



DIF (Differential Item Functioning) Analysis on the Self-Acceptance Scale Based on Al-Ghazali's Theory Using the Rasch Model

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ABSTRACT

This study aims to develop and analyze a self-acceptance instrument based on Al-Ghazali's theory using the Rasch Model approach, as well as to detect item bias or Differential Item Functioning (DIF) based on gender. The instrument was constructed based on four main aspects from Al-Ghazali's theory: tawakal, syukur, sabar, ikhlas. The participants were 439 active undergraduate students of IAIN Pontianak in the 2024 academic year, selected using proportionate cluster random sampling technique. The content validity of the instrument items was tested using Aiken's V formula, involving six experts and obtained an average value of 0.95, which is categorized as very high. Data analysis was conducted using the Winsteps software. The results showed that out of 43 items, several items were identified as having potential DIF. Specifically, in the aspects of tawakal (5 items), syukur (6 items), sabar (2 items), and ikhlas (1 items) indicating possible bias based on gender. This research is expected to serve as a foundation for developing Islamic psychology instruments that are more objective, contextual, and relevant for both modern scientific studies and the implementation of personality development or self-development programs for students, focusing on nurturing the character traits of tawakal, sabar, syukur, and ikhlas.

Keywords: Self-Acceptance, Al-Ghazali, DIF, Rasch Model

ABSTRAK

Penelitian ini bertujuan untuk mengembangkan dan menganalisis instrumen penerimaan diri berbasis teori Al-Ghazali dengan pendekatan Rasch Model serta mendeteksi bias item atau DIF berdasarkan jenis kelamin. Instrumen disusun berdasarkan 4 aspek utama dalam teori Al-Ghazali, yaitu tawakal, syukur, sabar, dan ikhlas. Partisipan dalam penelitian ini adalah 439 mahasiswa aktif IAIN Pontianak tahun akademik 2024, yang dipilih melalui teknik proportionate cluster random sampling. Validitas item instrumen diuji dengan rumus Aiken's V, melibatkan 6 ahli dan memperoleh nilai rata-rata 0,95 yang tergolong sangat tinggi. Analisis data dilakukan menggunakan perangkat lunak Winsteps. Hasil analisis menunjukkan bahwa dari total 43 item terdapat beberapa item yang terindikasi mengandung DIF. Khususnya pada aspek tawakal (5 item), syukur (6 item), sabar (2 item), dan ikhlas (1 item) yang menunjukkan adanya potensi bias berdasarkan jenis kelamin. Penelitian ini diharapkan menjadi dasar bagi pengembangan instrumen psikologi Islam yang lebih objektif, kontekstual, dan relevan bagi kajian keilmuan modern maupun penerapan dalam pengembangan program pembinaan kepribadian atau self-

development mahasiswa yang berorientasi pada pembentukan karakter tawakal, sabar, syukur, dan ikhlas.

Kata Kunci: *Penerimaan Diri, Al-Ghazali, DIF, Rasch Model*

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A. INTRODUCTION

Self-acceptance plays an important role in social life. It can enhance self-confidence and foster better relationships within society, as individuals realize that all humans are created with the same natural disposition (*fitrah*) by Allah SWT. Every human being is created with their own strengths and weaknesses that must be accepted wholeheartedly, because a person who is able to accept their strengths is not necessarily able to accept their weaknesses. As stated by Allah SWT in Surah *At-Tin* verse 4:

لَقَدْ خَلَقْنَا الْإِنْسَانَ فِي أَحْسَنِ تَقْوِيمٍ

The meaning: "Indeed, We have created man in the best of forms." In essence, it is similar to the concept of gratitude.

According to Al-Ghazali (2019), gratitude means realizing that there is nothing and no one capable of granting blessings except Allah SWT. For example, Allah SWT has given humans complete bodily faculties, and as a form of gratitude for these blessings, individuals should take care of their bodies by maintaining a healthy diet and practicing a healthy lifestyle.

Self-acceptance refers to a person's willingness to accept themselves completely and sincerely, including both their strengths and weaknesses. According to Ellis (in Bernard, 2013), self-acceptance can free individuals from anxiety and depression, guiding them to explore new experiences that allow them to enjoy life with greater happiness. In the Dictionary of Psychology, self-acceptance is defined as an individual's attitude of accepting themselves through a realistic acknowledgment of their limitations and a deep sense of satisfaction with both their talents and shortcomings (Arthur S. Reber, 2010). Terminologically, self-acceptance is an attitude of embracing one's entire life history, background, environment, social interactions, and all periods experienced throughout the span of life (Riyanto, 2004). This process represents an aspect of personal identity that is rarely appreciated by individuals (Surbakti, 2010).

Al-Ghazali's thoughts remain highly relevant in addressing various human issues up to the present day. His ideas continue to be discussed extensively in numerous books and scholarly journals. His monumental work, *Ihya' Ulumuddin*, consists of four sections that explore various themes: *Rub' al-'Ibadat* (the relationship between humans and Allah SWT), *Rub' al-'Adat* (the relationship among humans, including their environment), *Rub' al-Muhlikat* (blameworthy traits that lead to destruction), and *Rub' al-Munjiyat* (commendable traits that can save and elevate humans). Therefore, it is quite interesting to examine how self-acceptance can be understood based on Al-Ghazali's theoretical framework.

The researcher's understanding of self-acceptance based on Al-Ghazali's theory refers to an individual who possesses a perfected soul and lives a meaningful life by fully accepting

oneself and being aware that everything that happens is determined by Allah. Both good and bad events must be accepted with a positive response. This means that individuals should constantly remember and reflect upon every blessing that Allah SWT has bestowed upon them. These blessings include many aspects such as health, safety, food, clothing, air, and water. With such abundant blessings, individuals should always be grateful. Through a sound mind, a person can distinguish between good and evil, as well as between what is beneficial and what is harmful. Based on an analysis of Al-Ghazali's *Ihya' Ulumuddin*, the researcher concludes that several key aspects are encompassed within the process of self-acceptance according to Al-Ghazali's theory, including:

1. Tawakal

According to Imam Al-Ghazali (2019:290), *tawakal* is the act of entrusting one's heart to Allah SWT, acknowledging that everything occurs within His knowledge and power, while nothing besides Allah can bring harm or benefit. One concept in Western psychology that relates to spirituality is *Surrender to God*. The concept of surrendering to God is closely associated with *resilience*. According to Wong-McDonald and Gorsuch (2000), *Surrender to God* means relinquishing one's personal desires in submission to God's will, or prioritizing God's commandments over one's own wishes. This implies that an individual follows God's laws and fully accepts His decrees upon them. The concept of *Surrender to God* is therefore similar to the Islamic notion of *tawakal*, which is the concept used in this study.

2. Syukur

Al-Ghazali (2019:455) explains the essence of gratitude (*Syukur*) as the realization that no one can grant blessings except Allah SWT. When a person becomes aware of all the blessings that Allah has bestowed upon them—both in body and mind—and acknowledges everything needed in life according to the strength or weakness of their faith, they will experience happiness, peace, and tranquility. In the context of psychology, the feeling of gratitude is a unique positive emotion characterized by thankfulness or appreciation that arises when one receives kindness, compassion, love, benefit, or altruistic help from others—especially for things one does not necessarily deserve or that are not the result of one's own efforts (Emmons & McCullough, 2004:112). According to Fitzgerald (1998, in Emmons & McCullough, 2004:5), there are three components of gratitude: (1) a warm sense of appreciation, (2) a sense of goodwill, and (3) a disposition to act.

3. Sabar

The trait of patience (*Sabar*) is the result of spiritual training (*riyadhah*) and purification of the soul. The knowledge of patience refers to the acknowledgment and affirmation of the truth revealed by Allah SWT—particularly regarding the intense conflict between the ego (*nafs*), Satan, and desires (*shahwat*), against the intellect (*'aql*), spiritual knowledge (*ma'rifah*), and the angels who inspire good deeds (Al-Ghazali, 2005:199). Patience can be equated with *self-control*, which consists of: 1) Emotional regulation, which measures how a person manages their feelings and emotional states in the short, medium, and long term; 2) Stress management, which involves handling pressure calmly and effectively due to the successful development of coping mechanisms; and 3) Low impulsivity, which largely measures the dysfunction rather than the functionality of drive or impulse. Low impulsivity requires thoughtful consideration before acting and careful reflection before making decisions (Petrides, 2001).

4. Ikhlas

According to Al-Ghazali (2019:545), anything that is pure and free from impurities is called *ikhlas* (sincerity), while the process of purifying it is also referred to as *ikhlas* or purification, and the person who performs it is called a *mukhlis* (a sincere person). Maslow (1971) stated that a person who experiences *self-transcendence* will feel happiness, peace, well-being, and full awareness of ultimate truth. At this level, a person views the world and their purpose from a broader perspective beyond personal interests—such as for the sake of God or to help others without expecting any reward.

Differential Item Functioning (DIF) occurs when different groups of respondents with the same overall ability or similar status based on certain criteria systematically have different average responses to specific items (American Educational Research Association et al., 2014). The researcher conducted DIF detection using the Rasch Model on a set of valid items, in which a covariate was tested for its influence on the items proven to measure self-acceptance. The covariate examined in this study was gender, consisting of two categories: males coded as 0 and females coded as 1. If the direct effect of gender yields a significant result, it indicates the presence of DIF in the tested item, meaning there is a significant difference between male and female respondents.

According to Hambleton and Swaminathan (1985), the fit between a model and the data can be evaluated by examining the model’s assumptions, invariance, and predictive accuracy. This study employed the 1-Parameter Logistic (1PL) model, allowing the *b* parameter to be tested for each item without considering the *a* parameter or guessing. Therefore, the estimation of item bias was calculated by inserting the *b* parameter into the chi-square (λ^2) formula. The following is the formula used to calculate DIF based on the Rasch Model approach:

$$\lambda^2 = \frac{b^2 \text{diff}}{v(b_1) + (b_2)}$$

Where:

λ^2 = chi-square

Diff_b = difference in the *b* parameter between male and female groups

Var a = variance of parameter *a*

Var b = variance of parameter *b* (Hambleton, Swaminathan, & Rogers, 1991)

The calculated λ^2 value is then compared with the critical λ^2 value from the chi-square table with *df* = 2 and *p* = 0.05, which equals 5.99. If the calculated λ^2 exceeds the table value, it can be concluded that the item contains DIF.

B. METHOD

The population refers to the entire group of research subjects, while the sample is a subset of the population. The population in this study consists of male and female students of IAIN Pontianak. The sample includes active students of IAIN Pontianak in the 2024 academic year. The instrument used in this study is a self-acceptance scale based on Al-Ghazali’s theory. This instrument was independently developed by the researcher and consists of four response options: “strongly agree,” “agree,” “disagree,” and “strongly disagree,” with scores ranging from 4 to 1, or vice versa. The instrument comprises four dimensions: *tawakal* (trust in God), *syukur*

(gratitude), *sabar* (patience), and *ikhlas* (sincerity). The research data were analyzed using the Rasch Model with the aid of Winsteps software. Data analysis was carried out through a Differential Item Functioning (DIF) detection test.

C. RESULT AND DISCUSSION

In this study, the population consisted of active undergraduate students (S-1) of IAIN Pontianak in the year 2025. Therefore, the first procedure carried out by the researcher was to collect data on prospective participants to determine the total population size. The next procedure involved recruiting participants using the *proportionate cluster random sampling* technique. *Proportionate cluster random sampling* is a sampling technique used for populations that are divided into groups or clusters of individuals. The population refers to the entire group of research subjects, while the sample is a subset of that population. The population in this study consists of male and female students of IAIN Pontianak, while the sample includes active students of IAIN Pontianak in the 2024 academic year.

Table 1. Description of Gender

	Gender	
	Frequency	Percentage
Male	208	52.8%
Female	231	47.2%
Total	439	100%

Before administering the instrument to respondents, the researcher first conducted a validity test on each item. This test aimed to assess the appropriateness of each item using Aiken's V formula; therefore, the researcher sought assistance from six (6) experts in relevant fields. The results of the validity test calculations for each item can be found in Appendix 4. Based on Aiken's V index criteria, when using six validators/raters and four response options, an item is considered valid if the V value is greater than 0.89. According to the table above, there are five items (numbers 7, 10, 24, 41, and 43) that were found to be invalid; therefore, these items were dropped. Subsequently, the researcher calculated the overall instrument validity based on expert judgment. The results of the instrument validity test using Aiken's V formula are presented in Table 2 below:

Table 2. Average Scores of Content Validity Test

No	Expert Judgement	Total Assessment Score	Total Average Validity Value	Criteria
1	Wara Alfa Syukrilla, M.Sc	184	0,95	Sangat Tinggi
2	Puti Lenggogeni, S.Psi	170	0,95	Sangat Tinggi
3	Uswatun Khasanah, S.Psi	192	0,95	Sangat Tinggi
4	Dr. Fitri Sukmawati, M.Psi., Psikolog	189	0,95	Sangat Tinggi
5	Dr. Sumin, M.Si	185	0,95	Sangat Tinggi
6	Dr. Ali Hasmy, M.Si	190	0,95	Sangat Tinggi

Based on the results of the analysis, the average total validity score was 0.95. According to Aiken's V index criteria, this value falls into the *Very High Validity* category ($V > 0.80$). This indicates that the six experts provided assessments that were relatively consistent and aligned with the instrument's indicators.

From the results of the Differential Item Functioning (DIF) analysis on the aspects of *tawakal* (trust in God), *syukur* (gratitude), *sabar* (patience), and *ikhlas* (sincerity), several items were found to show significant differences in performance between male and female respondents ($p < 0.05$). For instance, in the *tawakal* aspect, items 1 and 27 were found to be easier for female respondents, while items 3, 5, and 23 were easier for males. In the *syukur* aspect, six items exhibited significant DIF (items 11, 28, 30, 31, 32, and 33), with some items being easier for males and others for females. Meanwhile, the *sabar* aspect (items 16 and 37) and the *ikhlas* aspect (item 17) showed fewer items with significant DIF.

These findings indicate that although the instrument generally functioned well, there is potential gender bias in several items. In the psychometric context, Differential Item Functioning (DIF) reflects differences in the probability of responding correctly between individuals with the same ability but belonging to different groups (Zumbo, 1999). In other words, the presence of DIF suggests that an item may not measure the same construct fairly across respondent groups (Hambleton et al., 1991).

Such differences may arise due to variations in how male and female respondents interpret item contexts, social experiences, or religious perceptions. For example, within the Islamic context, women may be more likely to express *tawakal* (trust in God) or *syukur* (gratitude) through emotional and relational experiences, whereas men may emphasize rational and action-oriented aspects (Al-Kandari & Al-Qashan, 2010). These differing styles of religiosity could lead to variations in how respondents answer items, even when their levels of spiritual ability are equivalent.

Practically, items that exhibit DIF need to be reviewed. Researchers may choose to revise the wording to make it more neutral and not biased toward a particular group, or remove the item if revision is not feasible (Boone et al., 2014). Revisions are typically carried out by ensuring equivalence in meaning, cultural context, and the use of gender-neutral language. If DIF is left unaddressed, the instrument risks producing misleading interpretations regarding differences in spiritual ability or religiosity between males and females (Millsap, 2011).

Several previous studies have also emphasized the importance of identifying DIF in the development of religious and psychological instruments. A study by Ahmad et al. (2020) in the *International Journal of Evaluation and Research in Education* found that some items in the Islamic religiosity scale showed gender bias due to differences in religious social experiences. Meanwhile, Zalizan et al. (2021) employed a sequential DIF procedure to distinguish between real DIF and artificial DIF, to prevent the removal of items that were actually still valid. A similar approach can be applied to the development of instruments based on Al-Ghazali's theory to ensure that the measurement of self-acceptance is truly fair for all respondent groups.

Thus, the DIF findings in this study provide an important contribution to the development of Islamic psychological instruments, as they demonstrate how spiritual aspects (such as *tawakal* and *ikhlas*) can be influenced by socio-gender factors. In addition to strengthening the integration between science and Islamic values, these findings also highlight

the importance of *fair measurement* in Islamic-based psychological assessments. Although there has been limited research specifically measuring self-acceptance based on Al-Ghazali's theory, parallels can be drawn from studies on spiritual psychometrics or self-assessment that employ the Rasch model and DIF analysis. The DIF findings in the self-acceptance instrument based on Al-Ghazali's theory show similarities with results from several previous studies that also used the Rasch Model in the context of spiritual and psychological measurement.

In the study *Rasch Model Analysis of Indonesian Spiritual Well-Being* (Sutrisno et al., 2021), although it did not explicitly emphasize Sufi theory, the scale incorporated elements of *syukur* (gratitude), *sabar* (patience), and *ikhlas* (sincerity) as part of the construct of Indonesian local spirituality. The analysis results indicated that four items had to be removed because they did not fit the model, and adjustments were needed to make the items more suitable for the target population. This finding underscores that within the Indonesian cultural context, the concept of spirituality possesses distinctive dimensions and requires item calibration that is sensitive to social and religious contexts.

Tabrett's (2010) study also employed the Rasch Model to evaluate a self-worth and adjustment scale. During the instrument revision process, he emphasized the importance of conducting DIF analysis to ensure that no items were biased toward specific groups—for instance, based on demographic factors such as gender or social background (Tabrett, 2010). This step is relevant to the findings of the present study, where the identification of DIF serves as an essential tool in ensuring *measurement fairness* among different respondent groups.

In line with this, various studies have emphasized that group differences detected in DIF analysis, if left uncontrolled, can undermine *cross-group validity* and lead to misinterpretations of psychological differences between populations (Zumbo, 1999; Millsap, 2011; Boone et al., 2014). This means that if an instrument contains systematic bias, the measurement results no longer reflect true differences in ability or constructs but merely indicate imbalances within the test items.

From this comparison, the strength of the present study lies in its use of Al-Ghazali's specific theory as the conceptual foundation for item development. With a strong Sufi framework, constructs such as *tawakal* (trust in God), *sabar* (patience), *syukur* (gratitude), and *ikhlas* (sincerity) possess clear theological and psychological meanings that distinguish this instrument from other general spiritual scales (Al-Ghazali, 2010; Abu-Raiya & Pargament, 2015). This provides a substantive advantage because the instrument is not only empirical but also grounded in a robust religious conceptual framework.

Nevertheless, similar to other studies, this research also faces the challenge of *item purification* to enhance the psychometric performance of the instrument. This process may involve removing misfitting items, revising wording to reduce gender bias, and adding new items to achieve a more balanced representation of the construct (Bond & Fox, 2015). These steps are essential to ensure that the instrument accurately reflects Islamic self-acceptance in a fair, consistent, and bias-free manner.

The analysis results indicate that the self-acceptance instrument based on Al-Ghazali's theory has a fairly strong foundation; however, challenges remain regarding gender bias and a lack of challenging items. If the DIF items are addressed and more difficult items are added, the instrument can become fairer, more sensitive, and more useful for future research as well as practical applications. By comparing and learning from previous psychometric studies (for example, on spiritual well-being scales or other self-acceptance scales), the instrument can be refined to become more precise and inclusive.

D. CONCLUSION

This study successfully developed and analyzed a self-acceptance instrument based on Al-Ghazali's theory using the Rasch Model approach to ensure measurement validity and fairness. Based on the analysis results, out of a total of 43 items, 5 items were found to be invalid according to Aiken's V test, while the average validity value of 0.95 indicated that the instrument possessed a very high level of adequacy. The Differential Item Functioning (DIF) analysis revealed that several items in the aspects of *tawakal* (trust in God), *syukur* (gratitude), *sabar* (patience), and *ikhlas* (sincerity) showed significant performance differences between male and female respondents. This indicates a potential gender bias that may affect the fairness of measuring the self-acceptance construct. These findings reinforce the view that social context, religious experiences, and differences in spiritual interpretation may lead to variations in item responses, even when spiritual ability levels are equivalent.

Theoretically, the results of this study expand the understanding of Islamic psychology measurement by integrating Al-Ghazali's Sufi concepts into a modern measurement model based on the Rasch approach. Thus, this research contributes to bridging spirituality and science within the context of Islamic education. Practically, the findings indicate that items identified with DIF need to be reviewed and refined, either through revising the language to make it more gender-neutral or by removing items that do not fit the model. This step is essential to achieve fair measurement and maintain cross-group validity. Compared to previous studies such as Sutrisno et al. (2021) and Tabrett (2010), this research has a conceptual advantage because it employs Al-Ghazali's theory as the foundation for instrument development, providing a distinctive depth of religious and psychological meaning.

However, as with other studies, challenges remain in refining and calibrating items to ensure a more balanced difficulty level and better discrimination of respondents' abilities. Overall, it can be concluded that the self-acceptance instrument based on Al-Ghazali's theory has demonstrated good psychometric performance but still requires refinement to become fully fair, sensitive, and representative of individual and gender differences. This research is expected to serve as a foundation for developing Islamic psychology instruments that are more objective, contextual, and relevant to modern scientific inquiry as well as practical applications in personality development or student self-development programs oriented toward cultivating the virtues of *tawakal* (trust in God), *sabar* (patience), *syukur* (gratitude), and *ikhlas* (sincerity).

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