

Development and Psychometric Evaluation of a Malay Version of Body Dysmorphic Disorder Inventory (IKDT-8) among Malaysian Youth

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Abstract

This study aims to develop, validate the content, and establish the reliability of the Body Dysmorphic Disorder Inventory (IKDT-8). This questionnaire is designed to measure the level of Body Dysmorphic Disorder (BDD) in individuals. The construction of IKDT-8 is based on the criteria from the Diagnostic and Statistical Manual of Mental Disorders (DSM), 5th Edition by the American Psychiatric Association (APA). IKDT-8 comprises 8 items divided into 4 subscales, with each subscale containing 2 items. The subscales include: 1) Obsessive thoughts about appearance, 2) Repetitive behaviors or mental actions due to concerns about appearance, 3) Impairment of social functioning and daily activities, and 4) This disorder is not better explained by other mental disorders such as eating disorders. To validate its content, IKDT-8 was reviewed by 7 experts consisting of 4 field specialists and 3 academic lecturers. Forty-five respondents aged 18 to 25 were selected to determine its reliability. The overall validity of IKDT-8 shows a high value of 0.946 (94.6%), and the reliability value was also high at 0.851. Thus, this study successfully developed a questionnaire with good validity and reliability for use in the counseling field in Malaysia.

Keywords: Body Dysmorphic Disorder, BDD, Validity, Reliability

Introduction

Body Dysmorphic Disorder (BDD) is a mental disorder characterized by an excessive obsession with perceived flaws or defects in one's physical appearance, which are either non-existent or unnoticed by others (American Psychiatric Association, 2013). This condition can significantly impact an individual's well-being, disrupt daily life, and lower life satisfaction. Individuals with BDD often experience low self-esteem, face social difficulties, and may engage in obsessive behaviors such as repeatedly checking mirrors, seeking cosmetic treatments, or undergoing multiple cosmetic surgeries to "fix" these perceived flaws (Phillips et al., 2017).

BDD is closely linked to Obsessive-Compulsive Disorder (OCD), as both involve intrusive thoughts and compulsive behaviors aimed at reducing personal discomfort (Veale & Neziroglu, 2010). According to the *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5)*, BDD is formally recognized as a mental disorder and categorized within the OCD spectrum (American Psychiatric Association, 2013). The disorder is estimated to affect approximately 1.7-2.4% of the general population and is commonly identified during adolescence or early adulthood (Phillips, 2016).

Background of IKDT-8

Individuals with **Body Dysmorphic Disorder (BDD)** experience persistent and distressing thoughts and feelings related to negative perceptions of their physical appearance. These perceptions continue despite no visible or significant defects from the perspective of others. People with BDD often fixate on specific aspects of their appearance, such as skin, hair, nose, or body shape, believing that these features are embarrassing or unacceptable. This can lead to feelings of anxiety, shame, or sadness, along with difficulties in social and occupational functioning.

Symptoms of BDD According to DSM-5 include:

- a) Subscale 1: Anxiety or obsession about perceived physical flaws – Individuals with BDD exhibit extreme concern over perceived imperfections in their physical appearance, which are minor or non-existent. They spend hours fixating on these "flaws," which may involve areas such as the face, skin, hair, or other body parts.
- b) Subscale 2: Repetitive behaviors or thoughts to address appearance-related concerns – Individuals often engage in compulsive behaviors to manage their appearance-related anxiety. These behaviors include excessive mirror-checking, touching or treating perceived unattractive body parts, seeking reassurance from others, or performing rituals to conceal the "flaws." Examples include frequently altering their appearance, overusing makeup, or compulsively seeking cosmetic treatments.
- c) Subscale 3: Impairment in social or daily functioning – Persistent concerns about appearance interfere with social, occupational, and daily activities. Individuals may avoid social gatherings, refuse to be photographed, or shy away from meeting people due to fear of criticism or embarrassment.
- d) Subscale 4: Concerns not better explained by weight-related preoccupations in those meeting diagnostic criteria for eating disorders – BDD causes significant emotional distress and functional impairment, separate from concerns related to body weight seen in eating disorders. This condition often leads to social isolation, depression, and an increased risk of self-harm behaviors.

IKDT-8 provides an overview of the dimensions of BDD, focusing on the distress, compulsive behaviors, and functional impairments associated with this disorder.

Literature Review

Studies indicate that Body Dysmorphic Disorder (BDD) often develops from negative experiences such as excessive criticism or trauma related to appearance, which ultimately affects an individual's emotional and social well-being (Phillips & Bjornsson, 2010). BDD is frequently associated with feelings of inadequacy or self-shame. However, BDD is not merely dissatisfaction with appearance. This disorder can affect anyone, regardless of cultural background or age. A population study in the United States found a higher prevalence of BDD among women (2.5%) compared to men (2.2%) (Koran et al., 2008). Affected individuals may experience social avoidance, anxiety, and severe depression due to distorted thoughts or perceptions about themselves (Schneider et al., 2018).

Multiple studies have demonstrated that BDD not only leads to psychological distress but is also linked to complex biological and social factors. Research suggests that individuals with BDD may exhibit specific neurobiological differences, including reduced activity in brain areas associated with facial recognition and body perception, such as the visual cortex. Studies show that individuals with BDD process images of their own faces in more detail than the general population, causing minor flaws to appear more significant in their minds (Feusner et al., 2010).

From a social perspective, media plays a significant role in increasing the risk of BDD, particularly among adolescents (Davies et al., 2020). Overexposure to "perfect" images on social media has been linked to heightened body dissatisfaction. This is evidenced by a study by Ferguson (2013), which revealed a strong relationship between social media use and increased BDD symptoms, as individuals tend to compare themselves to unrealistic beauty standards.

Additionally, research by Wilhelm et al. (2011) highlights a connection between BDD and comorbid issues such as depression, anxiety, and substance abuse. Their study revealed that individuals with BDD frequently experience depression and thoughts of self-harm or suicide. These factors underscore the urgent need to understand and address this disorder with a comprehensive treatment approach.

In terms of treatment, Cognitive Behavioral Therapy (CBT) has been proven effective in reducing BDD symptoms (Veale et al., 2014). Studies indicate that CBT helps individuals identify and alter obsessive thoughts about perceived physical imperfections. Furthermore, pharmacological treatments like Selective Serotonin Reuptake Inhibitors (SSRIs) have also shown positive effects in reducing BDD symptoms (Phillips et al., 2002). Veale et al. (2014) reported that a combination of CBT and SSRIs could yield better results compared to standalone treatments, although interventions must be tailored to individual needs.

Several inventories are widely used to assess and diagnose Body Dysmorphic Disorder, including the Body Dysmorphic Disorder Examination-Self Report (BDDE-SR) and the Yale-Brown Obsessive Compulsive Scale Modified for Body Dysmorphic Disorder (BDD-YBOCS). The Body Dysmorphic Disorder Questionnaire (BDDQ) is also frequently employed for BDD screening in both clinical and non-clinical populations. BDDQ, consisting of a few brief questions, serves as a rapid screening tool used in epidemiological studies to estimate BDD prevalence in the general population (Brohede et al., 2013).

Despite the recognized reliability of these instruments, there are several limitations in their application within the Malaysian cultural context. First, most of these inventories were developed based on Western populations, and cultural adaptation and translation for local use remain limited. Additionally, language barriers may impact the reliability of these inventories (Subramaniam et al., 2020). Regarding societal readiness for screening, social stigma surrounding mental disorders in Malaysia also poses a barrier to individuals seeking help or undergoing BDD screening (Hanafiah & Van Bortel, 2015). This stigma leads some individuals to avoid screening despite exhibiting BDD symptoms, further complicating the identification and treatment of BDD cases in Malaysia.

Importance of Ikdt-8

According to the National Health Survey conducted by the Ministry of Health Malaysia (KKM) in 2015, statistics revealed that one in three Malaysians experiences a mental health disorder. Among the mental health conditions faced by the Malaysian population is BDD.

The American Counseling Association (ACA, 1997) defines counseling as "the application of mental health, psychological, or human development principles through cognitive, affective, behavioral, or systemic interventions and strategies that emphasize wellness, personal growth, career development, and pathology." In this context, the Body

Dysmorphic Disorder Inventory (IKDT-8) serves to focus on the following objectives:

- a) Identifying individuals with a high level of BDD
- b) Understanding the symptoms of BDD
- c) Understanding factors contributing to the risk of developing BDD
- d) Educating the public about BDD

As BDD is an increasingly concerning mental disorder within Malaysian society, it is crucial for counselors and related professionals to identify individuals with severe BDD to provide appropriate treatment and support. Furthermore, raising public awareness about BDD and ways to address it is essential in efforts to safeguard mental well-being in Malaysia.

Theoretical Basis Of Ikdt-8

According to the DSM-5, Body Dysmorphic Disorder (BDD) is generally characterized by excessive preoccupation with an individual's physical appearance. Below is a detailed explanation of the four (4) diagnostic criteria related to BDD as outlined in the DSM-5:

- a) Subscale 1: Excessive preoccupation with perceived flaws. This refers to extreme concern over one or more perceived flaws or defects in physical appearance that are either not visible or appear minor to others.
- b) Subscale 2: Repetitive behaviors or mental acts. During the course of the disorder, individuals engage in repetitive behaviors (e.g., mirror checking, excessive grooming, or skin picking) or mental acts (e.g., comparing their appearance with others) as a response to their preoccupation with their physical appearance.
- c) Subscale 3: Impairment in social and functional life. The preoccupation causes significant distress or impairment in social, occupational, academic, or daily

functioning. This subscale measures how often the individual is unable to continue their social functions due to the impact of their concerns about physical appearance.

- d) Subscale 4: Exclusion of eating disorders. The concern about appearance cannot be better explained by a focus on body fat or weight, as seen in individuals whose symptoms meet the diagnostic criteria for eating disorders. This subscale evaluates whether the body dysmorphic disorder experienced by the individual is distinct from symptoms typically associated with eating disorders.

Purpose of the Study

This study was conducted to measure the level of BDD (Body Dysmorphic Disorder) in individuals. Research on the Inventory for Body Dysmorphic Disorder (IKDT-8) is crucial at this time, as awareness of body image disorders is increasingly rising among Malaysian society. Therefore, this study aims to determine the reliability, face validity, and content validity of the IKDT-8 questionnaire to ensure its appropriateness for use within the Malaysian cultural context.

The objectives of this study are as follows:

- a) To develop the IKDT-8 questionnaire based on a literature review.
- b) To obtain the overall content validity score of the IKDT-8 questionnaire.
- c) To obtain the content validity score for the subscales of the IKDT-8 questionnaire.
- d) To determine the overall reliability score of the IKDT-8 questionnaire.
- e) To determine the reliability score for the subscales of the IKDT-8 questionnaire.

Administration, Scoring, and Interpretation of Ikdt-8 Scores

The Body Dysmorphic Disorder Inventory (IKDT-8) is an inventory designed to measure the level of BDD in an individual. IKDT-8 contains 8 items, which are divided into 4 subscales, with each subscale having 2 items.

1. Administration

The administration of the IKDT-8 takes approximately 6 to 8 minutes. The environment in which the inventory is answered should be conducive and comfortable. Before administering the inventory, clear and detailed instructions are given to the respondents. The respondents are required to answer honestly based on the statement that most accurately reflects themselves. Responses should be marked (/) in the provided answer sheet according to the scale of 'Never', 'Sometimes', or 'Often'.

2. Scoring

For scoring, IKDT-8 assigns a value of 0 for the response 'Never', a value of 1 for the response 'Sometimes', and a value of 2 for the response 'Often' for all items. The score for each response is calculated to obtain the score for each subscale. Afterward, the overall score is obtained by summing all the subscale scores.

3. Score Interpretation

For analysis and interpretation of scores, IKDT-8 is divided into three levels:

Low Level (0 - 5): This indicates that the individual exhibits a low level of BDD symptoms. It suggests that the individual may not experience significant issues related to BDD or only shows minimal and insignificant signs affecting their mental health.

Moderate Level (6 - 11): The individual shows moderate signs of BDD. This means there are some signs that may require further attention, and the individual may experience some discomfort due to BDD symptoms.

High Level (12 - 16): The individual exhibits a high level of BDD symptoms. This indicates significant signs and symptoms of BDD, which may require further intervention, such as counseling or therapy, to address these symptoms.

Research Methodology

This study follows a descriptive research design, which is used to obtain the content validity and reliability values of the IKDT-8 that was developed through previous studies. The study comprises three phases as follows:

- a) **Phase 1:** Development of IKDT-8
- b) **Phase 2:** Obtaining face and content validity
- c) **Phase 3:** Reliability analysis

Phase 1: Development of IKDT-8

The development of IKDT-8 was carried out using an in-depth literature review, drawing upon previous studies and appropriate theoretical frameworks. Based on its relevance to the IKDT-8, the theoretical framework chosen is from the American Psychiatric Association (APA) in the Diagnostic and Statistical Manual of Mental Disorders (DSM), Fifth Edition.

Phase 2: Obtaining Content Validity

At this stage, after the items for the IKDT-8 were developed, the inventory was distributed to 7 selected experts for review and evaluation in terms of content accuracy. The expert panel consisted of 3 registered counselors, 1 medical doctor, and 3 academic lecturers. The purpose of the expert review was to obtain content validity for the IKDT-8. The researcher then prepared a complete version of the IKDT-8, which included the study introduction and the IKDT-8 manual, to gather expert suggestions and criticisms for improvements. The evaluation scale used for this process ranged from 1 (strongly disagree) to 10 (strongly agree).

Phase 3: Reliability Analysis

The third phase aimed to perform a reliability analysis of the IKDT-8. After obtaining content validity for the IKDT-8, it was administered to 45 respondents. A simple random sampling method was used to select the sample. The data collected was analyzed using Statistical Package for the Social Sciences (SPSS) version 23 to calculate the Cronbach Alpha value, which is used to assess the reliability of the IKDT-8.

Study Subjects

The subjects in this study were involved only in Phase 2 and Phase 3. In Phase 2, the study involved 7 professional panel members to assess the content validity of the IKDT-8. In Phase 3, a total of 45 respondents, aged between 18 to 25 years, were selected to obtain data on the reliability of the IKDT-8.

Research Findings

Phase 1 Findings: Development, Sub-Scales, and Items of the IKDT-8 Inventory

The development of IKDT-8 was based on literature research regarding the definition, factors, and symptoms of Body Dysmorphic Disorder (BDD). Reference materials included articles and various journals from both local and international sources. Based on this, the IKDT-8 was developed containing 8 items, divided into 4 sub-scales. Each sub-scale contains 2 items.

Phase 2 Findings: Content Validity of IKDT-8

The findings from Phase 2 show the feedback for improvement provided by the expert panel reviewers. Overall, the 7 selected experts gave positive approval for the items presented. All the expert opinions were referred to and used as the basis for making improvements to the items for reliability measurement. The comments and suggestions from the experts are as outlined in Table 1 below:

Table 1

Comments and Suggestions for Improvement of IKDT-8 Item Validity

No.	Expert Panel	Comments and Suggestions	Actions and Justifications
1	Expert 1 Academic Lecturer	Improvement suggestion for Item 2: I feel bothered by certain parts of my body that I consider unattractive. This version is more concise and clearer.	Improvements were made
2	Expert 2 Academic Lecturer	There are some items that are appropriate and some that need improvement. Item 3: Add the frequency (how many times/hour). Item 5: Change the situation to activities. Item 8: I feel isolated from others because of my judgment about my appearance.	Necessary improvements were implemented
3	Expert 3 Academic Lecturer	All items are appropriate and easy to understand.	
4	Expert 4 Medical Specialist	Item 2: Use a simpler sentence. Item 3: Perhaps add how often. All listed items are appropriate.	Necessary adjustments were made
5	Expert 5 Registered Counselor	With this inventory, it is hoped that it will assist therapists/counselors in gaining an initial understanding of BDD.	
6	Expert 6 Registered Counselor	Item 3: Add frequency based on DSM-V criteria. All the listed items are suitable.	Improvements were made
7	Expert 7 Registered Counselor	Item 2: Simplify the sentence for better understanding. Item 6: Consistently use "I" at the beginning of the sentence. All items are suitable to be retained and relevant to be measured according to sub-scales. Simple and concise sentences make it easier for respondents.	Necessary adjustments were made

Based on the comments and feedback above, the researcher reviewed the items and made improvements according to the experts' suggestions. Overall, the experts agreed that the items developed represent the concept and are able to measure an individual's level of BDD. According to Majid Konting (1998), the validity of a measurement tool refers to how well the tool measures the required data to achieve the research objectives.

Table 2

Content Validity Value for Overall and Sub-Scales of IKDT-8

Scale/Subscale	No. of Item	CVI Value (%)	Expert Remarks
Overall CVI value of IKDT-8	8	.946 (94.6)	Accepted
Subscale 1: Obsession with appearance	2	.929 (92.9)	Accepted
Subscale 2: Repetitive behaviors or mental actions due to concerns about appearance	2	.929 (92.9)	Accepted
Subscale 3: Impairment of social functioning and daily activities	2	1.00 (100)	Accepted
Subscale 4: The disorder cannot be better explained by another mental disorder such as eating disorders	2	.929 (92.9)	Accepted

Table 2 shows the overall content validity value of IKDT-8, which is 0.946 (94.6%). The content validity values for all sub-scales are above 0.7. This indicates that IKDT-8 has a high expert content validity value.

Findings of Phase 3 Study: Reliability Value of IKDT-8

The third phase was conducted to obtain the reliability value of IKDT-8. Data obtained from the pilot study was processed using the Statistical Package for the Social Sciences (SPSS) version 23. According to Creswell (2010), reliability reflects the stability and internal consistency. The interpretation of the Cronbach's Alpha reliability value for the overall items and each sub-scale was based on the theory presented by Valette (1997), which states that the minimum reliability value is 0.50. According to Kerlinger (1973) and Majid Konting (1998), a reliability coefficient greater than 0.60 is often used, with a Cronbach Alpha value of 0.60-0.80 considered moderately high, and a value of 0.80 considered high. The Cronbach's Alpha value for IKDT-8 is shown in Table 3 below:

Table 3

Cronbach's Alpha for overall and subscales of IKDT-8 (n=45)

Scale/Subscale	No. of Items	Cronbach Alpha	Interpretation
Overall value of IKDT-8	8	.851	High
Subscale 1: Obsession with appearance	2	.725	Moderately High
Subscale 2: Repetitive behaviors or mental actions due to concerns about appearance	2	.605	Moderately High
Subscale 3: Deterioration in social functioning and daily activities	2	.716	Moderately High
Subscale 4: The disorder cannot be better explained by another mental disorder such as eating disorders	2	.843	High

Significant level 0.5

Overall, the reliability analysis of the IKDT-8 showed a high Cronbach's Alpha coefficient value of .855. This indicates that the IKDT-8 has high reliability and proves that it is suitable for use.

Based on the sub-scales, IKDT-8 obtained high reliability values for Subscale 4: The disorder cannot be better explained by another mental disorder such as eating disorders, and moderately high reliability values for other subscales. Table 4 below presents the reliability analysis to test the quality level of the items constructed:

Table 4

Reliability Values for Each Item of the IKDT-8

No	Items	Alpha Cronbach	Interpretation
1.	I often feel dissatisfied with my appearance. (<i>Saya sering merasa tidak berpuas hati dengan penampilan saya.</i>)	.831	High
2.	I feel bothered by certain parts of my body that I consider less attractive. (<i>Saya berasa terganggu dengan bahagian tertentu pada badan saya yang saya anggap kurang menarik.</i>)	.807	High
3.	I spend a lot of time each day (> 1 hour) thinking about my appearance. (<i>Saya meluangkan masa yang lama dalam sehari (> 1 jam) memikirkan tentang penampilan saya.</i>)	.830	High
4.	I constantly compare parts of my body with others. (<i>Saya sentiasa bandingkan bahagian tubuh badan saya dengan orang lain.</i>)	.831	High
5.	I avoid social activities because of embarrassment about my appearance. (<i>Saya mengelak aktiviti sosial kerana berasa malu dengan penampilan saya.</i>)	.815	High
6.	My appearance is the first thing I think about every morning. (<i>Penampilan saya menjadi perkara pertama yang saya fikirkan setiap pagi.</i>)	.810	High
7.	I feel that my appearance defines my worth as an individual. (<i>Saya merasakan penampilan saya menentukan nilai saya sebagai individu.</i>)	.856	High
8.	I feel disconnected from others because of the way I judge my appearance. (<i>Saya rasa terasing daripada orang lain disebabkan oleh cara saya menilai penampilan saya.</i>)	.848	High

Significant level 0.5

Table 4 demonstrated the reliability of each item in the IKDT-8, 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 Suggestions

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 IKDT-8 inventory has provided an essential tool for measuring the tendency towards Body Dysmorphic Disorder (BDD), addressing a critical gap in the available psychological instruments in Malaysia. Given the increasing prevalence of body image-related concerns and BDD tendencies, the IKDT-8 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 IKDT-8's ability to accurately assess tendencies associated with BDD, making it a valuable addition to the collection of tools used for mental health assessments.

Furthermore, while BDD is a well-documented and widely studied phenomenon globally, there remains a notable lack of tailored instruments to measure BDD tendencies specifically in the Malaysian context. The unique cultural, social, and economic factors in Malaysia may influence the perception of body image and self-esteem, making the need for culturally appropriate tools more urgent. The development of the IKDT-8 marks a significant step toward addressing this issue. As mental health awareness grows in Malaysia, particularly concerning body image and appearance-related disorders, 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 issues related to body image dissatisfaction are on the rise, particularly among adolescents and young adults. The increase in body image-related concerns across various demographics necessitates a better understanding of the scale and nature of these issues, which can be aided by effective diagnostic tools like the IKDT-8. The rising prevalence of mental health issues linked to body image, especially among social media users and individuals in urban areas, underscores the importance of timely diagnosis and intervention.

As the IKDT-8 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 cultural and 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 IKDT-8 effectiveness with other BDD assessment tools to determine its relative strengths and areas for improvement.

Additionally, future studies should consider analyzing the relationship between BDD tendencies measured by the IKDT-8 and other relevant factors, such as social media usage, cultural beauty standards, and peer influence, to gain a deeper understanding of how BDD manifests in different settings. This could provide valuable insights for mental health interventions targeted at specific populations, such as adolescents, university students, or individuals in professions heavily focused on appearance, like modeling or entertainment.

Further refinement of the IKDT-8 items based on these studies would help produce a more robust and stable version of the inventory.

Conclusion

Overall, this study successfully developed the Body Dysmorphic Disorder Inventory based on the fundamental principles of BDD outlined by the American Psychiatric Association (APA) in the Diagnostic and Statistical Manual (DSM) of Mental Disorders, Fourth Edition. Each item of the IKDT-8 has high validity and reliability coefficients. This proves that the IKDT-8 effectively measures the level of BDD based on the symptoms present in individuals.

The rationale for this study stems from the urgent need for a culturally relevant and psychometrically sound instrument to assess BDD tendencies within the Malaysian population. Given the increasing impact of body image concerns on mental health, particularly among adolescents and social media users, the IKDT-8 was developed to fill a crucial gap in existing psychological tools. By providing a reliable and valid measurement tool, this study significantly contributes to improving the assessment and early intervention strategies for BDD. This research also paves the way for future explorations into the underlying causes and treatment approaches for BDD, reinforcing its relevance in both clinical and academic domains.

The findings from this study are valuable for mental health professionals, policymakers, and researchers who are dedicated to enhancing mental health awareness and intervention programs in Malaysia.

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