (Clark & Oswald, 1996; Freeman, 1978; Van Praag, Frijters, & Ferrer-i-Carbonell, 2003). As the concept of subjective well-being covers many domains, the impact of education toward subjective well-being may not be aligned from one domain to another. If the impact is heterogeneous, then the result of one research could be dissimilar with the other research because of the different domain is employed. This paper aims to offer an alternative explanation for the inconclusive result found in the existing literature and extend the line of research discussing the impact of education on subjective well-being.

The understanding of survey question is necessary to be able to scale the subjective well-being measurements. Generally, individuals are asked how happy or satisfied they are with their life or their job. Next, they need to cast their response in terms of a number which has been explained by the respective verbal response, such as “unsatisfied” and “very satisfied”. The most unsatisfied or unhappy correspond on one spectrum, either highest or lowest, while the most satisfied or happy correspond to another

spectrum. In order to simplify, the data transformation would be conducted so the most negative condition would always be in the lowest number. These numbers are characterized as an ordinal number, such that two respondents give the same answer, they are assumed to enjoy a similar level of satisfaction. The responses are explained by ordered probit models while using the explanatory variable, which is the last level of education, and several control variables. This way, the relationship of education to each domain of subjective well-being could be analyzed.

Using Indonesian data, the finding of this paper indicates that education impacts subjective well-being, but the impact is not the same for the different subjective well-being domain. More educated people tend to have higher happiness and life satisfaction in their life, and it is evident across education levels. For example, elementary school graduates are happier than unschooled people, junior high school graduates are happier than elementary school graduates, and so on. Yet in the case of job satisfaction, the finding suggests that education generally has a negative impact. In contrast with happiness and life satisfaction, the negative impact is also not significant across all education levels but vary depending on the included control variable. There could be several potential explanations with regard to the different result on job satisfaction. First, individual complete a higher level of education, the income aspiration increases, and the disutility caused by a failure in meeting the increase of income aspiration is mostly captured by job satisfaction rather than other domains of subjective well-being. Second, the imperfection of labor market mainly influences job satisfaction. For example, two individuals with the same level of education, and presumably have similar productivity, have a different wage and result in a certain level of dissatisfaction.

The rest of this paper is organized as follows. Section 2 provides related literature on subjective well-being as well as the necessary control variable. Section 3 explains the research methodology, including data sources, variable definition, and estimation strategy. Section 4 presents the empirical results and analysis. Section 5 contains the discussion and policy formulation. Lastly, Section 6 summarizes the paper and offers a few suggestions for future research.

2 Literature Review

A. Subjective Well-Being and its Development in Research

Several groundworks about subjective well-being need to be established before proceeding with this paper further. First, what is the definition of subjective well-being and its domains? Specifically, the difference between happiness and satisfaction such that these two domains are conceptually different measures of subjective well-being. Next, the increasing attention toward subjective well-being in research, especially in the economic paper, is due to the belief that the true utility of an individual is reflected through its subjective well-being. Peoples' revealed preferences could be based on their subjective reports of likes and dislikes, such that people make inconsistent choices, fail to learn from experience, then

ultimately do not behave based on the standard model of the rational economic agent (Kahneman & Krueger, 2006). People are maximizing their utility based on their subjective well-being rather than rational preference. Hence, to conduct a deeper examination, subjective well-being needs to be measurable, despite its subjectivity. In addition, the use of subjective well-being as a proxy of utility in previous literature would be discussed, including its limitations and challenges.

Subjective well-being is defined as a person's cognitive and affective evaluations of his or her life (Diener, Oishi, & Lucas, 2012). Two main components of this definition lie on the cognitive and affective element. The cognitive element refers to the thought process on his or her own life satisfaction as a whole or in specific areas or domains term, for example, relationship and work. The affective element refers to the emotional process which influences the subjective well-being, for example through mood and feeling. The effect could be viewed as positive or negative depending on whether the emotion is pleasant or not. Subjective well-being also could be defined as a broad category of phenomena that includes people's emotional response, domain satisfaction, and global judgments of life satisfaction, where each component often correlate substantially (Diener, Suh, Lucas, & Smith, 1999).

There have been several papers discuss the difference between happiness and satisfaction. McKennel (1978) classifies the relationship of happiness and satisfaction to four categories: satisfied-happy that is the satisfaction of achievement; satisfied-unhappy which is the satisfaction of resignation; dissatisfied-happy, which dissatisfaction of aspiration; and dissatisfied-unhappy, which is dissatisfaction of frustration. Michalos (1980) finds that a model with satisfaction is a function of a perceived goal-achievement gap. Based on nine European countries, life satisfaction is more cognitively oriented than happiness, where happiness does not base on the welfare state and economic level in society but rather friendship, marriage, and social networks (Gundelach & Kreiner, 2004). Another comparative research suggests that there are several differences between life satisfaction and happiness, where unemployment does not appear to be associated with happiness, although it is clearly associated with satisfaction; and income has also a strong association with satisfaction but a weaker association with happiness (Peiró, 2006).

To conclude, it has been shown that happiness and satisfaction is a distinct domain of subjective well-being. Happiness is often described as an emotional or affective aspect that could be sensitive to sudden changes in mood, whilst satisfaction is regarded as a cognitive state, even though in practice one could interchangeably define it. Satisfaction is also perceived as a more inclusive domain due to its association with the aspiration and economic factors. As satisfaction could be characterized by one or more specific domain, for example, job satisfaction, health satisfaction, and marriage satisfaction; it is possible that one domain has more dependency to the economic factors.

On the subject to measure subjective well-being, the common approach is asking the respondent to evaluate their subjective well-being on a scale of a certain rank of number while considering all things in their life or general condition. However, there are different measurement could be employed, such as

measurement based on experience and eudemonic (Dolan & Metcalfe, 2012). Measuring subjective well-being based on experience depends upon feelings held by the individual over the relevant period, for example, their feeling of the moment or the pleasure level over pain. Eudemonic measurement examines the psychological needs, such as meaning, autonomy, control, and connectedness in order to give a sense of purpose in human life. One activity may increase the experience, i.e. generating positive feeling, yet does not give a sense of accomplishment, i.e. rewarding. For example, time spent with children is relatively more rewarding than pleasurable (Dolan & White, 2009).

With a subjective experience in the lab, then the concept of experienced utility and remembered utility could be introduced (Kahneman & Krueger, 2006). The experienced utility is a continuous hedonic flow of pleasure of pain that could be measured through the way people feel about experiences in real time, while the remembered utility is the way they remember their experiences after they are over. The laboratory experiment in creating experienced utility would be more reliable because the extraneous aspects of the experience can be controlled.

There are two main concerns in the measurement of subjective well-being, which are expectations and adaptations that relate to several methodological concerns, i.e. scaling, salience and selection (Dolan & Metcalfe, 2012). Expectation could change due to the reaction of certain event or information for some individuals, while others remain the same (Diener, Lucas, & Scollon, 2006). For illustration, the subjective well-being is not a function of income in the point in time but adapts to changes in income over time and relative levels of income (Diener & Seligman, 2004). Adaptation could happen through a life-changing event, for example, health issue and divorce, which could affect the capability of self-measurement of subjective well-being.

Both expectation and adaptation could lead to a problematic scaling issue, such as the interpretations of scale may change over time due to a difference of expectation or adoption of a new trait. Salience problem will arise if instead of evaluating his or her subjective well-being, respondent emphasizes on several aspects of life rather than a whole. By focusing on those selected points only, then subjective well-being will not represent its true value and will create a bias. This could cause the subjective well-being score is excessively correlated with those points. Selection problem could happen if respondent of the survey does not representative enough, such that the underrepresented group will cause a problem during the generalization of the analysis using that survey to the whole population.

In addressing these concerns, there are at least two main indicators to assess the quality of measurement, namely validity and reliability (Van Hoorn, 2007). Validity is a measure that ensures that the subjective well-being is captured as it is intended. These could be measured through a convergent validity, where other questions in the survey, that presumably has a high correlation used to validify the measurement. The reliability is a measure that can define the consistency and the ability to give the same result if the measurement conducted several times. The test-retest correlation is generally used for testing reliability. Krueger and Schkade (2008) use the day reconstruction method and find that the test-retest

correlations in the range of 0.50-0.70. These figures are lower than the reliability ratios that are common in microeconomic variables, but they argue that it is probably sufficiently high to yield informative estimate, particularly in cases where group means are being compared.

The measurability of subjective well-being allows the usage of subjective well-being in previous literature. There are many attempts to link subjective well-being to macroeconomic or political economy indicators (see for example, Alesina, Di Tella, & MacCulloch, 2004; Wolfers, 2003, among many others). As welfare analysis is defined in term of subjective well-being, for instance, happiness, health, and fortune, then the usage of subjective well-being measure is more direct than traditional welfare analysis (Kahneman & Krueger, 2006). The multidimensionality of subjective well-being would allow the consideration of social context. Condition on different social context, even though two individuals consume the same level of consumption, the subjective well-being between these two could be different.

One implicit assumption in economic research that subjective well-being is the proxy of utility. The typical utility function assumes that higher levels of consumption or income lead to higher utility but not the case for subjective well-being. This condition is also illustrated by Easterlin Paradox[2] (Easterlin, 1974). In addition, the measurement of subjective well-being is usually upper bounded; thus, a person in the highest level would not have better condition and vice versa. There are two views with regard to this utilization of subjective well-being as the concept of utility (Benjamin et al., 2011). First, subjective well-being represents idealized revealed-preference utility that individuals would choose if their prediction of the choices were not biased. Second, is that subjective well-being doesn't determine the utility by itself, rather as a unique important variable in the utility function. Becker, Rayo, and Krueger (2008) conclude that reported happiness and life satisfaction may relate to utility, but there are other measures of utility that is not the dimension of well-being, such as health. The subjective well-being may not be the same thing as utility flow, but it could have a systematic relationship to the utility. Kimball and Willis (2006) argue that the happiness is composed of two components, which is the short run happiness that depends on recent news about lifetime utility and long-run happiness which is sub-utility function, such as health, entertainment, or nutrition.

With a growing body of literature, there are more profound discussions regarding the use of subjective well-being to represent utility. Several papers about subjective well-being are taken under assumption that the score of subjective well-being is measured with some noise, but that the signal-to-noise ratio in the data is sufficiently high such that the empirical research still could bear a meaningful result (Di

[2] Easterlin paradox or also known as happiness paradox is a paradox where even richer countries tend to have higher self-reported happiness, yet in some countries for which repeated surveys were available, happiness was not increasing with rising national incomes. This empirical finding creates a paradox because the cross-country evidence shows that countries with higher incomes tended to have higher self-reported happiness while some countries seemed not to get happier as national incomes increased. On the more recent development, using richer and longer datasets, there is an empirical finding shows that economic growth associated with rising happiness both across countries and within countries (Stevenson & Wolfers, 2008).

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Tella & MacCulloch, 2006). Another concern is a multitude form of systematic and nonsystematic biases that could constitute the noise (Frey & Stutzer, 2002). The reported number could face several problems, such as question-wording, the scale used in the question, or order of questions such that it influences the current feeling of the respondent.

Some measurement error could be related to a specific characteristic, for example, a certain age group underreports their subjective well-being. This issue could mean either the certain age group factually have lower subjective well-being or subjective well-being is influenced by age such that it changes the answer of those respondents in that age group. This issue could not be solved conveniently by just controlling the specific variable, in this case, age. Even if there is observed significant statistical relationship, there is a possibility that the result is only a spurious correlation rather than meaningful correlation. Furthermore. identifying causality also could be problematic because of the difficulty in setting the direction and the potential of unobserved personality traits that influence the estimation result (Frey & Stutzer, 2002).

B. Education and Subjective Well-Being

The endeavor to study the relationship between education and subjective well-being has been stimulating discourse across many decades. Dearden (1968) argues that education is the process of learning through which we come to an understanding and appreciation of what is valuable of worth pursuing in life, while the happiness, that could represent the subjective well-being, is one of the final ends worthy of pursuit. Noddings (2004) explained the relationship between happiness and education as intimate, such that happiness should be an aim of education and a good education should contribute significantly to both personal and collective happiness. Education is likely also influence the different form of subjective well-being, such as contentment because education develops the capacity of a person to understand about sense of purpose in the world through self-meaningful way (Gibbs, 2017). During the education process, the same consciousness could be the propagating gate of unhappiness, and even despair (Roberts, 2013). Yet through the same education also, one could explore myriad ways to reach higher subjective well-being, including to cope with the despair and accepting the risk of unhappiness and uncertainty.

Education could be the key to growth and prosperity through its relationship with human capital (Burgess, 2016). Growth and prosperity could lead to higher subjective well-being. Education also could influence subjective well-being by generating human capital. The human capital generation is derived from the improvement of general or specific skills, cognitive or non-cognitive skills, and personal identity development. Going to school would allow individuals to achieve a certain level of subjective well-being by obtaining a necessary skill that could be utilized to obtain some returns, both monetary and non-monetary. Furthermore, the motivation to go to school is based on the perception of the rate of return to schooling rather than the perfect information of future earning as an expectation (Jensen, 2010). The

empirical finding also shows that additional schooling raises individual earning beyond enhanced measured cognitive performance (Bowles, Gintis, & Osborne, 2001). This condition could be perceived as a premium to have a higher education such that the accomplishment of a certain degree of education is more leaning toward signal rather than true performance. However, maintaining the expected return of schooling is necessary to anticipate the failure possibility, because the greater perceived opportunity could evoke more intense regret (Roese & Summerville, 2005). In the meta-analysis conducted by Roese and Summerville, education is the biggest regret in life out of eleven aspects of human life, exceeding career, romance, and parenting that ranked two, three, and four respectively.

C. Other Factors Associated with Subjective Well-Being

One major variable which has been examined as a driver of subjective well-being through various studies is income (Asadullah, Xiao, & Yeoh, 2018; Clark, Frijters, & Shields, 2008; Clark & Oswald, 1996; Knight, Song, & Gunatilaka, 2009; Stevenson & Wolfers, 2008; Tsui, 2014). In the progress of scrutinizing the impact of income toward subjective well-being, extensive research suggests that the impact is not only originated from only the real number of income, also known as absolute income, but also from expected income and relative income, also known as comparison income. In addition, subjective well-being is affected by unanticipated income shock, rather than anticipated one, and is more influenced by permanent rather than transitory income shock (Cai & Park, 2016). The type of work could also influence subjective well-being, as evidently shown that being self-employed will benefit work satisfaction but not life satisfaction (van der Zwan, Hessels, & Rietveld, 2018). Using data from the UK, being a casual worker reduces job satisfaction (Bardasi & Francesconi, 2004).

A personality trait, i.e. neuroticism, could be used to explain subjective well-being better, as exhibited by Proto and Rusthicini finding (2015) where the interaction between neuroticism and income is introduced, then income effect alone vanishes. There is a possibility that life satisfaction is depending on the gap between aspired and realized income, and both are influenced by neuroticism. Other personality such as extraversion and self-esteem could also explain a certain amount of variability in the subjective well-being (Diener, Oishi, & Lucas, 2003). In the same research, Diener, Oishi, and Lucas also argue the role of culture in moderating which variable that influence the subjective well-being.

Besides the personality trait that is inherent in each individual, how a person could gain a resource from their connections, so-called social capital, also impact the subjective well-being (Leung, Kier, & Sproule, 2011). Leung, Kier, and Sproule (2011) suggest there are four components of social capital that have a significant relationship toward happiness, namely trust and obligations, information channels, norm and sanctions, and sense of belonging. Trust has a broad understanding, encompasses social trust, which is the trust in family, neighbors and strangers and institutional trust, for example, trust in police, health care, and so on. Information channels are mainly indicated by the social network of a friend while norms and sanctions are captured by the safe feeling during staying home alone.

One of the early researches of subjective well-being describes the characteristics of a happy person is young, healthy, well-educated, well-paid, extroverted, optimistic, worry-free, religious, married, high self-esteem, high job morale, modest aspirations, of either sex and of a wide range of intelligence (Wilson, 1967). Three decades later Diener, et al. (1999) re-examined Wilson's conclusion and then argue that the demographic factors do not account for much variance in the subjective well-being. This could be explained partially due to the possibility of demographic variable as a mediating variable rather than account for significant direct effect. Dolan, Peasgood, and White (2008) discuss a large variety of factors associated with subjective well-being.[3] Even though there are a lot of factors could impact subjective well-being, it is not obvious which variable should be controlled in any model that includes subjective well-being as the dependent variable. Furthermore, there are several concerns over the potential of unobserved variables and the lack of certainty on the causality or its direction.

3 Research Methodology

A. Research Design

The research is designed to find the link between education and subjective well-being. Several domains that would be used for measuring subjective well-being are happiness, life satisfaction, and job satisfaction[4] while education is based on the educational attainment. First, the initial empirical analysis would be conducted by showing the distribution of each subjective well-being based on the education level. Next, ordered probit regression would be employed to show the estimation result for each subjective well-being domain. As the education variable is shown as a categorical variable, then the lowest level of education, which is unschooled would be used as the baseline. The research would also utilize the data of subjective judgment on the other indicators for subjective well-being, especially life satisfaction. For example, the adequacy level of self-consumption, family consumption, food consumption, health consumption, and future consumption. These data would help in explaining life satisfaction better and to assess the relationship between various consumption level and life satisfaction.

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[3] The associated factors are income; personal characteristics, i.e. age, gender, ethnicity, and personality; socially developed characteristics, i.e. education, health, type of work, and unemployment; how we spend our time, i.e. hours worked, commuting, caring for others, community involvement and volunteering, exercise, and religious activities; attitude and beliefs toward self/others/life, i.e. attitude toward our circumstances, trust, political persuasion, and religion; relationship, i.e. marriage and intimate relationship, having children, and seeing family and friend; wider economic, social and political environment, i.e. income inequality, unemployment rate, inflation, welfare system and public insurance, degree of democracy, climate and the natural environment, safety and deprivation of the area, and urbanization.

[4] Happiness is measured with four levels of an ordered answer, which are 1. Very unhappy; 2. Unhappy; 3. Happy; 4. Very happy. Job satisfaction measurement is similar to happiness. However, life satisfaction is measured with five levels of an ordered answer, which are 1. Very unsatisfied; 2. Unsatisfied; 3. Somewhat Satisfied; 4. Very satisfied; 5 Extremely satisfied. There are slight changes made for answer 2 and 5 for the life satisfaction category. The Indonesian version which is used for the interview is "2. Tidak puas" and "5. Amat sangat puas" which is more accurate to be translated as unsatisfied and extremely satisfied respectively. In official translation, it is translated as 2. Not very satisfied and 5. Completely satisfied.

In designing the regression model, several associated factors would be employed as the control variables. These factors would be categorized into several groups, which are demographic characteristics, i.e. age, age squared,[5] gender, ethnicity, and religion; family, i.e. marital status and having children; health status, earning, social capital indicator, i.e. perceived safety in neighborhood, devotion, and trust; personality; and work-related factor, i.e. the existence of bonus and work status. One concern is that control variables could be correlated with education and influence the impact of education on subjective well-being. To anticipate this issue, then multiple regression would be conducted with a different set of control variables until the full model, in which all control variables are included.

B. Data Sources and the Nature of Data

The main dataset used in this paper is the Indonesia Family Life Survey (IFLS). IFLS is a longitudinal survey that is conducted in Indonesia and provides data for the same respondents and the same communities at multiple points in time. This survey is started with more than 22,000 individuals in 7,224 households in 1993. The initial sample represents 83% of the Indonesian population living in 13 provinces out of 26 provinces at that time. Five follow-ups have been carried out, with the latest is IFLS 5 in 2014-2015 with 90.5% recontact rate. This paper uses the dataset from IFLS 5 because it is the recent survey that incorporates several new sets of questions, including the personality section.

In IFLS 5, there are at four books, i.e. book T, K, 1, and 2, that are collected at the household level whereas other four books, i.e. book 3A, 3B, 4 and 5 are collected at the individual level. The main dataset will come from mainly book 3A and 3B. Book 3A contains the subjective well-being, education, trust, and job information whereas Book 3B is emphasized on the health condition and several related sections, such as cognitive capacity and personality. Several demographic information, i.e. age, and marital status is obtained through the information in the cover page of book 3A.

C. Estimation Strategy

The full ordinal probit model would be as follow:

$$SWB_{i,j} = \alpha_j + \beta_{educ,j} Educ_{i,j} + \beta_{x,j} X_{x,i,j} + e_{i,j}$$

where i is each observation; j is the used indicators of the subjective well-being, which are happiness, life satisfaction, and job satisfaction; *educ* is the main explanatory variable, which is education attainment; X is defined control variable used in the regression and x is to represent each control variable, which is categorized in demographic variables, family-related variable, health, earning, social capital variables, personality. and work-related variables; and e is normally distributed disturbance.

[5] A relationship between subjective well-being with age squared is examined in several previous studies (Blanchflower & Oswald, 2004; Nikolaev & Rusakov, 2016).

Educ is constructed based on the educational attainment, which is the highest degree an individual has completed. Education is classified into six categories, which are unschooled, elementary school, junior high school, senior high school, undergraduate and graduate school.[6] The vocational school graduate would be included in the respective level of education and separated out on the further discussion. There are few considerations taken for the education variable. First, based on Indonesia education system, the vocational college degree is similar to associate degree in the United States in term of length. The vocational degree has three levels, which are Diploma 1 (D1), Diploma 2 (D2), and Diploma 3 (D3) with a required study length one, two, and three years respectively. IFLS put these three different vocational degrees under one option; hence it is not possible to separate which level of vocational college. The respondent who is graduated from vocational college is only included in the model for the further discussion of vocational education system. Second, apart from the general school system, the Islamic school system also exists in Indonesia.[7] In order to avoid disparity of school quality and undetermined study length, this paper will omit the respondent with the education attainment from Islamic school, kindergarten, the school for disabled, open university and adult education.[8]

Indonesia is also a diverse country yet there is a dominant group for ethnicity, which is Javanese, and religion, which is Islam. Both dominant groups would be used as a categorical variable to be the proxy of ethnicity and religion. Health status is captured through three questions to represent current health, relative health status to the others, and relative health status to the past self. Personality in IFLS is based on Big Five Index 15, that divide the personality into openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism. Each trait would be used in the model to represent the personality. Work status is determined based on the primary job and categorized as self-employed,[9] government worker, private worker, casual worker in agriculture and casual worker not in agriculture. The complete description of all variables is provided in Appx. 1.

[6] Graduate school category is composed of respondents who have completed either a master or a Ph.D. degree. With the full dataset of book 3A, there are only 4 people or around 0.02% who have graduated from a Ph.D. program; therefore, both observations are combined.

[7] There are two types of an Islamic school in Indonesia, the regular Islamic school, which Indonesian call "madrasah", balances both Islamic teaching and general education while the Islamic boarding school, which Indonesian call "pesantren", fully focus on the Islamic teaching, moral, and daily life. The general school system in Indonesia is more comparable to the international school system. The majority of respondents attended general school, where 7.38% and 0.24% out of all respondents attended *madrasah* and *pesantren* respectively.

[8] The open university is a public university in Indonesia that provides a learning system through the internet whereas adult education is a facility offered by Indonesia government, so a person could obtain the completion certificate for elementary, junior high, or senior high school, outside the formal education system that uses government official curriculum. Both categories are omitted due to the low number of observations and potential bias arisen from inconsistent school quality.

[9] Self-employed workers are a combination of respondent who answers "self-employed", "self-employed with family worker/temporary worker", and "self -employed with permanent worker".

4 Empirical Results, Interpretations, and Analysis

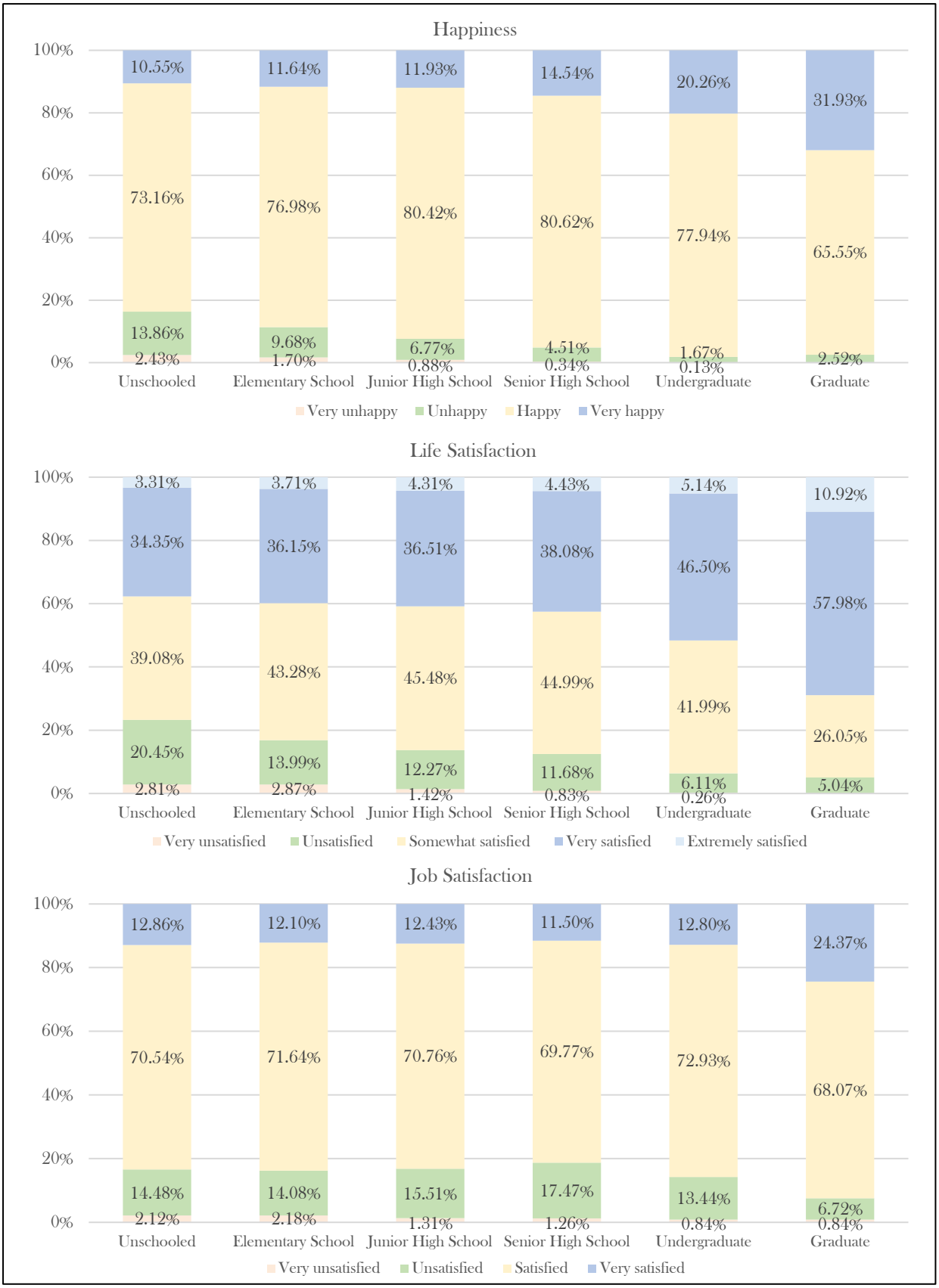
A. Initial Empirical Evidence

The result of this paper would be determined by the change of subjective well-being domain with regard to the change of the education level, as shown in Figure 1. In the case of happiness, it is clear that higher education level increases the proportion of respondent who chooses option "very happy". On the graduate level, the proportion of "very happy" is almost tripled compared to the unschooled proportion, with the distribution from 10.55% to 31.93%. This change mainly comes from the decrease in respondents who are "unhappy" and "very unhappy". Distribution of happy respondent increase slightly until senior high school level at around 73-80% but starts to decrease from undergraduate to graduate level. The decrease is absorbed through the highest option, which is "very happy". In addition, at the highest education level, there is no respondent answer "very unhappy".

The same pattern could be observed on life satisfaction domain. Unschooled respondent has the highest proportion of unsatisfied respondent, with a significant decrease in the elementary school level and undergraduate level. However, there is a difference in the shift of the proportion. In the elementary level, the decrease of unsatisfied respondent seems mostly allocated to "somewhat satisfied", whereas in the undergraduate level, the substantial increase could be seen on the proportion of "very satisfied". Until senior high school, there is an increase in the proportion of respondent who is somewhat satisfied with their lives, but the number starts to decline in undergraduate level, with a significant decrease in graduate level. In the graduate level, the option of "very satisfied" and "extremely satisfied" is escalated, where the latter has doubled the proportion compared to the undergraduate level. Similar with happiness domain, there is nobody in the graduate level opt for "very unsatisfied", while the two next option is at the lowest across all education levels, which contrast to the two highest option that is at the highest across all education levels. Overall, there is a similarity of pattern for both happiness and life satisfaction, but the trend is increasing as the education level goes up.

On the other hand, the growth of education seems not followed by job satisfaction. Higher education doesn't imply that the proportion of people who is satisfied with their job increase, especially in the option "unsatisfied" and "satisfied". The highest proportion of unsatisfied respondent is in senior high school level with 17.47%. The job satisfaction level of "satisfied" is relatively unchanged, somewhere around 70% across all education levels. The proportion of respondent who is very satisfied with their job is also relatively stable across all levels of education and increase significantly, almost doubled, only on the graduate level. Furthermore, there is a decreasing trend of respondent who is very unsatisfied with their job as education goes higher. The proportion of respondent who is very unsatisfied with their job reaches the highest proportion at the level of elementary school at 2.18%, relatively close to the level of unschooled at 2.12%, and reaches the lowest proportion on undergraduate and graduate level at 0.84%.

Figure 1 Percentage distribution of happiness, life satisfaction, and job satisfaction by education level



Source: IFLS *5*, edited and compiled by author

The composition of the education level in Indonesia is useful information for understanding the educational attainment of the sample. As shown in Table 1, there are two education levels that dominate the sample, which is the elementary level (22.58%) and senior high level (32.84%). This distribution is similar to the population composition in Indonesia.[10] The younger people tend to be included in the higher education level and vice versa. This is aligned with the increasing education facility and government policy. One famous education policy is 6 years mandatory education that, started in the early 80s, followed up by 9 years and 12 years of mandatory education in the early 90s and in several years ago. With lacking access and no directive policy of the government, people who are born earlier tend to get less government support compared to people who are grown during the period when mandatory education policy enacted; thus, creating the gap of educational attainment on a different generation.

In aggregate, all subjective well-being domains shows a large portion of happy or satisfied people, both for their job and their life. Taking into account the option 3 and above, then more than 80% are happy and satisfied with their life and job. The lowest option, which is very unhappy and very unsatisfied for both life and job satisfaction has a relatively small percentage which is lower than 2%. Generally, the tendency of a high number of happy people happens all over the world, even people in disadvantaged groups on average still report positive well-being (Diener & Diener, 1996; Graham, 2009). A few exceptions are some countries that have an extreme economic issue, such as extreme poverty or deal with the unstable political condition. Diener and Diener also show that most people express positive satisfaction with their work, which is also observed in the sample.

The similarity of the characteristics between Indonesia and the sample shows a high degree of representativeness. According to national statistics, as of February 2017, the labor force participation rate is 55.04% and 83.05% for female and male respectively. As the sample required all observations to have their own earning, the sample consists of 38.7% female, which is close enough to the female workforce. Two dominants group in Indonesia are being a Javanese and Moslem, which is around 50% and 90% of Indonesia population. This condition is also well-represented in the sample. In addition, the status of primary work possibly defines the job, such as responsibility and duty; hence, it could shape the job satisfaction. Based on the national survey of the labor force (Badan Pusat Statistik, 2019), as of February 2017, there are 44.72% self-employed, 44.58% private worker and government worker, 5.66% and 5.04% casual worker not in agriculture and in agriculture respectively. High level of self-employed doesn't imply that there are more work opportunities in the job market because around 45% of self-employed both in sample and population is working without employing any labor/employee. The complete descriptive statistics are shown in Table 1.

[10] According to new report of workforce profile (Badan Pusat Statistik, 2018), as of February 2017, out of 124,54 million workforce, 42.23%, 18.16%, 27.35%, 2.35%, and 9.31% workforce has graduated from elementary school or lower, junior high school, senior high school (including vocational), vocational college, and university respectively.

Table 1 Descriptive Statistics

Continuous Variable	Mean	Standard Deviation
Age	38.4425	12.6970
Age squared	1639.033	1084.016
Earning	8.8339	1.2786

Categorical Variable	Percentage
Happiness	
Very Happy	13.48
Happy	78.12
Unhappy	7.33
Very Unhappy	1.06
Life Satisfaction	
Extremely Satisfied	4.18
Very Satisfied	37.75
Somewhat Satisfied	43.24
Unsatisfied	13.17
Very unsatisfied	1.66
Job Satisfaction	
Very Satisfied	12.25
Satisfied	70.79
Unsatisfied	15.38
Very unsatisfied	1.58
Education	
Unschooled	16.85
Elementary	22.58
Junior High School	16.86
Senior High School	32.84
Undergraduate	10.09
Graduate	0.77
Marriage Status	
Married	79.15
Not yet married	14.09
Separated	0.56
Divorced	2.36
Widowed	3.85
Work Status	
Private worker	39.30
Self-employed	40.80
Government worker	7.92
Casual worker not in agriculture	8.41
Casual worker in agriculture	3.57

Other Control Variables	Mean	Range
Female	38.70%	1 and 0
Javanese	44.96%	1 for Javanese, 0 for otherwise
Islam	89.27%	1 for Moslem, 0 for otherwise
Having child	57.80%	1 and 0
Current health	2.9801	1 to 4
Relative health to the others	3.0975	1 to 4
Relative health to the past self	3.4592	1 to 5
Perceived safety in neighbourhood	94.59%	1 and 0
Devotion level	2.8976	1 to 4
Trust to neighbours	36.31%	1 and 0
Trust to police	43.54%	1 and 0
Personality		
Openness to experience	11.2483	3 to 15
Conscientiousness	11.6154	3 to 15
Extraversion	10.3604	3 to 15
Agreeableness	11.7567	3 to 15
Neuroticism	7.8874	3 to 15
Bonus	35.07%	1 and 0

Source: Author

B. Estimation Result and Analysis

The main explanatory variable of the equation is the education level, with the unschooled level as the baseline. Following the specification in the research design, estimation would be conducted starting from no control variable at all until using the full model. There are seven groups of control variable, which are demographic, family-related, health status, earning, social capital, personality and job-related group. Subsequent estimation adds one more group to the subsequent model until all seven groups of control variable are included in the model. This process would be repeated for each subjective well-being domain.

Table 2 reports the impact of education on happiness. As shown across all columns, educational attainment has a significant positive correlation with happiness. By introducing more control variables, the impact is reduced because additional control variables tend to absorb the effect of education level in influencing happiness, reducing the possibility of omitted variable bias. The notion that money could buy happiness seems reflected from this estimation, as on column 5 the introduction of earning changes the magnitude of impact. On column 8, when job-related variables are used, there is no significant difference between unschooled people and people who have graduated from elementary school. One possible explanation is that both unschooled and elementary level has a high proportion of casual worker group in agriculture, by 38.91% and 36.18% respectively, and this type of work tend to be less happy compared to other types.

Table 2 Estimation result with happiness as the dependent variable

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Elementary School	0.1607***	0.0974***	0.0795**	0.0813**	0.0775**	0.0819**	0.0615*	0.0554
	(0.0352)	(0.0361)	(0.0365)	(0.0368)	(0.0369)	(0.0370)	(0.0371)	(0.0372)
Junior High School	0.2772***	0.1611***	0.1316***	0.1555***	0.1344***	0.1545***	0.1179***	0.1036**
	(0.0364)	(0.0389)	(0.0392)	(0.0395)	(0.0397)	(0.0398)	(0.0401)	(0.0403)
Senior High School	0.4323***	0.3156***	0.3145***	0.3450***	0.3069***	0.3365***	0.2932***	0.2577***
	(0.0320)	(0.0350)	(0.0354)	(0.0359)	(0.0365)	(0.0366)	(0.0369)	(0.0377)
Undergraduate	0.6703***	0.5806***	0.5706***	0.5896***	0.5157***	0.5133***	0.4580***	0.3933***
	(0.0398)	(0.0418)	(0.0424)	(0.0431)	(0.0443)	(0.0444)	(0.0448)	(0.0493)
Graduate	0.9406***	0.8875***	0.9049***	0.9114***	0.7910***	0.7653***	0.6905***	0.6074***
	(0.1181)	(0.1194)	(0.1168)	(0.1187)	(0.1196)	(0.1197)	(0.1199)	(0.1242)
Obs.	15,411	15,411	15,411	15,411	15,411	15,411	15,411	15,411
Pseudo R-squared	0.0189	0.0248	0.0390	0.0595	0.0620	0.0694	0.0754	0.0773
Demographic	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Family-related	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Health Status	No	No	No	Yes	Yes	Yes	Yes	Yes
Earning	No	No	No	No	Yes	Yes	Yes	Yes
Social Capital	No	No	No	No	No	Yes	Yes	Yes
Personality	No	No	No	No	No	No	Yes	Yes
Job-related	No	No	No	No	No	No	No	Yes

Robust standard errors are in parenthesis. All regressions include constant.
***significant at 1% level, **significant at 5% level, * significant at 10% level.
Source: Author

The estimation result of life satisfaction as shown in Table 3 indicate that people with higher education also enjoy more life satisfaction compared to the unschooled baseline. The statistical result shows significance at 1% level for all education levels across columns, with the exception of elementary level on column 8, that significant at 5% level. In the case of senior high school student, the coefficient stays relatively stable from column 2 to 7. There is a substantial decrease in all coefficients, except for the elementary level, when earning is included in the estimation as shown in column 5. Yet, when social

capital variables are introduced in column 6, the difference of happiness between schooled and unschooled increase, with the exception on the graduate level.

Table 3 Estimation result with life satisfaction as the dependent variable

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Elementary School	0.1143***	0.0910***	0.0861***	0.0872***	0.0828***	0.0903***	0.0798***	0.0724**
	(0.0294)	(0.0301)	(0.0301)	(0.0302)	(0.0302)	(0.0302)	(0.0303)	(0.0303)
Junior High School	0.1940***	0.1406***	0.1322***	0.1523***	0.1319***	0.1562***	0.1392***	0.1216***
	(0.0307)	(0.0325)	(0.0326)	(0.0327)	(0.0328)	(0.0329)	(0.0331)	(0.0332)
Senior High School	0.2408***	0.1955***	0.1950***	0.2140***	0.1771***	0.2130***	0.1936***	0.1593***
	(0.0269)	(0.0292)	(0.0293)	(0.0293)	(0.0298)	(0.0299)	(0.0302)	(0.0309)
Undergraduate	0.4625***	0.4203***	0.4131***	0.4155***	0.3452***	0.3468***	0.3220***	0.2505***
	(0.0336)	(0.0352)	(0.0353)	(0.0356)	(0.0367)	(0.0369)	(0.0375)	(0.0411)
Graduate	0.8171***	0.7936***	0.7979***	0.7838***	0.6701***	0.6472***	0.6104***	0.5115***
	(0.0980)	(0.0989)	(0.0971)	(0.0988)	(0.0999)	(0.0994)	(0.0996)	(0.1033)
Obs.	15,411	15,411	15,411	15,411	15,411	15,411	15,411	15,411
Pseudo R-squared	0.0067	0.0097	0.0114	0.0250	0.0267	0.0343	0.0360	0.0374
Demographic	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Family-related	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Health Status	No	No	No	Yes	Yes	Yes	Yes	Yes
Earning	No	No	No	No	Yes	Yes	Yes	Yes
Social Capital	No	No	No	No	No	Yes	Yes	Yes
Personality	No	No	No	No	No	No	Yes	Yes
Job-related	No	No	No	No	No	No	No	Yes

Robust standard errors are in parenthesis. All regressions include constant.
***significant at 1% level, **significant at 5% level, * significant at 10% level.

Source: Author

The relationship between educational attainment and job satisfaction is not clear cut as shown in Table 4. For both elementary and junior high level, there is no significant impact, apart from partial significance at 10% level on column 4 for junior high school level. Finishing undergraduate has a positive significant impact on job satisfaction from column 2 to 4, but when earning is introduced, the impact is reversed, become negative and not significant. Adding personality on column 7 decrease the impact across all education levels considerably, except for a slight decline on the graduate level. The graduate level has a consistent positive significant impact on job satisfaction, excluding on column 8 with a negative insignificant impact. Full model estimation result in column 8 shows that all education level has a negative impact on job satisfaction, with a statistical significance on senior high and undergraduate level.

Table 4 Estimation result with job satisfaction as the dependent variable

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Elementary School	-0.0109	0.0140	0.0115	0.0119	0.0057	0.0129	-0.0002	-0.0140
	(0.0308)	(0.0316)	(0.0316)	(0.0318)	(0.0319)	(0.0321)	(0.0322)	(0.0325)
Junior High School	-0.0013	0.0455	0.0417	0.0597*	0.0318	0.0551	0.0296	-0.0058
	(0.0327)	(0.0350)	(0.0352)	(0.0354)	(0.0356)	(0.0357)	(0.0361)	(0.0365)
Senior High School	-0.0586**	-0.0086	-0.0069	0.0108	-0.0398	-0.0049	-0.0348	-0.1105***
	(0.0286)	(0.0314)	(0.0315)	(0.0317)	(0.0322)	(0.0324)	(0.0330)	(0.0340)
Undergraduate	0.0649*	0.0936**	0.0907**	0.0930**	-0.0033	-0.0024	-0.0398	-0.2294***
	(0.0369)	(0.0386)	(0.0387)	(0.0393)	(0.0404)	(0.0405)	(0.0411)	(0.0455)
Graduate	0.4541***	0.4652***	0.4703***	0.4600***	0.3060***	0.2832**	0.2334**	-0.0398
	(0.1119)	(0.1119)	(0.1117)	(0.1103)	(0.1108)	(0.1105)	(0.1116)	(0.1170)
Obs.	15,411	15,411	15,411	15,411	15,411	15,411	15,411	15,411
Pseudo R-squared	0.0013	0.0028	0.0041	0.0183	0.0221	0.0306	0.0337	0.0398
Demographic	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Family-related	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Health Status	No	No	No	Yes	Yes	Yes	Yes	Yes
Earning	No	No	No	No	Yes	Yes	Yes	Yes
Social Capital	No	No	No	No	No	Yes	Yes	Yes
Personality	No	No	No	No	No	No	Yes	Yes
Job-related	No	No	No	No	No	No	No	Yes

Robust standard errors are in parenthesis. All regressions include constant.
***significant at 1% level, **significant at 5% level, * significant at 10% level.

Source: Author

The impact of educational attainment on subjective well-being depends on the domain used. Higher education is corresponding to higher happiness and life satisfaction compared to unschooled generally, but less job satisfaction especially for them who finish their senior high school or undergraduate. The significant impact of education level that could be found across domains on senior high and undergraduate level suggests that higher education is more meaningful in defining and shaping the subjective well-being. Master and Ph.D. degree holder have the highest happiness and life satisfaction and no significant harm to job satisfaction. However, due to a relatively low number of observations in the sample, this result needs to be confirmed with a higher number of sample to obtain a more robust result. Overall, even though these three domains theoretically could be used as a proxy of subjective well-being, the empirical evidence demonstrates the complexity, and possibly interrelation, of happiness, life satisfaction, and job satisfaction. The full estimation result, including all control variables, is on Appx. 2.

Another important part of the education system is vocational education. The student in vocational school is expected to be able to meet the requirement of the labor market without continuing to higher education. This raises an issue of which one of education curriculum is preferable for increasing the subjective well-being. The history of vocational education in Indonesia was started at the junior high level, but then the government shifted the vocational curriculum to the senior high level in the early 90s. Due to this shift, only 0.43% of the sample was graduated from vocational junior high school, whereas 13.68% were graduated from vocational senior high school. In addition, the impact of vocational college is also examined by the inclusion of the respondent that is graduated from vocational college in the model. Vocational college degree holder, usually Diploma 3 level, could continue its education for one year and graduated from undergraduate school in Indonesia through extension course. However, it is not feasible to distinguish which undergraduate degree holder that is coming from Diploma 3 in the sample.

Table 5 Estimation result with the inclusion of vocational education system

	Happiness			Life Satisfaction			Job Satisfaction		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Elementary School	0.0554	0.0504	0.0484	0.0724**	0.0688**	0.0679**	-0.0140	-0.0131	-0.0137
	(0.0372)	(0.0368)	(0.0369)	(0.0303)	(0.0299)	(0.0300)	(0.0325)	(0.0322)	(0.0322)
General Junior High School	0.1036**	0.1073***	0.1033**	0.1216***	0.1118***	0.1099***	-0.0058	-0.0063	-0.0085
	(0.0403)	(0.0408)	(0.0409)	(0.0332)	(0.0339)	(0.0339)	(0.0365)	(0.0373)	(0.0372)
Vocational Junior High School		0.1846	0.1829		0.1411	0.1385		0.1258	0.1244
		(0.1810)	(0.1821)		(0.1363)	(0.1365)		(0.1503)	(0.1506)
General Senior High School	0.2577***	0.2704***	0.2684***	0.1593***	0.1406***	0.1359***	-0.1105***	-0.1054***	-0.1093***
	(0.0377)	(0.0400)	(0.0398)	(0.0309)	(0.0330)	(0.0327)	(0.0340)	(0.0362)	(0.0360)
Vocational Senior High School		0.2329***	0.2281***		0.1682***	0.1661***		-0.1152***	-0.1172***
		(0.0427)	(0.0427)		(0.0356)	(0.0355)		(0.0396)	(0.0395)
Vocational College			0.3636***			0.2530***			-0.1259**
			(0.0590)			(0.0509)			(0.0552)
Undergraduate	0.3933***	0.3917***	0.3880***	0.2505***	0.2426***	0.2418***	-0.2294***	-0.2280***	-0.2177***
	(0.0493)	(0.0491)	(0.0486)	(0.0411)	(0.0410)	(0.0406)	(0.0455)	(0.0453)	(0.0447)
Graduate	0.6074***	0.6067***	0.6049***	0.5115***	0.5033***	0.5057***	-0.0398	-0.0383	-0.0178
	(0.1242)	(0.1241)	(0.1238)	(0.1033)	(0.1032)	(0.1030)	(0.1170)	(0.1169)	(0.1162)
Obs.	15,411	15,411	16,137	15,411	15,411	16,137	15,411	15,411	16,137
Pseudo R-squared	0.0773	0.0774	0.0790	0.0374	0.0373	0.0376	0.0398	0.0398	0.0393

Robust standard errors are in parenthesis. All regressions include constant and based on the full model.
***significant at 1% level, **significant at 5% level, * significant at 10% level.
Source: Author

Lacking observation is most likely the obstacle in finding the significant impact of vocational junior high level to the subjective well-being domains, as shown on Table 6 column 2, 3, 5, 6, 8, and 9. This is also supported by no significant change in the coefficient of general junior high level. However, being graduated from vocational senior high school has a significant impact on happiness, life satisfaction, and job satisfaction. The magnitude and direction of impact are similar to its counterpart in general senior high school. The vocational college has a similar impact to the undergraduate level for the happiness and life satisfaction domain whereas the only similar to senior high school for the job satisfaction domain. In the practice, it is common to find the job opportunity that requires either undergraduate or Diploma 3 degree holder, such that it is substitutable as a term of entering the job market. This is not the case for Diploma 1 and Diploma 2, and thus further elaboration requires more information about the composition each vocational college level.

The preceding discussion requires a sample to report their income and exclude other observations that have no income data, such that only respondents who work are observed. This approach has its own advantage, such that different model is consistent and has relatively no bias due to the change of the respondent due to the same sample is used across all models. In addition, by only focusing on the respondent who generates its own income, it could possibly reduce unobserved characteristic bias. Comparing among workers who will be happier due to the increase of monthly income, is more sensible rather than comparing between worker and student who has no stable source of income, despite there could be the same response toward the change of income among workers and non-workers, for example, extra money is better. Among all types of work, the respondent who works as an unpaid family worker is excluded because they report zero income. Non-earner, who is not working as the primary activity, could be caused by a certain condition, such as retired, sick, or disabled, or busied with the other activities, such as job searching, attending school, and housekeeping.

By excluding income from the equation, then it is possible to utilize a larger number of sample regardless of the income generating capacity. The point of interest is when people have accomplished a certain level of education but do not have a chance in actualizing it through any jobs. This kind of situation could possibly influence the relationship between education and subjective well-being. In order to achieve this, there would be two conditions added separately in the model, which is the main activity, 1 for not working and 0 for working; and attempt to look for a job, 1 for any attempt and 0 for no attempt at all. In the case of attempting to look for a job, it is not exclusive toward the unemployment group, but also include people who already work and want to find a better job. Interaction term would also be introduced to find if any education level has a specific interaction with these conditions. As there is a significant increase of observation with no job, thus inspecting the job satisfaction domain is not necessarily meaningful, and thus this discussion will be limited to happiness and life satisfaction. Furthermore, the work-related variable is omitted as well. The full model with the addition of two added condition is provided as a comparison.

Table 6 Estimation result including non-workers with happiness as the dependent variable

	(1)	(2)	(3)	(4)	(5)	(6)
Elementary School	0.0879***	0.1003***	0.0616	0.0816***	0.0673**	0.0425
	(0.0290)	(0.0357)	(0.0400)	(0.0290)	(0.0299)	(0.0387)
Junior High School	0.1679***	0.1550***	0.0973**	0.1559***	0.1458***	0.1021**
	(0.0312)	(0.0384)	(0.0433)	(0.0311)	(0.0321)	(0.0418)
Senior High School	0.3306***	0.3558***	0.2670***	0.3292***	0.3192***	0.2541***
	(0.0288)	(0.0340)	(0.0398)	(0.0288)	(0.0296)	(0.0391)
Undergraduate	0.5467***	0.5295***	0.3814***	0.5529***	0.5308***	0.3755***
	(0.0372)	(0.0421)	(0.0515)	(0.0372)	(0.0389)	(0.0519)
Graduate	0.8132***	0.8387***	0.6361***	0.8059***	0.7853***	0.6087***
	(0.1122)	(0.1193)	(0.1271)	(0.1127)	(0.1146)	(0.1271)
Main activity is not working	-0.0309	-0.0122	-0.0618			
	(0.0196)	(0.0471)	(0.0817)			
Elementary School x Main activity is not working		-0.0312	-0.0291			
		(0.0582)	(0.1034)			
Junior High School x Main activity is not working		0.0200	0.0519			
		(0.0585)	(0.1021)			
Senior High School x Main activity is not working		-0.0662	-0.0606			
		(0.0542)	(0.0966)			
Undergraduate x Main activity is not working		0.1004	0.1276			
		(0.0828)	(0.1324)			
Graduate x Main activity is not working		-0.1761	-0.5891			
		(0.3523)	(0.4727)			
Attempt to look for a job				-0.2212***	-0.3485***	-0.2332**
				(0.0310)	(0.0879)	(0.1038)
Elementary School x Attempt to look for a job					0.1776	0.0991
					(0.1138)	(0.1354)
Junior High School x Attempt to look for a job					0.1256	-0.0143
					(0.1094)	(0.1344)
Senior High School x Attempt to look for a job					0.1233	0.0145
					(0.0998)	(0.1188)
Undergraduate x Attempt to look for a job					0.2343*	0.2364*
					(0.1232)	(0.1413)
Graduate x Attempt to look for a job					0.4683	-0.3367
					(0.5826)	(0.2544)
Obs.	25,074	25,074	15,411	25,074	25,074	15,411
Pseudo R-squared	0.0696	0.0698	0.0778	0.0712	0.0714	0.0788
Earning	No	No	Yes	No	No	Yes
Job-related	No	No	Yes	No	No	Yes

Robust standard errors are in parenthesis. All regressions include constant and control variables, which coming from demographic, family-related, health status, social capital, and personality category.
***significant at 1% level, **significant at 5% level, * significant at 10% level.

Source: Author

The result for happiness and life satisfaction is shown in Table 6 and Table 7 respectively. It seems evident that subjective well-being is not based on the main activity, such that a person is working or not. On the other hand, the attempt to look a job has a negative significant impact on happiness across all models on Table 6 column 4 to 6, while for life satisfaction, the negative impact is significant for the certain level of education, mainly senior high school and undergraduate level. Looking for a job could potentially be an action that brings an unhappy feeling. However, the interaction term of undergraduate level and attempt to look for a job impact positively on happiness, despite significant only at 10% level. This indicates that there is a contrasting effect on the undergraduate level that reduces the direct negative impact of attempts to look for a job on subjective well-being. For the life satisfaction domain, the direct negative impact of the attempts to look for a job is replaced by the interaction term effect as the interaction term introduced into the model. This result is interesting because it seems similar to the impact of education on job satisfaction which is also negative for the same level of education, which is senior high school and undergraduate.

Table 7 Estimation result including non-workers with life satisfaction as the dependent variable

	(1)	(2)	(3)	(4)	(5)	(6)
Elementary School	0.0927***	0.0656**	0.0578*	0.0892***	0.0974***	0.0761**
	(0.0240)	(0.0299)	(0.0325)	(0.0240)	(0.0249)	(0.0318)
Junior High School	0.1479***	0.1234***	0.0914**	0.1416***	0.1533***	0.1241***
	(0.0256)	(0.0326)	(0.0357)	(0.0256)	(0.0265)	(0.0349)
Senior High School	0.2062***	0.2157***	0.1555***	0.2048***	0.2186***	0.1784***
	(0.0237)	(0.0285)	(0.0327)	(0.0238)	(0.0246)	(0.0322)
Undergraduate	0.4056***	0.3850***	0.2366***	0.4048***	0.4247***	0.2839***
	(0.0311)	(0.0356)	(0.0429)	(0.0311)	(0.0325)	(0.0429)
Graduate	0.7071***	0.7208***	0.5087***	0.6929***	0.7044***	0.5372***
	(0.0934)	(0.1032)	(0.1081)	(0.0935)	(0.0957)	(0.1054)
Main activity is not working	0.0192	-0.0100	-0.1067			
	(0.0164)	(0.0387)	(0.0674)			
Elementary School x Main activity is not working		0.0727	0.1039			
		(0.0481)	(0.0854)			
Junior High School x Main activity is not working		0.0608	0.1918**			
		(0.0484)	(0.0854)			
Senior High School x Main activity is not working		-0.0186	0.0291			
		(0.0453)	(0.0808)			
Undergraduate x Main activity is not working		0.0883	0.1153			
		(0.0691)	(0.1161)			
Graduate x Main activity is not working		-0.1682	-0.0902			
		(0.2083)	(0.2569)			
Attempt to look for a job				-0.1901***	-0.0615	-0.0664
				(0.0253)	(0.0699)	(0.0798)
Elementary School x Attempt to look for a job					-0.1023	-0.0717
					(0.0901)	(0.1043)
Junior High School x Attempt to look for a job					-0.1492*	-0.0639
					(0.0883)	(0.1055)
Senior High School x Attempt to look for a job					-0.1579*	-0.2038**
					(0.0808)	(0.0956)
Undergraduate x Attempt to look for a job					-0.2125**	-0.2438**
					(0.1027)	(0.1204)
Graduate x Attempt to look for a job					-0.1633	-0.2935
					(0.4233)	(0.5028)
Obs.	25,074	25,074	15,411	25,074	25,074	15,411
Pseudo R-squared	0.0360	0.0362	0.0376	0.0370	0.0371	0.0386
Earning	No	No	Yes	No	No	Yes
Job-related	No	No	Yes	No	No	Yes

Robust standard errors are in parenthesis. All regressions include constant and control variables, which coming from demographic, family-related, health status, social capital, and personality category.
***significant at 1% level, **significant at 5% level, * significant at 10% level.

Source: Author

Subjective well-being could be described as an aggregate measurement of an individual's life which consider different circumstances. In the IFLS questionnaire, the question is preceded by phrase to invoke more considerate and holistic answer, such as "please think about your life as a whole" and "taken all things together". This shows that the tendency of the human mind in manifesting the concept of subjective well-being by incorporating multiple layers of conditions. In the subjective well-being section, IFLS also inquiry several conditions that could relate to the respondent's subjective well-being. Employing the same model, the regression could be conducted on six different conditions or expectations, which are expected standard of living in five years, current family life, current self-standard of living, last month self-food consumption, self-healthcare consumption, and children education. Each condition has three levels of an ordered answer, 1. Less than adequate; 2. Adequate; 3. More than adequate; while the question of expected standard of living in the next five years that could keep with today has four levels of an ordered answer, 1. Very unlikely; 2. Unlikely; 3. Likely; 4 Very likely. For children education regression, all observations have children under 15 years old and still residing in their household.

Table 8 Estimation results for various conditions associated with the subjective well-being

	Expected standard of living in the next five years (1)	Current family life (2)	Current self-standard of living (3)	Last month self-food consumption (4)	Self-healthcare consumption (5)	Children education (6)
Elementary School	0.0798**	0.0718**	0.0912***	0.1364***	0.1295***	0.1835***
	(0.0333)	(0.0323)	(0.0313)	(0.0318)	(0.0316)	(0.0456)
Junior High School	0.0534	0.1656***	0.1400***	0.2528***	0.2275***	0.2435***
	(0.0360)	(0.0360)	(0.0352)	(0.0360)	(0.0354)	(0.0484)
Senior High School	0.0652*	0.3716***	0.3792***	0.4997***	0.4559***	0.4877***
	(0.0335)	(0.0334)	(0.0327)	(0.0336)	(0.0329)	(0.0451)
Undergraduate	0.2905***	0.6559***	0.6610***	0.8237***	0.7739***	0.7934***
	(0.0421)	(0.0455)	(0.0445)	(0.0461)	(0.0448)	(0.0615)
Graduate	0.2722***	0.8627***	0.9923***	1.0648***	0.9212***	1.2360***
	(0.0941)	(0.1235)	(0.1189)	(0.1264)	(0.1216)	(0.1590)
Obs.	15,183	15,407	15,407	15,407	15,388	8,789
Pseudo R-squared	0.0388	0.0813	0.0772	0.0857	0.0919	0.0793

Robust standard errors are in parenthesis. All regression including constant and based on the full model.
***significant at 1% level, **significant at 5% level, * significant at 10% level.

Source: Author

Table 6 column 2 to 6 shows a consistent result, such that higher education leads to more adequacy in these five categories. It is rational to think that it is hard for a person to be happier or more satisfied if they cannot fulfill a condition. For illustration, in the case of a person has not enough food consumption, and as food consumption is lower for the people with lower education, then it suffices to conclude that the person would be less satisfied with his life. The result, however, is not that consistent with the expectation of standard of living in the next five years, where people who graduate in elementary school has a higher coefficient compared to junior high school and senior high school. The consumption for children education is notably important among all conditions, as shown by mostly higher, even the highest coefficient within the same level of educational attainment.

There are several considerations need to be taken in interpreting this result. First, all conditions are heavily associated with income level. Even though income is also included in the estimation, there could be an unobserved indirect effect of education through income, such that your income rises when your education is higher. The measurement for conditions from column 2 to 6 is based on the adequacy. How person think which level is enough for him or her is most likely heterogeneous, but the translation toward subjective well-being is also ambiguous. A person could be happier with just an adequate level of self-healthcare consumption, while other people are still unhappy even they have extra spending on their health. On top of that, due to the characteristics of basic needs, there is a hypothetical income level threshold that defines the likelihood of adequacy of every human's aspect. Following this threshold, then respondents with the same income level are more likely to produce the same answer in each category. For example, a person with an income level below a minimum wage will have less than adequate consumption for the family needs, health consumption, and child education. This situation is faced by each person that belongs to the group below that threshold. When the income level is extremely low then there is no extra room to be able to select which type of consumption is more important or bring higher utility and vice versa.

5 Implication and Policy Formulation

A. Implication and Discussion

This paper established that the impact on education, and presumably other confounding variables, could vary depending on the domain of subjective well-being. Happiness, life satisfaction, and job satisfaction are three different domains that are investigated in several regression models with a different set of control variable. Higher education level generally leads to higher happiness and life satisfaction across models, but the impact is different on job satisfaction, generally insignificant or negative. The results for both happiness and life satisfaction are relatively robust, with just a slight reduction as more control variables are introduced in the equation. With all control variables used, people who graduate from senior high school and undergraduate is less satisfied with his job compared to them who are unschooled.

Analyzing job satisfaction estimation in Table 4, it seems the drastic change occurs during the inclusion of earning and work-related variable. Previous studies suggest that subjective well-being is influenced by income aspiration (Clark et al., 2015; McBride, 2010; Stutzer, 2004). As one of the domains of subjective well-being, satisfaction in the workplace is potentially the closest domain to the income and income aspiration. By completing higher education, then one expects higher income aspiration and when the income aspiration is not fulfilled, the person would be less satisfied with its job. Evidence from Japan shows that half of the happiness effect of education is canceled out by higher aspirations, which suggest a similar dampening effect for income (Clark et al., 2015). This could be also seen in the attempt to look for a job, where undergraduate is more likely to be less satisfied with their life because of the condition of looking for a new job. This could be an indication of failing to meet the expectation and thus lead to the attempt of finding the new job.

The change of the impact of education on job satisfaction after the inclusion of work status is mostly due to the characteristics of Indonesia workforce. In Indonesia, the remnant of patriarchy culture and the typical positive stereotype about the government worker position lead this position to be perceived as one of the most reliable jobs, and also possibly more promising compared to a private worker position. Government worker, especially entrant level, does not have a high number of wage but is known for its stability until retirement. Large society views government worker favorably due to a sufficient amount of pension and a social position in society. To be a government worker, almost all positions require a certain level of education. In the sample used, 92.47% of government worker graduated from at least senior high school degree. There are 41.54% and 66.39% out of undergraduate and graduate degree holder respectively that works as a government worker while only 7.98% out of senior high school degree filled the position. The opportunity to be a government worker attracts and motivates people to get higher

education. However, in the 2018 recruitment, the level of acceptance rate is around 6.56%.[11] This implies that the rejection rate is high, and if some larger of these people are fixated on their desire to be a government worker, it will be detrimental to their job satisfaction.

Explaining why education influence subjective well-being is also not straightforward. The positive relationship could be explained through two possibilities. First, the increase of subjective well-being could be stemmed from the increase of external factor or the intrinsic change. The former suggests that subjective well-being is affected by other associated factors and as education increase, the quantity and/or quality of these factors will increase. Enjoying a higher level of these factors leads to higher subjective well-being. Some factors could be materialized, such as income level, while others could be not easily seen or manifested, such as trust. The intrinsic change is how education influences the view of subjective well-being. The intrinsic change is fixated in the case a person feels accomplished by reaching a certain level of education and this sense of accomplishment turn the subjective well-being upward. Education changes how a person conceptualizes subjective well-being by improving the understanding of life or other aspect related, and thus make subjective well-being less sensitive to the provision of external factors.

Second, empirical findings suggest that human perceive themselves as the reflection of their society, such that a person could have higher subjective well-being if they have better relative income (Alpizar, Carlsson, & Johansson-Stenman, 2005; Clark et al., 2008; Clark & Oswald, 1996; Deaton & Stone, 2013; Tsui, 2014). The idea of introducing social comparison is fascinating, yet also has been the subject of perplexity because welfare economics usually assumed that individuals are selfish (Fleurbaey, 2009). If the case of relative income is analogous with education, then happiness is determined by relative education rather than the personal level of education. People in the lower level of education feel inferior against the people in the higher level of education and vice versa. Hypothetically, there could be a future where almost everyone graduates from university.[12] In the case relative education level is true, the question then arises, "will the impact of education on subjective well-being decrease, or even vanish?"

Even the impact of education on one domain of subjective well-being could be identified, it is too hasty to claim that another domain could be explained in the same way. It is plausible that to a certain extent, the variance explained by several factors in happiness intersects with some parts of life satisfaction. But in the case of job satisfaction, there is already a significant difference between its coefficient and the other two domains. This implies that several factors that explain the influence of education on one domain may not have the same explanatory power on another domain. For illustration, education would allow a person to have a better-performing company, and better performing company could give a bonus that influences job satisfaction significantly, but not for other domains. Different interpretation or direction is also possible. For example, being unschooled is significantly less happy or satisfied with life, but it is not

[11] As reported in national news, the number of accounts that finished submitting the application is 3,627,981 and the available position is 238,015 (Praditya, 2018; Rachman, 2018).
[12] The UNESCO dataset of mean years of schooling shows an increasing trend across all countries in the world. The complete dataset could be seen http://data.uis.unesco.org/index.aspx?queryid=242.

that case with job satisfaction. An unschooled person could be content despite his income level is low, accepting the fact that not going to school should be paid less compared to them who go to school.

B. Policy Formulation

This paper has explored the usage of three domains of subjective well-being as a proxy of utility and its interaction with education. In the recent trend, subjective well-being, especially happiness, has become more prevalent, such as discussed in the global setting in the UN.[13] Subjective well-being has been argued as one of the main candidates to measure welfare, replacing the traditional measure, GDP (Bleys, 2012; Fleurbaey, 2009). Subjective well-being covers many aspects that do not account for GDP, such as climate change (Maddison & Rehdanz, 2011; Rehdanz & Maddison, 2005). Another important issue to consider is the individual heterogeneity inside the measurement of subjective well-being. Many studies about subjective well-being are interested in some kind of average function. If individuality of each person could be captured into a model, then it is possible that a policy will boost the subjective well-being of individuals with the same preference, without hurting the subjective well-being of other people.

Apart from using subjective well-being as a basis of measuring welfare, promoting the well-being of its citizen seems fitting as a reason why a nation exists. Fundamentally, the state's purpose is to make an ordered society and in realizing this objective does not automatically impose a grander scheme to increase happiness or welfare (Rutgers, 2008). However, the government still have an incentive to promote subjective well-being because increasing subjective well-being is associated with more confidence in the government and more political stability (Diener & Tov, 2007; Inglehart & Klingemann, 2000). As a bonus, a significant electoral dividend could be gained by the incumbent, as reported in chapter 3 of World Happiness Report 2019 that happier people are not only more likely to engage in politics and vote but also more likely to vote for incumbent parties (Ward, 2019).

Implementing policy with well-being as its primary indicator has many challenges. One among many, as shown in this paper, is that different domain of subjective well-being is not always positively correlated. When a policy is conducted, one domain of subjective well-being could increase while others decrease. The multi-domain characteristic of subjective well-being could be handled by formulating a single number to represent subjective well-being. The complexity of executing this formulation is still beyond human's grasp with current technology. A critical problem lies in the ordering, which subjective well-being bring more value to society. Assigning the preference of one domain over the others requires a reliable, valid and time-efficient method with an acceptable error. Accommodating a large number of domains is more realistic but it has some drawbacks, such as more costly and inefficient. A necessary compromise could also be made. For example, during the implementation of a policy, the government

[13] In 2011, the UN General Assembly passed Resolution "Happiness: towards a holistic approach to development" where one of the main points is inviting the member nations to pursuit happiness and well-being in development with a view to guiding their public policies (United Nations, 2011).

could accept a tolerable setback in one or few domains caused by the policys, as long as more noble goals are anticipated. Mapping of the domains of subjective well-being and further understanding of how a domain interact with another domain would be mandatory input to formulate any public policy based on the maximization of well-being.

An effective policy instrument that influence well-being, and its self-reported subjective well-being, is education. Even in the worst scenario possible, where education has a negative impact on subjective well-being, education would never be abolished. First and foremost, one of the universal human rights is right to education, which encompasses much responsibility, including access to education. Education allows human to survive, adapt, and grow, for example by finding a cure for a disease, learning the necessary skill to work, and devising a new technology to enhance the quality of life. As evidenced by the finding in this research, education is only negatively associated with job satisfaction in certain levels of education, namely senior high school and undergraduate when all control variables are included. On contrary to job satisfaction, completing a higher level of education lead to more happiness and life satisfaction. Based on this fact, fostering accessible education, i.e. providing nearer and more affordable school, is a favorable policy agenda.

If the government set their education system so the span of education could generally predict the preparedness of the education subject in the labor market, then the possibility of a negative relationship between education and subjective well-being, as exhibited in this paper, is alarming. Previous studies suggest that rising education leads to rising expectation or income aspiration. The natural mechanism of failure in achieving this expectation is lower subjective well-being. The problem could also be corrected from the labor market. Overeducated workers are less satisfied compared to non-overeducated counterparts (Fleming & Kler, 2008). Firm in the labor market is also incentivized to reduce the skill and qualification mismatch because higher skill mismatch is associated with lower labor productivity through less efficient allocation of resources and the labor market become tighter, such that it is hard to attract skilled labor (Mcgowan & Andrews, 2015). Another problem could be derived from wage differential across sector or type of work,[14] that under some circumstances, may distort the job satisfaction. A deeper examination in each country is needed to confirm the existence of the wage differential and pinpoint the reason behind it.

6 Conclusions and Agendas for Future Research

Finding of previous literature on the relationship between education and subjective well-being is inconclusive. Several studies report that education positively impacts subjective well-being, while others differ with a negative or insignificant impact. The variability of this result could be explained by the finding

[14] Using data from Poland, Adamchik and Bedi (2000) find a private sector wage advantage so working in the public sector become less attractive.

of this paper. The impact of education on subjective well-being is different, depending on the domain used to evaluate the subjective well-being. Evidence from Indonesia shows that higher education is related to higher happiness and life satisfaction. This relationship is relatively robust despite different control variables are used, and consistent until the last level of education observed in this research, which is the graduate level. However, the estimation result of job satisfaction is not as conclusive as two other domains. As more control variables are introduced to the regression, the significance and direction change. When all control variables are included, education negatively impacts education, but only significant in the senior high and undergraduate level.

Validating the result with a different question on adequacy level in a selected aspect of life, higher education lead to higher current family life, current self-standard of living, last month self-food consumption, self-healthcare consumption, and children education. In the case of expected standard of living in five years, education still has a positive impact, but only significant in elementary and university level. In the case of vocational school, even though vocational school has a different objective and curriculum that is leaning toward labor market rather than going to the higher education, there is only a slight difference of magnitude between vocational and general senior high school. Being graduated from vocational college would cause an impact on subjective well-being similar to the impact between being graduated in senior high school and undergraduate.

A deeper investigation is necessary to establish further the link between education and subjective well-being. Taking into account that one domain of subjective well-being may be different than another domain, then one factor may have different explanatory power or even different interpretation when is conditioned by various domains. The relationship between education and subjective well-being could be influenced by social comparison, how a person views the education level surrounding him compared to his personal education level. As this paper is based on the Indonesia data, there is a disparity of educational in the population and also the used sample. There could be a different dynamic formed between education and subjective well-being in the scenario where educational attainment of the population is relatively equal. Another important concept is income aspiration, which derives from the expectation that is conditional on education level. The education impact could be channeled through different aspect. In the case of Indonesia, high interest to be a government worker possibly motivates a certain number of population to go to higher education, but the limited available position in government worker leads to high rejection rate; thus, causing a disappointment.

With regard to policy formulation, subjective well-being could be used as a measurement of welfare or objective. Both choices have its challenges, especially due to the multi-domain characteristic of subjective well-being. A single number used to measure subjective well-being is currently too complex while accommodating a large number of domains is more realistic, but costly and inefficient. Nevertheless, a specific procedure to realize a mapping of the subjective well-being domains would be a beneficial input Furthermore, education is an effective policy instrument that could boost subjective well-being. Having

more accessible education could be considered as a policy agenda, especially to increase happiness and life satisfaction. The government also needs to inspect the labor market to find the potential problem that potentially disrupts the relationship between education and job satisfaction. Two potential issues are labor market mismatch and wage differential.

For future research, there are several possibilities to improve the study. First, the research is conducted in the setting of developing country with a diverse educational attainment background. Different setting with equal educational attainment background may shed new light on a study on this topic. Second, as educational attainment becomes more equal across a population, then the emphasis in education could shift to not only finishing the school, but also the quality of its education. It would be interesting to see if there is any relationship between subjective well-being and the qualitative characteristic of education, which is relatively hard to compare especially among numerous schools. Third, this research has not incorporated any social comparison variable, mainly relative income, and income aspiration due to the data limitation. Previous studies show that these two variables have a certain impact on subjective well-being. There is a possibility that these variables will interact differently depending on which domain is used in the regression estimation. Lastly, this research has found a relationship between a certain aspect of life and education, but it is only as far as the adequacy level. Any aspect of life discussed in this paper could be a potential domain for subjective well-being, for example, a healthcare satisfaction rather than the adequacy of healthcare. More domains used would help in understanding the puzzle of subjective well-being and the impact of education on subjective well-being.

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Appendices

Appx. 1 Variables Description

Variable	Description
Education	Last education level completed
Age	Respondent's age
Age-squared	Squared form of respondent's age
Female	Female respondent
Javanese	Respondent who reports being Javanese or mixed Javanese
Islam	Respondent who reports being Moslem
Marriage status	Reported marriage status, which is categorized as being married, not yet married, separated, divorced, and widowed.
Having child	Respondent who reports living with a child below 15 years old
Current health	Perceived current health level
Relative health to the others	Perceived level of respondent health compared to other people with same age and same condition
Relative health to the past self	Perceived level of respondent health compared to 12 months ago
Earning	Log value of earning per hour as reported by respondent
Perceived safety	Perceived safety level of respondent's neighborhood
Devotion level	Self-reported devotion level
Trust to neighbors	Respondents expects a lost purse or wallet to be returned by someone who lives close by
Trust to police	Respondents expects a lost purse or wallet to be returned by police
Personality	Respondent personality based on the big five personality trait. Each personality would be represented by one variable, which is openness to experience, conscientiousness, extraversion, agreeableness and neurocitism
Work status	Self-reported work status, which is categorized as private worker, self-employed, government worker, casual worker not in agriculture and casual worker in agriculture
Bonus	Respondent who reports obtain a bonus besides the regular salary

Source: Author

Appx. 2 Full result of full model estimation for each subjective well-being domains

	Happiness (1)	Life Satisfaction (2)	Job satisfaction (3)
Education (baseline: unschooled)			
Elementary School	0.0554	0.0724**	-0.0140
	(0.0372)	(0.0303)	(0.0325)
General Junior High School	0.1036**	0.1216***	-0.0058
	(0.0403)	(0.0332)	(0.0365)
General Senior High School	0.2577***	0.1593***	-0.1105***
	(0.0377)	(0.0309)	(0.0340)
Undergraduate	0.3933***	0.2505***	-0.2294***
	(0.0493)	(0.0411)	(0.0455)
Graduate	0.6074***	0.5115***	-0.0398
Demographic			
	(0.1242)	(0.1033)	(0.1170)
Age	-0.0476***	-0.0291***	-0.0119**
	(0.0055)	(0.0044)	(0.0048)
Age-squared	0.0004***	0.0003***	0.0001**
	(0.0001)	(0.0001)	(0.0001)
Female	0.0315	0.1550***	0.1233***
	(0.0229)	(0.0193)	(0.0209)
Javanese	-0.0088	0.0538***	-0.0027
	(0.0217)	(0.0183)	(0.0202)
Islam	0.1893***	0.1379***	0.0740**
	(0.0345)	(0.0297)	(0.0304)
Family-related			
Marriage status (baseline: married)			
Not yet married	-0.3899***	-0.1105***	-0.1153***
	(0.0437)	(0.0366)	(0.0408)
Separated	-0.8425***	-0.5642***	0.0790
	(0.1623)	(0.1179)	(0.1348)
Divorced	-0.5496***	-0.2030***	-0.2399***
	(0.0790)	(0.0578)	(0.0672)
Widowed	-0.3147***	-0.1168**	-0.0704
	(0.0633)	(0.0515)	(0.0532)
Having child	0.0715**	-0.0239	-0.0414
	(0.0288)	(0.0240)	(0.0258)
Health Status			
Current health	0.1069***	0.1437***	0.1151***
	(0.0196)	(0.0164)	(0.0181)
Relative health to the others	0.1242***	0.1059***	0.0867***
	(0.0234)	(0.0200)	(0.0220)
Relative health to the past self	0.1370***	0.0907***	0.1046***
	(0.0140)	(0.0116)	(0.0129)
Earning	0.0607***	0.0584***	0.0747***
	(0.0089)	(0.0075)	(0.0083)
Social Capita			
Perceived safety	0.1555***	0.1826***	0.1715***
	(0.0492)	(0.0413)	(0.0469)
Devotion level	0.1380***	0.1639***	0.1549***
	(0.0177)	(0.0143)	(0.0163)
Trust to neighbors	0.1006***	0.0797***	0.0462**
	(0.0228)	(0.0190)	(0.0210)

Appx. 2 Full result of full model estimation for each subjective well-being domains - continued

	Happiness (1)	Life Satisfaction (2)	Job satisfaction (3)
Trust to police	0.0256	0.0717***	0.0923***
	(0.0220)	(0.0184)	(0.0204)
Personality			
Openness to experience	0.0024	-0.0062	0.0022
	(0.0062)	(0.0051)	(0.0056)
Conscientiousness	0.0367***	0.0142**	0.0355***
	(0.0076)	(0.0063)	(0.0070)
Extraversion	0.0239***	0.0177***	0.0169***
	(0.0056)	(0.0046)	(0.0052)
Agreeableness	0.0110	0.0100	0.0065
	(0.0079)	(0.0065)	(0.0072)
Neuroticism	-0.0326***	-0.0208***	-0.0122**
	(0.0059)	(0.0048)	(0.0054)
Work-related			
Work status (baseline: private worker)			
Self-employed	0.0425	0.0753***	0.1053***
	(0.0322)	(0.0271)	(0.0297)
Government worker	0.0851*	0.1387***	0.3761***
	(0.0439)	(0.0358)	(0.0421)
Casual worker not in agriculture	-0.1745***	-0.0659*	-0.0975**
	(0.0431)	(0.0358)	(0.0389)
Casual worker in agriculture	-0.1448**	-0.1764***	-0.2605***
	(0.0651)	(0.0494)	(0.0581)
Bonus	0.0485	0.0578**	0.1244***
	(0.0297)	(0.0250)	(0.0275)
Obs.	15411	15411	15411
Pseudo R-squared	0.0773	0.0374	0.0398

Robust standard errors are in parenthesis. All regression including constant and based on the full model.
***significant at 1% level, **significant at 5% level, * significant at 10% level.

Source: Author