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Adopting the Mindfulness During Worship Scale as the Khusyu' Measurement for Indonesian Muslims

Muhammad Fakhruddin Al-Razi[1], Imam Amrusi Jailani[2], Triyanti Nurkhikmah[3]

Universitas Negeri Surabaya[1], Universitas Islam Negeri Madura[2], Universitas PTIQ Jakarta[3]

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Abstract. *Khusyu', as the core of devotion and religiosity, has received limited empirical attention in behavioral measurement research. This study aimed to adapt the Mindfulness During Worship Scale (MWS; Yousaf et al., 2022) into an Islamic context and to examine its psychometric properties among Indonesian Muslims. A quantitative design was employed, involving 220 adult Muslims in Yogyakarta, who were recruited through convenience sampling and completed an online questionnaire. The adaptation process involved translation, expert judgment, contextual modification, and pilot testing to ensure conceptual and linguistic equivalence. Data were analyzed using Exploratory Factor Analysis (EFA), Confirmatory Factor Analysis (CFA), and Item Response Theory (IRT). The EFA revealed four distinct factors—cognitive, affective, spiritual, and reflective—differing from the original three-factor model. The CFA supported the four-factor model as superior (χ^2/df = 2.21, CFI = 0.924, RMSEA = 0.067), confirming structural divergence within the Islamic context. Item analysis revealed that most items had acceptable factor loadings (0.50–0.82), with a few below 0.50. In contrast, IRT results demonstrated adequate item fit (MNSQ = 0.79–1.21) and balanced difficulty levels. Overall, the adapted scale demonstrated satisfactory psychometric properties and revealed an additional spiritual dimension that integrates cognitive focus, emotional regulation, and divine awareness. These findings highlight khusyu' as an indigenous form of mindfulness and emphasize the need for culturally grounded approaches in psychological measurement of religious experience.*

Keywords*: Adaptation; khusyu'; mindfulness; psychometric; salah prayer*

INTRODUCTION

As the essence of prayer, *khusyu'* in Islam is less balanced with the development trend of scientific literature production related to it, especially in psychology, as a very related scientific field (Romadhon, 2019). Among the existing works on *khusyu'*, the religious point of view dominates the psychological scientific paradigm (Al-Razi & Azhar, 2024). Similarly, in most classical literature on *khusyu'*, the mode of study presented is more mysticism, historical, and jurisprudential (Aldahadha, 2023). On an international level, researchers rarely use the term *khusyu'*. The term *khusyu'* in psychological studies is widely mentioned with the terms: mindfulness in prayer, mindful awareness during prayer, or mindfulness during worship and prayer (Callender et al., 2022; Ijaz et al., 2017; Yousaf et al., 2022).

Although *khusyu'* has become a topic of study for some researchers, the concept of *khusyu'* measurement is still very minimal (Al-Razi & Nashori, 2025). The existence of a scientifically

***Corresponding author:** muhammadalrazi@unesa.ac.id

arranged measurement concept will certainly contribute theoretically to the empirical study of religious practice, especially in the context of worship in Islamic teachings (Chen et al., 2021). Formulating measurable dimensions and objective indicators will make khusyu quality easier to assess. Even practically, an empirical concept of *khusyu'* measurement can accommodate the needs of Muslims' understanding of *khusyu'*. Clear concepts of measurement will provide the foundation for future research on what factors contribute to and hinder the attainment of *khusyu'* in prayer, with the expectation that this will lead to a deeper understanding of how *khusyu'* can be most effectively accomplished (Latuapo, 2021; Romadhon, 2019). In the context of Indonesia, as a Muslim-majority country, this urgency becomes even more apparent, given the need for Muslims to understand *khusyu'* both normatively, practically, and scientifically.

When looking at trends in the measurement of worship, several measurement concepts tend to investigate the intensity and type of worship (Zarzycka et al., 2022), such as the Multidimensional Prayer Inventory, which measures aspects of frequency, duration, type, and level of individual confidence in a worship practice (Laird et al., 2004). The same scale was developed into the context of Israeli Jewish tradition by adding a new type of worship to its measurements: ritual or habitual worship (Lazar, 2014). In another study, the same scale was adopted for the Polish sample and was associated with two other variables: religiosity and well-being (Zarzycka et al., 2022). Of these three studies using the same measurement concept model, all were conducted with non-Muslim samples. Another study on the measurement of worship has also been carried out in the context of a Muslim sample, but with the same measurement concept, it still tends to measure worship as verbal or active (Chen et al., 2021). Thus, it can be said that the trend toward measurement concepts that focus on the appreciation and deepening of worship practices remains very limited. Although the frequency and type of worship are important, they tend to measure only the visible or outer shell of worship. Therefore, this study aims to address gaps in research on measuring appreciation and deepening in worship practices, particularly in the context of Islamic teachings and traditions.

Based on the urgency, this study aims to adapt the Mindfulness During Worship Scale (MWS) Yousaf et al., (2022) to the context of Indonesian Muslim prayer as a measurement tool for *khusyu'*. This scale was chosen because it is theoretically close to the concept of *khusyu'*, especially in the dimensions of attention and mental presence during worship. This study specifically sought to contextualize the items to align with the practice of prayer, test the internal validity and reliability of the adapted scale across different age groups, and examine its construct structure through exploratory and confirmatory factor analysis. In addition, this study also evaluated the external validity of the scale through concurrent validity tests with the religiosity and spirituality constructs, as well as discriminant validity against the regular mindfulness scale. In addition, the study also assessed the conceptual fit between the MWS mindfulness construct and the concept of *khusyu'* in the Islamic tradition.

Khusyu' as Mindfulness: Concept and Dimensions

Khusyu' is an important part of Islamic worship that focuses on how deeply and sincerely a Muslim is praying. In Islam, *khusyu'* means being entirely focused and surrendered to Allah during worship (Al-Razi & Mukti, 2025; Al-Razi & Nashori, 2025). The mental feature of *khusyu'* is concentration and appreciation (Shihab, 2021). It is when a person devotes his attention wholeheartedly to every movement and recitation in prayer while contemplating the meanings (Aldahadha, 2023; Al-Munajjid, 2004; At-Thahtawi, 2003; Ijaz et al., 2017). It also means that a person is trying to keep the mind free of distractions that might disturb concentration during prayer (Al-Munajjid, 2004). Thus, *khusyu'* is a complex psychological experience, encompassing cognitive (attention), affective (appreciation), and spiritual (awareness of the Divine presence) aspects.

In contemporary psychology, a similar concept to *khusyu'* is often linked to the idea of mindfulness. It means being fully aware of what is experienced in the moment and accepting it with an open mind, without being too critical of oneself (Kabat-Zinn, 2003; Siegel et al., 2009). Mindfulness is the ability to focus on the present and be aware of one's thoughts and feelings (Daniel et al., 2023). In the context of religion, mindfulness has been widely studied in Buddhism, particularly through meditation,s a way to train the mind and achieve peace and self-awareness (Lee et al., 2024). Studies have also found similar practices in other religions, including Islam. In Islam, worship is all about focusing on God, controlling one's thoughts, and being aware of the spiritual connection (Yousaf et al., 2022).

According to Islamic psychologists, mindfulness has a lot in common with other spiritual concepts, including *muraqabah* (meaning awareness of Allah's supervision), as well as *tafakur* (which is to reflect deeply on the meaning of life and Allah's creation) and *ihsan* (worshipping as if one can see Allah) (Hoque, 2016; Rothman & Coyle, 2018). These practices encourage self-awareness and inner peace, with a meaning similar to mindfulness but with a deeper spiritual orientation. According to (Thomas et al., 2017), in religion, mindfulness refers to spiritual mindfulness, which involves being fully aware and appreciating the presence of a higher power. In this context, *khusyu'* is a type of Islamic mindfulness that describes a state of complete awareness focused on a spiritual connection with Allah, not just on oneself or one's surroundings.

As a form of mindfulness, *khusyu'* differs from the concept of mindfulness in general. The fundamental difference lies in the context in which attention is paid and in the presence of a spiritual focus in awareness. In *khusyu'*, the attention is specifically directed to the activity of prayer, whereas mindfulness outside of prayer is not terminologically called *khusyu'*. Thus, *khusyu'* is etymologically called mindfulness during worship (Aldahadha, 2023; Yousaf et al., 2022). Another aspect of *khusyu'* besides awareness and attention to the prayer is awareness of divine presence during the prayer (Ijaz et al., 2017). This point also highlights an important distinction between mindfulness in the religious context and its general definition (Hapsari, 2025; Mubarok & Agustina, 2024)

In relation to khusyu as a form of mindfulness practice, Yousaf et al., (2022) developed the Mindfulness during Worship Scale (MWS) with three dimensions: attention, feelings of presence, and appreciation during prayer. This concept will then be adopted and contextualized as a measurement of *khusyu'* in this study

METHOD

Participants

The present study's population comprised 220 Muslim respondents residing in Yogyakarta, who were recruited through convenience sampling. The inclusion criteria were met by adult Muslims who regularly perform the Salah prayer. The data were collected via an online survey distributed via Google Forms, a platform designed to facilitate broad reach and efficient distribution. Informed consent was obtained from respondents prior to the administration of the survey, and they were instructed to confirm the honesty and independent nature of their responses, with assurances that external factors had not influenced them.

The demographic distribution is presented in Table 1. The participants were comprised of 109 males (49.5%) and 111 females (50.5%), with the participants' ages divided into four categories: 15–20 years (15%), 21–25 years (36%), 26–30 years (31%), and above 30 years (18%). This grouping enabled subsequent analysis to determine the age range during which the adapted MWS items functioned optimally.

Table 1.
Demographic Data

Category	Variable	Percentage
Respondents	N	100%
Gender	Male	49,5%
	Female	50,5%
Age Range	15-20 (G1)	15%
	21-25 (G2)	36%
	26-30 (G3)	31%
	Over 30 (G4)	18%

Procedure of Adaptation

The adaptation of the Mindfulness in Worship Scale (MWS) for the purpose of measuring *khusyu'* in Salah prayer was carried out in accordance with established guidelines for cross-cultural adaptation (Beaton et al., 2000). This process was carried out methodically in several sequential steps to ensure conceptual, semantic, and cultural equivalence between the original version and its adaptation.

The adaptation process began with a thorough review of the MWS structure and dimensions as delineated by (Yousaf et al., 2022). The theoretical suitability of MWS for measuring *khusyu'* was assessed in light of its multidimensional nature, which involves concentration, appreciation, and the experience of presence during worship. Secondly, the original English version of MWS was translated into Indonesian by two independent bilingual translators. Both translators demonstrated fluency in both English and Indonesian, as well as a familiarity with psychological terminology and Islamic prayer contexts. The research team, comprising experts in psychology (initial author), statistics (secondary author), and religious studies (tertiary author), conducted a joint review of both translations. Through a collaborative process of discussion and consensus, the two versions were synthesized into a unified Indonesian version that preserved semantic and conceptual equivalence. The adaptation carried out in this study is to contextualize the items in MWS within the context of the Salah prayer in Islam, without changing the number of items in MWS. This contextualization process is carried out through interdisciplinary collaboration among the three authors, each with a background in psychology (first author), statistics (second author), and religious studies (third author).

Before the scale was implemented in the main study, pilot testing was conducted with 10 adult Muslim respondents who regularly pray. This pilot test aimed to evaluate the extent to which the items in the adapted scale were clearly understood and relevant to the experience of *khusyu'* in prayer. During this process, cognitive interviews were conducted to explore participants' understanding of each item, including how they interpreted its meaning and whether the context was relevant to their spiritual experience during prayer.

Instrument

This study aims to provide a measurement concept of *khusyu'* by adopting MWS (Yousaf et al., 2022) as a scale that captures the descriptions of *khusyu'* in the Salah prayer. On its original scale, MWS measures mindfulness in the context of worship and was tested on a sample of Christian communities. MWS is a multidimensional construct that contains three dimensions: concentration during worship (MWS-CW), appreciation of worship (MWS-AW), and attendance during worship

(MWS-PW). MWS-CW, as the first dimension, represents the tendency of attention to slip towards activities unrelated to worship. MWS-AW, the second dimension, covers increased awareness of thoughts and feelings about engagement in worship. MWS-PW, the third dimension, includes comparisons in increased awareness of thoughts and feelings during and outside worship. Each dimension has five items, so if all three are totaled, it will be 15 items (Yousaf et al., 2022).

Previous MWS tests on Christian community samples yielded some statistically well-tended properties. The resulting internal reliability or consistency indicates that a scale has a sufficient value. MWS-CW has a value of $\alpha = 0.82$, MWS-AW produces $\alpha = 0.78$, and MWS-PW produces $\alpha = 0.69$. Although the MWS-PW dimension shows an average result, the overall MWS shows $\alpha = 0.87$. Similarly, regarding validity, MWC also showed strong positive correlations with several other mindfulness measures (Yousaf et al., 2022).

The adoption of MWS as a *khusyu'* measurement tool is based on the theoretical assumption that the concept is approximately in accordance with *khusyu'*. In addition, the number of items is relatively small, making it a shorter and more efficient measurement tool. Shortened scales can reduce response time, increase response rates, and save assessment time and cost (Mourão et al., 2022).

In addition to completing the MWS adaptation instrument, participants were also asked to complete two comparative instruments for concurrent validity testing. These instruments were the Centrality of Religiosity Scale (CRS) (Bailly & Roussiau, 2010) and the Daily Spiritual Experience Scale (DSES) (Huber & Huber, 2012). The discriminant validity test employed the Mindful Attention Awareness Scale (MAAS) (Brown & Ryan, 2011), which was collated in a distinct questionnaire.

Analysis Technique

This article provides three levels of analysis, from the partial level to the substantial level, in order to produce a conceptually solid and statistically valid adaptation of the measurement concept of *khusyu'*. The three levels of analysis are the theoretical, construct, and item levels. The reporting stage of the results will begin with the dimensionality of the MWS-adapted construct, then proceed to the item level and ultimately to the theoretical level.

At the construct level, the analysis includes reliability, Exploratory Item Analysis (EFA), and Confirmatory Factor Analysis (CFA). The simultaneous use of EFA and CFA in scale adaptation analysis is considered problematic by some experts because they have different purposes (Orcan, 2018). However, some do not dispute this and explain that EFA can still be used to determine whether there is a different formulation of multidimensionality between the original scale and the respondent's context in which the scale is adapted. It has even been reported that many scale adaptation studies have applied EFA and CFA simultaneously using a single data set (Akcay et al., 2018).

The reliability test was conducted using Cronbach's alpha. Validity and reliability tests were conducted on the respondents and each age group. Construct validity is analyzed with the Structural Equation Model (SEM) via the Confirmatory Factor Analysis (CFA) maximum likelihood method. This research will also include a report on the factor analysis of the adoption outcome scale to determine the distribution of each item across components or dimensions using the Exploratory Factor Analysis (EFA) method. This method is used to identify correlations between variables to form a factor or dimension (Budiastuti & Bandur, 2018), and to determine whether the dimensions estimated at the initial scale match the scale of the adaptation results. To fulfill this analysis, some procedures, including Kaiser-Meyer-Olkin (KMO) and anti-image correlation values, are also

performed to assess the assumptions of EFA.

Item analysis was conducted using a dual approach that combined factor loadings and the Item Response Theory (IRT) framework. The factor loadings from the confirmatory factor analysis (CFA) were used to evaluate each item's contribution to its latent construct. Values of at least 0.50 were considered acceptable indicators of convergent validity. Conversely, IRT analysis employing the polytomous Rasch model with Joint Maximum Likelihood (JML) estimation evaluated item fit through Infit–Outfit Mean Square (MNSQ) indices, which were deemed adequate within the 0.7–1.3 range. The implementation of these two procedures guaranteed that the structural and psychometric characteristics of the adapted items were systematically assessed. Item response analysis was performed using the Rasch model for polytomous items with Jmetrik 4. CFA is conducted using the AMOS 22 software.

External validity, including concurrent and discriminant validity, was also assessed. It was done using Pearson correlation analysis of the MWS-adapted version and three other constructs. Two of them are the constructs of religiosity (CRS) (Bailly & Roussiau, 2010) and spirituality (DSES) (Huber & Huber, 2012), while the other construct is a non-religious (secular) general mindfulness scale (MAAS) (Brown & Ryan, 2011). Concurrent validity was assessed using CRS and DSES based on the proximity of the constructs of religiosity and spirituality to *khusyu'*. In contrast, discriminant validity was assessed using the MAAS, which represents the non-spiritual concept of mindfulness.

Concurrent validity indicates that the MWS adaptation results are expected to show significant correlations with the religiosity and spirituality constructs, suggesting a strong connection with the religious dimension. Conversely, through discriminant validity, the MWS adaptation results are expected to show low or even insignificant correlations with secular mindfulness scales, indicating that the MWS has a distinctive religious character and differs from mindfulness in non-religious contexts.

Table 2.
Levels of Analysis Performed in This Study

Analysis Level	Analysis Method	Purpose
Construct Level	EFA	View the distribution of factors or dimensions
	CFA	Confirming the construct model validity
	Reliability	Construct consistency
Item Level	Loading Factor	Validating items
	Item Response Analysis (IRT)	Item score distribution
		Degree of difficulty of items
Theoretical Level	Critical analysis of the basic concepts of MWS	Theoretical suitability of MWS as a concept for measuring *khusyu'*

At the theoretical level, the MWS concept as an adapted scale will be analyzed and criticized based on its theoretical basis, whether it can truly represent the condition of *khusyu'* in prayer or not. According to Lambert & Newman (2023), the fundamental step—and even the basic foundation—for developing and adapting a scale is to ensure that the definitions and domains of the constructs accurately describe the variables to be measured. It applies both in the process of creating or adapting the scale (Boateng et al., 2018). Since, in this case, the MWS will be adapted to measure *khusyu'*, it is important to ensure that theoretically, the MWS can truly represent the concept of *khusyu'* by analyzing and equating the concept of MWS with *khusyu'*.

FINDINGS AND DISCUSSION

Outcomes of the Adaptation and Pilot Testing

In its original scale, MWS used the word "worship" broadly, referring to worship practices across religions, although it was tested on a Christian sample. However, for context, the word "worship" is translated as "salat" in this article, explicitly referring to the Salah prayer in Islam. This issue is because the *khusyu'* in this article is *khusyu'* in the Salah prayer. Such as item "Often, during worship, I am thinking about what I will be doing afterward" (item 3) translates to "S*ering kali, selama salat saya berpikir tentang apa yang akan saya lakukan sesudahnya*".

The results of the pilot test showed that there were five items that required changes in phrasing for several reasons such as ambiguity, lack of specificity, or unnatural sentences. Item 2 was considered less specific so it was changed to: "*Ketika salat, saya memikirkan hal-hal duniawi (pekerjaan, keluarga, tugas, dsb) yang tidak berkaitan dengan ibadah*". Item 4 was considered too convoluted, changed to: "*Kadang-kadang, selama salat, saya memikirkan sesuatu yang tidak berkaitan dengan salat itu sendiri*". Item 5 is considered less natural, changed to: "*Sering kali selama salat, saya menyadari bahwa saya sedang memikirkan solusi dari masalah lain yang tidak berkaitan dengan salat*". Item 7 was considered confusing, changed to: "*Saya biasanya menyadari suara, bau, atau sensasi fisik lain yang saya rasakan selama salat*". Item 8 was considered to cause comprehension bias, and was then modified into: "*Saya jarang menyadari perasaan atau emosi yang saya alami saat sedang salat*". While other items received positive responses and did not require changes. Lastly, after proced expert and participant feedback, the finalized Indonesian version of the MWS was established as the adapted instrument for the main study to then the results are analyzed based on the findings of their statistical properties. The details of the adapted items are shown in table 3.

Table 3.
MWS Items and Adapted Items

No	MWS Items	Adapted Items (In Indonesian Language)
	A. Concentration during Worship (MWS-CW)	
1	When I am engaged in worship, my mind wanders frequently to other topics (R)	*Ketika saya sedang salat, pikiran saya sering mengembara ke topik lain*
2	During most acts of worship, I am thinking about other non-religious things at least some of the time (R)	*Ketika salat, saya memikirkan hal-hal lain yang tidak berhubungan dengan agama*
3	Often, during worship, I am thinking about what I will be doing afterward (R)	*Sering kali, selama salat saya berpikir tentang apa yang akan saya lakukan sesudahnya*
4	At times, during worship, I engage my thoughts in matters unrelated to the worship (R)	*Kadang-kadang, selama salat, saya melibatkan pikiran saya dalam hal-hal yang tidak berhubungan dengan salat*
5	Frequently during worship, I catch myself solving other problems in my mind (R)	*Sering kali selama salat, saya mendapati diri saya memecahkan masalah lain dalam pikiran saya*
	B. Appreciation of Worship (MWS-AW)	
6	I am usually very aware of how worship affects me mentally when it is taking place	*Saya biasanya sangat menyadari bagaimana salat mempengaruhi saya secara mental ketika sedang berlangsung*
7	I am usually attentive to what physical sensations arise in me during worship	*Saya biasanya memperhatikan rangsangan yang diterima oleh panca indra saya selama melaksanakan salat*
8	The emotional effects of worship when it is taking place are usually not clear to me (R)	*Efek emosional dari salat ketika sedang berlangsung biasanya tidak jelas bagi saya*

No	MWS Items	Adapted Items (In Indonesian Language)
9	If my attention goes to other things during worship, I am usually quick to bring it back	*Jika perhatian saya tertuju pada hal-hal lain selama sedang salat, saya biasanya cepat-cepat mengembalikannya*
10	I feel that I am very present during most acts of worship	*Saya merasa bahwa saya sangat fokus selama sebagian besar dalam salat*
	C. Attendance during Worship (MWS-PW)	
11	During worship, I feel more present than I am the rest of the time	*Selama salat, saya merasa lebih fokus daripada saat melakukan hal lainnya*
12	Compared to when I am doing other things, my awareness of the present moment is higher when I am in worship	*Dibandingkan dengan ketika saya melakukan hal-hal lain, kesadaran saya terhadap suatu momen lebih tinggi ketika saya sedang salat*
13	I often find myself in a heightened state of mindfulness during worship	*Saya sering mendapati diri saya berada dalam kondisi kesadaran yang tinggi selama salat*
14	When I am worshipping, the environment fades into the background	*Ketika saya sedang salat, lingkungan sekitar seperti memudar*
15	As I get more into the worship, my mind becomes increasingly more aware of the divine	*Ketika saya semakin menghayati dalam salat, pikiran saya menjadi semakin sadar akan ketuhanan*

Dimensionality Analysis: Exploratory Factor Analysis (EFA) Result

An exploratory factor analysis (EFA) was conducted to examine the dimensional structure of the adapted MWS. Although the MWS was developed by (Yousaf et al., 2022), the EFA analysis can still serve as a reference to assess potential changes arising from differences in the respondent context (Orcan, 2018). The initial procedure demonstrated adequate sampling adequacy, as indicated by a KMO value of 0.795 and a significant Bartlett's test of sphericity ($p < 0.001$). These findings suggest that the data were suitable for factor analysis. Furthermore, anti-image correlations greater than 0.5 supported the adequacy of each item.

As shown in Table 3, all 15 items exhibited loadings above 0.50, ranging from 0.518 to 0.811, indicating satisfactory construct validity. However, the factor extraction process yielded four distinct components, deviating from the original MWS structure, which possessed three dimensions (attention, appreciation, and presence).

Table 4.
Rotated Component Matrix Result

Item	Component			
	1	2	3	4
CW01	**0.743**	-0.055	-0.109	0.156
PW01	0.059	**0.727**	-0.034	0.254
AW01	-0.304	**0.612**	0.031	0.194
CW02	**0.699**	-0.56	0.112	0.151
PW02	0.238	0.19	0.094	**0.751**
AW02	0.422	**0.555**	-0.039	-0.188
CW03	**0.743**	0.026	-0.152	0.049
PW03	**0.526**	-0.261	0.355	0.263
AW03	-0.162	**0.660**	0.287	0.055
CW04	**0.811**	-0.228	0.176	0.030
PW04	0.128	0.387	**0.579**	-0.297
AW04	0.035	0.129	**0.771**	0.253

Item	Component			
	1	2	3	4
CW05	0.596	0.208	0.013	-0.317
PW05	-0.252	**0.576**	0.518	-0.095
AW05	0.019	**0.674**	0.225	-0.135

The initial factor was comprised of six items (CW01, CW02, CW03, PW03, CW04, and CW05), predominantly representing concentration during worship, the cognitive focus aspect of *khusyu'*. Second, the factor comprised six items: PW01, AW01, AW02, AW03, PW05, and AW05. These items reflected emotional awareness and appreciation during prayer, suggesting an overlap between the affective and appreciative dimensions. The third factor comprised two items (PW04 and AW04), which delineated the profound engagement and emotional resonance experienced during prayer. Conversely, the fourth factor, consisting of a single item (PW02), was excluded because a factor comprising a single item cannot establish a stable dimension.

Overall, this analysis indicates that the construct may need to be reorganized when applied to Muslim prayer. The integration of cognitive and affective elements across factors suggests that *khusyu'* encompasses an amalgamated encounter of concentration, consciousness, and emotive presence, demonstrating greater interconnection than the initial MWS dimensional configuration.

Confirmatory Factor Analysis (CFA) Result

The results of the CFA analysis revealed that the model did not meet the standard fit criteria, as indicated by the following indices in Figure 1: χ^2/df = 3.16, CFI = 0.819, TLI = 0.784, GFI = 0.865, and RMSEA = 0.098. The indices suggest a suboptimal model fit, indicating that the original factor structure may not have been entirely appropriate for representing the construct of *khusyu'* in the Islamic context.

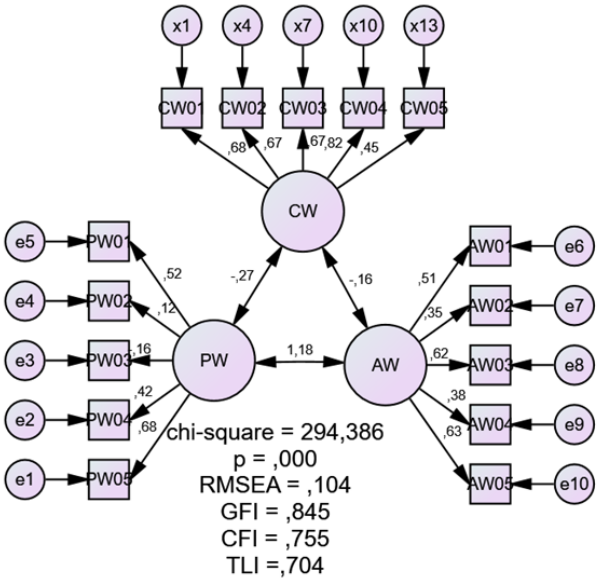

Figure 1.
CFA Results of the Adapted MWS

The suboptimal fit suggests that the theoretical model underpinning MWS may not comprehensively capture the multidimensional experience of *khusyu'* during Salah. As demonstrated by the preceding EFA results, the adaptation yielded four factors rather than three, with certain items loading on disparate components. This finding suggests that, within the context of Muslim

prayer, the dimensions of concentration, emotional engagement, and spiritual presence are more intricately interwoven and cannot be separated as distinctly as observed in the original model tested in Christian worship.

Subsequent analysis of modification indices disclosed multiple significant covariances among items across disparate dimensions, most notably between Appreciation of Worship (AW) and Presence during Worship (PW). This overlap may occur through the integration of emotional and spiritual experiences in Islamic prayer, in which awareness of a divine presence is concomitant with emotional surrender. This incorporation can be interpreted as a reflection of the comprehensive nature of *khusyu'*, whereby cognitive concentration, emotional engagement, and spiritual consciousness function in a cohesive manner rather than as distinct entities.

Despite the CFA results not corroborating the original model, they provide significant theoretical insights: the configuration of mindfulness during worship may vary across religious traditions. Within the Islamic context, *khusyu'* appears to entail a profound integration of focus and spiritual awareness. This result suggests that future model development should consider a modified structure that captures this integrative dimension of mindfulness in prayer.

Item-Level Analysis and IRT Estimation

The assessment of item performance was conducted using factor loadings and the Item Response Theory (IRT) framework, employing the polytomous Rasch model. In accordance with the findings of Confirmatory Factor Analysis (CFA) employing the Structural Equation Modelling (SEM) method, the factor loadings for each indicator ranged from 0.35 to 0.82. This finding indicates that the majority of items exhibited moderate to strong relationships with the latent constructs they represented. Items with loadings exceeding 0.50 (such as CW01–CW04, AW03, and AW05) can be categorised as valid due to their substantial contribution to the construct dimension. Conversely, items with loadings below this threshold, including PW02 and AW02, demonstrate relatively minor contributions to the associated dimension. The results obtained generally corroborate the three-factor structure (i.e., Concentration during Worship, Appreciation of Worship, and Presence during Worship), which remains conceptually valid. However, the fit indices (CFI = 0.755; TLI = 0.704; RMSEA = 0.104) suggest the need for model refinement, such as removing items with low loadings or adjusting residual correlations among theoretically related items.

IRT analysis with a polytomous Rasch model using Jmetrik indicates that the scale exhibits adequate reliability, with item reliability of 0.91 and person reliability of 0.74. These results suggest that the items can reliably differentiate between respondents' ability levels. The item difficulty ranged from –0.32 (item 9) to 0.39 (item 15), as shown in Table 5, indicating that no items were classified as very easy or very difficult. The threshold values between the response categories (1–5) were found to be reasonably balanced, thereby enabling respondents to utilize the full scale range proportionally.

Table 5.
Difficulty Item Score

MWS-CW	Difficulty	MWS-PW	Difficulty	MWS-AW	Difficulty
Item 1	0,04	Item 2	0,32	Item 3	-0,12
Item 4	0,05	Item 5	-0,31	Item 6	-0,19
Item 7	0,26	Item 8	-0,24	Item 9	-0,32
Item 10	0,05	Item 11	0,10	Item 12	-0,04
Item 13	0,28	Item 14	-0,26	Item 15	0,39

The response curve shown in Figure 2 indicates that the majority of respondents select the median category (2–4), suggesting that this scale captures a reasonable range of *khusyu's* experiences

without extreme responses. The lines span and cross each other along two horizontal and two vertical lines. The horizontal line indicates *theta*, or the degree of ability of the respondent. The *probability* line shows the item's degree of difficulty (Meyer, 2014). In the figure, two item curves are shown between item 9 and item 15, which are the most straightforward and most difficult items. Both of them show a fairly similar pattern. The results of the IRT analysis provide a comprehensive overview of the MWS adaptation scale, indicating that it exhibits a balanced level of difficulty and can represent the range of *khusyu'*s experiences, from cognitive focus to deeper spiritual awareness.

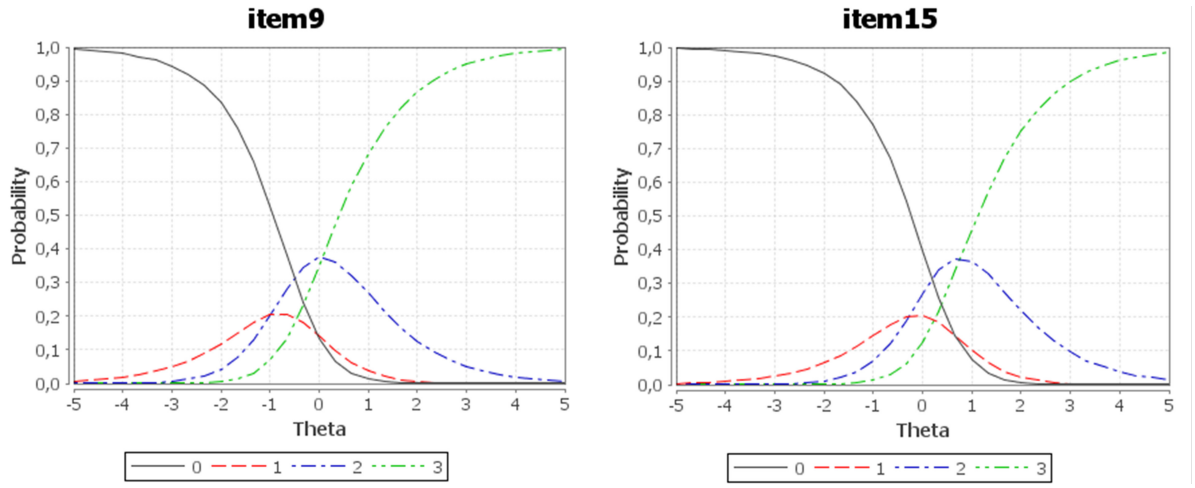

Figure 2
Item 9 and 15 Curves from Item Response Analysis

Reliability Result

The following measurement result is reliable, as determined by Cronbach's alpha. This study includes five reliability measures, distinguished by the characteristics of the respondent group. Based on the total number of respondents (N = 220), the Cronbach's alpha is 0.715, which is relatively high and acceptable (Taber, 2018). However, there were differences in the reliability measurement results across groups of respondents. In the first two groups, some items were invalid and were deleted, so they were not included in the reliability test. In the first group test results (15-20 years), the reliability was 0.683, with 11 of 15 items (4 were removed). In the second group (21-25 years), the reliability value was 0.704, with 14 out of 15 items (one deleted). All items were included in the last two groups of respondents because each had sufficient validity. The reliability value obtained in the third group (26-30 years) was 0.719. Meanwhile, in the fourth group of respondents (over 30 years), the reliability value was 0.808.

Table 6
MWS Reliability Results on the Whole and Each Respondent Group

Respondents	N Item	Cronbach Alpha	Category
All Respondents (N = 220)	15	0,715	Accepted
G1 (N = 33)	11	0,683	Moderate
G2 (N = 80)	14	0,704	Accepted
G3 (N = 64)	15	0,719	Accepted
G4 (N = 40)	15	0,808	Good and accepted

Concurrent and Discriminant Validity

To test the external validity of the MWS adaptation results, concurrent and discriminant

validity tests were conducted to assess how closely related the MWS adaptation results were to other religious constructs and how distinct they were from other secular mindfulness constructs. Therefore, a Pearson correlation analysis was conducted on the three comparison scales: the Religious Centrality Scale (CRS) (Huber & Huber, 2012), the Daily Spiritual Experience Scale (DSES)(Bailly & Roussiau, 2010), and the Mindful Attention Awareness Scale (MAAS) (Brown & Ryan, 2011).

The analysis showed that the MWS total score correlated significantly with the CRS ($r = 0.406$, $p < 0.001$) and DSES ($r = 0.243$, $p < 0.001$) scores. This analysis indicates that the adapted MWS has sufficient concurrent validity against the constructs of religiosity and spirituality. In contrast, the correlation between MWS scores and secular mindfulness (MAAS) scores was relatively low and insignificant ($r = 0.131$, $p = 0.053$). These findings suggest that the *khusyu'* scale has good discriminant validity, as it distinguishes itself from the non-religious construct of general mindfulness.

Table 7
Overview of the Results and Suggestions for Future Research

Analysis Level	Main Method	Key Findings	Theoretical Implications
Theoretical Level	Conceptual review of MWS and *khusyu'*	MWS does not fully represent *khusyu'*, especially the dimensions of tranquility and spiritual awareness.	Indicates need for a holistic model integrating mindfulness and Islamic spirituality (*muraqabah*, *ihsan*).
Construct Level	Reliability, EFA, CFA	EFA produced 4 factors (cognitive, affective, spiritual, and reflective). CFA showed poor fit for the 3-factor model.	Structural differences reflect cultural–religious distinctiveness; cross-faith construct adaptation requires conceptual alignment.
Item Level	Loading Factor & IRT	Most items showed acceptable loadings (0.50–0.82), with a few below 0.50 indicating weaker factor representation. IRT results confirmed good item fit (MNSQ = 0.79–1.21) and balanced difficulty.	Suggesting several psychometric adequacies while highlighting minor refinement needs for certain behavioral items.

Theoretical Analysis and Discussion

The present study aimed to adapt the *Mindfulness during Worship Scale (MWS)* into the context of *khusyu'* during Salah and to evaluate its psychometric properties among Indonesian Muslims. A three-level analysis is proposed: theoretical, item, and construct levels, which reveal the dynamics of the results and provide various measurement insights. The integration of statistical and theoretical analyses is presented in Table 7.

Theoretically, although many researchers use mindfulness to represent *khusyu'* description in salah, the adapted MWS has not yet accommodated two crucial dimensions emphasized by Islamic scholars: mental and physical tranquility during prayer. Classical Muslim scholars (Al-Hambali, 2009; Al-Qahthani & Ali Bin, 2009; At-Thahtawi, 2003) define *khusyu'* as not only attentional focus but as emotional serenity (*thuma'ninah al-nafs*) and stillness of the limbs (*sukun al-jawarih*). Collectively, these elements constitute psychomotor and affective calmness, which complements the cognitive focus encapsulated in the concept of mindfulness.

Within the mindfulness framework (Kabat-Zinn, 2003; Shapiro et al., 2006), *khusyu'* reflects a state of mindfulness and acceptance in the present moment. However, in Islamic worship, this awareness extends beyond neutral observation and is directed towards God (*muraqabah*). The emergence of four factors instead of three in this study's exploratory factor analysis (EFA) suggests that the experience of mindfulness in Muslim prayer is not merely cognitive or emotional, but also spiritually integrative.

The additional factor identified is 'spiritual awareness', which aligns with Islamic psychology's

view that worship involves consciousness of the divine presence (*ihsan*) and transcendental focus (Parrott, 2024; Rothman & Coyle, 2018; Thomas et al., 2017). Therefore, the poor model fit in CFA does not imply statistical weakness, but rather reflects a conceptual shift, from mindfulness as an attentional construct to *khusyu'* as a holistic spiritual state that integrates cognition, emotion, and devotion.

From a psychological measurement standpoint, especially in the EFA findings, it has been demonstrated that attention to conceptual equivalence, rather than just linguistic translation, is required when adapting a religiously grounded scale like MWS. The different distribution of factors indicates that items representing similar content in the original (Christian) context behave differently in the Islamic context, a phenomenon known as construct bias or construct drift (Akcay et al., 2018; Boateng et al., 2018). Consequently, future work should consider developing a revised model that explicitly incorporates Islamic concepts such as *muraqabah* (divine awareness), *tadabbur* (reflection), and *sakinah* (inner peace), in order to ensure that *khusyu'* is measured with both cultural and theological validity.

The reliability result yields a dynamic outcome for each group of respondents. Overall, the MWS adaptation reliability is acceptable. However, when the respondents are divided into four age groups, each result has a different reliability value. A notable change in reliability value is that the higher the age level of the respondent group, the better and more acceptable the reliability.
This finding is consistent with the extant literature on developmental psychology, which demonstrates that attentional control and emotional regulation continue to develop through adolescence and into early adulthood (Bjorklund, 2022; Schunk & Zimmerman, 2022). Furthermore, theories of spiritual development propose that older individuals tend to internalise religious experiences more deeply, perceiving prayer as a meaning-centred, reflective process rather than a behavioral ritual (Al-Razi & Madjid, 2025; Murphy, 1978). Consequently, the heightened levels of *khusyu'* observed among older participants are indicative of enhanced cognitive regulation and spiritual depth, a notion that is corroborated by the higher reliability scores obtained.

The present study has its limitations. The present study's sample, limited to respondents in Yogyakarta, limits the generalizability of its findings to the broader Indonesian Muslim population. Additionally, the use of self-report online questionnaires may introduce response bias. While the four-factor structure appears to be theoretically sound, further validation is necessary through multi-group confirmatory factor analysis (CFA) and measurement invariance testing. Future research endeavors must include a wider array of samples and incorporate behavioral indicators of *khusyu'*. Additionally, developing an authentic *Khusyu'* Scale, firmly rooted in Islamic constructs such as *muraqabah*, *tadabbur*, and *sakinah*, is essential to enhance its theoretical and contextual validity.

In summary, the present study provides empirical corroboration and theoretical refinement of *khusyu'* as a multidimensional construct encompassing the cognitive, affective, psychomotor, and spiritual domains. The adapted MWS partially captures these domains, but remains primarily cognitive-emotional in nature. The results of the study highlight the necessity to develop an indigenous Islamic model of mindfulness that integrates psychological precision with spiritual depth. This approach not only enhances the measurement of *khusyu'*, but also contributes to the enrichment of the broader discourse on religious mindfulness within the domain of psychology.

CONCLUSION

This research yields three key conclusions. Firstly, MWS theoretically represents only the cognitive and emotional dimensions of prayer, but not the psychomotor calmness aspect or the spiritual domain. For this reason, it is necessary to redevelop the concept of MWS measurement as a concept of *khusyu'* measurement, which also accommodates emotional, psychomotor, and spiritual

aspects in prayer as another prerequisite for achieving a *khusyu'* state. However, the possibility of the use of MWS in the context of *khusyu'* can still be done, but only for the cognitively. Secondly, based on the statistical results of this study, the MWS-adapted construct functioned consistently for older respondents compared to younger ones. Finally, the model developed in this study reveals that the formation of three dimensions, each with five items, in the adapted MWS does not yield a good fit. Even from the EFA results, the distributed factors or dimensions differ from the original MWS, representing a statistical and conceptual shift in the appreciation and concentration during prayer assessment.

Although it does not produce full positive results, what is reported in this study can contribute to an academic evaluation that needs to be addressed by future researchers, considering that the condition of *khusyu'* is essential in worship, especially the salah prayer. That way, the suggestion for future research is to develop a comprehensive concept of *khusyu'* measurement, not only cognitively but also in the emotional, psychomotor, and spiritual domains, applicable to all ages.

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