

Rasch Model: A Systematic Review of Islamic Instruments

Kaseh Abu Bakar

Malaysian Association for Arabic Language and Culture, 23206 Lorong Jalan Utama, Sung Merab Hulu, 43000 Kajang, Selangor, Malaysia

E-mail: drkasehabubakar@gmail.com

Siti Aishah Hassan (Corresponding Author)

Department of Counselor Education & Counseling Psychology, Faculty of Educational Studies, Universiti Putra Malaysia, Serdang 43400, Selangor, Malaysia

E-mail: siti_aishahh@upm.edu.my

Norshafizah Hanafi

Universiti Utara Malaysia, Kuala Lumpur Campus 41-3, Jalan Raja Muda Abdul Aziz, 50300

Kuala Lumpur, Malaysia

E-mail: norshafizah@uum.edu.my

Bahrul Hayat

Universitas Islam Internasional Indonesia

Jl. Raya Bogor Km 33.5, Depok Jawa Barat 16416, Indonesia

E-mail: bahrulhayat@uinjkt.ac.id

Kamal Jamil Badrasawi

College of Humanities and Educational Sciences

Palestine Polytechnic University, Hebron City, Palestine

E-mail: kamalbadrasawi@ppu.edu

Abstract

Rasch model has gained prominence in validating psychometric instruments due to its robustness in measuring latent traits, ensuring validity and reliability across diverse populations. However, a systematic review of its evaluation of Islamic instruments has been lacking due to previously limited Islamic empirical studies. This review aims to assess the Rasch model in evaluating the psychometric properties of Islamic instruments. A thorough search via Scopus and Google Scholar, applying inclusion and exclusion criteria, documented 20 articles published between 2014 and 2024. The review highlights instruments assessing constructs based on Islamic and traditional values related to mental health literacy, religious conservatism, educational motivation, and well-being.

Differential item functioning (DIF) was found in traditional beliefs, significantly affecting mental health literacy, religious conservatism, and motivation. Analysis showed several Islamic instruments had high item reliability but low person reliability. The necessity for rigorous Islamic instruments was emphasized by the observation of methodological difficulties, including sample representation and inclusions of Islamic core principles. The review highlights the Rasch model's effectiveness in developing reliable, valid, and culturally relevant measures, promoting holistic assessments in educational, psychological, financial, and religious studies. Future research should address these challenges to enhance the psychometric and methodological rigor of Islamic instruments.

Keywords: Psychometrics; Islamic values;

Muslim; Rasch model; Latent traits

(Abu Bakar, 2023).

Introduction

Instruments grounded in Islamic principles require a rigorous approach due to the unique constructs involved, such as Islamic spirituality, religiosity, moral behaviour, and the psychological impact of faith practices, according to Haque, A., Khan, F., Keshavarzi, H., & Rothman, A. E. (2016). These constructs demand culturally relevant measures that resonate with Muslim populations while ensuring reliability and validity. The Rasch model has proven suitable for this purpose, as it can account for individual differences and cultural nuances, thereby providing measurements that are not only accurate but also meaningful within Islamic contexts (Boone, Staver, & Yale, 2014). Consequently, researchers have increasingly employed the Rasch model to assess variables integral to Islamic psychology and education, ensuring that these assessments are both scientifically sound and culturally sensitive.

One of the critical advantages of the Rasch model is its emphasis on invariant measurement, where the difficulty of each item and the ability level of each respondent are independently estimated. This property allows for the construction of instruments that yield reliable measurements across different groups, regardless of cultural or linguistic differences (Bond & Fox, 2015). For Islamic instruments, this characteristic is essential for capturing the authentic experiences of Muslim populations, as it ensures that items within an instrument genuinely reflect the underlying construct without cultural or contextual bias. This ability to achieve invariant measurement aligns well with Islamic psychology's goal of providing just, equitable, reliable, valid, and respectful assessments that honour the lived experiences and values of Muslims

Numerous studies have demonstrated the utility of the Rasch model in developing instruments tailored to Islamic populations. Abdullah et al., (2023) used the Rasch model to validate an instrument measuring Islamic well-being among Malaysian Muslims, ensuring that the tool was both reliable and culturally relevant. Similarly, Ishak et al., (2016) utilized the Rasch model to measure Islamic values, demonstrating the model's efficacy in gauging Islamic construct and creating a measurement scale. Antara & Musa (2020) employed Rasch model to study the Islamic financial literacy of the Muslim Urban Millennial population. These studies exemplify how the Rasch model can enhance the reliability and validity of Islamic measures, enabling researchers to produce robust instruments that are sensitive to Islamic cultural nuances.

Despite the advantages of the Rasch model, developing Islamic instruments with the Rasch model poses several challenges, such as ensuring adequate sample representation, addressing linguistic diversity, and aligning religious terminology with psychometric criteria. In Islamic studies, constructs like *taqwa* (God-consciousness) or *ihsan* (excellence in worship) have complex, context-specific meanings that may be challenging to operationalize within a psychometric framework (Hassan, 2022; Hassan et al., 2008). Researchers must ensure that items accurately capture these nuanced constructs while adhering to the principles of unidimensionality required by the Rasch model (Hambleton & Jones, 1993). Additionally, linguistic adaptation becomes crucial, as Islamic instruments are often administered in various languages across different cultural contexts. Effective translation and adaptation processes are necessary to ensure that items retain their intended

meaning and relevance, preserving the instrument's integrity while ensuring that it resonates with diverse Muslim communities (Hambleton, Merenda, & Spielberger, 2005).

Another consideration is the ethical implications of measuring religious and moral constructs within Islamic frameworks. Conventional psychometric instruments may not fully accommodate the spiritual and ethical dimensions integral to Islamic life. The Rasch model, with its precision and focus on invariant measurement, enables researchers to construct instruments that are not only scientifically rigorous but also ethically respectful and aligned with Islamic values. However, the culturally specific nature of these constructs means that researchers must approach the measurement process with sensitivity, ensuring that assessments are neither reductive nor dismissive of the profound spiritual significance these constructs hold within Islamic contexts (Abu Bakar, 2023).

In light of these challenges and considerations, the Rasch model remains a valuable tool for advancing Islamic research (Kassim et al., 2018). It offers a sophisticated framework that accommodates the complex demands of Islamic constructs while ensuring robust psychometric quality. By providing invariant and reliable measurements, the Rasch model facilitates meaningful cross-cultural comparisons, enhancing the field's ability to contribute to a global understanding of Islamic values, spirituality, and psychology (Hermisson, 2019; Abu Bakar, 2023).

This systematic review aims to comprehensively evaluate the application of the Rasch model in Islamic instruments, which requires rigorous and culturally sensitive psychometric evaluation. The systematic review format allows for an

objective assessment of existing research, identifying gaps and offering insights into best practices for developing culturally congruent Islamic instruments (Grant & Booth, 2009). By systematically collating studies that meet specific inclusion criteria, this review aims to provide an unbiased and thorough evaluation of the current literature, facilitating the creation of psychometric tools that align with Islamic values.

Methodology

Systematic Reviews Guideline

This section outlines the methodological approach adopted for collecting, analysing, and synthesizing the relevant literature. This approach is guided by best practices in systematic reviews, particularly within the context of psychometric instrument evaluation and cultural psychology research. Specifically, this review followed to the guidelines outlined in the Updated Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement (BMJ, 2021; Liberati et al., 2009; Moher et al., 2009, Harden et al., 2004). By detailing the search strategy, inclusion and exclusion criteria, data extraction process, and data analysis methods, this section aims to ensure the reliability, validity, and replicability of the review findings.

Search Strategy

To ensure comprehensive coverage, this systematic review adopted a structured and multi-step search strategy across multiple databases. Major academic databases, including SCOPUS, and advanced search techniques Google Scholar, were used to capture a wide array of peer-reviewed articles relevant to Islamic instruments using the Rasch model. Keywords used in the search strategy were formulated based on relevant terminology and constructs in Islamic psychometrics and Rasch model

applications. Primary keywords included “Islamic values” and “Rasch model,” Boolean operators such as AND, OR, and NOT were used to refine search results, ensuring the inclusion of relevant articles while minimizing unrelated studies. Search filters were also applied to limit results to peer-reviewed articles in English only.

Inclusion and Exclusion Criteria:

Establishing clear inclusion and exclusion criteria was essential to ensure the relevance and quality of the articles reviewed. Articles were included if they met the following criteria:

- a) Population: the study sample consisted primarily of Muslim populations, or the psychometric instrument being evaluated was specifically designed for Muslim or Islamic contexts.
- b) Instrument: the article focused on instruments designed to measure Islamic constructs, such as religiosity, spirituality, moral behaviour, or well-being, and explicitly used the Rasch model in its methodology.
- c) Study Type: empirical studies, including both quantitative and mixed-methods designs, were included. Articles focusing on the development, validation, or application of Islamic instruments within a Rasch model framework were prioritized.
- d) Publication Type: peer-reviewed journal and indexed proceedings were selected to ensure the credibility and scientific rigor of included studies.
- e) Publication year: 2014-2024

Exclusion criteria included:

- a) Studies not employing the Rasch

model or those using other psychometric models like Classical Test Theory (CTT) or Item Response Theory (IRT) alone.

- b) Studies that did not focus on Islamic content or were not culturally relevant to Muslim population.

- c) Grey literature, dissertations, book chapters, and unpublished manuscripts were excluded to maintain a focus on peer-reviewed and widely accessible research (Petticrew & Roberts, 2006).

Data Extraction Process

Following the selection of eligible articles, a standardized data extraction form for PRISMA flowchart (Figure 1) was used to record relevant information systematically. Key information collected included study title, author(s), publication year, study location, sample characteristics, targeted Islamic construct, psychometric properties assessed, and key findings related to Rasch model applications (Liberati et al., 2009). This extraction ensured that essential study details were consistently captured, supporting the comprehensive analysis of Rasch model applications in Islamic instruments.

To maintain consistency, two independent reviewers (KAB and SAH) were assigned to extract data from each study, with discrepancies resolved through discussion or consultation with a third reviewer. This process helped reduce bias and improve the reliability of the extracted data, particularly regarding nuanced cultural interpretations in Islamic psychometrics. Moreover, data were organized in a table format to facilitate a comparative analysis of key findings across studies, ensuring an organized and systematic presentation of the results.

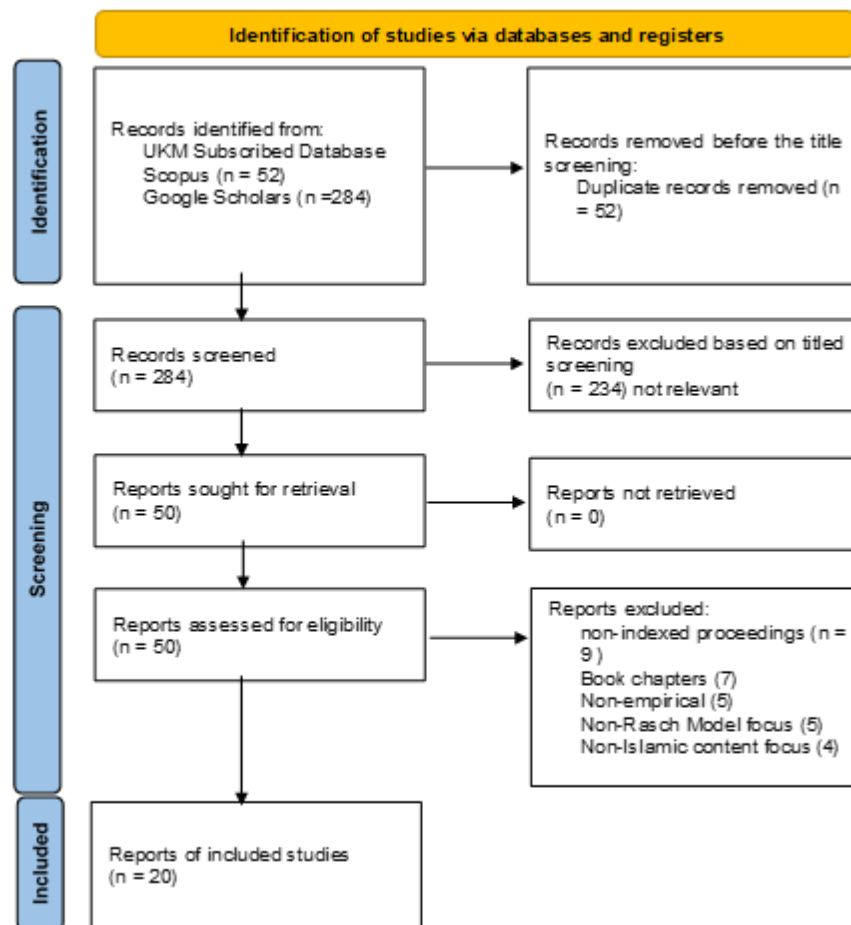


Figure 1: PRISMA Flowchart (Source: BMJ 2021;372:n71).

Data Analysis

The data analysis focused on synthesizing findings across the included studies to identify common themes, strengths, and limitations in using the Rasch model for Islamic instruments. Qualitative synthesis was used to analyse descriptive information, particularly regarding the types of constructs being measured (e.g., spirituality, morality, religiosity) and the cultural implications of applying the Rasch model to these constructs.

The quantitative analysis involved examining the psychometric properties reported across studies, including item reliability, person reliability, item fit statistics, and unidimensionality. This analysis highlighted the effectiveness of the Rasch model in maintaining

measurement invariance and item calibration, particularly in culturally sensitive constructs. Notable patterns and variations in psychometric properties were compared across studies, providing insights into the practical implications of applying the Rasch model in Islamic settings (Bond & Fox, 2015; Boone et al., 2014). Accordingly, for systematic analysis of the 20 selected articles, Table 1 shows the summary of the articles.

Table 1: Summary of 20 Selected Articles Published Between 2024- 2014

Study	Author(s) and Year	Title	Objective	Sample and Population	Methodology	Instruments	Main Findings	Limitations
1	Al-Qerem, W., Jarab, A., Khmour, M., Eberhardt, J., Alasmari, F., Hammad, A., ... & Khalil, S. (2024).	Assessing mental health literacy in Jordan: a factor analysis and Rasch analysis study	To validate a Jordanian version of the mental health literacy	974 participants	Survey, Rasch Model	Mental Health Literacy Scale (MHLS)	Gender showed significant DIF. traditional beliefs and the role of family health were significant	Convenient Sampling. Limited Jordanian may not be generalized Middle Eastern
2	Jamin, A., & Damni, A. (2024).	The scale of religious conservatism among Muslim students in Indonesia: A Rasch Analysis	develop a 'religious conservatism' scale tailored for university students	549 randomly selected students from three universities in Sumatra	Survey, Rasch Model	religious conservatism scale	Most easily endorsed items are based on the Quran Text. Women agree less with religious conservatism than men.	Limited to university students
3	Rushdi, N. A. A. M., Asbulah, L. H., Bakar, K. A., Lubis, F. A., & Aladdin, A. (2024),	Students' Motivation in Learning Arabic	Validate instrument on measuring motivation in learning Arabic	273 graduating students in Arabic majors	Cross-sectional Survey, Rasch Model	Student Motivation Learning Arabic (I-SMA)	I-SMA is reliable and valid tool for evaluating Malaysian students' motivation in Arabic learning	Bias towards Malaysian college students majoring in Arabic
4	Praptiningsih, N. A., Mulyono, H., Mil, S., Rohim, S., & Setiawan, B. (2024)	Evaluation of the psychometric properties of the homophobia scale in religious-based university students in Indonesia	to evaluate the psychometric properties of the homophobia scale	327 students aged 18–35	Survey, Rasch Model	Homophobia Scale	Age and study program showing differential item functioning (DIF)	Non-random sampling, limited to religion-based students
5	Abdullah, M. F., Nordin, M. S., Hussien, S., Alwi, N. M., & Rabe, N. S. (2023).	Validation of a Sejahtera Living Index Using the Rasch Model	Develop and validate instrument for measuring quality of life, happiness and well-being based on maqasid al-shari'ah	1,057 students and employees of a public university	Survey, Rasch Model	Sejahtera Living Index	Valid tool for measuring baseline well-being.	Bias towards one locality
6	Aziz, A. A., Abdullah, S. F. S., Nor, N. M. M., Noor, N. A. M., Abbas, M. S., & Yassin, Y. N. H. M. (2023).	Application of Rasch Model in Determining the Quality of the Malaysian Military Spirituality Assessment Instrument	Developed to measure four dimensions: i) appreciation of faith; ii) appreciation of worship; iii) moral appreciation; iv) the appreciation of Islam in the MAF Ikrar Kesatria.	400 Malaysian Armed Forces (MAF) Muslims in the Central Division	Survey, Rasch Model	INPERO	Highly reliable and valid	Non-random sampling
7	Evita, E., Sari, E. D. K., Susieni, E., & Tamam, B. (2023).	Analysis of item quality in religious education with Rasch modelling	to determine the quality of teacher-made tests in Islamic religious education (PAI) subjects.	216 respondents, using cluster random sampling.	Cross-sectional. Rasch Model	Islamic religious education	Pearson reliability of 0.83 and item reliability of 0.97, PAI test is excellent Item reliability 0.97;	Limit to religious studies
8	Wulandari, R. M., & Hidayat, R. (2023).	Materialism as Personality: Psychometric Properties Using	To access psychometric properties	505 students aged 18-25 years	Survey, Rasch Model	Materialistic Personality Scale	High reliability for items, medium	Non-probability convenient sampling,

		the Rasch Model					reliability of person	biased samples
9	Ishak, A. H., Awang, S. A., Yahaya, M. H., Moidin, S., & Sahri, M. (2022).	Determining the Construct Validity and Reliability of Philanthropic Behaviour Scale using Rasch Model	To determine validity and reliability of the instrument	104 respondents	Survey, Rasch Model	Philanthropic Behaviour Scale	High item and person reliability, 5/40 item misfit	Convenient sampling, biased sampling
10	Atmoko, A., Hambali, I. M., & Barida, M. (2022).	Applying the Rasch Model to develop the religious motivation scale for Junior high school students in the new normal era in Indonesia.	to develop a religious motivation scale instrument	2,880 students in junior high schools	ADDIE development research design.	Religious motivation scales	twelve items are fit, two items that misfits are: Low person reliability, high item reliability.	Redundant item of the same level of difficulty. There are overlap response category 1 to 4
11	Antara, P. M., & Musa, R. (2020).	Validating Islamic financial literacy instruments among MUM generation: Rasch analysis approach.	to develop a valid and reliable instrument to access Islamic financial literacy among MUM (Muslim Urban Millennial)	109 Muslim Urban Millennial	survey	Islamic Financial Literacy (IFL)	High reliability person and item, three items have a bias between gender	Limited to Muslim Urban Millennial (MUM)
12	Suryadi, B., Hayat, B., & Putra, M. D. K. (2020).	Evaluating psychometric properties of the Muslim Daily Religiosity Assessment Scale (MUDRAS)	To test validity of a Muslim Daily Religiosity Assessment	766 Muslim college students aged 17–24 years	Survey, Rasch Model	Muslim Daily Religiosity Assessment Scale (MUDRAS)	Showed strong reliability and fit to RMM, affirming relevance for Muslim cultural context	University population only
13	Alavi, K., Isa, K., & Palpanadan, S. T. (2020).	Application of Rasch Model on Resilience in Higher Education: An Examination of Validity and Reliability of Malaysian Academician Happiness Index (MAHI)	To examine reliability and validity of MAHI as predictors of resilience	40 lecturers	Survey, Rasch Model	Malaysian Academician Happiness Index (MAHI)	High item and person reliability. All item fit except one misfit	Convenient small sample size
14	Kassim, N. L. A., Badrasawi, K. J., & Ismail, N. Z. I. (2018)	Using many facets Rasch model to determine cut scores and resolve fundamental issues. Al-Shajarah	To determine cuts cores and resolve fundamental standard setting of just and balance principle of Al-mizan	14 judges	mix-method, Rasch Model	Grammar & Reading	Many-facets Rasch analysis computes the error of measurement with regard to judges' ratings for internal consistency	Small sample
15	Ishak, A. H., Ab Manan, S. K., Saidon, R., & Sahari, N. H. (2018).	Proposing Islamic Values Implementation in Workplace: Analysis via Rasch Model	To propose basic and advance Islamic values in workplace	59 management representatives, document controller or quality division staff	Survey, Rasch Model	Islamic value practice in organization	Measurement of Islamic values was achieved via Rasch Model profiling analysis on item difficulty.	Convenient sampling
16	Katip, K., Rameli, M. R., Noor, S. S. M., & Muhamad, A.	Restlessness among the pupils in Islamic Education Subject: Application model measurement	to identify students' experience anxiety level for Islamic Education	83 primary school students were selected by using random	Cross-sectional, Rasch Model	Restlessness in Islamic Education Subject Scales	Moderate level of anxiety in learning Islamic education.	Small sampling

	M. (2017).	Rasch	subject and to build a hierarchy of students' experience anxiety	sampling.			External stimulus rank the highest while action tendencies rank the lowest	
17	Ishak, A. H., Osman, M. R., Manan, S. K. A., & Saidon, R. (2016).	Rasch model scale calibration analysis for Islamic value.	To calibrate the respond category Islamic Values Quality management scale	59 respondents	Survey, Rasch Model	Islamic value quality management scales	Probability curve is redundant and overshadowed with Category 1 and 2	Small sample
18	Hisham, N. A., Badrasawi, K. J., & Kassim, N. L. A. (2015).	Indicators of Integration of Islamic Values in Human Knowledge.	To explore the psychometric properties of a set of indicators measuring the integration of Islamic values in the curriculum at IIUM using the Rasch Measurement Model	324 academic staff randomly selected from various faculty	Cross-sectional, Rasch Model		The Rasch analysis showed that overall item and person reliability values were very high. The item and person means measures were well matched	The instrument as it stands provides useful measures. Nonetheless, the items related to BI and SI and the gaps at the opposite ends of the scale require qualitative investigation.
19	Daher, A. M., Ahmad, S. H., Than, W. I. N. N., & Selamat, M. I. (2015).	Impact of rating scale categories on reliability and fit statistics of the Malay spiritual well-being scale using Rasch analysis.	To test the reliability of the scales category	150 simple random	Survey, Rasch Model	Malay spiritual well-being scale	person and item reliability and, to a lesser extent, the fit statistics, seemed better with six categories compared to four and three categories	Post -hoc analysis of different response category
20	Mohd, R., Kirana, K., Kamaruddin, B. H., Zainuddin, A., & Ghazali, M. C. (2014).	The mediatory effect of self-efficacy on the relationship between religious values and entrepreneurial orientations: A case of Malay owner managers of SMEs in manufacturing industry.	To test reliability and validity of the instrument used in study	162 small scale Malay SMEs.	Survey, Rasch Model	Islamic Religious Values Scales	High person and item reliability. variance explained by measure which was 53% indicate good construct validity	Limited to west coast Malaysia.

Results and Discussion

Population and Sample Characteristics

A total of 9,051 samples across various populations were involved in the 20 selected studies under this systematic review. Among the samples were 2,880 Indonesian junior high schools students, 1767 college Indonesian students, 1494 Malaysian university lectures and 377 Malaysian university students, 254 random adults, 974 Jordanian participants (Al-Qerem, 2024).

Types of Islamic Constructs Measured

Mental Health Literacy and Religious Conservatism

Mental health literacy and religious conservatism are crucial factors in understanding the psychological and behavioural dynamics within Islamic contexts. Al-Qerem et al., (2024) conducted a significant study in Jordan, utilizing the Rasch model to validate the Mental Health Literacy Scale (MHLS). The study highlighted the gender differences in mental health literacy, revealing that traditional beliefs and the role of family health significantly impact mental health understanding. This finding emphasizes the cultural nuances that influence how mental health information is perceived and processed. Similarly, Jamin and Damni (2024) focused on religious conservatism among university students in Indonesia. Their study developed a scale to measure religious conservatism, revealing that items based on Quranic texts were most easily endorsed by students. The findings also showed that women were less likely to agree with religious conservatism than men, highlighting gender-based differences in religious attitudes. Both studies highlight the importance of culturally relevant tools in assessing mental health and religious

conservatism, demonstrating how the Rasch model can effectively identify and address cultural and gender differences. These insights are vital for developing targeted interventions that respect and integrate cultural and religious contexts.

Motivation in Learning and Assessment in Religious Education

Motivation in learning and the assessment of religious education are pivotal in shaping educational outcomes within Islamic settings. Rushdi et al., (2024) validated the Student Motivation Learning Arabic (I-SMA) tool using the Rasch model, demonstrating its reliability and validity for evaluating Malaysian students' motivation in learning Arabic. This study highlights the importance of culturally adapted tools in accurately measuring student motivation, ensuring that assessments are relevant and reflective of the students' cultural context. Evita et al., (2023) conducted a study on the quality of teacher-made tests in Islamic religious education, applying Rasch modeling to determine the tests' reliability. The findings indicated high reliability, with Pearson reliability of 0.83 and item reliability of 0.97, emphasizing the effectiveness of these tests in assessing student learning in religious education. However, the study's limitations, such as its focus on religious studies, suggest the need for broader applicability to other educational contexts. Both studies illustrate the Rasch model's utility in validating educational instruments, ensuring that they are both reliable and culturally appropriate. These validated tools are essential for improving educational practices and outcomes, particularly in religious education settings where cultural relevance is paramount.

Quality of Life and Spirituality

The measurement of quality of life and

spirituality is crucial in understanding well-being within Islamic contexts. Abdullah et al., (2023) developed the Sejahtera Living Index to measure quality of life, happiness, and well-being based on Maqasid al-Shariah principles. Using the Rasch model, the study found the index to be a valid tool for assessing well-being, emphasizing the importance of integrating Islamic principles in well-being assessments. This approach ensures that the measures are culturally and religiously relevant, providing accurate reflections of individuals' well-being within an Islamic framework. Similarly, Aziz et al., (2023) developed the Malaysian Military Spirituality Assessment Instrument (INPERO) for the Malaysian Armed Forces, finding it to be highly reliable and valid. This instrument measures various dimensions of spirituality, reflecting the unique needs and contexts of military personnel. Both studies highlight the importance of culturally and contextually tailored instruments in assessing well-being and spirituality. The Rasch model's application in these studies ensures the reliability and validity of the measures, providing robust tools for understanding and improving quality of life and spirituality within specific populations.

Philanthropy and Behavioural Assessment

Assessing prosocial behaviours, such as philanthropy, and other behavioural constructs is essential in understanding and promoting positive behaviours within Islamic contexts. Ishak et al., (2022) investigated the Philanthropic Behaviour Scale using the Rasch model, finding high item and person reliability, although some items showed misfit. This study highlights the importance of reliable measures in assessing philanthropic behaviours, ensuring that the instruments accurately reflect individuals' prosocial tendencies. Atmoko et al., (2022) developed a religious motivation scale for junior high

school students, finding that while twelve items fit well, some items showed redundancy. The Rasch model's application in this study ensured the reliability of the scale, providing a robust tool for measuring religious motivation among students. Both studies emphasize the need for contextually relevant and reliable instruments in assessing prosocial and behavioural constructs. The Rasch model's ability to identify misfit items and ensure the reliability of the measures is crucial for developing accurate and effective assessment tools. These validated instruments are essential for promoting and understanding positive behaviours within Islamic communities.

Workplace Values and Integration of Islamic Values

The integration of Islamic values in various settings, including workplaces and educational curriculum, is pivotal in ensuring that practices align with cultural and religious principles. Studies by Ishak et al., (2018, 2016) and Hisham et al., (2015) focused on this integration using the Rasch model. Ishak et al., (2018) proposed the implementation of basic and advanced Islamic values in workplaces, finding reliable measurement through Rasch model profiling. This study underscores the importance of incorporating Islamic values in workplace practices to ensure they reflect core religious principles. Similarly, Hisham et al., (2015) explored the psychometric properties of indicators measuring the integration of Islamic values in curricula at the International Islamic University Malaysia (IIUM). The study found high item and person reliability, indicating the instrument's effectiveness in assessing the integration of Islamic values in educational settings. These studies highlight the Rasch model's utility in ensuring the reliability and validity of measures that reflect Islamic values. Developing such

instruments is essential for promoting practices that align with cultural and religious principles, ensuring that both workplace and educational environments are conducive to the values and beliefs of the community.

Evidence of Reliability of Islamic Instruments

The reliability of measurement scales is a fundamental aspect of developing robust instruments within Islamic contexts. Daher et al., (2015) tested the reliability of the Malay Spiritual Well-Being Scale's rating categories, finding that six categories provided better reliability compared to fewer categories. This study highlights the importance of refining rating scales to enhance their reliability and applicability. Mohd et al., (2014) examined the relationship between religious values and entrepreneurial orientation among Malay SMEs, finding high reliability and good construct validity. Their study highlights the importance of reliable measures in assessing the impact of religious values on entrepreneurial behaviours. Both studies illustrate how the Rasch model can be used to refine and validate measurement scales, ensuring their reliability and accuracy. Addressing the reliability of these scales is crucial for developing instruments that accurately reflect the constructs they are intended to measure, providing valuable insights into various aspects of behaviour and well-being within Islamic contexts.

Differential Item Functioning (DIF) and Cultural Considerations

Most of the selected studies highlighted the influence of cultural and religious contexts on the validity and reliability of measurement tools. For instance, Al-Qerem et al., (2024) emphasized how traditional beliefs and family health roles impact mental health literacy in Jordan, suggesting that culturally tailored

instruments are necessary for accurate assessment. Jamin and Damni (2024) found that gender differences in religious conservatism among Indonesian students were influenced by cultural norms and Quranic teachings. These findings highlight the importance of developing culturally relevant tools that accurately reflect the values, beliefs, and practices of the target population. Additionally, the Sejahtera Living Index (Abdullah et al., 2023) and the Malaysian Military Spirituality Assessment Instrument (Aziz et al., 2023) exemplify how integrating Islamic principles into measurement tools can provide a more holistic and accurate understanding of well-being and spirituality. These cultural considerations are crucial for ensuring that instruments are both relevant and effective in the contexts in which they are applied.

Limitation of Islamic Instruments Using Rasch model

Methodological Considerations

The review also identified several methodological considerations critical for applying the Rasch model in the validation of Islamic instruments. One significant finding was the necessity of addressing sample diversity and representativeness to enhance the generalizability of study results. Studies such as those by Praptiningsih et al., (2024) and Wulandari and Hidayat (2023) highlighted the impact of sample biases on the reliability of measurement tools. For example, the Homophobia Scale exhibited differential item functioning based on age and study program, indicating the need for careful consideration of demographic factors in instrument development. Additionally, studies by Rushdi et al., (2024) and Evita et al., (2023) demonstrated the importance of using robust sampling methods to ensure the reliability of educational assessments. Methodological rigor in

instrument design, such as ensuring high item and person reliability (as seen in the studies on the Philanthropic Behaviour Scale and the Materialistic

Personality Scale), was also emphasized. Furthermore, addressing potential biases in measurement tools, such as gender bias in the Islamic financial literacy instrument (Antara & Musa, 2020), is essential for developing fair and accurate assessments. These methodological considerations are vital for ensuring the validity, reliability, and applicability of instruments across diverse Islamic contexts.

Psychometric Properties and Bias in Measurements

Psychometric properties and potential biases are critical considerations in developing and validating measurement tools. Studies by Praptiningsih et al., (2024) and Wulandari & Hidayat (2023) focused on these aspects within Islamic contexts. Praptiningsih et al., (2024) evaluated the psychometric properties of the Homophobia Scale among Indonesian students, revealing Differential Item Functioning (DIF) based on age and study program. This finding highlights the need to consider various demographic factors when developing and validating measurement tools to ensure their accuracy and fairness. Similarly, Wulandari and Hidayat (2023) examined the psychometric properties of the Materialistic Personality Scale, finding high item reliability but medium person reliability. Their study highlighted issues with sample representativeness and reliability, emphasizing the importance of addressing these factors to ensure the validity of the measurements. Both studies illustrate how the Rasch model can identify and address potential biases in measurement tools, ensuring that they accurately reflect the constructs they are intended to measure. Addressing these

biases is essential for developing fair and reliable instruments, particularly in culturally diverse contexts.

Implications for Islamic Psychology and Counseling

Cultural Relevance and Sensitivity

The findings emphasize the importance of culturally aligned psychometric tools in Islamic psychology, particularly in counseling and therapeutic contexts. Instruments validated through Rasch model provide practitioners with reliable measures that reflect the values and beliefs of Muslim clients. For instance, tools that consider traditional beliefs and family health roles, as found by Al-Qerem et al., (2024), are crucial for accurately assessing mental health literacy. In counseling settings, it is essential to use instruments that reflect the cultural and religious context of the clients, ensuring that the assessments are relevant and resonate with their lived experiences. This cultural sensitivity can enhance the effectiveness of counseling interventions by building trust and rapport with clients.

Gender Differences and Tailored Interventions

The gender differences identified in studies on religious conservatism and other constructs indicate the necessity of gender-sensitive approaches in Islamic psychology and counseling. For example, Jamin and Damni (2024) found that women were less likely to agree with religious conservatism compared to men. Counseling interventions should therefore be tailored to address these differences, providing support that acknowledges and respects the diverse perspectives within the community. Gender-sensitive interventions can help in addressing specific needs and promoting more equitable outcomes in psychological well-being and religious

understanding.

Future Directions

The findings from this systematic review suggest several avenues for future research and application in developing Islamic psychometric instruments using the Rasch model. These directions focus on enhancing cultural relevance, improving model adaptability for complex constructs, and promoting empirical validation across diverse Muslim populations. Future research can build on the existing framework by addressing the following areas:

Expanding Cultural Sensitivity and Relevance

To fully realize the potential of Islamic psychometrics, future studies should prioritize culturally nuanced item development and validation processes. Since many Islamic constructs carry unique meanings in various cultural contexts, adapting instruments for specific Muslim-majority countries or diverse subgroups within the global Muslim community is crucial. Incorporating local language expressions, cultural references, and region-specific religious practices could improve the cultural sensitivity of these measures and enhance their applicability across diverse settings (El Alaoui et al., 2018; Haque et al., 2018). For example, future studies might examine how concepts like *iman* and *taqwa* are perceived differently in regions such as Southeast Asia compared to the Middle East, adapting item wording and interpretation accordingly (Hassan, 2022; Hassan et al., 2008).

Development of Multidimensional Measures

As the Rasch model has shown strong unidimensional scaling capabilities, there

is an opportunity to expand its use to multidimensional constructs. Islamic well-being, for instance, includes spiritual, social, and psychological dimensions, and future research could investigate the applicability of the multidimensional Rasch model or related item response theories to capture these complexities (Hambleton et al., 2005; Briggs & Mark, 2003). This advancement would allow researchers to model the sophistication of hierarchical dimensions like spiritual growth and psychological health, which may align with holistic Islamic perspectives of well-being (Al-Karam, 2018, Hassan, 2022). Integrating these dimensions into psychometric tools can lead to more accurate, contextually relevant assessments that support comprehensive counselling and therapeutic practices.

Cross-cultural Validation and Differential Item Functioning (DIF) Studies

Given the vast diversity within the Muslim population globally, cross-cultural validation remains essential. Future research should focus on conducting differential item functioning (DIF) analyses across various demographic and cultural subgroups to identify and address any biases in how items are interpreted (Hambleton et al., 2005). This effort is particularly important for tools designed to assess values or beliefs that may be context-sensitive, such as differing approaches to religious practices or varying levels of conservatism among Muslim communities. A robust DIF analysis can enhance fairness (Boone et al., 2014) and ensure that Islamic psychometric instruments provide accurate and equitable assessments across varied cultural settings.

Integration of Islamic Psychology with Western Models

Although the Rasch model has facilitated the development of culturally relevant Islamic instruments, future work should explore integrating Islamic principles with Western psychometric and psychological models. For example, combining Islamic spirituality with established psychological constructs, such as resilience or emotional intelligence, could yield innovative assessment tools that are both culturally relevant and scientifically robust (Hodge, 2003; Hassan 2022, Ahmed et al., 2024). The integration of Islamic and Western psychological frameworks could create more versatile tools for use in both academic research and clinical practice, promoting broader acceptance and application in multicultural contexts.

Empirical Evaluation in Clinical and Counselling Settings

To maximize practical applicability, future research should evaluate these instruments within clinical and counselling settings (Jais et al., 2024). Studies that examine how Islamic psychometric tools perform in real-world applications, such as assessing client well-being or tracking therapeutic progress, will provide valuable insights into their effectiveness and utility. Trials and longitudinal studies in counselling centres or mental health clinics in Muslim-majority regions would yield empirical data on the efficacy of these instruments in guiding interventions and therapeutic outcomes. Such studies can also help determine the feasibility of using these instruments in routine psychological assessments and treatment planning.

Educational and Training Implications

Finally, advancing Islamic psychometrics has significant implications for education and training in Islamic counselling and psychology. Future research should explore the integration of these instruments into educational programs for

counsellors, psychologists, and educators in Muslim-majority contexts. Incorporating psychometrically sound Islamic tools into training curricula would enable practitioners to better understand and respect the religious and cultural values of Muslim clients, ultimately fostering more effective and empathetic therapeutic relationships (Haque et al., 2018). Additionally, research on the impact of culturally aligned psychometric training could further validate the importance of these tools in counselling education.

Conclusion

In conclusion, the application of Rasch model to Islamic psychometric instruments represents a promising advancement in culturally informed psychological assessment. The findings suggest that Rasch model is not only effective in creating rigorous, standardized measures but also adaptable to the unique needs of Muslim-majority settings. Moving forward, continued interdisciplinary collaboration and empirical validation will be essential in establishing a robust foundation for Islamic psychometrics, ultimately contributing to more inclusive, faith-sensitive approaches in psychological practice. This review calls for ongoing research and innovation to expand the scope and impact of Islamic psychometric instruments, ensuring they meet the diverse needs of Muslim communities worldwide.

References

Abdullah, M. F., Nordin, M. S., Hussien, S., Alwi, N. M., & Rabe, N. S. (2023). Validation of a sejahtera living index using the Rasch model. *Intellectual Discourse*, 31(1), 7-30.
<https://doi.org/10.31436/id.v31i1.1933>

Abu Bakar, K. (2023). Just Measurement

and Evaluation in the Islamic Worldview. *International Journal of Advanced Research (IJAR)*, 11(Aug), 873-877.

Alavi, K., Isa, K., & Palpanadan, S. T. (2020). Application of Rasch model on resilience in higher education: An examination of validity and reliability of Malaysian academician happiness index (MAHI). *International Journal of Higher Education*, 9(4), 261-271.

Al-Karam, C. Y. (Ed.). (2018). *Islamically integrated psychotherapy: Uniting faith and professional practice*. Templeton Press.

Al-Qerem, W., Jarab, A., Khmour, M., Eberhardt, J., Alasmari, F., Hammad, A., & Khalil, S. (2024). Assessing mental health literacy in Jordan: A factor analysis and Rasch analysis study. *Frontiers in Public Health*, 12, 1396255. <https://doi.org/10.3389/fpubh.2024.1396255>

Antara, P. M., & Musa, R. (2020). Validating Islamic financial literacy instruments among mum generation: Rasch analysis approach. *International Journal of Business and Society*, 21(3), 1113-1121.

Atmoko, A., Hambali, I. M., & Barida, M. (2022). Applying the Rasch model to develop the religious motivation scale for Junior high school student. *Pegem Journal of Education and Instruction*, 12(2), 142-148.

Aziz, A. A., Abdullah, S. F. S., Nor, N. M. M., Noor, N. A. M., Abbas, M. S., & Yassin, Y. N.H. M. (2023). Application of Rasch model in determining the quality of the Malaysian Military spirituality assessment instrument. *Journal of Pharmaceutical Negative Results*, 14(2), 2542-2550.

BMJ 2021;372:n71. The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. <https://doi.org/10.1136/bmj.n71>

Bond, T. G., & Fox, C. M. (2015). *Applying the Rasch model: Fundamental measurement in the human sciences*. Psychology Press.

Boone, W. J., Staver, J. R., & Yale, M. S. (2014). *Rasch analysis in the human sciences*. Springer.

Bouhlila, D. S., & Hentati, I. (2024). Exploring students' sense of school belonging among adolescents across muslim countries. *Journal of Education in Muslim Societies*, 6(1), 32-54.

Briggs, Derek & Wilson, Mark. (2003). An introduction to multidimensional measurement using Rasch models. *Journal of Applied Measurement*. 4(1), 87-100. https://nepc.colorado.edu/sites/default/files/Briggs&Wilson_IntrotoMultidimensionalMeasurement.pdf

Daher, A. M., Ahmad, S. H., Than, W. I. N. N., & Selamat, M. I. (2015). Impact of rating scale categories on reliability and fit statistics of the Malay spiritual well-being scale using Rasch analysis. *The Malaysian Journal of Medical Sciences: MJMS*, 22(3), 48.

El Alaoui, K., Pilotti, M., Mulhem, H., Tallouzi, E. & Al Mqbas, M. (2018). The role of language and cultural orientation in guilt and shame experienced by bilingual female speakers. *Journal of Muslim Mental Health*, 11(2), 17-45. <http://dx.doi.org/10.3998/jmmh.10381607.0011.202>

Ghani, F. A., Latif, A. A., Aziz, A. A., & Khan, A. (2014). Validity and reliability analysis of the 'SayangKU'(MyLove) in intervention for addressing adolescents

involved in free sex. *Online Journal of religion and health*, 54, 1375-1386.

Grant, M. J., & Booth, A. (2009). A typology of reviews: An analysis of 14 review types and associated methodologies. *Health Information & Libraries Journal*, 26(2), 91-108. <https://doi.org/10.1111/j.1471-1842.2009.00848.x>

Hambleton, R. K., & Jones, R. W. (1993). Comparison of classical test theory and item response theory and their applications to test development. *Educational Measurement: Issues and Practice*, 12(3), 38-47. <https://doi.org/10.1111/j.1745-3992.1993.tb00543.x>

Hambleton, R. K., Merenda, P. F., & Spielberger, C. D. (2005). *Adapting educational and psychological tests for cross-cultural assessment*. Lawrence Erlbaum Associates.

Haque, A., Khan, F., Keshavarzi, H. & Rothman, A. E. (2016). Integrating Islamic traditions in modern psychology: Research trends in last ten years. *Journal of Muslim Mental Health*, 10(1), 75-100. <https://doi.org/10.3998/jmmh.10381607.0010.107>

Haque, A., Khan, F., Keshavarzi, H., & Rothman, A. E. (2016). Integrating Islamic traditions in psychotherapy: Challenges and prospects. *Journal of Religion and Health*, 55(2), 623-634. <https://doi.org/10.1007/s10943-014-9823-6>

Harden, A., Garcia, J., Oliver, S., Rees, R., Shepherd, J., & Brunton, G. (2004). Applying systematic review methods to studies of people's views: an example from public health research. *Journal of Epidemiology & Community Health*, 58(9), 794-800.

Hassan, S. A., Abdullah, A. S., Ishak, N., & Langgulung, H. (2008). Measuring the unmeasurable: Maternal piety scales. *Pertanika Journal of Social Sciences & Humanities*, 16(1), 97-107.

Hassan, S.A. (2022). *Pleased and pleasing: Islamic family counseling and mental health*. Universiti Putra Malaysia Press.

Hermisson, S., Gochyyev, P., & Wilson, M. (2019). Assessing pupils' attitudes towards religious and worldview diversity—development and validation of a nuanced measurement instrument. *British Journal of Religious Education*, 41(4), 371-387

Higgins, J. P. T., & Green, S. (Eds.). (2011). *Cochrane handbook for systematic reviews of interventions*. John Wiley & Sons.

Hisham, N. A., Badrasawi, K. J., & Kassim, N. L. A. (2015). Indicators of integration of Islamic values in human knowledge. In *Pacific Rim Objective Measurement Symposium (PROMS) 2014 Conference Proceedings: Rasch and the Future* (pp. 51-63). Springer. https://doi.org/10.1007/978-3-662-47490-7_5

Hodge, D. R. (2003). The intrinsic spirituality scale: A new six-item instrument for assessing the salience of spirituality as a motivational construct. *Journal of Social Service Research*, 30(1), 41-61. https://doi.org/10.1300/J079v30n01_03

Ishak, A. H., Ab Manan, S. K., Saidon, R., & Sahari, N. H. (2018). Proposing Islamic values implementation in workplace: Analysis via Rasch model. *International Journal of Engineering & Technology*, 7(4.38), 1345-1349.

Ishak, A. H., Awang, S. A., Yahaya, M.

H., Moidin, S., & Sahri, M. (2022). Determining the construct validity and reliability of philanthropic behaviour scale using Rasch model. *International Journal of Asian Social Science*, 12(10), 438-448.

Ishak, A. H., Osman, M. R., Manan, S. K. A., & Saidon, R. (2016). Rasch model scale calibration analysis for Islamic value. *International Review of Management and Marketing*, 6(7), 11-16.

Ishak, Amal Hayati & Osman, Muhamad & Ab Manan, Siti & Saidon, Rafeah. (2016). Rasch model scale calibration analysis for Islamic value. *International Review of Management and Marketing*. 6. 11-16.

Jais, S. M., Mohaiyuddin, N., Bistamam, M. N., Arip, M. A. S. M., & Othman, M. K. (2024). Adolescent mental health interventions: A review of psychological and an Islamic approach. *Global Journal Al-Thaqafah*, 14(1), 50-61.

Jamin, A., & Damni, A. (2024). The scale of religious conservatism among Muslim students in Indonesia: A Rasch Analysis. *HTS Teologiese Studies/Theological Studies*, 80(1), 9134.

Kassim, N. L. A., Badrasawi, K. J., & Ismail, N. Z. I. (2018). Using many facets Rasch model to determine cut scores and resolve fundamental issues. *Al-Shajarah: Journal of the International Institute of Islamic Thought and Civilization (ISTAC)*, 25-48.

Katip, K., Rameli, M. R., Noor, S. S. M., & Muhamad, A. M. (2017). Restlessness among the pupils in Islamic education subject: Application model measurement Rasch. *UMRAN-Journal of Islamic and Civilizational Studies*, 4(2), 45-55.

Liberati, A., Altman, D. G., Tetzlaff, J., Mulrow, C., Gotzsche, P. C., Ioannidis, J.

P., Clarke, M., Devereaux, P. J., Kleijnen, J., & Moher, D. (2009). The PRISMA statement for reporting systematic reviews and meta-analyses of studies that evaluate healthcare interventions: explanation and elaboration. *PLOS Medicine*, 6(7), e1000100.
<https://doi.org/10.1371/journal.pmed.1000100>

Mohd, R., Kirana, K., Kamaruddin, B. H., Zainuddin, A., & Ghazali, M. C. (2014). The mediatory effect of self-efficacy on the relationship between religious values and entrepreneurial orientations: A case of Malay owner managers of SMEs in manufacturing industry. *Procedia-Social and Behavioral Sciences*, 130, 96-104.

Moher, D., Liberati, A., Tetzlaff, J., & Altman, D. G. (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. *PLoS Medicine*, 6(7), e1000097.
<https://doi.org/10.1136/bmj.b2535>

Petticrew, M. & Roberts, H. (2006). *Systematic reviews in the social sciences: A practical guide*. Blackwell Publishing.
<https://psycnet.apa.org/doi/10.1002/9780470754887>

Praptiningsih, N. A., Mulyono, H., Mil, S., Rohim, S., & Setiawan, B. (2024). Evaluation of the psychometric properties of the homophobia scale in religious-based university students in Indonesia. *Acta Psychologica*, 249, 104474.

Rippy, A. E., & Newman, E. (2008). Adaptation of a scale of race-related stress for use with Muslim Americans. *Journal of Muslim Mental Health*, 3(1), 53-68.
<https://doi.org/10.1080/15564900802035292>

Rushdi, N. A. A. M., Asbulah, L. H., Bakar, K. A., Lubis, F. A., & Aladdin, A. (2024, August). Rasch analysis of

students' motivation in learning Arabic instrument (I-SMA) for Malaysian universities. In Proceedings of the Pacific-Rim Objective Measurement Symposium (p. 299). Springer Nature.

Suryadi, B., Hayat, B., & Putra, M. D. K. (2020). Evaluating psychometric properties of the Muslim Daily Religiosity Assessment Scale (MUDRAS) in Indonesian samples using the Rasch model. *Mental Health, Religion & Culture*, 23(3-4), 331-346.

Tahir, N.S., Ahmad, K. and Abd Manaf, N.H. (2015) The managers' perception on importance of religiosity and corporate social responsibility in Malaysia. *Journal of Administrative Science*, 12(1), 73-86.

Wulandari, R. M., & Hidayat, R. (2023). Materialism as personality: psychometric properties using the Rasch model. *Jurnal Psikologi*, 50(2). 157-175.