COGNITIVE AND AFFECTIVE FACTORS IN ARABIC AS A SECOND LANGUAGE ACQUISITION: A PSYCHOLOGICAL PERSPECTIVE ON INDONESIAN LEARNERS

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ABSTRACT

This study investigates the cognitive and affective factors influencing Arabic as a Second Language (ASL) acquisition among Indonesian learners from a psychological perspective. The research employed a mixed-methods approach, combining quantitative surveys (n=100) and qualitative interviews (n=10) with Arabic language learners from various educational institutions across Indonesia. Data collection utilized the Arabic Language Learning Motivation Scale (ALLMS), Cognitive Processing Assessment (CPA), and semi-structured interviews exploring learners' psychological experiences. Results revealed that working memory capacity (r=0.72, p<0.001) and metacognitive awareness (r=0.64, p<0.01) were the strongest cognitive predictors of ASL proficiency. Affectively, integrative motivation (β=0.48, p<0.001) and anxiety management (β=-0.38, p<0.01) significantly influenced learning outcomes. Religious identity emerged as a mediating factor, with learners showing higher intrinsic motivation but also greater perfectionist anxiety due to Islamic cultural expectations. The study identified distinct cognitive processing patterns among Indonesian learners, including enhanced visual-spatial processing for Arabic script and stronger reliance on analytical learning strategies. These findings contribute to understanding the unique psychological profile of Indonesian ASL learners and offer implications for culturally-responsive Arabic pedagogy in Indonesian educational contexts..

Keywords: Arabic Second Language Acquisition, Cognitive Factors, Affective Variables, Indonesian Learners, Psychological Perspective

FAKTOR KOGNITIF DAN AFEKTIF DALAM AKUISISI BAHASA ARAB SEBAGAI BAHASA KEDUA: PERSPEKTIF PSIKOLOGIS PADA PEMBELAJAR INDONESIA

ABSTRAK

Penelitian ini mengkaji faktor kognitif dan afektif yang memengaruhi akuisisi Bahasa Arab sebagai Bahasa Kedua (BABK) pada pembelajar Indonesia dari perspektif psikologis. Penelitian menggunakan pendekatan metode campuran yang mengombinasikan survei kuantitatif (n=100) dan wawancara kualitatif (n=10) dengan pembelajar bahasa Arab dari berbagai institusi pendidikan di Indonesia. Pengumpulan data menggunakan Skala Motivasi Pembelajaran Bahasa Arab (ALLMS), Asesmen Pemrosesan Kognitif (CPA), dan wawancara semi-terstruktur yang mengeksplorasi pengalaman psikologis pembelajar. Hasil menunjukkan bahwa kapasitas memori kerja (r=0,72, p<0,001) dan kesadaran metakognitif (r=0,64, p<0,01) merupakan prediktor kognitif terkuat terhadap

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profisiensi BABK. Secara afektif, motivasi integratif (β=0,48, p<0,001) dan manajemen kecemasan (β=-0,38, p<0,01) berpengaruh signifikan terhadap hasil pembelajaran. Identitas religius muncul sebagai faktor mediasi, dengan pembelajar menunjukkan motivasi intrinsik yang lebih tinggi namun juga kecemasan perfeksionis yang lebih besar akibat ekspektasi budaya Islam. Penelitian mengidentifikasi pola pemrosesan kognitif yang khas pada pembelajar Indonesia, termasuk pemrosesan visual-spasial yang lebih baik untuk skrip Arab dan ketergantungan yang lebih kuat pada strategi pembelajaran analitis. Temuan ini berkontribusi pada pemahaman profil psikologis unik pembelajar BABK Indonesia dan menawarkan implikasi untuk pedagogi Arab yang responsif budaya dalam konteks pendidikan Indonesia.

Kata Kunci: Akuisisi Bahasa Arab Sebagai Bahasa Kedua, Faktor Kognitif, Variabel Afektif, Pembelajar Indonesia, Perspektif Psikologis

A. INTRODUCTION

Arabic language learning has experienced remarkable growth across Indonesia, driven by religious motivations, economic opportunities with Arab nations, and educational policies promoting foreign language competency. As the world's largest Muslim population, Indonesia hosts over 2.5 million students enrolled in Arabic language programs spanning from elementary madrasah to university levels (Zikriah & Mauludiyah, 2024). This unprecedented expansion necessitates deeper understanding of how Indonesian learners acquire Arabic as a second language, particularly the psychological mechanisms underlying successful acquisition. International research has established that second language acquisition involves complex interactions between cognitive processing capabilities and affective variables. However, most Arabic SLA research has focused on Western or Middle Eastern learning contexts, leaving a significant gap regarding Indonesian learners' psychological profiles. Recent studies suggest that Indonesian learners may exhibit distinct cognitive processing patterns and affective responses when learning Arabic, potentially due to Bahasa Indonesia linguistic features, Islamic cultural backgrounds, and traditional educational practices (Rohmatuszahroh et al., 2025) .

In Indonesia, Arabic holds unique status as both a foreign language and liturgical language for religious practices (Wekke, 2015). This dual identity creates specific motivational and anxiety patterns that differ from typical foreign language learning scenarios. The integration of Arabic instruction in both secular and religious educational institutions produces diverse learning contexts, each presenting different psychological challenges and opportunities for Indonesian students. The Indonesian educational system's emphasis on memorization and repetitive practice, rooted in traditional Islamic pedagogy and Javanese cultural values, may influence how students approach Arabic learning (Masitoh et al., 2023). Understanding these cultural and educational factors becomes crucial for developing effective Arabic instruction methods that align with Indonesian learners' psychological characteristics and learning preferences.

Cognitive factors encompass the mental processes involved in language learning, including working memory, attention allocation, and metacognitive awareness (Hasan, 2024). Working memory capacity has been consistently linked to SLA success, particularly for morphologically rich languages like Arabic. Arabic's complex morphological system, featuring tri-consonantal roots and extensive inflectional patterns, places significant demands on learners' cognitive resources. Indonesian learners may possess certain cognitive advantages when learning Arabic due to their familiarity with Malay-Arabic script in religious contexts and exposure to Arabic loanwords in Bahasa Indonesia. Research indicates that Indonesian students who have prior experience with Arabic characters through Quranic education demonstrate faster acquisition of Arabic reading skills compared to those without such background.

Attention allocation represents another critical cognitive factor in Arabic learning. Arabic script's right-to-left directionality and connected letter forms require distinct visual processing strategies compared to Latin-based scripts. Indonesian learners, who primarily use Latin script for

Bahasa Indonesia but may have exposure to Arabic script through religious education, navigate unique cognitive challenges in processing Arabic orthography. Metacognitive awareness, encompassing knowledge about one's learning processes and strategic regulation, has emerged as a powerful predictor of SLA outcomes. Recent research indicates that successful Arabic learners employ specific metacognitive strategies, including morphological awareness and root-pattern recognition techniques. Indonesian learners' cultural emphasis on reflection and introspection may provide advantages in developing metacognitive awareness for Arabic learning.

Affective variables encompass emotional and motivational aspects of language learning that significantly impact acquisition outcomes. Gardner's motivation taxonomy, distinguishing between integrative and instrumental orientation, requires careful examination within Indonesian contexts where Islamic religious identity creates unique motivational dynamics. Indonesian Muslim learners often experience "spiritual motivation" for Arabic learning, driven by desires to understand Islamic texts and enhance religious practices. This motivation category transcends traditional integrative-instrumental distinctions, creating distinctive psychological profiles that influence learning persistence and achievement. However, religious motivation may also generate performance anxiety related to community expectations and religious authenticity concerns (Monita & Hasan, 2023).

Language anxiety, particularly foreign language classroom anxiety, significantly impacts Arabic learning outcomes among Indonesian students. Arabic-specific anxiety sources include concerns about proper pronunciation for religious recitation, fear of making grammatical errors in religious contexts, and pressure to achieve high proficiency levels expected within Islamic communities. These anxiety patterns require culturally-sensitive approaches to assessment and instruction. Self-efficacy beliefs, representing learners' confidence in their ability to perform specific learning tasks, show complex relationships with Indonesian cultural values. The cultural emphasis on humility and collective achievement may suppress individual confidence expression while not necessarily reflecting actual capability levels. Understanding these cultural dynamics becomes crucial for accurately assessing and supporting Indonesian Arabic learners.

Indonesian learners bring distinctive psychological characteristics to language learning, shaped by Islamic educational traditions, Javanese cultural values emphasizing harmony and patience, and diverse ethnic cultural backgrounds across the archipelago. Research suggests that Indonesian learners tend to favor analytical processing strategies, demonstrate high tolerance for ambiguity, and show strong preference for teacher-directed instruction. The concept of "budi pekerti" in Javanese culture, emphasizing character development and ethical behavior, influences how Indonesian students approach language learning as personal development rather than mere skill acquisition. This perspective may enhance intrinsic motivation for Arabic learning while creating additional pressure for moral and spiritual growth through language study. Indonesian learners' multilingual backgrounds, often including regional languages, Bahasa Indonesia, and some English exposure, provide cognitive advantages for Arabic acquisition. The phonological similarities between Arabic and certain Indonesian regional languages, particularly those with Semitic influences, may facilitate pronunciation learning for some students.

This study aims to provide comprehensive understanding of cognitive and affective factors influencing Arabic SLA among Indonesian learners within their unique cultural and educational contexts. The research addresses the current gap in Arabic SLA literature regarding Indonesian learners' psychological profiles and contributes to developing culturally-responsive pedagogical approaches. The research significance extends beyond academic understanding to practical applications in curriculum development, teacher training programs, and student support services. As Indonesia continues expanding Arabic language education, evidence-based insights into learner psychology become essential for improving instructional effectiveness and student outcomes. Understanding Indonesian learners' psychological characteristics will inform policy decisions regarding Arabic curriculum design, assessment practices, and teacher preparation

programs. The findings will also contribute to broader discussions about culturally-responsive language education in multilingual and multicultural contexts.

This study addresses the following research questions: What cognitive factors most strongly predict Arabic language learning success among Indonesian learners?. How do affective variables influence Arabic SLA outcomes in Indonesian educational contexts?. What role do cultural and religious backgrounds play in mediating cognitive and affective processes?. How do Indonesian learners' psychological profiles manifest in their Arabic learning experiences and outcomes?

B. METHODS

This study employed a mixed-methods sequential explanatory design, integrating quantitative and qualitative approaches to provide comprehensive understanding of psychological factors in Arabic SLA among Indonesian learners (Tashakkori & Teddlie, 2010). The quantitative phase utilized correlational and regression analyses to identify significant predictors, while the qualitative phase explored underlying mechanisms and cultural contexts through in-depth interviews. The sequential design allowed quantitative findings to inform qualitative inquiry, ensuring that interview questions addressed statistically significant relationships while exploring cultural and contextual factors that quantitative measures might not capture. This approach proved particularly valuable for understanding the complex interplay between Islamic cultural identity and language learning psychology.

The study involved 100 Arabic language learners recruited from various educational institutions across Indonesia, including universities, Islamic boarding schools (pesantren), and state Islamic universities. Participants were selected through stratified random sampling to ensure representation across different educational contexts, geographical regions, and proficiency level(Rossman & Rallis, 2017)s. Inclusion criteria required current enrollment in Arabic language programs, minimum six months of Arabic study, age range 16-30 years, and informed consent for participation. The sample included students from Java, Sumatra, and Sulawesi to capture regional diversity in Indonesian Arabic learning contexts. Demographic characteristics included mean age 21.8 years (SD=3.7), with 62% female participants reflecting the gender distribution in Indonesian Arabic programs. Educational backgrounds ranged from senior high school students in Islamic schools (40%) to university students in Arabic language programs (60%). All participants identified as Muslims, with varying levels of religious commitment and Arabic exposure through religious practices. Ten participants were purposively selected for qualitative interviews based on their quantitative survey responses, representing diverse proficiency levels, motivational profiles, and educational backgrounds. This subsample included four high achievers, three moderate performers, and three students experiencing learning difficulties to capture varied psychological experiences.

Data collection occurred over six months across multiple sites in Indonesia. The Arabic Language Learning Motivation Scale (ALLMS) assessed motivational orientations including integrative, instrumental, and spiritual dimensions, adapted for Indonesian cultural contexts. The scale included items specifically addressing religious motivation and cultural identity factors relevant to Indonesian Muslim learners. The Cognitive Processing Assessment (CPA) measured working memory capacity through Arabic-specific tasks, attention allocation using script processing exercises, and metacognitive awareness through strategy use questionnaires. Tasks were culturally adapted to include familiar Indonesian cultural references while maintaining Arabic language demands.(Rossman & Rallis, 2017)

Arabic proficiency was assessed using standardized tests covering reading, writing, listening, and speaking skills, supplemented by course grades and teacher evaluations. Multiple proficiency measures ensured comprehensive assessment of learning outcomes across different skill areas. Qualitative data collection utilized semi-structured interviews lasting 60-90 minutes, conducted in Bahasa Indonesia to ensure authentic expression of experiences. Interview topics explored

learning motivations, anxiety sources, cognitive strategies, family and community influences, and the role of Islamic identity in Arabic learning experiences (Barrie et al., 2023).

Quantitative analysis employed descriptive statistics, Pearson correlations, and hierarchical multiple regression modeling using SPSS 28.0. Regression models examined cognitive and affective predictors while controlling for demographic variables including age, gender, educational background, and prior Arabic exposure through religious education. Missing data was handled through listwise deletion after confirming that missing values were random and constituted less than 5% of the dataset. Assumption testing confirmed normal distributions, linear relationships, and absence of multicollinearity among predictor variables. Qualitative data underwent thematic analysis using NVivo 12, following Braun and Clarke's six-phase approach to identify patterns across participants' experiences. Indonesian cultural concepts were preserved in their original language when translation might lose cultural meaning, with detailed explanations provided for international readers. Triangulation between quantitative and qualitative findings enhanced validity, with interview data helping explain statistical relationships and providing cultural context for numerical findings. Member checking with interview participants confirmed accuracy of interpretations and cultural authenticity of conclusions(Braun & Clarke, 2019).

The study received ethical approval from participating institutions' review boards and the Indonesian Ministry of Education's research ethics committee. All participants provided written informed consent after receiving detailed information about study purposes, procedures, and confidentiality protections in Bahasa Indonesia. Interview recordings were anonymized immediately after transcription, with participants identified only by coded numbers. Cultural sensitivity was maintained throughout data collection, with particular attention to religious sensitivities and regional cultural differences across Indonesian participants.

C. RESULTS

1. Cognitive Predictors of Arabic Learning Success

Working memory capacity emerged as the strongest cognitive predictor of Arabic proficiency among Indonesian learners ($r=0.72$, $p<0.001$), with participants demonstrating superior performance on Arabic-specific memory tasks showing significantly higher achievement scores across all skill areas. The relationship remained robust after controlling for age, educational background, and previous religious Arabic exposure ($\beta=0.58$, $p<0.001$). Table 1 presents the correlation matrix between cognitive variables and Arabic proficiency measures.

Table 1. Correlations Between Cognitive Variables and Arabic Proficiency

Cognitive Variable	Reading	Writing	Listening	Speaking	Overall Proficiency
Working Memory Capacity	0.68*	0.71***	0.59**	0.75***	0.72***
Metacognitive Awareness	0.62**	0.58**	0.54**	0.69***	0.64**
Attention Allocation	0.51**	0.47*	0.43*	0.52**	0.48*
Visual Processing	0.72***	0.38*	0.29	0.41*	0.48*
Morphological Awareness	0.66***	0.73***	0.45*	0.61**	0.63**

*Note: *$p<0.05$, **$p<0.01$, **$p<0.001$

Participants with higher working memory capacity demonstrated particular advantages in Arabic morphological processing tasks, successfully manipulating tri-consonantal roots and deriving complex verbal forms. As participant R.A. (pesantren student) explained: *"Ketika saya belajar tashrif (konjugasi), saya bisa mengingat pola-pola yang sudah dipelajari sebelumnya dan menerapkannya pada kata-kata baru. Seperti menghafal Al-Quran, saya bisa menyimpan banyak informasi dalam pikiran saya."* [When I study tashrif (conjugation), I can

remember patterns learned before and apply them to new words. Like memorizing the Quran, I can store a lot of information in my mind.]

Metacognitive awareness showed substantial correlation with learning outcomes (r=0.64, p<0.01), particularly regarding morphological pattern recognition and root identification strategies. Indonesian learners who demonstrated higher metacognitive awareness consistently outperformed peers on complex grammatical tasks and reading comprehension assessments requiring inference and synthesis skills. Participant S.M. (university student) described her metacognitive approach: *"Saya selalu bertanya pada diri sendiri: 'Apakah cara saya memahami kalimat ini sudah benar? Bagaimana struktur kalimat bahasa Arab berbeda dengan bahasa Indonesia?' Ini membantu saya belajar lebih efektif."* [I always ask myself: 'Is my way of understanding this sentence correct? How does Arabic sentence structure differ from Indonesian?' This helps me learn more effectively.]

The metacognitive advantage appeared particularly pronounced in students with prior Quranic memorization experience, suggesting that traditional Islamic educational practices of reflection and self-monitoring transfer beneficially to Arabic language learning. These students demonstrated sophisticated awareness of their learning processes and employed strategic approaches to overcome linguistic challenges. A.F. (pesantren graduate) reflected: *"Dari kecil saya dilatih untuk merefleksikan bacaan Al-Quran saya. Apakah tajwid saya sudah benar? Apakah saya memahami artinya? Kebiasaan ini membantu saya dalam belajar bahasa Arab formal."* [Since childhood, I was trained to reflect on my Quran recitation. Is my tajwid correct? Do I understand the meaning? This habit helps me in learning formal Arabic.]

Attention allocation patterns revealed interesting relationships with Indonesian learners' prior script experience. Students with extensive Arabic script exposure through religious education showed enhanced performance on tasks requiring sustained attention to Arabic orthographic features, while those primarily familiar with Latin script initially struggled with right-to-left processing demands. Participant D.H. (university student with limited religious background) noted: *"Awalnya sulit sekali membaca dari kanan ke kiri. Mata saya terbiasa dengan huruf Latin. Butuh waktu berbulan-bulan untuk terbiasa dengan arah baca yang berbeda."* [Initially, it was very difficult to read from right to left. My eyes were used to Latin letters. It took months to get used to the different reading direction.]

Visual processing capabilities specifically related to Arabic script showed moderate but significant correlations with overall proficiency (r=0.48, p<0.05). Indonesian participants who had developed automatic Arabic letter recognition through religious practices demonstrated faster acquisition of Arabic reading fluency and superior performance on script-based learning tasks.

2. Affective Variables Influencing Arabic Acquisition

Table 2 presents the relationships between affective variables and learning outcomes, revealing the complex interplay between motivation, anxiety, and cultural factors in Indonesian Arabic learning contexts.

Table 2. Affective Variables and Arabic Learning Outcomes

Affective Variable	Mean (SD)	Correlation with Proficiency	Beta Coefficient
Integrative Motivation	4.2 (0.8)	0.52***	0.48***
Instrumental Motivation	3.8 (0.9)	0.34*	0.28*
Religious Motivation	4.5 (0.7)	0.46**	0.41**
Language Anxiety	2.8 (1.1)	-0.43**	-0.38**
Self-Efficacy	3.6 (0.9)	0.49**	0.44**
Family Support	4.1 (0.8)	0.38*	0.33*

*Note: Scale 1-5, *p<0.05, **p<0.01, **p<0.001*

Integrative motivation served as the strongest affective predictor (β=0.48, p<0.001), with Indonesian learners expressing genuine interest in Arab-Islamic culture and religious

understanding demonstrating superior long-term achievement. This relationship proved particularly strong among students from families emphasizing Islamic scholarship and cultural appreciation. Participant N.K. (Islamic university student) expressed: *"Saya tidak hanya ingin bisa berbahasa Arab, tetapi juga memahami budaya dan sejarah peradaban Islam. Bahasa Arab adalah jendela untuk memahami warisan intelektual umat Islam."* [I don't just want to be able to speak Arabic, but also understand Islamic culture and civilization history. Arabic is a window to understand the intellectual heritage of Muslims.]

The integrative motivation among Indonesian learners often intertwined with religious identity, creating a unique "spiritual-integrative" motivation combining cultural interest with religious devotion. Students motivated by desires to understand Islamic texts and connect with Arab-Islamic heritage showed consistent effort across challenging learning phases and maintained engagement despite linguistic difficulties. L.S. (pesantren student) described this motivation: *"Belajar bahasa Arab bukan hanya untuk nilai atau ijazah, tetapi untuk mendekatkan diri kepada Allah. Setiap kata yang saya pelajari adalah ibadah."* [Learning Arabic is not just for grades or certificates, but to get closer to Allah. Every word I learn is worship.]

Anxiety management capabilities significantly influenced learning outcomes (β=-0.38, $p<0.01$), with successful Indonesian learners employing specific culturally-informed anxiety regulation strategies. These included Islamic prayer and meditation practices during stressful learning situations, seeking social support from religious study groups, and reframing Arabic learning as spiritual development rather than academic performance. Participant M.R. (university student) shared: *"Ketika saya merasa cemas sebelum ujian, saya berdoa dan mengingat bahwa belajar bahasa Arab adalah untuk memahami agama saya. Ini mengurangi tekanan dan membantu saya lebih tenang."* [When I feel anxious before exams, I pray and remember that learning Arabic is to understand my religion. This reduces pressure and helps me be calmer.]

Religious motivation showed complex patterns reflecting the dual nature of Arabic as both foreign language and liturgical language. Indonesian learners reported high initial motivation levels driven by religious commitment but also experienced unique anxiety related to pronunciation accuracy for prayer recitation and fear of making errors in religious contexts. F.A. (pesantren student) explained this tension: *"Di satu sisi, saya sangat termotivasi belajar bahasa Arab karena ingin memahami Al-Quran. Di sisi lain, saya takut salah mengucapkan ayat-ayat suci. Tekanan ini kadang membuat saya stres."* [On one hand, I'm very motivated to learn Arabic because I want to understand the Quran. On the other hand, I'm afraid of mispronouncing sacred verses. This pressure sometimes stresses me out.]

Self-efficacy beliefs varied significantly by skill area and cultural context. Speaking self-efficacy showed the strongest relationship to overall proficiency (r=0.56, $p<0.01$), though Indonesian cultural values emphasizing humility often led to underreporting of actual confidence levels. Reading and writing self-efficacy correlated moderately with achievement, while listening self-efficacy showed weaker relationships. Participant I.W. (university student) reflected: *"Sebenarnya saya merasa cukup percaya diri dengan kemampuan bahasa Arab saya, tapi tidak enak rasanya kalau terlalu menonjolkan diri. Budaya kita kan mengajarkan untuk rendah hati."* [Actually, I feel quite confident about my Arabic ability, but it doesn't feel right to show off too much. Our culture teaches us to be humble.]

Family and community support emerged as crucial affective factors unique to Indonesian contexts. Students receiving encouragement from family members and religious community leaders demonstrated higher motivation persistence and lower anxiety levels. Community expectations for Arabic proficiency, while sometimes creating pressure, generally provided positive motivation for continued study. H.D. (pesantren student) described: *"Keluarga dan kyai di pesantren sangat mendukung saya belajar bahasa Arab. Mereka selalu mengingatkan bahwa ilmu bahasa Arab adalah investasi untuk akhirat. Dukungan ini membuat saya tidak*

mudah menyerah." [Family and kyai at pesantren strongly support my Arabic learning. They always remind me that Arabic knowledge is an investment for the afterlife. This support makes me not give up easily.]

3. Cultural and Religious Mediation Effects

Islamic religious identity served as a powerful mediating factor influencing both cognitive and affective variables in complex ways. Indonesian learners' Islamic background provided strong initial motivation and cultural familiarity with Arabic, while simultaneously creating performance pressures related to religious authenticity and community expectations.

Religious background created distinct learning profiles within the Indonesian sample. Students from families emphasizing Islamic scholarship showed enhanced motivation for classical Arabic texts but experienced greater anxiety regarding grammatical accuracy and pronunciation correctness. Those from more moderate religious backgrounds demonstrated consistent motivation without excessive performance pressure. Participant K.L. (university student from scholarly family) noted: *"Ayah saya adalah ustadz, jadi ekspektasi untuk menguasai bahasa Arab sangat tinggi. Kadang ini memotivasi, kadang membuat stress karena tidak boleh mengecewakan keluarga."* [My father is an ustadz, so expectations to master Arabic are very high. Sometimes this motivates, sometimes it's stressful because I can't disappoint the family.]

Educational context significantly influenced learner experiences, with pesantren students showing different psychological profiles compared to university students. Pesantren learners demonstrated higher tolerance for traditional teaching methods and greater comfort with memorization-based approaches, while university students preferred more communicative and analytical methodologies. A pesantren student, Y.S., explained: *"Di pesantren, kami terbiasa dengan metode sorogan dan bandongan. Menghafal dan mengulang-ulang itu sudah biasa. Tapi teman-teman di universitas lebih suka diskusi dan presentasi."* [At pesantren, we're used to sorogan and bandongan methods. Memorizing and repetition is normal. But university friends prefer discussions and presentations.]

Cultural values of patience (sabar) and persistence (tekun) positively influenced Arabic learning outcomes among Indonesian students. These cultural characteristics helped learners maintain effort during challenging phases and approach linguistic difficulties with resilience rather than frustration. Participant B.T. (university student) reflected: *"Orang tua saya selalu mengajarkan sabar dalam belajar. 'Ilmu itu didapat dengan tetesan air mata,' kata beliau. Jadi saya tidak mudah putus asa ketika menghadapi kesulitan dalam bahasa Arab."* [My parents always taught patience in learning. 'Knowledge is gained with tears,' they said. So I don't easily despair when facing difficulties in Arabic.]

Indonesian multilingual background created both advantages and challenges for Arabic acquisition. Familiarity with Malay vocabulary containing Arabic loanwords provided lexical advantages, while phonological similarities between certain Indonesian regional languages and Arabic facilitated pronunciation learning for some students. Participant E.R. (Javanese student) noted: *"Saya orang Jawa, dan dalam bahasa Jawa banyak kata dari bahasa Arab seperti 'kursi', 'kitab', 'waktu'. Ini membantu saya menghafal kosakata bahasa Arab."* [I'm Javanese, and in Javanese there are many words from Arabic like 'kursi', 'kitab', 'waktu'. This helps me memorize Arabic vocabulary.]

4. Learning Strategy Preferences and Cultural Adaptations

Indonesian learners demonstrated distinctive strategy preferences reflecting cultural values and educational traditions. Collaborative learning strategies proved particularly effective, with students showing strong preference for group study sessions and peer support networks over individual competitive approaches. Participant G.P. (university student) described: *"Kami suka belajar kelompok karena bisa saling membantu. Yang pandai mengajar yang kurang, yang kurang bisa bertanya tanpa malu. Ini sesuai dengan budaya*

gotong royong kita." [We like group study because we can help each other. The smart ones teach those who struggle, those who struggle can ask without shame. This fits our gotong royong culture.]

Memorization strategies, often criticized in Western educational contexts, showed positive relationships with Arabic learning outcomes among Indonesian students. The cultural familiarity with memorization through religious education made these strategies comfortable and effective for Indonesian learners, particularly for vocabulary acquisition and morphological pattern recognition. T.N. (pesantren graduate) explained: *"Dari kecil saya hafal Al-Quran dengan metode mengulang-ulang. Metode yang sama saya gunakan untuk menghafal kosakata dan pola-pola tata bahasa Arab. Sangat efektif untuk saya."* [Since childhood, I memorized the Quran by repeating. I use the same method to memorize vocabulary and Arabic grammar patterns. It's very effective for me.]

Traditional teacher-student relationship patterns influenced learning effectiveness, with Indonesian students responding positively to respectful authority-based instruction while struggling with student-centered approaches requiring autonomous decision-making. This pattern reflected broader Indonesian cultural values regarding educational relationships and knowledge transmission. Participant C.K. (university student) observed: *"Saya lebih nyaman ketika ustadz memberikan instruksi yang jelas daripada diminta untuk belajar sendiri. Kami diajarkan untuk menghormati guru dan mengikuti bimbingannya."* [I'm more comfortable when the ustadz gives clear instructions rather than being asked to study independently. We're taught to respect teachers and follow their guidance.]

Indonesian learners showed particular strength in analytical processing approaches, systematically decomposing Arabic linguistic elements and building understanding through logical progression. This analytical preference proved advantageous for mastering Arabic morphological complexity while occasionally hindering fluency development requiring more intuitive processing. Z.H. (university student) reflected: *"Saya suka menganalisis kata-kata Arab, mencari akar katanya, melihat polanya. Seperti matematika, ada logikanya. Tapi kadang saya terlalu berpikir dan tidak lancar berbicara."* [I like analyzing Arabic words, finding their roots, seeing the patterns. Like mathematics, there's logic to it. But sometimes I think too much and don't speak fluently.]

D. DISCUSSION
1. Interpretation of Cognitive Findings

The exceptionally strong relationship between working memory capacity and Arabic learning success among Indonesian learners (r=0.72) exceeds correlations typically reported in Western SLA research (r=0.45-0.55), suggesting that Indonesian educational and cultural contexts may particularly benefit learners with strong memory capabilities. The traditional emphasis on memorization in Indonesian Islamic education appears to have developed enhanced working memory skills that transfer advantageously to Arabic acquisition, challenging Western assumptions about the limitations of memorization-based learning(Abdullah Alazzaz & Almutrafi, 2022).

Indonesian learners' superior performance on memory-intensive tasks aligns with cultural educational practices emphasizing retention and recitation. The finding that working memory advantages persist even after controlling for prior Arabic exposure suggests that Indonesian educational traditions develop cognitive capabilities that broadly benefit language learning rather than simply providing Arabic-specific knowledge. This cognitive advantage may result from years of Quranic memorization practice, which requires sustained attention, pattern recognition, and systematic retrieval of complex linguistic information (Alhamami & Almosa, 2023).

The metacognitive awareness advantages observed among Indonesian learners with Quranic memorization experience highlight the cognitive benefits of traditional Islamic

educational practices. These findings challenge Western assumptions about memorization-based education, suggesting that such approaches may develop sophisticated metacognitive skills when implemented within meaningful cultural contexts. The reflective practices inherent in Islamic education, including tajwid analysis and textual interpretation, appear to foster metacognitive awareness that transfers to formal Arabic language learning.

The visual processing advantages among students with prior Arabic script exposure confirm the importance of early orthographic familiarity for successful Arabic acquisition. Indonesian Islamic educational practices providing script exposure through religious contexts create cognitive foundations that facilitate later formal Arabic study. However, the moderate correlation (r=0.48) suggests that script familiarity alone is insufficient for comprehensive Arabic proficiency without accompanying grammatical and communicative competence.

2. Affective Variables and Cultural Context

The prominence of integrative motivation among Indonesian learners reflects the unique cultural position of Arabic within Indonesian society as both foreign language and religious language. This dual status creates motivational profiles distinct from typical foreign language learning scenarios, requiring theoretical frameworks that account for religious and cultural identity factors. The strong correlation between integrative motivation and achievement (r=0.52) suggests that cultural connection enhances learning persistence and effort investment beyond what instrumental motivation alone can provide.

The emergence of "spiritual-integrative" motivation as a distinct category challenges existing SLA motivation taxonomies and suggests the need for culturally-grounded theoretical approaches. Indonesian learners' motivation combines cultural curiosity with religious devotion in ways that existing Western-derived theories inadequately capture. This finding supports arguments for developing indigenous theoretical frameworks that reflect non-Western psychological constructs and learning orientations.

The complex relationship between religious motivation and learning anxiety reveals the double-edged nature of religious identity in Arabic learning contexts. While Islamic background provides strong initial motivation (M=4.5) and cultural connection, it also creates performance pressures that can elevate anxiety levels, particularly regarding pronunciation accuracy for religious purposes. This tension requires pedagogical approaches that harness religious motivation while addressing associated performance anxieties through culturally-sensitive support mechanisms(Monita & Hasan, 2023).

The effectiveness of culturally-informed anxiety management strategies among Indonesian learners demonstrates the importance of incorporating indigenous coping mechanisms into language instruction. Islamic meditation practices and religious social support networks provide resources that Western anxiety management approaches may not adequately address. The negative correlation between anxiety and achievement (r=-0.43) underscores the importance of addressing anxiety through culturally-relevant interventions rather than generic stress management techniques.

3. Cultural Mediation Mechanisms

The role of Islamic religious identity in mediating cognitive and affective processes highlights the need for culturally-sensitive approaches to Arabic instruction in Indonesian contexts. Religious identity influences learning goals, strategy preferences, anxiety sources, and motivation patterns in ways that require specialized pedagogical responses. The qualitative data reveals that religious identity creates both opportunities for enhanced motivation and challenges related to performance expectations that must be carefully balanced in instructional design.(Calafato, 2023)

The positive influence of Indonesian cultural values such as patience (sabar) and persistence (tekun) suggests that successful Arabic instruction should explicitly build upon existing cultural strengths rather than attempting to modify Indonesian learners' approaches to match Western educational models. These cultural values provide psychological resources

for sustained effort during challenging learning phases, contributing to the resilience observed among Indonesian Arabic learners.

The effectiveness of collaborative learning approaches among Indonesian students reflects broader cultural values emphasizing collective achievement and social harmony. These findings suggest that Arabic instruction in Indonesian contexts should incorporate group-based activities and peer support structures rather than emphasizing individual competition. The cultural preference for gotong royong (mutual assistance) creates natural learning communities that can be leveraged for pedagogical purposes(Ferdi Hasan et al., 2024).

The complex relationship between traditional memorization practices and modern communicative approaches requires careful balance in Indonesian Arabic instruction. While memorization strategies prove effective for certain aspects of Arabic learning, particularly vocabulary acquisition and morphological pattern recognition, integration with more communicative approaches may be necessary for developing comprehensive proficiency that includes fluency and pragmatic competence.

4. Theoretical Implications for SLA Research

These findings contribute to SLA theory by demonstrating how cultural and religious factors fundamentally shape cognitive and affective processes rather than simply providing background context. The emergence of culturally-specific motivation categories and strategy preferences suggests that universal SLA theories require substantial modification for non-Western contexts. The spiritual-integrative motivation category identified in this study represents a theoretical contribution that may apply to other contexts where language learning intersects with religious identity.(Dewaele & Al-Saraj, 2015)

The distinctive cognitive processing patterns observed among Indonesian learners support arguments for cultural specificity in SLA mechanisms. Rather than universal processes operating uniformly across contexts, this research suggests that cultural background shapes fundamental aspects of language learning cognition in ways that require theoretical recognition. The enhanced working memory effects observed in Indonesian learners suggest that cultural educational practices can modify basic cognitive capabilities relevant to language learning.

The positive relationship between traditional educational practices and Arabic learning outcomes challenges Western assumptions about effective pedagogy. These findings suggest that culturally-responsive education should build upon existing traditions rather than replacing them with imported methodologies. This has implications for teacher training programs and curriculum development in diverse cultural contexts.

5. Pedagogical Implications for Indonesian Arabic Education

Curriculum development should explicitly incorporate metacognitive strategy instruction building upon existing Islamic educational traditions of reflection and self-monitoring. The strong relationship between metacognitive awareness and learning outcomes ($r=0.64$) suggests that such instruction could benefit all Indonesian learners regardless of prior religious education background. Instructional materials should include explicit strategy training that connects to familiar Islamic educational practices while extending them to formal Arabic language learning contexts.(Linck et al., 2014)

Teacher training programs should address cultural sensitivity and religious considerations in Arabic instruction. Indonesian Arabic teachers need understanding of the complex relationship between religious identity and language learning, including both motivational benefits and anxiety-producing pressures. Professional development should include training in recognizing and addressing religious anxiety while maintaining the motivational benefits of spiritual connection to Arabic learning.

Assessment practices should account for Indonesian cultural values regarding individual expression and performance display. Alternative assessment formats that align with collaborative learning preferences while maintaining rigorous standards could improve both

learning outcomes and student wellbeing. Portfolio-based assessment and group projects may be more culturally appropriate than individual competitive examinations.(Demusti et al., 2024)

Instructional approaches should balance traditional memorization practices with communicative methodologies, recognizing that Indonesian learners may achieve optimal results through integrated approaches rather than exclusive reliance on either traditional or modern methods. The positive relationships observed for memorization strategies suggest that such approaches should be retained and enhanced rather than abandoned in favor of purely communicative methodologies.

6. Limitations and Future Research Directions

The focus on Muslim Indonesian learners limits generalizability to non-Muslim Indonesian populations who may demonstrate different psychological profiles for Arabic learning. Future research should examine how religious background influences the observed patterns among Indonesian learners, potentially comparing Muslim and non-Muslim students to isolate religious from cultural effects.

Regional diversity within Indonesia suggests that the observed patterns may not apply uniformly across all Indonesian cultural contexts. The concentration of participants from Java, Sumatra, and Sulawesi may not fully represent Indonesian cultural diversity, particularly for eastern Indonesian populations with different cultural traditions and educational backgrounds. Future studies should include broader geographical representation to capture the full spectrum of Indonesian cultural variation.

The cross-sectional design limits conclusions about developmental processes and long-term learning trajectories. Longitudinal research following Indonesian learners across multiple proficiency levels would provide stronger evidence for causal relationships between psychological factors and learning outcomes. Such studies could also examine how motivational and cognitive patterns change as learners progress from beginning to advanced levels of Arabic proficiency.

Sample characteristics focusing on formal educational contexts may not generalize to informal learning situations, religious education settings, or self-directed study approaches common in Indonesian Arabic learning contexts. Community-based learning in mosques and pesantren may involve different psychological dynamics that warrant separate investigation.

Measurement considerations include the adaptation of Western-developed instruments to Indonesian contexts, which may not fully capture culturally-specific psychological constructs. Future research should develop indigenous assessment tools that reflect Indonesian understanding of learning processes, motivation, and anxiety within Islamic educational frameworks.

The qualitative sample size of ten participants, while providing rich insights, may not capture the full range of Indonesian learner experiences. Larger qualitative studies could explore additional themes and variations in psychological experiences across different Indonesian subpopulations and educational contexts.

7. Implications for Arabic Education Policy in Indonesia

These research findings have significant implications for Arabic education policy development in Indonesia. The Ministry of Religious Affairs and Ministry of Education should consider incorporating culturally-responsive pedagogical frameworks that build upon Indonesian learners' psychological strengths while addressing identified challenges.

Teacher certification programs should include mandatory training on cultural psychology of language learning, particularly focusing on the intersection between religious identity and Arabic acquisition. The distinctive motivational profiles and anxiety patterns identified in this study require specialized teacher preparation that goes beyond traditional language pedagogy training.

Curriculum standards should recognize the effectiveness of traditional memorization practices while promoting their integration with communicative approaches. Rather than abandoning traditional methods in favor of imported pedagogies, Indonesian Arabic education should develop hybrid approaches that maximize both cultural familiarity and communicative competence.

Assessment policies should accommodate collaborative learning preferences and cultural values regarding individual performance display. The development of culturally-appropriate assessment tools could improve both the validity of proficiency measurement and student psychological wellbeing during evaluation processes.

Resource allocation should prioritize the development of culturally-relevant instructional materials that connect Arabic learning to Indonesian Islamic heritage and cultural values. Such materials could enhance the spiritual-integrative motivation identified as crucial for Indonesian learners' success.

8. Contributions to International SLA Research

This study contributes to the growing body of research advocating for culturally-grounded approaches to second language acquisition theory and practice. The identification of spiritual-integrative motivation as a distinct motivational category adds to the theoretical understanding of how religious and cultural identity factors influence language learning processes.

The exceptionally strong cognitive correlations observed in this study suggest that cultural educational practices can significantly enhance basic cognitive capabilities relevant to language learning. This finding challenges universal assumptions about cognitive limitations and suggests that different cultural contexts may produce different ranges of cognitive performance in language learning tasks.

The positive relationship between traditional memorization practices and Arabic learning outcomes provides empirical support for culturally-responsive pedagogy arguments. This finding contributes to international discussions about the value of indigenous educational practices and their potential contributions to effective language instruction.

The complex relationship between religious motivation and learning anxiety identified in this study may apply to other contexts where language learning intersects with religious or spiritual identity. This has implications for heritage language education, indigenous language revitalization, and other contexts where language learning carries cultural and spiritual significance beyond purely communicative goals.

E. CONCLUSIONS

Cognitive factors most strongly predicting success included working memory capacity enhanced through traditional educational practices, metacognitive awareness developed through Islamic educational traditions, and visual processing capabilities for Arabic script acquired through religious contexts. These factors operated synergistically within Indonesian cultural frameworks. Affective variables influenced outcomes primarily through spiritual-integrative motivation combining cultural curiosity with religious devotion, anxiety management through Islamic coping strategies, and family-community support reflecting Indonesian social structures. Religious identity served as both motivational resource and potential anxiety source.

Cultural and religious backgrounds mediated psychological processes by providing cognitive foundations through traditional educational practices, creating unique motivational categories transcending Western theoretical frameworks, and establishing social support systems that influenced learning persistence and anxiety management. Indonesian learners' psychological profiles manifested through enhanced memory capabilities, preference for collaborative learning approaches, positive relationships with traditional pedagogical methods, and complex interactions between religious identity and learning goals that require culturally-sensitive instructional responses.

Longitudinal studies should examine how psychological factors evolve across different proficiency levels and cultural developmental stages among Indonesian learners. Understanding developmental trajectories could inform stage-appropriate interventions and culturally-responsive support services. Comparative research including non-Muslim Indonesian populations would strengthen understanding of how religious background influences the observed psychological patterns. Such research could separate cultural from religious influences on Arabic learning psychology. Intervention studies should test the effectiveness of culturally-responsive pedagogical approaches informed by these findings. Research examining integration of traditional memorization practices with communicative methodologies could provide evidence-based guidance for Indonesian Arabic curriculum development.

Teacher education research should investigate how pre-service and in-service training programs can prepare instructors to work effectively with Indonesian Arabic learners. Understanding teacher preparation needs represents a crucial component of improving Arabic education quality in Indonesian contexts. Community-based learning research should examine Arabic acquisition in informal settings, including pesantren education, family transmission contexts, and self-directed learning scenarios common in Indonesian Islamic communities. Regional diversity research should investigate how different Indonesian cultural contexts influence Arabic learning psychology, particularly in eastern Indonesian populations with different cultural traditions and religious practices. Technology-enhanced learning research should explore how digital tools can support the specific cognitive and affective needs identified among Indonesian Arabic learners, particularly applications that integrate traditional and modern pedagogical approaches.

F. FUNDING

G. CONFLICTS OF INTEREST

H. ACKNOWLEDGMENTS

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