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# The Interplay of Education and Age on Happiness: Bridging Analysis with Islamic Values

Rakhmawati[1*]

[*]**Corresponding email:** rakhmawati@uii.ac.id

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## Abstract

Building upon the growing interest in the determinants of subjective well-being (SWB), this study analyzes the interaction between education and age on subjective well-being (SWB) in Indonesia. The novelty of this research lies in the finding that the relationship between age and SWB depends on education. This finding has yet to be widely discussed in the literature on the relationship between age and SWB, which mostly concludes that age and SWB exhibit a U-shaped pattern. Happiness, the dependent variables, is used as proxy for SWB. The data is the latest wave of the Indonesian Family Life Survey (IFLS), provided by RAND Corporation. Generalized ordinal logistic regression, or the partial proportional odds model, is employed as the estimation method, considering the ordinal nature of the dependent variables in this study and the violation of the proportional odds assumption. The findings indicate that the increased level of education strengthens the positive relationship between age and SWB, up to a certain point. However, the results suggest that for individuals with higher levels of education, the probability of feeling very unhappy may increase with age, particularly after age 70. Based on the findings, it is recommended that policies aim to provide educational opportunities for individuals, especially in their earlier years, to promote well-being and reduce the likelihood of negative outcomes such as feeling very unhappy in later life. From an Islamic perspective, the balance between worldly knowledge and spiritual well-being is emphasized. As individuals age, particularly those with higher education, managing expectations becomes crucial. Islam encourages individuals to be content (shukr) with their life circumstances and to find peace in their trust in Allah (tawakkal). This study found that religiosity and contentment significantly influence happiness. Therefore, policies should focus on educational opportunities and integrate support for spiritual well-being, helping individuals cultivate gratitude and inner peace as they age.

**Keywords**: Subjective well-being, happiness, education, IFLS
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[1]Department of Islamic Economics, Faculty of Islamic Studies, Universitas Islam Indonesia, Indonesia

# I. Introduction

Subjective well-being is the degree to which an individual is happy and satisfied with his life (Wang & Sohail, 2022). Many nations have recently adopted a paradigm centered on happiness and well-being to redefine welfare programs and assess advancements in sustainable, social, economic, and environmental development (Agrawal et al., 2024). Despite having much more money and a better quality of life later in life, Americans born in the 1940s did not feel happier (Easterlin, 2004). A single-minded focus on wealth can hinder the fulfillment of non-material and spiritual needs, which economists often overlook due to their subjective nature and difficulty in measurement. However, these needs remain essential, as mental peace and happiness are not necessarily achieved through increased income and wealth (Chapra, 2008).

Research on the factors influencing subjective well-being enables a comprehensive evaluation of well-being, aiding governments in effectively enhancing the quality of life. Education is one crucial factor influencing subjective well-being. Wang & Sohail (2022) discovered that the long-run impact of education on subjective well-being in China over the period 1996–2020 is both positive and significant. It suggests that a higher average year of schooling contributes to higher happiness. In line with this, Tran et al. (2021) highlight education's non-monetary benefit. The results demonstrate that greater levels of education are associated with more positive affect, hedonic well-being, eudaimonic well-being, and psychological distress. Less educated people experience a decline in life satisfaction, but those with higher education tend to be happy throughout their lives (Baetschmann, 2012). Education is also an important aspect of Islam. One of the main goals of Islamic religious practice, known as maqasid al-shariah, is the protection of intellect ('aql). Al-Ghazali describes intellect as the "foundation of knowledge." It represents the continuous development of knowledge and understanding (Chapra, 2008). According to (Abdelali & Tarshany, 2020), "intellect" appears 49 times throughout the Quran. Islam has called for protecting the intellect ('aql) and not harming it. Failing to preserve the intellect will result in an imbalance.

Educational benefits on SWB can vary across different age groups. For example, higher education tends to have a more substantial positive effect on SWB in older adults, particularly in terms of reducing loneliness and enhancing happiness (Dang & Sukontamarn, 2020). Additionally, the perceived quality of education in later life, such as programs for older adults, can significantly enhance SWB by fulfilling psychological needs like autonomy and competence (Z. Zhang et al., 2024). From their early to mid-30s onwards, those with higher levels of education have an overall higher probability of happiness than those with lower levels (Nikolaev & Rusakov, 2016).

When the value of one explanatory variable influences the relationship between the dependent variable and another explanatory variable, this is known as an interaction effect. Thus, there is an indication of an interaction effect of education and age on happiness. Previous research focuses on older adults in Vietnam (Dang & Sukontamarn, 2020) and China (Z. Zhang et al., 2024), while Nikolaev & Rusakov (2016) explicitly test the hypothesis that education's impact on happiness varies with age in Australia. In addition to the different country contexts, Nikolaev (2016) uses Life Satisfaction (on a scale of 1-10) as a proxy for SWB, while this study uses Happiness (on a

scale of 1-4). The analytical tools employed are ordered logit probit and linear regression in Nikolaev's study, whereas this study uses generalized ordered logit to account for the violation of the parallel odds assumption.

Using the Indonesian Family Life Survey (IFLS) data, this study aims to test how age-education interaction affects happiness. As far as the author knows, the previous study on happiness in Indonesia did not analyze such interaction ((Pratiwi & Kismiantini, 2019); (Ndayambaje et al., 2020)). Indonesia's policy mandates that 20% of the state budget be allocated to education. However, current efficiency issues have resulted in reduced funding for education, which might impact its benefit. A study examining the interaction between education and age to happiness could provide valuable insights into addressing the challenges faced by Indonesia's education sector. Such a study could help inform the government about where to focus its efforts and how to optimize the state budget allocated to education.

Therefore, the theoretical contribution of this study fills the research gap on the interaction of age and education on SWB, especially in the Indonesian context. Nikolaev & Rusakov (2016) test such a hypothesis using data in Australia. The practical contribution of this study is as follows. Knowing the relationship between age and SWB is very important. For example, in the early thirties, someone can experience extreme unhappiness and might be thinking, "If I am already so unhappy now, how much worse will it get as I age and face even more challenges?" This sense of hopelessness could make them feel that life has no promise of improvement. However, if they know that the relationship between age and well-being becomes more positive with higher levels of education, this knowledge could offer reassurance and hope. Specifically, individuals with higher education levels can expect that, as they grow old, their happiness is more likely to increase rather than decrease. Recognizing this pattern might motivate them to dedicate resources to their self-improvement or education and, as a result, help them overcome periods of dissatisfaction. Thus, this understanding could reduce frustration during challenging times and provide a clearer sense of optimism and purpose, ultimately enhancing their well-being and possibly saving lives.

For those with low education levels, this understanding is a powerful motivation to invest in learning and personal development. Realizing that higher education can positively shape their future well-being might inspire them to pursue further education or acquire new skills, knowing that these efforts could significantly improve their life trajectory. This hope can reduce frustration and empower them to take proactive steps toward enhancing their overall quality of life. This knowledge might, therefore, lessen stress during difficult situations and give people a new sense of purpose and determination, which results in more happiness and a more satisfying life.

This paper is structured into five sections. The introduction outlines the research problems, gap, objectives, and contribution. The literature review covers theories and studies on age, education, and subjective well-being (SWB). The methodology details the data, variables, and estimation strategy. The results and discussion present the findings and compare them with existing literature. The conclusion summarizes the key findings and provides recommendations.

# II. Literature Review

## Education and Well-being

Education is a fundamental pillar of Islamic civilization. Despite Islam's beginnings in a predominantly illiterate society on the Arabian Peninsula, the foundational scripture, the Qur'an, referred to itself as "The Book," emphasizing the importance of study for all Muslims. More broadly, the pursuit of knowledge is promoted in the Qur'an and strongly encouraged through numerous sayings (hadiths) and actions of the Prophet Muhammad. At the height of its glory, Islamic education encompassed disciplines such as philosophy, medicine, mathematics, and science, not just religious knowledge. In the Islamic tradition, religion and science are not separated. Science is considered a means to understand the greatness of God better and for the benefit of humanity. Concepts such as *'ilm* (knowledge) are an essential foundation in Islamic education, encompassing all helpful knowledge. Colonialism brought about significant changes by introducing a secular education system that replaced the role of the traditional madrasah (Kadi, 2006).

According to Halstead (2004), the core meaning of "education" in Arabic differs significantly from the concept of "education" as defined by liberal Western philosophers. Arabic has three words commonly translated as "education". They are *'ilm*, *tarbiya*, and *adab*. 'Ilm can be interpreted as knowledge and emphasizes acquiring and transmitting knowledge, especially religious knowledge. *Tarbiya*, translated as growth to maturity, focuses on nurturing and cultivating moral and spiritual growth. *Adab*, or good manners, refers to developing proper behavior, etiquette, and moral refinement. One emphasizes knowledge; another focuses on growth to maturity, and the third centers on developing good manners.

Arabic does not distinguish between terms like education, schooling, teaching, training, instruction, and upbringing. In Arabic, the words for "education" encompass all these meanings (Halstead, 2004). Education in Islam aims to form individuals who are obedient to God and, at the same time, contribute to society. This concept goes beyond academic achievement and encompasses moral, spiritual, and social (Kadi, 2006). It is line with Husain & Ashraf (1979) in Halstead (2004) that Islamic education is a form of education that nurtures students' sensitivity and awareness. It instills in them the mental discipline and motivation to learn, not merely to satisfy intellectual curiosity or gain material wealth. Instead, they are encouraged to become morally upright and rational individuals who enhance their families, communities, and humanity's physical, moral, and spiritual well-being. This perspective stems from a deep belief in God and a sincere dedication to God's established moral code.

Islam stresses the importance of high-quality education, which is essential for nurturing intellect (‘aql). This development of human intellect is critical for driving moral, material, and technological progress, which are foundational to economic development. Chapra (2008) notes widespread consensus across societies worldwide that the primary goal of development is to enhance human well-being. The central aim of the Sharia is to foster the welfare of individuals by protecting their faith (*dīn*), life (*nafs*), intellect (‘*aql*), lineage (*nasl*), and wealth (*māl*). High-quality education plays a crucial role in enhancing intellect, and education and research must be of excellent quality to

drive moral, material, and technological progress. Islam mandates that every Muslim receive a solid foundation not only in Islamic principles and values but also in contemporary knowledge and technology.

## Age and Well-being

According to Klausen (2020), the relationship between age and wellbeing is shaped by a complex interplay of emotional, cognitive, and normative factors, with older adults uniquely adapting to their life circumstances. For older adults, external and situational factors often take precedence over inherent traits. They exhibit a distinctive form of hedonic adaptation, adjusting to life changes by focusing on life's intrinsic value rather than ignoring challenges. Vulnerability, in this context, does not necessarily diminish wellbeing. Emotions play a crucial role in wellbeing at all ages, but they become even more significant for older adults. Cognitive factors, including impairments, can impact wellbeing in both positive and negative ways, depending on the circumstances. Moreover, wellbeing in older adults is often influenced by their alignment with societal norms, which can foster positive life interpretations and contentment. Moreover, as people age, their perception of health shifts, with mental health becoming a more prominent factor than physical limitations, reflecting how older adults adapt their standards of wellbeing.

As individuals age, they often experience a paradox where subjective wellbeing remains high despite declines in physical and cognitive functions, known as the "wellbeing paradox." This phenomenon suggests that older adults may report higher levels of wellbeing than expected given their circumstances. A key factor in maintaining wellbeing is resilience, which allows older adults to adapt to the changes and challenges of aging. The availability of social and environmental resources plays a significant role in supporting wellbeing, with policies and interventions that enhance these resources contributing to resilience. The concept of compression of morbidity also suggests that by reducing the duration of illness or disability, individuals can maintain a higher quality of life, thus improving wellbeing. Moreover, older adults tend to focus more on psychosocial components, such as social connections and emotional satisfaction, rather than the biomedical factors often emphasized by researchers. Understanding the relationship between age and wellbeing has important public health implications, as fostering greater wellbeing in older adults can reduce caregiver burden, healthcare costs, and enhance overall quality of life. In summary, the relationship between age and subjective wellbeing is shaped by resilience, adaptation, and social resources, highlighting the importance of psychosocial factors and public health interventions (Cosco et al., 2017).

## Measurement of Subjective Well-being

According to Frey & Stutzer (2002), SWB is one of the utility proxies obtained from respondents' answers to questions about the level of happiness or satisfaction with their lives. Surveys at the global, regional, and national levels have measured SWB/happiness/life satisfaction. The questions and scales used vary. The World Values Survey asks, "All things considered, how satisfied are you with your life as a whole these days?" with responses ranging from 1 (Dissatisfied) to 10 (Satisfied). The General Social Survey poses the question, "Taken all together, how would you say things are these days?" with options 1 (Not too happy), 2 (Pretty happy), and

3 (Very happy). The Eurobarometer survey inquires, "To what extent do you personally agree or disagree with the following statements: 'In general, I consider myself a happy person?'" with responses ranging from 1 (Don't know) to 6 (Strongly agree). Lastly, the Indonesian Family Life Survey asks, "Taken all things together, how would you say things are these days?" with answers from 1 (Very happy) to 4 (Very unhappy).

Respondents' answers to questions about subjective well-being will be influenced by the order in which the questions are asked among other questions, the wording used, and the answer choices provided. However, whether these biases affect the answers obtained depends on the purpose for which the data is used. Data on subjective well-being are often used not to compare absolute values, but to identify factors that influence them. If the purpose of using the data is to identify factors that influence subjective well-being, then there is no need to assume that subjective well-being is a cardinal measure and can be compared interpersonally. For this purpose, subjective well-being data can be treated ordinally and analyzed using econometrics (Frey & Stutzer, 2002).

The scientific validity of subjective happiness measurement is a matter of debate. Directly investigating the validity of the measure using objective criteria is impossible because objective measures of happiness are very rare. Indirect testing of the validity of subjective well-being can be done if the happiness construction is available and measured by at least two independent methods. The most widely used approach to obtaining two independent methods is to measure happiness from the unit of analysis itself (self-rating) and from others (informant rating). The correlation between self-rating and informant rating is a measure of convergent validity. A positive correlation indicates that the subjective well-being measure is valid (Schneider & Schimmack, 2009).

Krueger and Schkade (2008) provide evidence of the reliability of SWB measures. Although imperfect, happiness measures have an important place to study because subjective happiness scores correlate with observer-rated happiness scores. Subjective well-being measures correlate with both mood ("how happy are you right now?") and long-term happiness ("how happy have you been in the past few days?" or "how satisfied are you with your life?").

## Previous Research

People with higher levels of education tend to have broader social networks and increased engagement with the world, which may contribute to their happiness and life satisfaction. (Bertermann et al., 2023) reviews prior research on the connection between education and life satisfaction, concentrating primarily on studies published after 2000. Although education's link to subjective well-being is not the focus of every study reviewed, most indicate a positive association between education and subjective well-being. According to (Bertermann et al., 2023), education positively affects life satisfaction for those employed but negatively influences those unemployed. The impact of years of education varies significantly between those in employment and those who are not. Higher educational achievement benefits the former, whereas lower life satisfaction affects the latter. In earlier research, the varied impacts of education on life satisfaction were concealed by measuring the effects on both employed and unemployed people simultaneously.

Higher education levels are generally associated with higher SWB, including life satisfaction and happiness (Araki, 2022; Kristoffersen, 2018). However, the relationship can be complex and influenced by societal-level educational expansion and labor market outcomes (Araki, 2022). (Araki, 2022) uses the European Social Survey (ESS) as the main database for individual-level variables. He also utilizes country-level data from the OECD, with life satisfaction as the outcome variable and happiness included as a robustness check. The education variable is a dummy, where individuals with tertiary education degrees are assigned a value of 1 and 0 otherwise. To address potential bias from using a single binary threshold (i.e., tertiary education), he analyzes two additional dummies of educational levels: upper secondary and post-secondary non-tertiary.

Research in Vietnam has examined factors influencing well-being in old age, which has become a significant focus of public policy (Dang & Sukontamarn, 2020). The primary independent variable is educational background, categorized into three levels: primary school (as the baseline), secondary school, and college/university. Based on data from the 2011 Vietnam National Aging Survey and multinomial logistic regression, it is found that education was linked to happiness and loneliness among the elderly, with notable gender differences. Higher education was positively correlated with happiness in men but not in women. The study concluded that individuals with higher education were generally happier and less lonely, though the impact of educational attainment was more pronounced for men than women.

In some previous literature, the relationship between happiness and age is mentioned as having a curved U-shaped relationship. (Yew-Kwang Ng, 2021) stated that there is controversy in this regard. In the past, happiness researchers held the opinion that there is no consistent correlation between age and happiness, with people in different age groups generally having similar satisfaction levels. (Moirangthem & Panda, 2018) found different conclusions that happiness significantly differed across the three age groups. The three age groups are late adolescents, young adults, and the elderly. (Yew-Kwang Ng, 2021) also notes that a person across ages also generally exhibits equal levels of happiness. No clear tendencies or patterns exist, and differences and fluctuations are not primarily age-related. They presumably held this belief because various factors, including interpersonal differences, influence happiness. It is difficult to identify any trend or pattern when data is insufficient. Conclusions drawn from later research with significantly more data could be more trustworthy. (Blanchflower, 2021) uses many data, and re-examines the association between age and various well-being metrics across 145 nations. The finding strongly indicates the U-shaped curve, with an age minimum, or nadir, in midlife around age 50.

A wave-like pattern of age and happiness is found in (Frijters & Beatton, 2012). In contrast, most happiness researchers support a u-shaped relationship when using age as a control variable in studies with various objectives. A quadratic function is typically used, and the results are assessed exclusively based on statistical significance. Frequently, the statistical significance of a quadratic mode (age and age-squared) is interpreted as proof of a "u-shaped" relationship between age and happiness. However, statistical significance alone cannot confirm whether the age-happiness relationship is "u-shaped" or follows a different pattern; in fact, it may lead to misinterpretation, as a set of quadratic age coefficients can still be "significant" even when a different shape

characterizes the relationship (Bartram, 2024). So, the association between age and happiness still needs to be explained.

It is found that 618 published investigations from 145 nations found U-shapes in that association (Blanchflower et al., 2023). Blanchflower (2021) also stated that a U-shaped happiness-age curve has been contested in a substantial body of empirical evidence. His research re-examines the association between age and various well-being metrics across 145 nations, including 109 developing countries. The analysis controlled some variables such as education, marital status, and status in the labor force on samples of people under the age of 70. Moreover, separate assessments for emerging and advanced countries and the continent of Africa strongly indicate the U-shaped curve, with an age minimum in midlife around age 50. Beja (2018) using the World Values survey concludes a U-shaped relationship and indicates that the peak of happiness in old age is not as high as the peak of happiness in early adulthood. The fact that happiness does not rise to its original peak after reaching a low point in middle age may be another idealized aspect of the link between happiness and age.

A wave-like shape of age and happiness is found in (Frijters & Beatton, 2012). The study analyzes 3 panel data sets—the British Household Panel Survey (BHPS), the German Socioeconomic Panel (GSOEP), and the Household Income Labour Dynamics Australia (HILDA). Within the 20–60 age range, the data primarily supports a wave-like shape that just weakly resembles a U. When socioeconomic factors are considered, the weak U-shaped pattern in middle age becomes more apparent. Upon considering selection effects through fixed effects, the predominant age effect in all three panels is a substantial rise in happiness around 60, followed by a significant decline after 75. The U-shaped pattern in middle age disappears, resulting in almost no change in happiness between the ages of 20 and 50.

It is still being determined why research on the relationship between age and happiness has remained so contentious. Bartram (2024) argues that one major reason for the confusion is the excessive emphasis on statistical significance as the primary method for evaluating empirical findings. Bartram (2024) reveals the actual patterns in the data and concludes that the age-happiness relationship in European countries often exhibits other forms. A U-shape was observed only in a small number of cases.

Some key social relationships might in fact interact with age (Helliwell et al., 2018). Among individuals with highly supportive workplaces, family ties, and neighborhood connections, the U-shaped relationship between age and well-being becomes less pronounced. It shows an upward trend for older people. The primary independent variable in this analysis is educational background, categorized into three levels: primary school (baseline), secondary school, and college/university. The findings are drawn primarily from large cross-sectional datasets, substantial enough to reveal significant patterns but limited to suggesting rather than proving causal relationships.

The Chinese government has prioritized educational development for older adults as a critical strategy to address aging, meet their learning needs, and enhance the quality of life in later years. A comprehensive educational system for older adults has gradually developed, with the

University for the Third Age (U3A) as its core and distance education as the foundational format. (Z. Zhang et al., 2024) perform analysis with the evaluation of U3A's educational quality was used as an independent predictor. The outcome variables are four indicators of SWB. Satisfaction of the three basic psychological needs is added as a parallel mediator. The research provides evidence and relevant mechanisms for the positive role of good educational quality in later life in influencing one's quality of life and well-being. The minimum age for enrolment in the U3A is often set at 50 years, so the participants in their survey were retired people aged 50 years and older.

(Bertermann et al., 2023) examine the connection between years of education and life satisfaction using data from the German Socio-Economic Panel (SOEP). To handle endogeneity issues, they apply an instrumental variables (IV) approach, the two-stage least squares (2SLS). Their primary outcome variable is overall life satisfaction, as indicator of individual well-being. Education significantly impacts life satisfaction, though differently for employed and unemployed individuals. The findings indicate that higher-educated individuals experience greater psychological costs when unemployed, partly due to a gap between aspirations and outcomes. OLS regression reveals that each additional year of education increases life satisfaction by 5.1% of a standard deviation overall. For employed individuals, an extra year of schooling boosts life satisfaction by approximately 6.4% of a standard deviation ($p < 0.01$).

Age moderates the relationship between education and SWB. Specifically, the positive effect of education on social support, which in turn enhances SWB, strengthens as individuals age (Hou et al., 2022). This suggests that older individuals may benefit more from the social support derived from their educational background. Education influences SWB through its impact on health and loneliness, with these effects varying by educational level and age. Higher education tends to enhance positive affect and life satisfaction more significantly in older adults (Spuling et al., 2017).

## III. Methodology

### Data

This study uses data from the Indonesian Family Life Survey (IFLS) wave 5. IFLS is a longitudinal survey established in 1993 by the American research group RAND. It is regarded as one of the most extensive datasets accessible for socioeconomic studies in Indonesia. There are 9,508 individuals to be analyzed. The survey is based on a sample of households that represent approximately 83% of the Indonesian population across 13 of the country's 26 provinces as of 1993. The survey gathers data on individual participants, their families, households, the communities they reside in, and the health and education services they utilize. The fifth wave of the IFLS was a joint project between RAND and Survey Meter, led by John Strauss from the University of Southern California and RAND. It was conducted from late October 2014 to the end of April 2015, with long-distance tracking continuing until the end of August 2015 (www.rand.org).

Happiness has a value of 1=very unhappy; 4=very happy. Education is the year of schooling. Dummy urban is one if someone is living in the city. Marital status consists of 4 categories, namely 0=single, 1=married, 2=divorce, and 4= widow/widower. PCE stands for per capita income, and the natural logarithm of PCE is used in the analysis. Dummy religiosity has a value of one if the individual says he is very religious or religious. Similarly, dummy healthy has a value of one if the individual is said to be very healthy or healthy. The dummy unemployed is one if the individual is unemployed. Dummy content comes from the question, "Which economic step are you today?"; its value is one if the individual says he is in step 5 or 6.

The dependent variable, namely SWB, is measured by Happiness, as done by (Araki, 2022). The core explanatory variables in this study are education and age. The control variables included in the analysis are gender, dummy urban (1 if live in the city), dummy married, log income per capita, dummy religious, dummy healthy, dummy unemployed, and dummy contentment. The analysis was carried out for those whose aged is >30 years and older. The reason for choosing this sample age is that individuals under 30 years of age are assumed, most likely, not to have completed their education (Araki, 2022). The variable description is provided on the table below.

**Table 1**. Operational Variable

| Data | Description | Scale in the analysis |
|---|---|---|
| Happiness | Taking all things together how would you say things are these days? (1: very happy; 2: happy; 3: unhappy; 4: very unhappy) | Ordinal (1: very unhappy, 4: very happy) |
| Age | Age in years | Numeric |
| Education | Years of schooling | Numeric |
| Religiosity | How religious are you? (1: very religious; 2: religious; 3: somewhat religious; 4: not religious) | Binary (1 if religious or very religious; 0 if otherwise) |
| Gender | Male or female | Binary |
| Urban | Area: 1. Urban, 2. Rural | Binary |
| Married status | Not married, Married, Separated, Divorced Widow/er | Nominal (separated and divorce are considered 1 category: divorced) |
| Working type | (Generated from question TK01 untll TK05, Book 3A IFLS5) | Binary (1 if unemployed) |
| Health | In general, how is your health? (1: very healthy. 2: somewhat healthy; 3: somewhat unhealthy. 4: unhealthy) | Binary (1 if somewhat healthy or very healthy) |
| PCE | Per capita income in the household | Numeric |
| Contentment | Please imagine a six-step ladder where on the bottom (the first step), stand the poorest people, and on the highest step (the sixth step), stand the richest people. On which step are you today? (1: Poorest, 6: Richest) | Binary (1 if the answer is 5 or 6; 0 if otherwise) |

## Model Development

Happiness is an ordinal variable. An appropriate estimation method for this analysis is ordinal regression. While prior studies have employed linear and ordinal regression to analyze similar variables with comparable outcomes, this study utilizes ordinal logistic regression. Claims of similarity with ordinal estimator results often justify the choice of a linear estimator. (Rasciute et al., 2023) tests this claim by applying both linear and ordinal estimators to UK's British Household Panel Survey data (1991–2010). Findings show that effect magnitudes differ while effect directions are consistent across estimators.

In practice, however, data often violates the proportional odds assumption in ordinal regression. A non-ordinal model like a multinomial logit can be an alternative when this occurs. Unfortunately, such models tend to be less parsimonious and more complex to interpret than the proportional odds model. An alternative approach is to use partial proportional odds (PPO) models or generalized ordinal logit regression (Liu & Koirala, 2012). The generalized ordinal logistic regression model is suitable when at least one predictor's coefficient varies across categories. This model is represented as.

$$\text{logit}\left[\pi\left(\text{Y} > \text{j}\middle|x_1, x_2, \dots, x_p\right)\right] = \ln\left(\frac{\pi\left(\text{Y} > \text{j}\middle|x_1, x_2, \dots, x_p\right)}{\pi\left(\text{Y} \leq \text{j}\middle|x_1, x_2, \dots, x_p\right)}\right)$$

$$= \propto_i + \left(\beta_{1j}X_1 + \beta_{2j}X_2 + \cdots + \beta_{pj}X_p\right) \quad (1)$$

Where $\propto_i$ is the intercept or cutpoint, and $\beta's$ are the logit coefficients. This model calculates the odds of being in a category higher than a specific threshold compared to being in that category or below. A positive logit coefficient typically suggests that an individual is likelier to belong to a higher category than a lower one for the outcome variable.

The model in this study is as follows. The model incorporates the interaction effect between education and age.

$$\text{logit}\left[\pi\left(H_i > \text{j}\middle|x_1, x_2, \dots, x_p\right)\right] = \beta_{0i} + \beta_1 Educ_i + \beta_2 Age_{it} + \beta_3 Educ_i * Age_i + \sum \beta_k Control_{ki} + e_i \quad (2)$$

Description

| | |
|---|---|
| $H_i$ | : subjective happiness level of individual i |
| $\beta_{0i}$ | : intercept (*unobserved*) for individual i |
| $Educ_i$ | : years of schooling of individual i |
| $Age_i$ | : age of individual i |
| $Control_{ki}$ | : control variable k of individual i |

The control variables consist of

| | |
|---|---|
| $Male_i$ | : dummy variable indicating wheter individual i is male |
| $Relig_i$ | : dummy variable for subjective religiosity of individual i |

$Content_i$ : dummy variable for contentment of individual i
$PCE_i$ : per capita income in individual's i household
$Married_i$ : marrital status of individual i
$Urban_i$ : dummy variable for urban/rural residence of individual i
$Health_i$ : dummy variable for subjective health status of individual i
$Unemp_i$ : dummy variable for unemployed status of individual *i*

# IV. Results and Discussions

## Result of Descriptive Statistics

The dependent variable is happiness, which is the proxy of subjective well-being. With a minimum scale of 1 and a maximum of 4, the mean of Happiness is 2.97. This number is close to 3, which means that respondents generally feel happy. The independent variables that are the focus of this study are education and age. On average, respondents graduated from primary high school (years of schooling = 6.97) and are 49 years old.

**Table 2.** Descriptive Statistics

| Variable | Mean | CV | Min | Max | P25 | P50 | P75 |
|---|---|---|---|---|---|---|---|
| Happiness | 2.97 | 0.17 | 1 | 4 | 3 | 3 | 3 |
| Education | 6.97 | 0.63 | 0 | 19 | 4 | 6 | 11 |
| Age | 49.41 | 0.24 | 31 | 101 | 40 | 48 | 57 |
| Male | 0.45 | 1.11 | 0 | 1 | 0 | 0 | 1 |
| D_Urban | 0.53 | 0.93 | 0 | 1 | 0 | 1 | 1 |
| Status | 1.2 | 0.55 | 0 | 3 | 1 | 1 | 1 |
| PCE | 13.6 | 0.04 | 11.19 | 16.7 | 13,1 | 13,5 | 14 |
| D_Religious | 0.85 | 0.42 | 0 | 1 | 1 | 1 | 1 |
| D_Healthy | 0.74 | 0.59 | 0 | 1 | 0 | 1 | 1 |
| D_Unemployed | 0.12 | 2.18 | 0 | 1 | 0 | 0 | 0 |
| D_Contentment | 0.04 | 4.60 | 0 | 1 | 0 | 0 | 0 |

The number of observations included in the generalized ordinal logit regression is 9,508 respondents. Since the dummy variable only has two values (0 and 1), the average of these values is a calculation of the proportion of occurrences of the value 1. Individuals living in urban and rural areas are proportioned because the mean = 0.53. This means that 53% of the individuals live in urban areas. Mean unemployment = 0.12 means that only 12 percent of respondents are unemployed. Most respondents are married because the status mean is 1.2 (close to 1, which is the married category), and the P25, P50, and P70 are all one. 85% of respondents claimed they are very religious or religious, and 74% claimed they are healthy or very healthy.

For the log per capita income variable, after performing a natural logarithm transformation ($e^x$), the mean PCE value is around IDR 813 thousand, with a minimum value of around 72 thousand rupiahs and a maximum of around 18.2 million rupiahs. Although the range of the PCE values is very high, the coefficient of variance shows a value that is not too high, namely 4%. Unfortunately,

only 4% of respondents claim they are in the highest step of the economic condition. The variable d_contentment is one if the respondent said they are in step 5 or 6 (the choice is 1 up to 6).

## Assumption Check

First, an estimate is carried out using ordinal logit regression (proportional odds / PO model). Then, a Brant Test is carried out to determine if the assumption of proportional odds is met. The results of the Brant Test are shown in the Table 3.

The omnibus Brant test for the full model, p-value = 0.000, indicates that the proportional odds assumption for the full model was violated. To identify which predictor variables violated the assumption, separate Brant tests were examined for each predictor variable. Results revealed that the Brant test for the PO or the parallel assumption in ordinal regression is violated in some variables. Thus, the estimation method is partial proportional odds models (generalized ordinal regression).

**Table 3.** Brant Test

| Variable | Chi-square stat | p-value |
|---|---|---|
| All | 147.14 | 0.000 |
| Education | 9.84 | 0.007 |
| Age | 7.74 | 0.021 |
| Education*age | 5.42 | 0.067 |
| Male | 7.46 | 0.024 |
| Urban | 11.05 | 0.004 |
| Status | | |
| Married | 0.89 | 0.641 |
| Divorced | 0.25 | 0.882 |
| Widow/widower | 0.68 | 0.713 |
| Log per capita income | 4.07 | 0.131 |
| Religious | 0.98 | 0.613 |
| Healthy | 41.93 | 0.000 |
| Unemployed | 1.80 | 0.407 |
| Contentment | 1.95 | 0.377 |

*Note: a significant test statistic provides evidence that the parallel regression assumption has been violated.*

## Assumption Check

The estimation is shown in Table 4. Generalized ordinal logit regression estimation was carried out with the gologit2 function in STATA. The gamma option is used to simplify the output, especially to see directly which variables meet the PO assumption. The Beta column shows the overall influence of independent variables on dependent variables if we assume proportional odds.

**Table 4.** Generalized Ordinal Logit Estimates for Happiness

| | BETA | | GAMMA_2 | | GAMMA_3 | |
|---|---|---|---|---|---|---|
| | Coeff | p-value | Coeff | p-value | Coeff | p-value |
| Educ | 0.362 | 0.000 | -0.194 | 0.033 | -0.306 | 0.002 |
| Age | 0.028 | 0.018 | -0.033 | 0.003 | -0.040 | 0.002 |
| Educ*age | -0.00062 | 0.002 | 0.004 | 0.017 | 0.004 | 0.019 |
| Male | 0.11 | 0.501 | -0.300 | 0.061 | -0.160 | 0.378 |
| Urban | -0.97 | 0.558 | 0.063 | 0.683 | 0.372 | 0.038 |
| Status | | | | | | |
| Married | 0.743 | 0.001 | 0.288 | 0.111 | -0.049 | 0.820 |
| Divorced | 0.133 | 0.484 | - | - | - | - |
| Widow/-er | 0.495 | 0.002 | - | - | - | - |
| Ln(PCE) | 0.334 | 0.000 | - | - | - | - |
| Religious | 0.413 | 0.000 | - | - | - | - |
| Healthy | 0.700 | 0.000 | 0.284 | 0.066 | -0.374 | 0.040 |
| Unemployed | -0.033 | 0.628 | - | - | - | - |
| Contentment | 0.765 | 0.000 | - | - | - | - |

*Note: Alternative parameterization: Gammas are deviations from proportionality. Four categories of happiness: 1=very unhappy, 2=unhappy, 3=happy, 4=very happy*

Suppose all variables appear only in the Beta column (with no variables appear in the Gamma column). In that case, the result of generalized ordinal logit regression will be identical to the result of the ordinal logit model. In this context, *Gamma_2* represents the effect of the independent variable on the cumulative probability of being in or below the second category of Y (Unhappy) compared to higher categories of Y (Happy and Very Happy). *Gamma_3* represents the effect of the independent variable on the cumulative probability of being in or below the third category (Happy) compared to the higher category (Very Happy). Any differences in the direction between Gamma_2 and Gamma_3 can be attributed to the varying impact of the independent variable at different points on the happiness scale. This variation may result from non-linear relationships or threshold effects, where the influence of the independent variable changes depending on the specific comparison being made.

The interaction term of educ*age significantly affects happiness based on the p-value 0.002 in Column Beta. The negative coefficients in the Beta column suggest that, in general, any increase in the combination of education and age slightly lowers the likelihood of being in the lower happiness category. The higher their education and age, the more likely they are to feel happier (since they tend to avoid the lower happiness category). Higher education equips individuals with the resources and opportunities to improve their well-being, while aging fosters emotional growth and a more nuanced outlook on life. Together, these factors contribute to a positive environment for happiness, helping individuals steer clear of lower happiness categories.

However, this interaction variable appears in Gamma_2 and Gamma_3, indicating that educ*age has a different effect according to the partial proportional odds (PPO) model results.

The effect of educ*age interaction is significant in the Beta column as well as in the Gamma column. Overall, educ*age significantly affects happiness, but this effect is not uniform at each level of happiness (as shown by Gamma_2 and Gamma_3). The positive coefficient in Gamma_2 shows that educ*age interactions increase the cumulative chances of being in the Unhappy or lower category (i.e., Very Unhappy and Unhappy) compared to being in the higher category (Happy or Very Happy). Likewise in Gamma_3, the positive coefficient in Gamma_3 shows that educ*age interactions increase the likelihood of being in one of the Happy categories or lower categories (Very Unhappy, Unhappy, or Happy) compared to being in the highest category, which is Very Happy. The positive coefficients of both Gamma showed that with each cut-off, the influence of educ*age tended to increase the likelihood of being in the lower category.

Males have no significant influence on happiness, either in Beta column or specific cut-offs (Gamma_2 and Gamma_3). Urban was positively significant in the cut-off of the third category (Gamma_3). This shows that people living in Urban areas are more likely to be in or under the Happy category than in the highest category of Very Happy. In other words, living in an Urban area lowers the likelihood of achieving the highest level of happiness.

Status consists of four categories: single, married, divorced, and widow/widower. The coefficient in the Beta column for married is 0.743 with a p-value of 0.001, which is significant ($p < 0.05$). This suggests that married individuals tend to be more happy than single individuals. The coefficient for divorce is 0.133 with a p-value of 0.484, which is insignificant ($p > 0.05$): divorce has no significant overall effect on happiness compared to single status. The coefficient for widow/widower is 0.495 with a p-value of 0.002, which is significant ($p < 0.05$). Individuals who are widowed/widowed have a greater tendency to be in a higher happiness category than single individuals. Divorced and widow/widower do not appear in Gamma. Hence, this category has a proportional effect in all categories Y. Married, even though it appears in Gamma, the effect is insignificant. So marital status significantly influenced happiness, especially for married and widow/widower status, which tended to be in a higher happiness category than single status.

The lnpce, religiosity, unemployed, and contentment only appear in the Beta column, not the Gamma columns. In that case, it suggests that the effect of per capita expenditure, religiosity, unemployed, and contentment on happiness is proportional across all cut-off points. The influence of lnpce, religiosity, and contentment is consistent across all categories of happiness, from the lowest (e.g., *Very Unhappy*) to the highest (*Very Happy*).

The estimation of lnpce, dummy religious, and dummy contentment are positive and significant. Individuals with higher per capita expenditure are more likely to experience greater happiness. Religious individuals are more likely to be in higher happiness categories than non-religious individuals. Individuals who feel they are at economic step 5 or 6 (where contentment = 1) are more likely to be in higher happiness categories. Those who perceive themselves as being in a better economic position tend to feel happier compared to those at lower economic steps. Although not significant, we can observe the negative value of the regression coefficient for the

unemployment dummy. It indicates that being unemployed increases the likelihood of an individual being in a lower happiness category compared to those who are not unemployed.

The variable healthy has a positive coefficient in Beta, which indicates that being healthy generally increases the likelihood of an individual being in a higher happiness category than those who are not healthy. However, the negative coefficient in Gamma_3 suggests that, at the third cut-off (the comparison between *Happy* and *Very Happy*), being healthy decreases the likelihood of being in the highest category (*Very Happy*) compared to lower categories (*Happy* or below). Once reaching the *Happy* category, the impact of the healthy variable alone may not be strong enough to push individuals to the *Very Happy* category. The influence of being healthy may be strong enough to increase the likelihood of reaching higher categories like *Happy*, but its effect may not increase further or may even decrease at the highest level of happiness (*Very Happy*).

## Visualization of Education and Age Interaction

Based on PPO model, the significance of educ and age was found in the happiness 1 and 2 categories. Below is the visualization of the interaction effect of educ*age on Happiness=1 (*very unhappy*). The predictive margin estimates the effect of the independent variable on the outcome after accounting for other variables in the model.

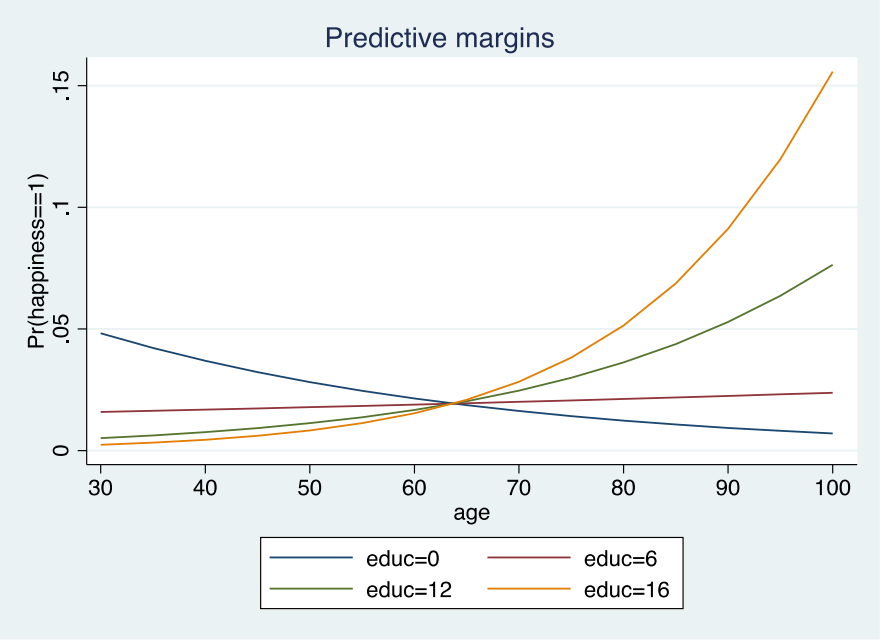


**Figure 1.** Interaction Effect of Education and Age on Probability of Being Very Unhappy

For individuals with educ = 0, the probability of feeling *very unhappy* decreases as they are getting older. This can be seen from the blue line, which tends to decrease with age. For individuals with higher education (e.g., educ = 16), the probability of feeling very unhappy increases sharply, especially after age 70. Individuals with higher education may have greater expectations or life expectancy, and as they age, some of these expectations or aspirations may not be achieved.

## Discussions

The relation between age and happiness is found to be conditional to education. Educated people tend to be less likely to feel *Very Unhappy* as they get older until a point. Unfortunately, it is approaching 70 years, and the relationship is vice versa. They may have lower expectations of life achievements, so their dissatisfaction or unhappiness tends to be more stable or decrease with age. Tran et al. (2021) found some variables moderate the relationship between education and well-being. The moderating variables are social interaction, income, and health behavior. Education significantly impacts social interactions. More educated women are more likely to socialize with friends and family who do not live there (Tran et al., 2021). Increased interaction with others improves their state of mind by lowering feelings of loneliness and insufficient support. The study employs the frequency of visits to friends and/or non-resident family members as a dependent variable to represent social support. Additionally, mediation analysis reveals that variations in these factors contribute to enhanced well-being. Individuals with higher education are more likely to experience increased household income and adopt healthier behaviors. The increase in income and health behavior leads to improved well-being.

The interaction effect of education and age on the probability of being Very Unhappy reveals that higher education, while generally beneficial, may be associated with increased unhappiness in old age. This finding highlights the importance of better addressing the emotional and psychological needs of older, highly educated individuals to support their well-being in later stages of life. A study by (Taufik et al., 2021) reveals that support from family and involvement in religious activities are key factors influencing subjective well-being among elderly Muslims.

Arabic has three words commonly translated as "education". They are 'ilm, tarbiya, and adab. 'Ilm can be interpreted as knowledge and emphasizes acquiring and transmitting knowledge, especially religious knowledge. Tarbiya, translated as growth to maturity, focuses on nurturing and cultivating moral and spiritual growth. Adab, or good manners, refers to developing proper behavior, etiquette, and moral refinement (Halstead, 2004).'*Ilm* is a tool for understanding the world and drawing closer to Allah. However, when high worldly knowledge is not balanced with sufficient spiritual engagement, individuals may feel that their achievements are inadequate to meet their expectations. Islam teaches the importance of balancing worldly knowledge with spirituality. *Tarbiya* focuses on the continuous development of moral and spiritual aspects. When highly educated individuals do not adequately nurture the aspect of tarbiya, they may become vulnerable to unhappiness in old age due to a sense of spiritual emptiness or lack of life fulfillment.

This study shows that unemployment is insignificant to SWB, in this case, happiness. However, based on IFLS 5, Pratiwi & Kismiantini (2019) found that dummy job status significantly affect happiness. Although the same database was used, the sample differs, which may lead to different conclusions. Bertermann et al. (2023) found that based on unemployed status, the role of education to overall satisfaction with life differs.

The dummy male in this research is insignificant. This aligns with (Pratiwi & Kismiantini (2019) that sex is not insignificant to happiness, based on IFLS 5 and proportional odds model. It differs

from (Dang & Sukontamarn, 2020) who demonstrated that educational level was linked to happiness and loneliness among the elderly, with notable differences between genders. They show that the role of education is stronger on males. This divergence may stem from differing cultural and social contexts. The 2011 Vietnam National Aging Survey reflects a setting where traditional gender roles may amplify the educational benefits for men (Dang & Sukontamarn, 2020). In contrast, the current study shows a more uniform effect of education on happiness across genders, possibly indicating changing gender dynamics and evolving perceptions of well-being. Education is a universal right and obligation for both men and women, as emphasized in the Hadith: "Seeking knowledge is an obligation upon every Muslim" (Hadith Ibn Majah). Islam values 'ilm (knowledge) to improve individual well-being and societal harmony, regardless of gender (Halstead, 2004).

Marriage is one of the greatest blessings from God since it fosters sexual and mental well-being and strengthens the family, which is the fundamental system of society. Islam goes one step further than highlighting the individual responsibility of marriage by making it a communal obligation, as well as in the Qur'an surat 24 (An-Nur) verse 32 (Khayat, 1997). Islam views marriage as one of God's significant blessings, providing companionship, love, and mutual support. These aspects are crucial for psychological well-being, as they address a person's emotional needs, such as the desire for intimacy, support, and security. A marriage's companionship and emotional connection help reduce loneliness and create a supportive environment where individuals can share their lives and cope with challenges. This is linked to increased subjective well-being. This study find that married and widow/widower tended to be in a higher happiness category than single status. Unmarried individuals may feel they have not achieved a "complete" social life, which can impact on their subjective well-being. From an Islamic perspective, marriage fulfills not only emotional needs but also spiritual and social ones. Without marriage, an individual may feel a lack in these aspects, affecting their happiness compared to those who are married or have been married. This is in line with (Stack & Ross Eshleman, 1998), who found that across 17 countries, marriage is linked to higher levels of happiness than cohabitation or being single. Ndayambaje et al. (2020) also find that married people are happier than single, divorced, and widowers.

Contentment is deeply linked to gratitude. Believers are encouraged to practice *shukr*, or gratitude, for all blessings, regardless of size. This perspective helps to foster a positive mindset and strengthens faith. In the Quran, Allah says, "If you are grateful, I will surely increase you [in favor]; but if you deny, indeed, My punishment is severe" (Quran 14:7). Practicing gratitude reinforces contentment by reminding individuals of the blessings they already have, thus increasing their sense of happiness and fulfillment. This study found that contentment significantly determines happiness. It is per Islamic teachings and previous empirical research (L. Zhang et al., 2022). At the cross-sectional level, L. Zhang et al, (2022) discovered that affective and general gratitude were good predictors of subjective well-being. However, cognitive gratitude was a poor predictor of subjective well-being at the cross-sectional and longitudinal levels. Affective gratitude refers to the emotional experience of feeling grateful. It is the warm, positive feeling one has when recognizing and appreciating benefits or blessings in life. Cognitive gratitude is more of a mental acknowledgment or rational appraisal of things to be grateful for,

often without a strong emotional response. It's more about thinking or recognizing that one "should" be grateful based on logical reasoning or social expectations rather than "feeling" it deeply.

## V. Conclusion and Recommendation

Education positively impacts happiness overall, but the interaction of education with age (educ*age) shows varied effects. While education generally promotes happiness, older individuals with higher education levels may experience reduced happiness, particularly in the highest happiness category. This effect suggests that expectations tied to education influence happiness differently as people age. Highly educated individuals may feel less happy in old age because they are caught up in unmet expectations. The Quran states, "Indeed, in the remembrance of Allah do hearts find peace." (Quran, Surah Ar-Ra'd: 28). In Islam, old age is a special phase of life, where believers are encouraged to draw closer to Allah and strengthen their reliance (tawakkal) upon Him.

The analysis of control variables reveals interesting insights into their impact on happiness. Gender, specifically male status, has no significant influence on happiness, as indicated by both the Beta column and the specific cut-offs (Gamma_2 and Gamma_3). Urban living, however, shows a significant effect in the third happiness category (Gamma_3), suggesting that urban residents are less likely to fall into the highest happiness category, "Very Happy," compared to lower happiness categories. Regarding marital status, being married or widowed significantly influences happiness, with married individuals reporting higher happiness levels than single individuals, and widowed individuals also tending to be happier than single individuals. Conversely, divorce has no significant effect on happiness. In terms of economic and personal characteristics, per capita expenditure (lnpce), religiosity, and contentment are positively correlated with higher happiness levels, indicating that those with higher economic status, stronger religious beliefs, and greater contentment are more likely to report higher levels of happiness. Although unemployment shows a negative relationship with happiness, this effect is not statistically significant. Health, on the other hand, increases the likelihood of higher happiness levels, though its impact appears to decrease in the highest happiness category (Very Happy), suggesting that health alone may not be sufficient to reach the top happiness category. These findings emphasize the complexity of factors influencing happiness, where different variables play varying roles across different levels of subjective wellbeing.

The findings suggest that policies should focus on providing educational opportunities, particularly in the early years, to enhance well-being and decrease the risk of negative outcomes, such as experiencing high levels of unhappiness in later life. However, the data also indicates that for those with higher levels of education (e.g., 16 years of schooling), the likelihood of feeling very unhappy may rise as they age, especially after the age of 70. This underscores the need to manage expectations and offer additional support to individuals as they grow older, particularly those with higher education, who may encounter unmet expectations or greater life challenge.

In addition to education, the following factors should be considered in policy design. Since per capita expenditure was found to significantly affect SWB, policies should improve the financial

stability of older adults, particularly those in lower-income brackets. Financial support and access to affordable services could help reduce the stress and dissatisfaction from economic challenges.

Given the positive relationship between religiosity and subjective well-being, integrating spiritual and religious support into mental health services could be beneficial. Policies could encourage community-based religious activities that foster a sense of belonging and emotional support, which may be particularly important for older individuals with high educational expectations. Health status emerged as a crucial determinant of well-being. Therefore, public health initiatives should focus on improving healthcare access for older adults, particularly for those with higher education, who might face more health-related challenges as they age. Preventative healthcare measures and chronic disease management should be prioritized.

Contentment was found to be a significant predictor of well-being, emphasizing the need to foster positive emotional states in individuals as they age. Programs that promote mindfulness, gratitude, and emotional resilience could be implemented to help individuals cultivate contentment and mitigate feelings of unhappiness, especially for those with high educational aspirations

### Author Contributions

*Conceptualization, R..; Methodology, R.; Investigation, R.; Analysis, R.; Original draft preparation, R.; Review and editing, R.; Visualization, R.*

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### Conflicts of Interest

*The authors declare no conflicts of interest regarding this research.*

## References

Abdelali, B. Z., & Tarshany, Y. M. (2020). The Concept of Intellect in the Noble Quran and the Ways of Preserve It: A Qur'anic Study. *Jurnal Al-Turath*, *5*(2), 85–102. http://spaj.ukm.my/jalturath

Agrawal, S., Sharma, N., Dhayal, K. S., & Esposito, L. (2024). From economic wealth to well-being: exploring the importance of happiness economy for sustainable development through systematic literature review. *Quality and Quantity*, 1–28. https://doi.org/10.1007/s11135-024-01892-z

Araki, S. (2022). Does Education Make People Happy? Spotlighting the Overlooked Societal Condition. *Journal of Happiness Studies*, *23*(2), 587–629. https://doi.org/10.1007/s10902-021-00416-y

Baetschmann, G. (2012). Heterogeneity in the relationship between happiness and age: Evidence from the German Socio-Economic Panel. *SOEPpapers on Multidiciplinary Panel Data Research*, *472*, 393–410. https://doi.org/https://doi.org/10.1111/geer.12015

Bartram, D. (2024). To Evaluate the Age–Happiness Relationship, Look Beyond Statistical Significance. *Journal of Happiness Studies*, *25*(1–2), 1–26. https://doi.org/10.1007/s10902-024-00728-9

Beja, E. L. (2018). The U-shaped relationship between happiness and age: evidence using world values survey data. *Quality and Quantity*, *52*(4), 1817–1829. https://doi.org/10.1007/s11135-017-0570-z

Bertermann, A., Kamhöfer, D. A., & Hannah Schildberg-Hörisch. (2023). *More Education Does Make You Happier-Unless You Are Unemployed* (16454). https://www.diw.de/documents/dokumentenarchiv/17/diw_01.c.44985.de/soep_cnef_access_procedures_2014.pdf.

Blanchflower, D. G. (2021). Is happiness U-shaped everywhere? Age and subjective well-being in 145 countries. *Journal of Population Economics*, *34*(2), 575–624. https://doi.org/10.1007/s00148-020-00797-z

Blanchflower, D. G., Graham, C., & Piper, A. (2023). HAPPINESS AND AGE - RESOLVING THE DEBATE. *National Institute Economic Review*, *263*, 76–93. https://doi.org/10.1017/nie.2023.1

Chapra, M. U. (2008). *The Islamic Vision of Development in the Light of Maqāsid Al-Sharī'ah*. The Islamic Research and Teaching Institute (IRTI). https://www.kau.edu.sa/GetFile.aspx?id=136524

Cosco, T. D., Howse, K., & Brayne, C. (2017). Healthy ageing, resilience and wellbeing. *Epidemiology and Psychiatric Sciences*, *26*(6), 579–583. https://doi.org/10.1017/S2045796017000324

Dang, T. N. H., & Sukontamarn, P. (2020). Education and Subjective Well-Being among Older Vietnamese: Exploring Gender Differences. *Journal of Population and Social Studies*, *28*(1), 22–37. https://doi.org/10.25133/jpssv28n1.002

Easterlin, R. A. (2004). The economics of happiness. *Daedalus*, *133*(2), 26–33. https://doi.org/10.1162/001152604323049361

Frey, B. S., & Stutzer, A. (2002). What Can Economists Learn from Happiness Research? *Journal of Economic Literature*, *40*(2), 402–435. https://doi.org/10.1257/002205102320161320

Frijters, P., & Beatton, T. (2012). The mystery of the U-shaped relationship between happiness and age. *Journal of Economic Behavior & Organization*, *82*(2), 525–542. https://doi.org/https://doi.org/10.1016/j.jebo.2012.03.008

Halstead, J. M. (2004). An Islamic concept of education. *Comparative Education*, *40*(4), 517–529. https://doi.org/10.1080/0305006042000284510

Helliwell, J. F., Norton, M. B., Huang, H., & Wang, S. (2018). *Happiness at Different Ages: The Social Context Matters*. http://www.nber.org/papers/w25121

Hou, T., Zhang, R., Xie, Y., Yin, Q., Cai, W., Dong, W., & Deng, G. (2022). Education and subjective well-being in Chinese rural population: A multi-group structural equation model. *PLoS ONE*, *17*(3 March), 1–14. https://doi.org/10.1371/journal.pone.0264108

Kadi, W. (2006). Education in Islam - Myths and truths. *Comparative Education Review*, *50*(3), 311–324. https://doi.org/10.1086/504818

Khayat, M. H. (1997). *Health: an Islamic Perspective*. World Health Organization.

Klausen, S. H. (2020). Understanding Older Adults' Wellbeing from a Philosophical Perspective. *Journal of Happiness Studies*, *21*(7), 2629–2648. https://doi.org/10.1007/S10902-019-00197-5

Kristoffersen, I. (2018). Great expectations: Education and subjective wellbeing. *Journal of Economic Psychology*, *66*, 64–78. https://doi.org/10.1016/j.joep.2018.04.005

Krueger, A. B., & Schkade, D. A. (2008). The reliability of subjective well-being measures. *Journal of Public Economics*, *92*(8–9), 1833–1845. https://doi.org/10.1016/j.jpubeco.2007.12.015

Liu, X., & Koirala, H. (2012). Ordinal regression analysis: Using generalized ordinal logistic regression models to estimate educational data. *Journal of Modern Applied Statistical Methods*, *11*(1), 242–254. https://doi.org/10.22237/jmasm/1335846000

Moirangthem, S., & Panda, S. (2018). Happiness across Age Groups: Findings Based on Three Measures. *International Journal of Health Sciences & Research (Www.Ijhsr.Org)*, *8*(10), 15–25. www.ijhsr.org

Ndayambaje, E., Nkundimana, B., Pierewan, A. C., Nizeyumukiza, E., & Ayriza, Y. (2020). Marital status and subjective well-being: Does education level take into account? *Cakrawala Pendidikan*, *39*(1), 120–132. https://doi.org/10.21831/cp.v39i1.29620

Nikolaev, B., & Rusakov, P. (2016). Education and happiness: an alternative hypothesis. *Applied Economics Letters*, *23*(12), 827–830. https://doi.org/10.1080/13504851.2015.1111982

Pratiwi, N. M., & Kismiantini. (2019). Implementing ordinal regression model for analyzing happiness level in Indonesia. *Journal of Physics: Conference Series*, *1320*(1), 1–12. https://doi.org/10.1088/1742-6596/1320/1/012015

Rasciute, S., Downward, P., & Simmons, N. (2023). Valuation of subjective wellbeing and the role of marital status: Linear versus ordinal estimators. *Economic Modelling*, *123*, 1–11. https://doi.org/10.1016/j.econmod.2023.106260

Schneider, L., & Schimmack, U. (2009). Self-Informant Agreement in Well-Being Ratings : A Meta-Analysis. *Social Indicators Research*, *94*(3), 363–376. https://doi.org/10.1007/sU205-009-9440-y

Spuling, S. M., Huxhold, O., & Wurm, S. (2017). Predictors of self-rated health: Does education play a role above and beyond age? *Journals of Gerontology - Series B Psychological Sciences and Social Sciences*, *72*(3), 415–424. https://doi.org/10.1093/geronb/gbv057

Stack, S., & Ross Eshleman, J. (1998). Marital Status and Happiness: A 17-Nation Study. *Journal of Marriage and Family*, *60*(2), 527–536. https://www.jstor.org/stable/353867

Taufik, T., Dumpratiwi, A. N., Prihartanti, N., & Daliman, D. (2021). Elderly Muslim Wellbeing: Family Support, Participation in Religious Activities, and Happiness. *The Open Psychology Journal*, *14*(1), 76–82. https://doi.org/10.2174/1874350102114010076

Tran, D. B., Pham, T. D. N., & Nguyen, T. T. (2021). The influence of education on women's wellbeing: Evidence from Australia. *PLoS ONE*, *16*(3 March), 1–15. https://doi.org/10.1371/journal.pone.0247765

Wang, Z., & Sohail, M. T. (2022). Short- and Long-Run Influence of Education on Subjective Well-Being: The Role of Information and Communication Technology in China. *Frontiers in Psychology*, *13*, 1–8. https://doi.org/10.3389/fpsyg.2022.927562

Yew-Kwang Ng. (2021). Happiness—Concept, Measurement and Promotion. In *Happiness—Concept, Measurement and Promotion*. Springer Nature. https://doi.org/10.1007/978-981-33-4972-8

Zhang, L., Zhu, N., Li, W., Li, C., & Kong, F. (2022). Cognitive-affective structure of gratitude and its relationships with subjective well-being. *Personality and Individual Differences*, *196*, 1–7. https://doi.org/https://doi.org/10.1016/j.paid.2022.111758

Zhang, Z., Zhao, Y., Du, H., Adelijiang, M., & Zhang, J. (2024). Educational Quality of the University of the Third Age and Subjective Well-being: Based on a Perspective of Self-determination. *Applied Research in Quality of Life*, *19*(4), 2103–2123. https://doi.org/10.1007/s11482-024-10323-y