



Analyzing Oxford Happiness Questionnaire Indonesian Version Using the Generalized Partial Credit Model

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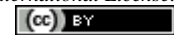
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Abstract

Happiness is an essential aspect of psychological well-being, and measuring it accurately is crucial for policymakers and researchers. The Oxford Happiness Questionnaire (OHQ) is a widely used tool to assess happiness, but its validity and reliability in different cultural contexts, such as Indonesia, are yet to be determined. This research aimed to analyze the item responses of the Indonesian version of the OHQ using the Generalized Partial Credit Model (GPCM). Participants were Indonesian citizens aged between 18-40 years old, and the data were collected through an online survey. The GPCM analysis revealed that three items in the Indonesian version of the OHQ have low discriminant value. This may be due to unclear statements or insufficient information to accurately measure happiness. Despite this, the overall conclusion is that the Indonesian version of the OHQ is suitable for use as a test tool to measure overall happiness perceived by people in Indonesia. This information can be valuable for policymakers and researchers to better understand happiness levels in the country and develop strategies to improve overall well-being. In conclusion, this study provides valuable insights into the validity and reliability of the Indonesian version of the OHQ, contributing to ongoing efforts to measure happiness in diverse cultural contexts. The findings can be used to inform future research and policy decisions aimed at promoting happiness and psychological well-being in Indonesian.

Keywords: happiness, Oxford Happiness Questionnaire (OHQ), validation, GPCM, Indonesian version

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1. Introduction

The Central Statistics Agency (BPS) presents data showing an increase in the level of happiness in Indonesia based on a survey conducted in 2021 compared to the survey conducted in 2017. Through the survey results related to happiness in the Happiness Index 2021, it was found that out of 75,000 samples, a score of 71.49 points was obtained (an increase of 0.8 points from 2017). One of the approaches used by BPS is eudaimonic happiness, which falls under subjective well-being (SWB). The definition of happiness can vary between individuals, thus becoming part of subjective well-being (SWB) [1].

Happiness is a terminology frequently used and is a focus in the literature related to well-being, especially in positive psychology. Researchers disagree on what constitutes happiness which is also known as subjective well-being [2]. The idea of happiness is not well defined and become vague, it become an umbrella terms for everything that is good [3]. Happiness encompasses intrinsic rewards, the meaning of experiences, positive beliefs, and how one perceives the world. The focus of subjective well-being is to experience pleasure and avoid pain. Many researchers view happiness as combination of positive and negative feelings. Happiness is achieved by satisfaction of individual needs. Happiness belongs to concept of

subjective well-being that includes life satisfaction and the quality of life [4].

Psychological well-being can be seen with PERMA model, it consists of 5 domains: Positive emotions – P, Engagement – E, Relationships – R, Meaning – M, Accomplishment – A. From PERMA model, there are at least three clear, well-defined paths to happiness: a) Positive emotion and pleasure: happiness exist when positive emotions are dominant and minimal negative emotions experienced; b) Engagement: Full engagement in career, hobbies, and family activities. Being physically, emotionally, and mentally involved; c) Meaning: Finding meaning in life by fully engaging in positive relationships with others, work towards the greater good.

Happiness is an important aspect that supports a person's life in various areas, ranging from education to social interaction and intrapersonal relationships even if happiness usually seen as subjective (thus it is considered as subjective well-being). For example, a person can change how they react to past events by adopting a more forgiving and grateful attitude. An optimistic person will be able to work better, be healthier, and have a longer lifespan. Another example is one person may be happy when read a book and the other seldom open a book, or some may like to spend money on prestigious things yet the other chose to save their wealth. Happiness is the goal everyone wants to achieve [5]. People who are happy tends to be more

healthier and have longer life expectancy [6]. Studies finds that there are sociodemographic factors that affect happiness such as age, gender, marital status, employment status, and education level [7].

Four "F's" of happiness, namely Faith, Form/Fitness, Family, and Friends, defined as follows: 1) Faith: belief in a specific religious view, engaging in religious rituals. People who have faith in a specific religious view (believers) have higher levels of happiness than non-believers; 2) Form/Fitness: refers to physical and mental health. Physical health can be supported by proper nutrition, physical exercise, and sufficient sleep. Mental health can be influenced by how one perceives life; 3) Family: Relationships with parents and siblings are crucial for one's happiness and the happiness of every family member; 4) Friends: Several studies emphasize the importance of friends in happiness. However, having close friends with whom one can share joy and sorrow is particularly important. Quality is more important than quantity [8].

The term happiness in the Indonesian Dictionary (KBBI) means pleasure and inner peace in life. Happiness is important than any objective concepts (such as preference, income, etc.). Happiness is the ultimate objective. For example, we want money to increase our happiness by buying things, the money is not important, happiness is. Happiness itself tends to be subjective because of how different we interpret and measure happiness [9]. In other word, happiness is people's assessment of their lives, which include affective assessment of moods and emotions as well as cognitive judgments of satisfaction [10]. The quality of pleasure must be greater than the quantity to be found as attractive [11].

Study shows that happiness level in Asia lags behind North America, Western Europe, and Latin America. In terms of happiness, with Southeast Asia outperform East Asia, which is ahead of South Asia. They have relatively low happiness score despite the economic success of East Asian countries. According to the study, the East Asian happiness gap can be caused by a number of things, including extreme conformity, repressive education, excessive competitiveness, negative attitudes toward enjoyment, and the emphasis on appearance [12]. Nowadays, the goal in developed countries is not to improve quality of life, but how to maintain the current quality of life [13].

Happiness also encompasses different dimensions such as: 1) Frequency and magnitude of the positive affect or joy experienced; 2) Average level of satisfaction over time; 3) The absence of negative feelings/emotions; 4) Satisfaction with life; 5) Self-esteem; 6) Joy [14].

This article aims to validate the Oxford Happiness Questionnaire (OHQ) as a measurement tool in Indonesian version. The researchers are conducting validation because there is no validation of the Oxford

Happiness Questionnaire (OHQ) in Indonesia yet. Generalized Partial Credit Model (GPCM) will be used in the validation process in this study.

2. Research Method

2.1. Participants and Procedures

This research uses a quantitative method to validate the Indonesian adapted version of the OHQ measurement tool. Data collection was conducted using a survey. Quantitative research emphasizes quantification in data collection and analysis, it is a type of study that try to explain phenomena by gathering numerical data and then analyzed it [15]. Summarizing, averaging, identify patterns, make predictions, test causal relationship, or generalize the results to wider population is the goal of quantitative research [16]. The participants in this study were individuals aged between 18 and 40 years. The sample size calculation, with a confidence level of 95% and a margin of error of 5%, required a minimum of 378 participants. The number of participants in this research is 484.

The research procedure involved distributing a questionnaire consisting of items from the OHQ questionnaire using accidental sampling to facilitate the researcher in obtaining participants who meet the criteria. The researcher requested information regarding participant data, such as initials, age, gender, place of residence/domicile, and active phone numbers. OHQ is a measurement tool developed by Hills and Argyle and has been adapted into the Indonesian language [17]. It consists of 29 items with a Likert scale ranging from 1 (strongly disagree) to 6 (strongly agree). The 29 OHQ items are as follows:

- 1) I don't feel particularly pleased with the way I am (-)
- 2) I am intensely interested in other people.
- 3) * I feel that life is very rewarding.
- 4) I have warm feelings toward almost everyone.
- 5) I rarely wake up feeling rested (-)
- 6) I am not particularly optimistic about the future (-)
- 7) I find most things amusing.
- 8) I am always committed and involved.
- 9) Life is good.
- 10) I don't think that the world is a good place (-)
- 11) I laugh a lot.
- 12) * I am well satisfied about everything in my life.
- 13) * I don't think I look attractive (-)
- 14) There is a gap between what I would like to do and what I have done (-)

- 15) I am very happy.
- 16)* I find beauty in some things.
- 17) I always leave a cheerful effect on others.
- 18)* I can fit in everything I want to.
- 19) I feel that I am not especially in control my life (-)
- 20) I feel able to take anything on.
- 21) I feel fully mentally alert.
- 22) I often experience joy and elation.
- 23) I do not find it easy to make decisions (-)
- 24) I do not have a particular sense of meaning and purpose in my life (-)
- 25) I feel I have a great deal of energy.
- 26) I usually have a good influence on events.
- 27) I don't feel particularly healthy (-)
- 28) I do not have particularly happy memories of the past (-)

Items 1, 3, 12, 13, 16, 18, 21 are used in the Oxford Happiness Inventory (OHI), the shortened version of OHQ. Items marked with (-) are scored in reverse. The OHQ consists of 6 dimensions with their corresponding items as follows:

- Positive Mindset (item 7, 18, 20, 21, 25)
- Joy (item 11, 15, 16, 22)
- Life Satisfaction (item 3, 9, 10, 12, 24, 27, 28, 29)
- Confidence (item 1, 5, 6)
- Self Esteem (item 13, 14, 19, 23)
- Social Interest (item 2, 4, 17, 26).

2. Research Method

The data analysis technique will involve Confirmatory Factor Analysis (CFA) and the Generalized Partial Credit Model (GPCM). The Generalized Partial Credit Model is a measurement model used in psychological research that employs large-scale assessments [18]. GPCM used for parameter estimation that reflect real life condition that were chosen in the items. One of the advantages of GPCM is the insight of the characteristics in items produced, i.e. it can show how the rating scale works in terms of how the items are discriminated and areas of the scale that needs to be revised should the scale is not functioning properly [19]. GPCM also provide the ability to find item response options that might be identical to one another [20]. However, the use of GPCM requires a strong understanding of statistical measurement concepts. The discriminant value of each item will be shown in the table below. Data analysis will use R-Software 4.3.1.

3. Result and Discussion

The Akaike Information Criterion (AIC) values of the three tested models are compared to determine which model to use. For each subtest, the model with the lowest AIC value is chosen as the best model. All of the tested IRT models' AIC values are listed below seen in Table 1.

Table 1. AIC Value of the OHQ

RASCH	1PL	GPCM
43683.33	43273.56	42514.82

The GPCM model for all items has the minimum AIC value, as can be seen from the information provided above in table 1. Therefore, in this study, we will use the parameters based on the GPCM model to evaluate the overall quality of happiness questionnaire items. GPCM itself is a mathematically convenient generalization of the dichotomous 2PL model for more than two possible response categories. The likelihood of each response category is calculated by combining the examinee's ability with the item difficulty and discrimination [19]. The item discrimination index demonstrates how well a given item can differentiate between participants with high abilities and participants with low abilities. The item discrimination index is 0–2 or 0–ai–2. In the first, specific items are chosen for the efficient estimation of person parameters, and in the second, particular people are chosen for the efficient estimation of item parameters. The first problem is referred to as optimal test design and the second is referred to as optimal sampling design. Discriminant Value of Each Item of the OHQ seen in Table 2.

Table 2. Discriminant Value of Each Item of the OHQ

Dimension	Item	Discriminant Value
Positive Mindset	7	0.073
	18	0.754
	20	0.699
	21	0.306
	25	0.868
Joy	11	0.367
	15	1.686
	16	1.044
	22	0.960
	3	1.300
Life Satisfaction	9	1.318
	10	0.329
	12	0.773
	24	0.673
	27	0.355
Confidence	28	0.570
	29	0.262
	1	0.606
	5	0.494
	6	0.719
Self Esteem	13	0.350
	14	0.375
	19	0.500
	23	0.241
	2	0.180
Social Interest	4	0.490
	8	0.522
	17	0.429
	26	0.745

Based on the table 2 above, it can be observed that concerning the parameter of item discrimination index, there are numerous items out of a total of 29 items that are categorized as poor items because they have discrimination indices below 0.3. In this paper will be shown only the top 3 item with best (item number 3, 9, and 15) and worst discriminant value (item number 2, 7, and 23).

The shape of the ICC of item number 2 can be seen in the following Figure 1.

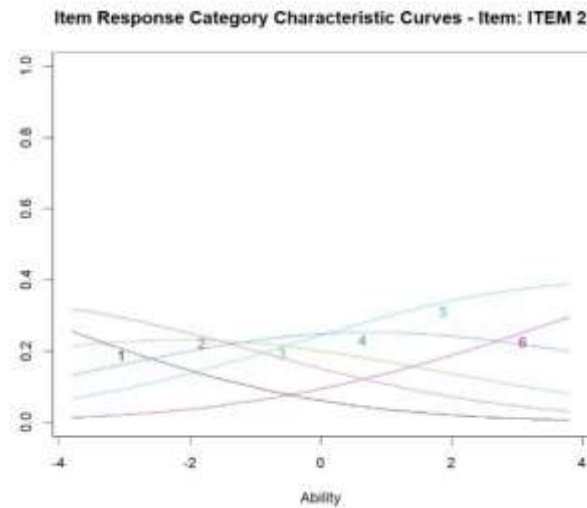


Figure 1. The ICC of Item Number 2

The shape of the ICC of item number 7 can be seen in the following Figure 2.

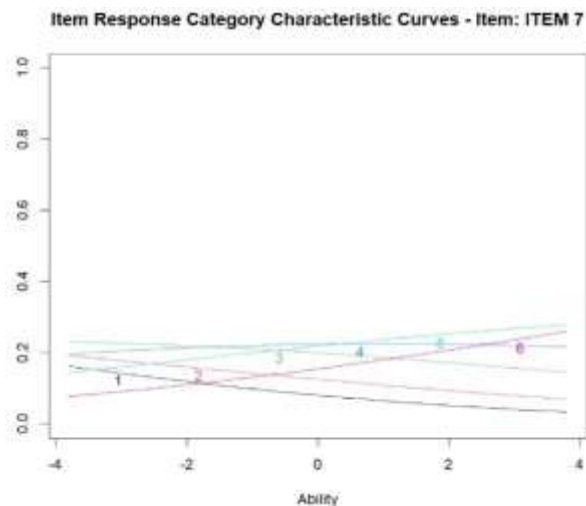


Figure 2. The ICC of Item Number 7

The shape of the ICC of item number 23 can be seen in the following Figure 3.

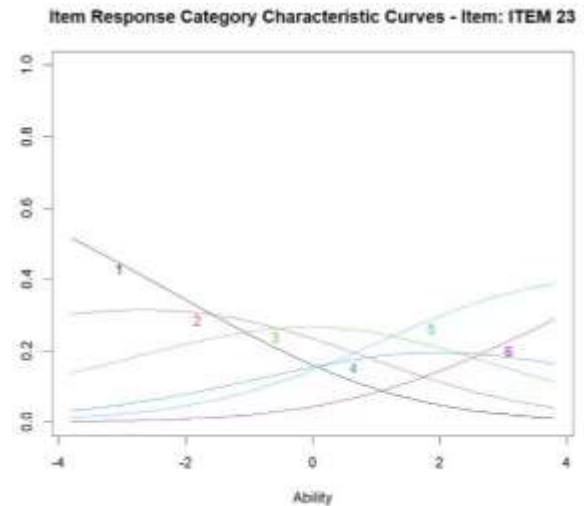


Figure 3. The ICC of Item Number 23

The shape of the ICC off items number 3 can be seen in the following Figure 4.

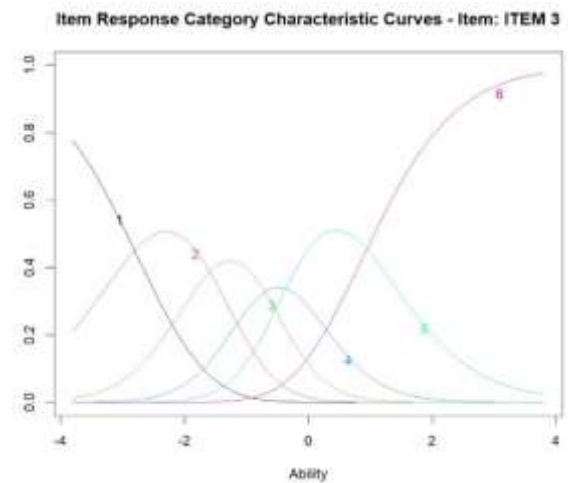


Figure 4. The ICC of Item Number 3

The shape of the ICC off items number 9 can be seen in the following Figure 5.

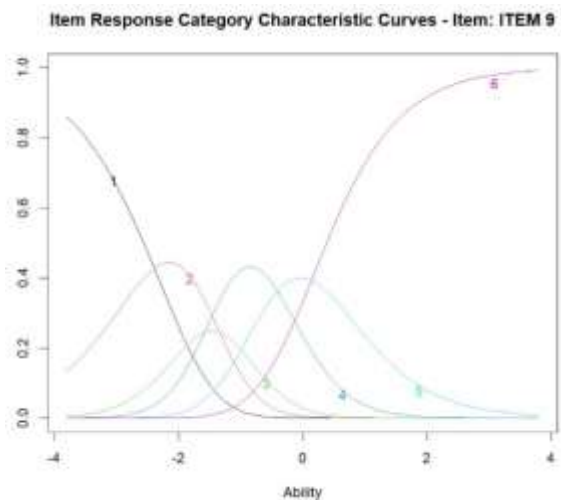


Figure 5. The ICC of Item Number 9

The shape of the ICC off items number 3 can be seen in the following Figure 6.

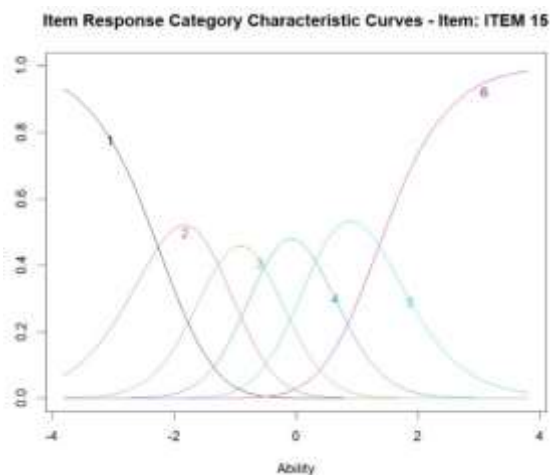


Figure 6. The ICC of Item Number 15

The shape of the Item Information Curves for all items can be seen in the following Figure 7.

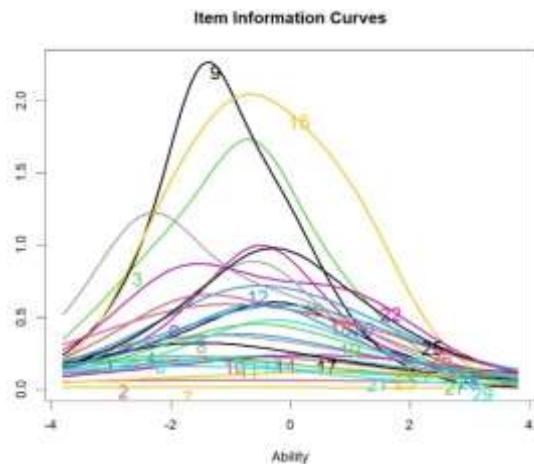


Figure 7. The IIC of the OHQ

4. Conclusion

Based on the results of the analysis, it can be concluded that overall, the Oxford Happiness Questionnaire is still suitable for use as a test tool that measures overall happiness perceived by someone in Indonesia. Items numbered 3, 9, and 15 (as shown in figure 4, 5, and 6 respectively) show good ICC result. However, it still requires improvement or removal of items based on their discrimination indices because it may seem that the items did not describe happiness in general, notably item numbered 2, 7, and 23 (as shown in figure 1, 2 and 3 respectively), and thus, needed to be replaced or removed.

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