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Development and Psychometric Assessment of the Malay Generalized Anxiety Inventory (GAI) among Malaysians Youth

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Abstract

This study reports on the development and psychometric assessment of the Malay Generalized Anxiety Inventory (GAI) or *Inventori Kebimbangan Awam,* an instrument designed to measure generalized anxiety levels among the Malaysian youth population. The inventory was constructed based on the diagnostic criteria outlined in the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-V). The Malay GAI comprises 12 items across six subscales: Restlessness, Extreme Fatigue, Difficulty Concentrating, Irritability, Muscle Tension, and Sleep Disturbance. Content validation was conducted through consultations with seven experts in the fields of counseling and psychology, ensuring the relevance and clarity of the inventory items. The reliability of the Malay GAI was assessed through a study involving 60 respondents aged 18-30 years. The analysis yielded a high Cronbach's alpha coefficient of .88, indicating strong internal consistency of the instrument. The findings suggest that the Malay GAI is a reliable and valid tool for assessing generalized anxiety levels in the Malaysian youth context. The inventory has potential applications in mental health counseling, psychological research, and generalized health interventions targeting anxiety-related issues among the Malaysian youth population.

Keywords: Validity, Reliability, Psychometric, Generalized Anxiety Inventory, Generalized Anxiety, Anxiety

Introduction

Anxiety is a common mental health condition characterized by persistent feelings of worry, fear, and apprehension (Dryer et al., 2022). It is a complex phenomenon that can manifest in various forms, including generalized anxiety disorder, social anxiety, panic disorder, and specific phobias (Lingaiah & Ishak, 2023). Individuals experiencing anxiety often face daily life with feelings of unease, worry and distress. Those suffering from such anxiety may encounter feelings of tension, restlessness, and even intense fear about events that have occurred or might occur, without knowing the underlying cause (Beck & Emery, 1985; Saleh, 2019).

Anxiety disorders are among the most prevalent mental health issues worldwide, affecting millions of individuals across different age groups and socioeconomic backgrounds (Cornacchio et al., 2016).

The American Psychiatric Association (APA), in the Diagnostic and Statistical Manual of Mental Disorders (DSM-V), defined anxiety as a mental disorder characterized by excessive worry lasting for more than two weeks. This condition is often accompanied by psychosomatic symptoms, including extreme fatigue, difficulty concentrating, irritability, muscle tension, and sleep disturbances. Individuals with anxiety disorders usually have recurring intrusive thoughts or concerns. These individuals may avoid certain situations out of worry. Worrying is a psychological process of having repeated negative and catastrophic thoughts and has been related to depression and several anxiety-related disorders. Common concerns that trigger anxiety include social relationships, career-related issues, examinations, or environmental factors that can negatively impact individuals with anxiety. Since anxiety disorders can affect anyone, untreated chronic anxiety may escalate to more severe outcomes, including suicidal tendencies (Abd Malek et al., 2020).

According to Nevid et al. (2000), anxiety can also be understood as a state of heightened awareness or anticipation that something bad might occur soon. Those afflicted often feel nervous or worried when facing situations they fear, such as public speaking, exams, or deadlines. In the Malaysian context, several studies have examined the prevalence and impact of anxiety among different populations. A study conducted among undergraduate students in public universities in Malaysia found that the prevalence of anxiety was 63%, which is significantly higher than the prevalence reported in private universities (55.5%)(Liew et al., 2021). Another study involving school teachers undertaking master's degree at the International Islamic University Malaysia (IIUM) revealed that a substantial proportion of the participants experienced high levels of anxiety related to speaking in a second language (Conway et al., 2021).

The impact of anxiety on individuals can be far-reaching, affecting various aspects of their lives. A study among Malaysian undergraduate students found that anxiety had a significant negative impact on their academic performance, with higher levels of anxiety associated with lower academic achievement (Liew et al., 2021). If left unaddressed, these anxiety disorders can develop into severe mental health issues, affecting individuals across all demographics. Additionally, a study on family caregivers of children with chronic diseases in Malaysia highlighted strong correlation between anxiety and various socio-demographic and psychosocial factors, underscoring the need for comprehensive support and interventions to address this issue (Ismail et al., 2020).

Beyond the Malaysian context, international research has also provided extensive evidence on the prevalence and consequences of anxiety. A systematic review and meta-analysis of prospective cohort studies found a positive correlation between childhood and adolescent anxiety and the subsequent development of alcohol use disorders (Michl et al., 2013). Another study examined the hierarchical taxonomy of psychopathology, highlighting the superiority of a dimensional approach to understanding mental health conditions, including anxiety, over the traditional categorical diagnostic system (Figlio, 2010).

Theoretical framework of Generalized Anxiety Inventory (GAI)

The theoretical framework of the Malay Generalized Anxiety Inventory (GAI) is based on the Diagnostic and Statistical Manual of Mental Disorders (DSM-V, 2016). The DSM-V outlined six key criteria for generalized anxiety disorder which form the basis of the subscales in the GAI.

a) Subscale 1: Restlessness

This subscale measures the social anxiety symptoms including feelings of restlessness and unease when facing daily routines or activities such as going to school or work.

b) Subscale 2: Extreme fatigue

This subscale addresses somatic symptoms, where individuals experience severe fatigue and exhaustion despite adequate rest, significantly disrupting their lives.

c) Subscale 3: Difficulty concentrating and mental blankness

This subscale assesses an individual's readiness to focus on daily tasks. Those experiencing anxiety may feel mentally blank or unable to determine their daily priorities due to an inability to concentrate.

d) Subscale 4: Irritability

This subscale measures the tendency toward anger and irritability in individuals with anxiety. Such individuals may become easily agitated or react negatively to challenges encountered in daily life, displaying heightened emotional responses to stressors.

e) Subscale 5: Muscle tension

This subscale evaluates the physical manifestations of anxiety, particularly muscle tension, which is common physiological symptom experienced by individuals with heightened anxiety levels.

f) Subscale 6: Sleep disturbances

This subscale measures the impact of anxiety on sleep patterns. Individuals experiencing high levels of anxiety often struggle to fall asleep or may wake frequently during the night, even when physically exhausted.

Anxiety disorders can affect any individuals facing life's challenges. These disorders often arise from insufficient resilience or ineffective coping mechanisms to address specific issues. If left untreated, anxiety symptoms can significantly disrupt daily functioning and may lead to depression, further amplifying negative consequences for individuals, their families, and society as a whole.

Objective(s)

The main objective of this study is to measure an individual's level of anxiety. The development of the Malay Generalized Anxiety Inventory (GAI) is particularly crucial given the rising statistics of mental health issues among Malaysian youth. Thus, this study also aims to determine the psychometric properties; reliability, face validity and content validity, of the GAI to ensure that this measurement tool is appropriate for use within the Malaysian cultural context. The specific objectives are as follows:

i. To develop the GAI questionnaire based on a comprehensive literature review.
ii. To evaluate the overall content validity of the GAI through expert panel evaluations.
iii. To assess the content validity of each GAI subscale through expert panel evaluations.
iv. To determine the overall reliability of the GAI using Cronbach's alpha analysis among Malaysian youth.
v. To establish the reliability of each GAI subscale using Cronbach's alpha analysis among Malaysian youth.

Literature Review

Generalized anxiety disorder (GAD) is a mental health condition characterized by persistent and excessive worry about a variety of issues, such as work, health, family, or finances (Hope & Henderson, 2014; Atchinson et al., 2022). According to the Diagnostic and Statistical Manual of Mental Disorder (DSM-V), anxiety is defined as a disorder characterized by excessive fear or worry about situations or objects that are not inherently threatening. Individuals with GAD often experience physical symptoms like muscle tension, fatigue, and difficulty concentrating (Hope & Henderson, 2014; Atchinson et al., 2022). GAD is distinguished from other anxiety disorders by its pervasive and uncontrollable nature, as the worry is not limited to a specific situation or trigger (Hope & Henderson, 2014; Atchinson et al., 2022).

Early symptoms of generalized anxiety often include restlessness, persistent fatigue, difficulty concentrating, and mental blankness (National Institute of Mental Health, 2021). Physical symptoms such as muscle tension and sleep disturbances are also common. Prolonged anxiety can lead to physical discomfort, which exacerbates psychological distress (American Psychiatric Association, 2023). Sleep disturbances, including difficulty in falling or staying asleep, are frequent among individuals with anxiety, further diminishing quality of life (National Sleep Foundation, 2024). In the long term, these symptoms may increase the risk of chronic conditions such as cardiovascular disease and weakened immune function (Battalio et al., 2018). When untreated, GAD can severely impact individuals and society. Without proper management, anxiety may develop into more serious mental health conditions such as agoraphobia, panic disorder, or obsessive compulsive disorder (OCD) (Anxiety and Depression Association of America, 2024). Chronically anxious individuals often experience reduced work performance, as they tend to focus more on their worries than their tasks (National Alliance on Mental Illness, 2022). Socially, unchecked anxiety can lead to relationship conflicts and social withdrawal. Prolonged anxiety can result in decreased life satisfaction and the adoption of unhealthy coping mechanisms, such as substance abuse, as individuals attempt to alleviate their stress (National Institute on Drug Abuse, 2022). Overall, untreated genralized anxiety can deteriorate both mental and physical well-being, increasing the risk of more severe mental health disorders (Bystritsky et al., 2013).

Accurate measurement of generalized anxiety is crucial for diagnosis, treatment planning, and monitoring of progress (Norman et al., 2011). Several validated assessment tools have been developed to identify and quantify the severity of GAD, such as the Generalized Anxiety Disorder-7 (GAD-7; Sandora et al., 2021), the Overall Anxiety Severity and Impairment Scale (OASIS; Norman et al., 2011) and the Generalized Anxiety Disorder Questionnaire (GAD-Q; Henderson et al., 2014). These tools have demonstrated strong psychometric properties and can help clinicians distinguish GAD from other anxiety disorders

or comorbid conditions like depression (Norman et al., 2011; Sandora et al., 2021; Henderson et al., 2014).

In Malaysia, there is a pressing need for anxiety measurement tools that are culturally relevant. Valid and reliable tools are essential to accurately assess anxiety levels in the Malaysian population, which differs from other nations in terms of culture, society, and economy. A 2023 study by the Malaysian Ministry of Health revealed a rise in mental health issues, particularly anxiety disorders, within the population. Tools like the Generalized Anxiety Disorder (GAI) can assist mental health practitioners in identifying high risk individuals and providing appropriate care (Tan & Ramli, 2021). Questionnaires are key instruments in psychology for evaluating mental states. A well-designed questionnaire helps identify disorders such as anxiety and depression while also exploring their symptoms and risk factors.

Globally, research on generalized anxiety has shown that it is a common and debilitating mental health condition. A systematic review of the global burden of anxiety disorders from 1990 to 2019 found that age-standardized prevalence rate of GAD was 3.9% (Yang et al., 2021). The review also noted that the endorsement of anxiety symptoms appears to be increasing, potentially due to improved detection methods (Yang et al., 2021). Studies have also examined the impact of the COVID-19 pandemic on generalized anxiety, finding elevated levels of anxiety and distress among various populations, including healthcare workers and the general public (Johns et al., 2022; Saeed et al., 2022; Lee & Crunk, 2020; Nikčević et al., 2021). Research on anxiety has also spans across different contexts, from school settings to workplaces. For example, the transition from school to higher education, where individuals develop professional identities and adult responsibilities, often triggers anxiety (Bolsoni Silva & Loureiro, 2014). Similarly, academic challenges and personal pressures are significant sources of emotional distress among students (Valverde et al., 2012).

Studies on generalized anxiety in Malaysia have found a relatively high prevalence of the condition in the general population. A community survey in the state of Selangor reported a GAD prevalence of 8.2%, with factors like high perceived stress, domestic violence, and chronic medical conditions associated with increased risk (Maideen et al., 2015). Another study on medical students in Malaysia found an anxiety prevalence of 41.9%, highlighting the need for mental health support in this population (Quek et al., 2019). According to the 2013 National Health and Morbidity Survey (NHMS), approximately one million Malaysians suffer from mental health issues. These findings highlight the urgent need for accurate and culturally tailored anxiety measurement tool. Such tool enable more in-depth research into risk factors and the impact of anxiety on various life aspects, such as quality of life, work performance, and physical health (Tan & Ramli, 2021).

In the context of university students, Fang (2018) found that common mental health issues among this group include depression, anxiety, and stress, with some cases escalating to suicidal risks. University years are often a challenging period in an individual's life, as pursuing higher education can be a stressful experience despite its potential rewards (Kumar et al., 2016). Psychological distress among university students is concerning as it is often associated with declining academic performance, poor physical health, increased mortality risks, and rising healthcare costs. Furthermore, studies have shown that psychological stress rates are high among students in low-, middle-, and high-income countries (Huda et al., 2021).

Similarly, anxiety disorders have also been studied in the workplace. For example, Hezzrin (2024) investigated anxiety disorders among civil servants in Terengganu, involving 150 respondents. The study found that the majority of respondents identified work-related pressure, particularly from supervisors or management, as the primary factor contributing to workplace anxiety disorders.

The 2023 National Health and Morbidity Survey reports that 29.2% of Malaysian adults experience mental health issues, with Sabah and WP Labuan recording the highest prevalence (42.9%) and WP Putrajaya the lowest (20.7%) (Refer Table 1). The table below provide geographical data to guide targeted interventions to improve mental health outcomes.

Table 1
Mental Health Prevalence among Adults in Malaysia, 2023

Sociodemographic Characteristics	Count	Estimated Population	Prevalence (%)	95% CI	
				Lower	Upper
MALAYSIA	3,752	4,206,697	29.2	27.9	30.5
State					
Johor	310	405,329	22.2	18.4	26.6
Kedah	225	238,814	26.7	22.3	31.6
Kelantan	326	296,883	39.1	35.1	43.2
Melaka	194	93,994	22.9	18.5	27.9
Negeri Sembilan	207	129,093	24.0	19.6	29.0
Pahang	188	168,903	27.8	21.5	35.1
Penang	227	163,745	19.1	14.6	24.7
Perak	197	225,366	17.0	13.1	21.8
Perlis	223	33,098	24.0	19.8	28.8
Selangor	540	897,134	29.3	26.7	32.1
Terengganu	155	95,293	26.0	19.8	33.4
Sabah & WP Labuan	468	746,170	42.9	39.3	46.7
Sarawak	214	354,544	35.8	30.1	41.9
WP Kuala Lumpur	185	348,894	39.8	34.7	45.2
WP Putrajaya	93	9,439	20.7	16.0	26.5

Source: National Health and Morbidity Survey (NHMS), 2023

The survey revealed that approximately one-third of Malaysians faced mental health issues, with anxiety disorders being among the most common. The GAI plays a critical role in identifying individuals with high levels of anxiety, understanding its symptoms and contributing factors, and enhancing societal awareness of these issues.

The American Counseling Association (ACA, 1997) defines counseling as the application of mental health, psychological, or human development principles through cognitive, affective, behavioral, or systematic interventions that address wellness, personal growth, or pathology. Based on this definition, the GAI has the potential to become a vital tool in counseling by:

a) Identifying individuals with high anxiety levels.
b) Understanding the symptoms of anxiety disorders.
c) Exploring risk factors contributing to anxiety disorders.
d) Enhancing societal understanding of anxiety disorders.

The increasing prominence of anxiety as a mental health issue highlights the importance of using tools like the GAI in counseling and mental health practices. Wider awareness and acceptance of mental health concerns can also help reduce stigma.

Methodology

This study employs a descriptive research design aimed at establishing the content validity and reliability of the developed Generalized Anxiety Inventory (GAI) through previous research studies. The study encompasses three phases; Phase 1: Development of the GAI, Phase 2: Obtaining validity, and Phase 3: Reliability analysis.

Phase 1: Development of the GAI

The development of the Generalized Anxiety Inventory (GAI) was conducted based on extensive literature review, following previous studies and appropriate theoretical approaches. The principal approach adopted for the GAI is derived from the Diagnostic and Statistical Manual of Mental Disorders (DSM-V) published by the American Psychiatric Association (APA).

Phase 2: Obtaining validity

At this stage, after constructing the GAI items, the inventory was distributed to seven selected panel members to review and assess the GAI in terms of content accuracy. The expert panel comprised four lecturers and three practitioners in the field of Counseling Psychology who are registered counselors. The review conducted by the expert panel aimed to achieve content validity for the GAI. Subsequently, the researcher prepared a complete copy of the GAI, including the study introduction and GAI manual, to obtain expert suggestions and improvement criticisms. The scale assessment involved a 10-point Likert scale ranging from 1 (strongly disagree) to 10 (strongly agree).

Phase 3: Reliability analysis

The third phase was conducted to analyze the reliability of the GAI. After achieving satisfactory content validity, the GAI was administered to 60 respondents selected through simple random sampling. The collected data were analyzed using the Statistical Package for the Social Sciences (SPSS) version 29.0 to obtain Cronbach's Alpha values, which assess the reliability of the GAI.

Instrument

The Generalized Anxiety Inventory (GAI) is designed to measure the level of anxiety within individuals. The inventory consists of 12 items divided into six subscales, with each subscale containing two items. Administering the GAI takes approximately 5-10 minutes. Respondents are required to be in a conducive and comfortable environment when completing the inventory. Prior to administration, instructions are read aloud clearly and thoroughly to the respondents. Respondents are instructed to answer honestly based on the statements that most accurately describe themselves. Responses are to be marked (✓) in the provided answer sheet based on the scale: 'Never', 'Several Days', 'More Than a Week', and 'Almost Every Day'. Respondents are free to answer all statements according to their perceptions and how they relate to themselves. They are informed that there are no right or wrong answers and should not worry about their responses. The GAI utilizes a Likert scale format with response options 'Never', 'Several Days', 'More Than a Week', and 'Almost Every Day'. Scoring is assigned as

follows: 0 points for 'Never', 1 point for 'Several Days', 2 points for 'More Than a Week', and 3 points for 'Almost Every Day' for all items. For score analysis and interpretation, the GAI is categorized into three levels: Normal (scores 0-12), Low (scores 13-24), Moderate (scores 25-36), and High (scores 37-48).

Theoretical model of the inventory

The theoretical model of the Generalized Anxiety Inventory (GAI) is based on the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-V). Anxiety occurs when individuals feel discomfort and mental distress, often accompanied by extreme worry and specific symptoms. Below is a detailed explanation of the six anxiety criteria as outlined:

a) Subscale 1: Restlessness

This subscale measures social anxiety symptoms, including feelings of restlessness and unease in daily life.

b) Subscale 2: Extreme fatigue

This subscale assesses the level of fatigue experienced by individuals, often caused by anxiety about events that have occurred or may occur in the future. Such fatigue can significantly disrupt daily functioning.

c) Subscale 3: Difficulty concentrating and mental blankness

This subscale measures an individual's ability to focus on tasks. Individuals experiencing anxiety may feel mentally blank or struggle to plan their daily routines due to an inability to concentrate effectively.

d) Subscale 4: Irritability

This subscale evaluates the tendency toward anger and irritability in individuals. Those with anxiety often become easily agitated and exhibit negative responses to stressful situations in their daily lives.

e) Subscale 5: Muscle tension

This subscale assesses the physical symptoms of anxiety, specifically muscle

f) Subscale 6: Sleep disturbances

This subscale measures sleep patterns in individuals experiencing high levels of anxiety. Those with anxiety often struggle with falling asleep or staying asleep, even when feeling physically exhausted.

Sample and Sampling

The study samples were involved in Phase 2 and Phase 3 of this study. In Phase 2, seven expert panels participated to evaluate the content validity of the Generalized Anxiety Inventory (GAI). These experts comprised individuals with relevant expertise in counseling psychology. In Phase 3, a total of 60 respondents were selected to obtain reliability data for the GAI. Simple random sampling was used to ensure a fair representation of the study sample.

Findings

Phase 1: Development of the GAI

The development of the GAI was based on an extensive literature review focusing on the definitions, factors, and symptoms associated with anxiety. Reference materials included articles and various local and international journals. From this literature review, the GAI was constructed with 12 items divided into 6 subscales, with each subscale comprising 2 items.

Phase 2: Obtaining validity

The findings highlighted the feedback and suggestions for improvement provided by the expert panel. Overall, **4 out of 7 experts** gave positive agreement on the proposed items. All expert opinions were reviewed and used as a basis for refining the items to enhance their reliability. The comments and suggestions from the experts are summarized in **Table 2** below:

Table 2
Comments and suggestions of the GAI items

Panel of expert	Comments and suggestions
Expert 1	The items are appropriate for the explained subscales.
Expert 2	The statements used are relevant to the subscales of the questionnaire.
Expert 3	The items align with the subscales being measured.
Expert 4	Overall, the items are suitable; however additional elements should be identified based on relevant literature, models, or theories.
Expert 5	The items are acceptable, but further suggestions were made to improve clarity.
Expert 6	The items are consistent with the subscales being measured.
Expert 7	The items appropriately reflect the subscales being measured.

Based on the comments and suggestions provided by the experts, the researcher reviewed and refined the items accordingly. While some items were unanimously agreed upon, others received partial disagreement. Overall, the experts concurred that the constructed items appropriately represent the concept and are capable of measuring individuals' levels of anxiety. According to Majid Konting (1998), the validity of a measurement tool refers to the extent to which the tool accurately measures the intended data to achieve the study's objectives.

Table 3
Overall content validity and subscale validity of the GAI (n = 7)

Scale/Subscale	No. of items	Score (%)	Expert remarks
Subscale 1: Restlessness	2	.690 (69.0)	Accepted
Subscale 2: Extreme fatigue	2	.884 (88.4)	Accepted
Subscale 3: Difficulty concentrating and mental blankness	2	.647 (64.7)	Accepted
Subscale 4: Irritability	2	.846 (84.3)	Accepted
Subscale 5: Muscle tension	2	.818 (81.8)	Accepted
Subscale 6: Sleep disturbances	2	.718 (71.8)	Accepted
Overall GAI	12	.880 (88.0)	Accepted

The results in Table 3 show that overall content validity score for the Genralized Anxiety Inventory (GAI) is .880 (88.0%), indicating strong content validity. among the subscales, the highest validity score is .884 (88.4%) for Subscale 2: Extreme fatigue, while the lowest score

is .690 (69.0%) for Subscale 1: Restlessness. These findings demonstrated that the GAI possesses a high level of expert-validated content validity.

Phase 3: Reliability analysis

The third phase was conducted to determine the reliability of the Generalized Anxiety Inventory (GAI). The data collected from the pilot study were processed using the Statistical Package for the Social Sciences (SPSS) version 29. According to Creswell (2010), reliability reflects the stability and internal consistency of a measurement tool. The interpretation of Cronbach's Alpha reliability values for the overall items and each subscale was based on the theory proposed by Valette (1997), which states that the minimum acceptable reliability value is .50. Kerlinger (1973) and Majid Konting (1998) suggest that reliability coefficients above .60 are commonly used, where a Cronbach's Alpha value above .60 - .80is considered moderately high, and a value above .80 is considered high. The Cronbach's Alpha values for the GAI are shown in Table 4.

Table 4
Reliability values for overall and subscales of the GAI (n=60)

Scale/Subscale	No. of items	Cronbach's Alpha	Interpretation
Subscale 1: Restlessness	2	.690	Moderately high
Subscale 2: Extreme fatigue	2	.884	High
Subscale 3: Difficulty concentrating and mental blankness	2	.647	Moderately high
Subscale 4: Irritability	2	.843	High
Subscale 5: Muscle tension	2	.818	High
Subscale 6: Sleep disturbances	2	.718	Moderately high
Overall GAI	12	.880	High

Significance level: .50

Overall, the reliability analysis for the Generalized Anxiety Inventory (GAI) showed a high Cronbach's Alpha value of .880, indicating strong reliability. This confirms that the GAI is a reliable tool for measuring anxiety. Among the subscales, Subscale 2: Extreme fatigue, subscale 4: Irritability, and Subscale 5: Muscle tension all achieved high reliability scores. Meanwhile, Subscale 1: Restlessness, Subscale 3: Difficulty concentrating and mental blankness, and Subscale 6: Sleep disturbance received moderately high reliability scores. Table 5 presented an analysis of the reliability to assess the quality of the constructed items.

Table 5
Reliability value of each items of the GAI

No.	Item	Cronbach's Alpha	Interpretation
1.	*Saya rasa gelisah.* (I feel restless)	.870	High
2.	*Saya sukar untuk tenteram.* (I find it hard to stay calm.)	.869	High
3.	*Saya cepat rasa letih.* (I feel fatigued quickly.)	.859	High
4.	*Saya cepat kehilangan tenaga.* (I lose energy rapidly.)	.859	High
5.	*Saya sukar untuk menumpukan perhatian.* (I have trouble concentrating.)	.876	High

6.	*Fikiran saya selalu rasa kosong.* (My thoughts often feel empty.)	.864	High
7.	*Saya cepat merasa marah.* (I get angry quickly.)	.873	High
8.	*Saya kerap hilang sabar.* (I often lose my patience.)	.876	High
9.	*Saya sukar untuk relaks.* (I find it hard to relax.)	.867	High
10.	*Saya rasa ketegangan otot.* (I feel muscle tension.)	.865	High
11.	*Saya sukar untuk tidur.* (I have trouble sleeping)	.879	High
12.	*Saya kerap terjaga pada waktu malam.* (I frequently wake up at night.)	.884	High

Significance level: .50

Table 5 demonstrated the reliability of each item in the Generalized Anxiety Inventory (GAI), with all items showing high Cronbach's Alpha values, indicating strong internal consistency. The reliability for each item in consistently high further supports the reliability of the overall inventory.

Discussion and Recommendation

This study offers significant contributions to the fields of psychology and counseling, with considerable implications for mental health practice in Malaysia. The development of the Generalized Anxiety Inventory (GAI) has provided an essential tool for measuring anxiety, addressing a critical gap in the available psychological instruments in Malaysia. Given the increasing prevalence of anxiety-related disorders, the GAI's high content validity and reliability demonstrate its potential for effective use in counseling settings by professionals such as counselors and mental health practitioners. This highlights the GAI's ability to accurately assess the level of anxiety in individuals, making it a valuable addition to the repertoire of tools used for mental health assessments.

Furthermore, while anxiety is a well-known and widely studied phenomenon globally, there remains a notable lack of tailored instruments to measure anxiety specifically in the Malaysian context. The unique cultural, social, and economic factors in Malaysia may influence the experience and expression of anxiety, making the need for culturally appropriate tools more urgent. The GAI's development marks a significant step toward addressing this issue. As mental health awareness grows in Malaysia, it becomes increasingly important to have measurement tools that are not only valid and reliable but also culturally sensitive to the population being assessed.

According to the Malaysian Ministry of Health (MOH) in the 2023 National Health and Morbidity Survey, statistics reveal that approximately one in three Malaysians is affected by mental health disorders, with anxiety emerging as one of the most prevalent. The increase in mental health issues across various demographics necessitates a better understanding of the scale and nature of these disorders, which can be aided by effective diagnostic tools like the GAI. The rising mental health concerns, especially among younger populations and in workplaces, underscore the importance of timely diagnosis and intervention.

As the GAI has shown promising results in its initial validation and reliability testing, it is crucial that future research builds on this foundation. Further studies should involve larger and more diverse samples from different demographic groups, including rural and urban populations, various age ranges, and individuals from different socioeconomic backgrounds. This will help ensure the inventory's applicability across a wide spectrum of the population. More extensive research could also focus on comparing the GAI's effectiveness with other anxiety assessment tools in Malaysia to determine its relative strengths and areas for improvement.

Additionally, future studies should consider analyzing the relationship between anxiety levels measured by the GAI and other relevant factors, such as academic performance, workplace stress, and social support, to gain a deeper understanding of how anxiety manifests in different settings. This could provide valuable insights for mental health interventions targeted at specific populations, such as university students, employees, or at-risk communities. Further refinement of the GAI items based on these studies would help produce a more robust and stable version of the inventory.

Conclusion

Overall, this study successfully developed the Generalized Anxiety Inventory (GAI) based on the foundational principles of anxiety as outlined by the American Psychiatric Association (APA) in the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-V). Each item of the GAI demonstrates high validity and reliability coefficients. This confirms that the GAI is effective in measuring the level of anxiety in individuals based on the symptoms they experience. In conclusion, the Generalized Anxiety Inventory (GAI) holds great potential for use in Malaysia, offering an effective means of measuring anxiety and contributing to better mental health management. Given its high reliability, it is recommended that future research includes a broader range of participants and explores additional contexts where anxiety is a concern. Such efforts will enhance the accuracy and relevance of the inventory, ultimately supporting mental health professionals in providing better care and interventions for individuals experiencing anxiety.

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