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Construction, Validity and Reliability of Major Depression Disorder Inventory (MDDI)

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Abstract

This study aims to construct, to acquire the content validity and reliability of Major Depressive Disorder Inventory (MDDI). The MDDI is designed to measure the brief self-assessment of major depression experienced by the individual. level of depression among people. Basic principle construction of MDDI is based on American Psychiatric Association (APA) in Diagnostic and Statistical Manual of Mental Disorders, 5th Edition (DSM-5) (2022). This inventory contains 18 items and is divided into 9 sub-scales which contain 2 items in each sub-scales; 1 positive and 1 negative item. Sub-scale 1: Prolong sadness; Sub-scale 2: Loss of interest; Sub-scale 3: Body weight changes; Sub-scale 4: Extreme sleep pattern; Sub-scale 5: Psychomotor agitation / retardation; Sub-scale 6: Fatigue / lethargic; Sub-scale 7: Feelings of worthlessness; Sub-scale 8: Lack of concentration; and Sub-scale 9: Recurrent suicidal thoughts. The content validity of DMI was evaluated by 7 experts (N = 7) consisting of 3 academic experts and 4 practitioners. A total of 40 samples were selected among 13 to 17 years old individuals to obtain the reliability value. The overall validity of MDDI is 18 at 75.50%. The overall reliability value shows a high value of 0.850. Hence, this study has successfully developed a questionnaire (MDDI) which has good validity and reliability values for use in the field of guidance and counseling in Malaysia.

Keywords: Major Depressive Disorder Inventory, Validity, Reliability, Construction

Introduction

Major Depressive Disorder (MDD) is a significant mental health condition characterized by persistent feelings of sadness, hopelessness, and a loss of interest or pleasure in activities once enjoyed. MDD has affected millions of individuals worldwide, with estimates from the World Health Organization (WHO) indicating that approximately 3.8% of the global population experiences depression, making it one of the leading causes of mental health disorders globally (World Health Organization, WHO, 2023). According to the American Psychiatric Association (APA) in the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) (2022), Major Depressive Disorder is a mental disorder that individuals

may experience after having at least one episode of major depression, occurring without a history of manic or hypomanic episodes. A key feature of major depressive disorder is the duration of at least two (2) weeks, during which there are either feelings of depression or a loss of interest or pleasure in all or nearly all activities throughout the day, nearly every day. Individuals with major depressive disorder must have at least five (5) of the following nine (9) symptoms: feelings of sadness, loss of interest, weight changes without dieting, sleep disturbances, psychomotor agitation or retardation, fatigue, feelings of worthlessness or guilt, lack of focus, and thoughts of death or suicide.

The etiology of MDD is multifactorial, involving genetic, biological, environmental, and psychological factors. Dysregulation of neurotransmitters, particularly serotonin, norepinephrine, and dopamine, has been associated with the pathophysiology of depression (Nestler et al., 2002). Additionally, external factors such as life stress, trauma, and chronic illness can trigger or worsen depressive episodes (Kendler et al., 1999). MDD not only presents significant challenges to the affected individuals but also to society, contributing to increased healthcare costs, loss of productivity, and reduced quality of life (Greenberg et al., 2020).

Recent research advances have led to a deeper understanding of MDD, resulting in various therapeutic strategies. Traditional approaches include pharmacotherapy and psychotherapy, while newer treatments such as transcranial magnetic stimulation and ketamine infusion are gaining attention for their effectiveness in treatment-resistant depression (Zanos & Gould, 2018). Despite these advancements, many individuals still struggle with their condition, highlighting the need for ongoing research and innovative interventions.

Therefore, this research aims to explore various aspects of Major Depressive Disorder among adolescents by developing and validating the content and reliability of the Major Depressive Disorder Inventory (MDDI). The MDDI covers a wide range of MDD symptoms through its 9 sub-scales aligned with the diagnostic criteria of the DSM-5, ensuring clinical relevance and adherence to widely recognized standards for diagnosing MDD. The MDDI is intended to provide a brief self-assessment tool for evaluating depression experienced by individuals particularly for adolescents. Moreover, Malaysian adolescents may face challenges interpreting complex psychological terms in other languages, particularly English. Using Malay language eliminates potential language barriers, fostering clearer communication and comprehension. This enhances its cultural sensitivity, accessibility, and effectiveness, ensuring it meets the needs of the target population in Malaysia while promoting inclusivity and accuracy in mental health assessments. By enhancing the understanding of MDD, we can better support affected adolescents and assist researchers in developing and refining appropriate intervention and treatment strategies to reduce the impact of MDD among teenagers.

Background of the Major Depressive Disorder Inventory (MDDI)

Major Depressive Disorder (MDD) is a type of mental disorder that causes individuals to experience persistent feelings of sadness or hopelessness and a loss of interest in activities that usually provide satisfaction. This condition often lasts for a prolonged period and can impact how a person thinks, feels, and functions in daily life.

Recently, the issue of depression among adolescents has become a major topic of discussion in relation to social problems. In response to this, the Major Depressive Disorder Inventory (MDDI) was developed to assess the mental health of adolescents between the ages of 13 and 17. By using the MDDI, researchers can identify the nine common features of depression based on 18 items in the questionnaire. Another inventory commonly used to measure depression levels is the Beck Depression Inventory (BDI), which was developed in 1961 by Aaron T. Beck, Gregory K. Brown, and Robert A. Steer. However, the MDDI can serve as a basis for identifying whether an individual is experiencing Major Depressive Disorder or not.

Recent studies on the symptoms of Major Depressive Disorder (MDD) in adolescents show that, in addition to persistent sadness and loss of interest, adolescents often exhibit specific signs such as irritability, fatigue, and changes in appetite and sleep patterns. Compared to adults, adolescents with MDD tend to have greater difficulty controlling their emotions, which results in social relationship problems, especially within the family, as well as academic difficulties (Deng et al., 2022).

This research also emphasizes risk factors associated with increased depression, including peer pressure, childhood trauma, family issues, and a family history of mental illness. Adolescents in unsupportive environments or those experiencing family conflicts are at a higher risk of developing depression. Further studies indicate that early treatment and good social support can reduce the severity of symptoms and prevent complications such as substance abuse or suicidal tendencies (Othman, 2016).

Here are the nine (9) main symptoms of Major Depressive Disorder:

1. Prolong sadness – Continuous sadness without a clear reason that is difficult to alleviate.
2. Loss of interest or pleasure – A loss of interest in activities or hobbies that were once enjoyable.
3. Changes in sleep patterns – This may include sleeping excessively (hypersomia) or experiencing insomnia.
4. Changes in appetite or weight – Significant weight loss or gain.
5. Psychomotor agitation / retardation – Slowness in physical movements, speech, and thought processes.
6. Fatigue or loss of energy – Feeling tired or lacking energy even after engaging in light activities.
7. Difficulty concentrating – Difficulty focusing, making decisions, or remembering information.
8. Feelings of guilt or worthlessness – A sense of low self-esteem, guilt, or feeling useless.
9. Recurrent thoughts of death or suicide – Thoughts of suicide or a desire to die.

Literature Review

Depression, as a multifactorial disorder, involves various symptoms that span behavioral, cognitive, social, and biological aspects. The accurate use of the term depression or "depression" and a clear understanding of the difference between normal emotions such as sadness and the disorder of persistent depression are important in the study and treatment of this condition (Bernard, 2018).

Based on the findings of the study by Sarbhan Singh et al. (2023), signs of depression have been increasing among adolescents in Malaysia, especially among female adolescents, who are more likely to experience depressive symptoms compared to male adolescents. Additionally, there are several significant factors contributing to the development of depressive symptoms among Malaysian adolescents, including substance abuse such as smoking and their social factors. Most students who are bullied or isolated often experience depressive problems.

In case studies from Malaysia, Syahirah and Siti (2023) explain that during the Covid-19 pandemic and the implementation of the Movement Control Order (MCO), secondary school students without social support were more likely to experience depression. A study by Syahirah and Nuremy (2020) also showed a significant correlation (r = 0.231) between social support and depression among college students.

Due to modernization and the rapid advancement of technology, the use of social media has also become one of the causes of depression in adolescents (Ghaemi, 2020). Specifically, negative social media activity among adolescents often involves cyberbullying, sexual harassment, and communication related to substance use or abuse.

Additionally, a study involving 63 articles found that the lifetime prevalence of major depressive disorder ranges from 2% to 21%, with the highest rates in Europe and the lowest in Asia. The main sociodemographic correlates include divorced/separated individuals and women. Furthermore, child abuse, domestic violence, and comorbidities with other physical and mental disorders are frequently associated with depression. Overall, major depressive disorder is a very common mental health issue worldwide and shows significant differences between countries, often being comorbid with physical and mental health issues (Gutiérrez-Rojas, et al., 2020).

Treatment coverage for major depressive disorder is low in most countries, even though MDD is one of the leading contributors to global mental health problems. Most existing studies on the coverage of major depressive disorder treatment do not take into account potential sources of heterogeneity at the study level, which contribute to variation in reported treatment rates. According to the study by Moitra et al. (2022), the minimum adequate treatment (MAT) rate ranges from 23% in high-income countries to 3% in low- and lower-middle-income countries.

In a study conducted in the United States by Hasin et al. (2018) involving 36,309 adults, the 12-month and lifetime prevalence of major depressive disorder were 10.4% and 20.6%, respectively. Most cases exhibited moderate (6-7 symptoms) or severe (8-9 symptoms) symptoms, often accompanied by comorbidities and functional impairments. About 74.6% of cases of major depressive disorder were categorized as anxious/depressed, while 15.5% were categorized as mixed features. Nearly 70% of individuals with lifetime major depressive disorder had received treatment in various forms.

Various interventions and solutions have been introduced to help individuals with major depressive disorder. Njenga et al. (2024) discuss new treatments for major depressive disorder, divided into two main categories: pharmacological and neuromodulation, following

the current research focus. They emphasize that the treatment of major depressive disorder requires a holistic approach that involves bio-psycho-social aspects, where psychological and social factors must be considered alongside neurobiological treatments. Some of the strongest evidence indicates the effectiveness of psychedelic interventions with psychological support.

Importance of Major Depressive Disorder Inventory (MDDI)

According to the National Health and Morbidity Survey (NHMS) conducted by the National Institute of Health (NIH) under the Ministry of Health Malaysia in 2023, statistics show that 4.6% of adults experience symptoms of depression. The mental health issues among children aged 5 to 15 years is reported to be 16.5%.

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, strategies that address wellness, personal growth, or career development, as well as pathology."

Therefore, Major Depressive Disorder Inventory (MDDI) can play a role in focusing on the following areas:

1. Identifying individuals with high levels of major depressive disorder.
2. Understanding the symptoms of major depressive disorder.
3. Understanding the factors contributing to the risk of major depressive disorder.
4. Raising awareness in society about major depressive disorder.

Given that major depressive disorder is increasingly prevalent in Malaysian society, it is important for counselors and relevant parties to identify individuals with high levels of depression so that appropriate treatment can be provided. Additionally, this will help raise awareness in the community about mental health issues and how to address them effectively.

Theoretical Basis of MDDI

According to the Diagnostic and Statistical Manual of Mental Disorders, 5th Edition (DSM-5), Major Depressive Disorder (MDD) is defined by the presence of at least one major depressive episode lasting for at least two weeks. The depression that occurs must not be accompanied by a history of manic or hypomanic episodes and should not be due to the physiological effects of substance use or other medical conditions. An individual diagnosed with MDD must experience at least five (5) of the nine (9) diagnostic criterias listed for more than two weeks. These nine symptoms form the core elements of this inventory. In summary, although these nine elements can be measured separately, they are intrinsically interconnected.

Below is a detailed explanation of the nine (9) diagnostic criterias related to major depressive disorder according to DSM-5:

1. Subscale 1: Feeling depressed for most of the day, nearly every day, as indicated either by subjective reports (feeling sad, empty, hopeless) or by observation (appearing tearful).
   (Note: For children and adolescents, this may manifest as irritability)
2. Subscale 2: Markedly diminished interest or pleasure in all, or almost all, activities most of the day, nearly every day (as indicated either by subjective reports or by observation).

3. Subscale 3: Significant weight loss when not dieting, or weight gain (a change of more than 5% of body weight in a month), or a decrease or increase in appetite.
   (Note: For children, this is considered failure to gain the expected amount of weight)
4. Subscale 4: Insomnia or excessive sleeping (hypersomnia). Extreme changes in sleep patterns.
5. Subscale 5: Psychomotor agitation or retardation nearly every day (observed by others, not just subjective feelings of restlessness or being slowed down).
6. Subscale 6: Fatigue or loss of energy nearly every day.
7. Subscale 7: Feelings of worthlessness or excessive or inappropriate guilt (which may be delusional) nearly every day (not merely self-reproach or guilt about being sick).
8. Subscale 8: Diminished ability to think or concentrate, or indecisiveness, nearly every day (either by subjective report or as observed by others).
9. Subscale 9: Recurrent thoughts of death (not just fear of dying), recurrent suicidal ideation without a specific plan, or a suicide attempt, or a specific plan for committing suicide.

Purpose of the Research

The main purpose of this study is to measure the level of major depressive disorder in individuals. Research on the Major Depressive Disorder Inventory (MDDI) is crucial, especially at a time when statistics show an increasing number of people in Malaysia experiencing mental health issues, particularly depression. Additionally, this study aims to determine the reliability and validity of the face and content validity, as well as the reliability of the MDDI measurement tool, as outlined below, to ensure that the tool is valid for use within the Malaysian culture.

1. To develop the MDDI based on DSM-5.
2. To obtain the content validity of the overall MDDI through expert panel evaluations.
3. To obtain the content validity of the MDDI subscales through expert panel evaluations.
4. To determine the overall reliability of the MDDI through alpha coefficient analysis.
5. To determine the reliability of the MDDI subscales through alpha coefficient analysis.

Administration, Scoring, and Interpretation of the Major Depression Disorder Inventory (MDDI)

The Major Depression Disorder Inventory (MDDI) is an inventory that measures the level of major depression disorder in an individual. The MDDI consists of 18 items, divided into 9 sub-scales, with each sub-scale containing 2 items. The administration of the MDDI takes between 10 to 12 minutes. The environment for answering the inventory should be conducive and comfortable. Before administering the inventory, instructions should be read clearly and in detail to the respondent. The respondent is required to answer honestly and sincerely based on the statement that best describes themselves. Responses should be marked (/) in the answer space on the provided answer sheet, using a 3-point Likert scale: ‘Never’, ‘Rarely’, or ‘Very Often’.

Respondents are free to answer all statements according to their perspective and relevance to themselves. They are informed that there is no need to worry about their answers, as there are no right or wrong answers. The answer format for the MDDI uses a Likert scale with the response options 'Never', 'Rarely', and 'Very Often'. For scoring, MDDI assigns a value of 0 for the answer 'Never', a value of 1 for 'Rarely', and a value of 2 for 'Very

Often' for the 9 negative items. For the 9 positive items, a value of 0 is given for 'Very Often', a value of 1 for 'Rarely', and a value of 2 for 'Never'.

For analysis and interpretation of scores, the MDDI is divided into three levels: a Low level represented by a score of 0 to 11, a Moderate level represented by a score of 12 to 23, and a High level represented by a score of 24 to 36.

Research Method

The design of this study is descriptive. This descriptive study is used to determine the content validity and reliability of the Major Depression Disorder Inventory (MDDI), which was developed through previous studies. The study consists of three phases, which are:

1. Phase 1: Development of the MDDI
2. Phase 2: Obtaining face and content validity
3. Phase 3: Analysis of reliability

Phase 1: Development of the MDDI

The development of the MDDI was carried out through an in-depth literature review, based on previous studies and appropriate conceptual approaches. The conceptual approach selected for the MDDI is based on the *Diagnostic and Statistical Manual of Mental Disorders, 5th Edition (DSM-5)*, due to its relevance to the inventory.

Phase 2: Obtaining Content Validity

At this stage, after the MDDI inventory items were developed, the MDDI was distributed to 7 selected panel members (N = 7) to review and assess the accuracy and content validity of the MDDI. The expert panel consisted of 3 academic experts and 4 practitioners. The researcher then provided a complete copy of the MDDI, which included an introduction to the study and the MDDI manual, to obtain expert suggestions and feedback for improvements. The evaluation for this scale used a 3-point Likert scale, with values of 1 (Important), 2 (Useful but not important), and 3 (Not Needed).

Phase 3: Reliability Analysis

The third phase was conducted to obtain an analysis of the reliability of the MDDI. After the MDDI had achieved content validity, it was administered to 40 respondents. A simple random sampling method was used to select the sample. The data obtained were analyzed using the Statistical Package for the Social Sciences (SPSS) version 29 to determine Cronbach's Alpha value for evaluating the reliability of the MDDI.

Research's Participant

The participants of the study were involved only in Phases 2 and 3 of this research. In Phase 2, the study involved 7 professional panel members (N = 7), consisting of 3 academic experts and 4 practitioners, who assessed the content validity of the Major Depression Disorder Inventory (MDDI). In Phase 3, a total of 40 respondents (n = 40), who were secondary school students in Selangor aged 13 to 17, were selected to provide data on the reliability of the MDDI.

Research Findings

Phase 1 Findings: Construction, Subscales, and Items of the Major Depression Disorder Inventory (MDDI)

The construction of the MDDI is based on a literature review concerning the definitions, factors, and symptoms of Major Depression Disorder. The references used include articles, various journals from both local and international sources, and the Diagnostic and Statistical Manual of Mental Disorders, 5th Edition (DSM-5). Based on these references, the MDDI was developed with 18 items divided into nine (9) subscales. Each subscale contains 2 items: 1 item is negative and 1 item is positive.

Phase 2 Findings: Content Validity of the MDDI

The findings indicate the improvement comments provided by expert panels. Overall, seven selected experts gave positive approval for the items presented. All the expert opinions were reviewed and used as the basis for the researchers to improve the items for reliability testing. The experts' comments and views are listed in Table 1 below:

Table 1
Comments and Suggestions for Improving MDDI Items

Experts	Feedback for Improvements	Researchers' Justifications
Expert 1	Include a Likert Scale for assessment	A Likert Scale has been provided
Expert 2	The inventory developed fulfills the requirements; just ensure there are no overlapping statements and that literature is included in the development of the inventory.	The statements used have been corrected
Expert 3	Please review the items based on the feedback given	The items have been reviewed
Expert 4	1. Add questions about the meaning of life for individuals or satisfaction in life to further assess symptoms of depression (refer to BDI questions). 2. Ensure that time duration and frequency are taken into account in this inventory to enhance validity.	Time duration has been included in the introduction of the inventory
Expert 5	Review the items based on DSM-5	The items have been reviewed according to DSM-5
Expert 6	Ensure the statements are not confusing	The statements have been reviewed and corrected
Expert 7	The subscales are disorganized and not in a clear order. It's suggested to follow the DSM-5-TR guidelines, starting with depressed mood, as it is the main feature of the disorder.	The items have been reviewed to follow the DSM-5 guidelines

Based on the received feedback, the researchers reviewed and improved the items to ensure they meet the inventory's objectives. Some items were accepted while others were not

agreed upon by all experts. Overall, the experts agreed that the items represent the concept and can effectively measure an individual's depression level. In summary, validity is fundamental for developing an effective, reliable, and ethical measurement tool/inventory that accurately reflects the constructs it is intended to measure, helping to achieve research objectives and yielding better results for future research and practice.

Overall content validity and subscales validity of MDDI were measured using formula Content Validity Ratio = (ne – N/2) / (N/2), where;
ne = number of experts indicating “important”
N = total number of experts

Table 2
Overall Content Validity and Subscale Validity of MDDI

Scale / Subscale	Item No.	Value (%)	Expert’s Evaluation
Overall MDDI	18	75.50	Accepted
Sub scale 1: Prolong Sadness	2	42.85	Less Accepted
Sub scale 2: Loss of interest	2	71.43	Accepted
Sub scale 3: Body weight changes	2	42.85	Less Accepted
Sub scale 4: Extreme sleep pattern	2	71.43	Accepted
Sub scale 5: Psychomotor agitation/retardation	2	42.85	Less Accepted
Sub scale 6: Fatigue / lethargic	2	42.85	Less Accepted
Sub scale 7: Feelings of worthlessness	2	71.43	Accepted
Sub scale 8: Lack of concentration	2	71.43	Accepted
Sub scale 9: Recurrent suicidal thoughts	2	71.43	Accepted

Table 2 shows the overall content validity of the MDDI is 75.50%. The highest validity is 71.43%, which includes subscales 2, 4, 7, 8, and 9. The lowest validity is 42.85%, which includes subscales 1, 5, and 6. In summary, this indicates that the MDDI has a moderate-high expert content validity rating.

Phase 3 Findings: Reliability of MDDI

The third phase was conducted to determine the reliability of the MDDI. The data obtained from the pilot study was processed using the Statistical Package for the Social Sciences (SPSS) version 29. According to Kline (2023), reliability refers to the extent to which an assessment consistently measures what it is intended to measure, typically assessed through various forms such as internal consistency, test-retest reliability, and inter-rater reliability. The interpretation of the Cronbach's Alpha reliability values for the overall items and each subscale was based on the theory presented by Vallette (1997), which states that the minimum acceptable reliability value is 0.50, and a value of 0.70 or higher indicates good reliability. The Cronbach’s Alpha values for the MDDI are presented in Table 3 below:

Table 3
Cronbach's Alpha for Overall and Subscale Reliability of MDDI (n=40)

Scale / Subscale	Item No.	Value	Interpretation
Overall MDDI	18	0.850	Good
Sub scale 1: Prolong sadness	2	0.626	Acceptable
Sub scale 2: Loss of interest	2	0.615	Acceptable
Sub scale 3: Body weight changes	2	0.440	Low
Sub scale 4: Extreme sleep pattern	2	0.561	Average
Sub scale 5: Psychomotor agitation/retardation	2	0.443	Low
Sub scale 6: Fatigue / lethargic	2	0.735	Good
Sub scale 7: Feelings of worthlessness	2	0.509	Low
Sub scale 8: Lack of concentration	2	0.777	Good
Sub scale 9: Recurrent suicidal thoughts	2	0.349	Very Low

Significance level = 0.5

Overall, the reliability analysis of the MDDI shows a high Cronbach's Alpha coefficient of 0.850. This indicates that the MDDI has high reliability and is suitable for use.

However, based on the evaluation of subscales, several subscales obtained low to very low reliability values. This may be due to the limited number of items in each subscale (only two items per subscale). A small number of items can cause Cronbach's Alpha values to become unstable and yield misleading results, including negative or very low values. Therefore, increasing the number of items in the subscales is recommended to improve the stability and reliability of these subscales in the future.

Table 4 below presents the reliability analysis for each individual item in the MDDI to assess the quality of the constructed items.

Table 4
Cronbach's Alpha for Each Item of MDDI (n = 40)

Bil	Item	Cronbach's Alpha	Interpretation
1.	I am always feeling sad *Saya sentiasa rasa sedih*	0.848	Excellent
2.	I am always happy (reverse code) *Saya sentiasa rasa gembira*	0.848	Excellent
3.	I am losing interest in my hobby *Saya hilang minat dengan hobi saya*	0.847	Excellent
4.	I am happy doing my hobby (reverse code) *Saya rasa gembira dengan hobi saya*	0.847	Excellent
5.	My body is getting thinner / fatter even though I am not dieting. *Badan saya semakin kurus / gemuk walaupun tidak berdiet*	0.850	Excellent
6.	I feel like my body weight is the same as usual (reverse code) *Saya rasa berat badan saya seperti biasa*	0.850	Excellent

7.	I am hard to fall asleep *Saya sukar untuk tidur*	0.849	Excellent
8.	My sleep is always sound and sufficient (reverse code) *Tidur saya sentiasa nyenyak dan mencukupi*	0.849	Excellent
9.	I find it difficult to control my body from reacting *Saya sukar untuk mengawal pergerakan anggota badan saya dari bergerak balas*	0.848	Excellent
10.	I feel my movements are normal (reverse code) *Saya rasa pergerakan saya seperti biasa*	0.848	Excellent
11.	I feel more tired even though I am not doing anything *Saya rasa diri semakin penat walaupun tidak berbuat apa-apa*	0.847	Excellent
12.	I always feel active and energetic (reverse code) *Saya sentiasa rasa aktif dan bertenaga*	0.847	Excellent
13.	I feel like I am worthless *Saya rasa diri saya tidak berguna*	0.847	Excellent
14.	I feel like I am a useful person (reverse code) *Saya rasa saya seorang yang berguna*	0.847	Excellent
15.	I easily lose focus *Saya mudah hilang tumpuan*	0.847	Excellent
16.	I am focused when performing tasks (reverse code) *Saya fokus dalam melakukan tugas*	0.847	Excellent
17.	I feel it would be better if I died than to continue living *Saya rasa lebih baik saya mati dari teruskan hidup*	0.847	Excellent
18.	My life is precious (reverse code) *Hidup saya sangat berharga*	0.847	Excellent

Significance level = 0.5

Based on Table 4, the reliability values indicate that all items are at an excellent level, exceeding 0.800. This result demonstrates that the quality of the constructed items is at an acceptable standard.

Modifications to several items after receiving expert feedback contributed to the overall improvement in reliability values. This aligns with the opinion of Majid Konting (1998), who stated that a reliability coefficient value of 0.600 or higher is sufficient and acceptable for such measurement instruments.

Overall, the reliability analysis of the MDDI shows that these items contribute to a high level of reliability, making it suitable for further research.

Discussion and Recommendations

This study has significant implications for the fields of psychology and counseling, especially in Malaysia. The development of the MDDI contributes significantly to the country, particularly in the field of counseling. The study's findings, which demonstrate that the MDDI

has high validity and reliability, also prove that it can be used in counseling settings by counselors and practitioners. This confirms that the MDDI is capable of measuring the level of major depression disorder in individuals, particularly among adolescents in Malaysia. Moreover, there is still a lack of instruments and research focused on developing and testing inventories that measure the level of major depression disorder in Malaysian adolescents.

Moving forward, further research should be conducted by future researchers to build more detailed statistical analyses of the MDDI items. This aims to produce a more robust and stable version of the MDDI. Since the MDDI has demonstrated high reliability, it is recommended that future studies expand to include various populations, not limited to any specific group.

Conclusion

Overall, this study successfully developed the Major Depression Disorder Inventory (MDDI) based on the core principles of major depression disorder as outlined by the American Psychiatric Association (APA) in the Diagnostic and Statistical Manual of Mental Disorders, 5th Edition (DSM-5). Each item in the MDDI has shown good validity and reliability coefficients. This proves that the MDDI effectively measures the level of major depression disorder based on the symptoms observed in respondents.

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