PSYCHOMETRIC ANALYSES OF CRISIS INTENSITY AND CRISIS SYMPTOMS INSTRUMENTS

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ABSTRACT: *A crisis is brief and overwhelming, and it disrupts a person's normal and stable state, during which normal coping and problem-solving strategies are ineffective. Crisis intervention is provided by trained individuals, such as psychologists, counselors, social workers, mental health professionals, and therapists. This study aimed to determine the validity and reliability of crisis intensity and symptoms among respondents aged 9 to 69 years old. 531 voluntary respondents were recruited using purposive sampling, and their responses were analyzed to determine the structural components of crisis intensity and symptoms. The exploratory factor analysis identified a crisis intensity factor comprising four positive relationships: 1) physical crisis symptoms; 2) emotional crisis symptoms; 3) behavioral crisis symptoms; and 4) cognitive crisis symptoms. The confirmatory factor analysis (CFA) for validation generated 46 items within these four crisis-symptom-intensity relationships. Psychometric analyses supported the internal reliability, convergent and discriminant validity, and the scoring range of mild, moderate, and severe. The findings showed a significant difference between emotional and cognitive crisis symptoms about crisis intensity, thus indicating the validity and reliability of this new crisis instrument scale for Malaysian respondents. The findings showed a significant difference between emotional and cognitive crisis symptoms about crisis intensity, thus indicating the validity and reliability of this new crisis instrument scale for Malaysian respondents.*

Keywords: Crisis Intensity, Crisis Symptoms, Instruments, PLS-SEM

1. INTRODUCTION

Crisis refers to an individual's emotional reaction to a dangerous situation, which makes it difficult for the affected person to find an immediate solution and predict how long it will take to return to normal. As a result, people generally require assistance to resolve the issue they are confronted with, as previously known coping methods are no longer effective. Apart from experiencing periods of frustration and tension, the person will have to attempt to resolve the issue [1]. The person's adjustment and emotional, cognitive, and behavioral equilibrium will either be better or worse than before the crisis, depending on the individual's acceptance of the crisis and ability to implement appropriate interventions [2]. Encountering such extreme situations, which temporarily deplete and render personal resources ineffective, can be considered stressful due to the accompanying extraordinary emotions [3].

In ancient Greece, crisis refers to a turning point, a fork in the path of development, or a decisive moment. In the medical context, a crisis is the critical phase of a patient's struggle against a lethal threat. The critical phase raises the question of whether the patient will survive or succumb to the threat. In current usage, the term crisis still depicts both a grave threat and a means of escape; the situation may appear dire, but it is not hopeless. A crisis may present unforeseen "opportunities" [4].

A crisis can occur in the context of personal experiences, a familial crisis, or even within the community. In each of these contexts, many aspects such as safety, security, and health are placed in a threatening position, causing disruption and chaos internally and externally [5]. This crisis experience can cause the impacted individuals and communities to digest, process, and act on information differently compared to a pre-crisis experience [6, 7].

As this time can be very overwhelming, individuals or communities amid a crisis are at a loss for what steps to take next. Coupled with personal factors such as levels of resilience, personality characteristics, and relationships, this can result in people reacting impulsively to stimuli from the outside world with high levels of emotion [8]. As a result, a person in a crisis is more likely to experience intense emotional states, such as giving up, crying, or feeling indifferent [9]. According to Łosiak [3], crises affect the body in various ways and are manifested on numerous levels, as outlined below:

1. Bio-physiological: these are somatic and physiological anxiety symptoms, including profuse sweating, frequent urination, diarrhea, nausea, tachycardia, headache, abdominal pain, chest rash, menstrual failure, lack of interest in sex, or insomnia.

2. Emotional: causing increased anxiety, emotional shock, loss, emptiness, rage, harm, guilt, shame, or humiliation. A person struggles to control his or her emotions, and the ability may differ between individuals or populations. Emotional reactions to crises comprise a feeling of dread, fear of losing control, an inability to concentrate on a task or object, and a profound sense of helplessness and desolation.

3. Behavioral: inability to continue a specific or any activity; difficulty performing normal life functions; fear of people resulting in distancing from them; a reverse situation consisting of fear of loneliness; engaging in impulsive, ill-conceived, and self-destructive behavior; and difficulty using available assistance.
4. Cognitive: confusion, limited concentration, impairment, or breakdown of the normal capacity to solve problems and make decisions.

All these symptoms, although unpleasant, can be used as indicators of the state or level of crisis the person experiences. The intensity of a crisis is generally assessed using various assessment tools, such as the Triage in a crisis is more likely to experience intense emotional states, such as giving up, crying, or feeling indifferent [9].

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Cognitive: confusion, limited concentration, impairment, or breakdown of the normal capacity to solve problems and make decisions.

All these symptoms, although unpleasant, can be used as indicators of the state or level of crisis the person experiences. The intensity of a crisis is generally assessed using various assessment tools, such as the Triage Assessment System (TAS), the Crisis Assessment Tool (CAT), and Psychological First Aid (PFA), among many others. These assessments allow crisis intervention helpers to identify areas of crisis and appropriate types of interventions to apply to help mitigate this crisis.

The triage assessment system (TAS) for crisis intervention [10] is a framework that assumes that responses to crises can be classified into three domains: (1) affective, (2) behavioral, and (3) cognitive. Clinicians evaluate client responses in all three domains. This is essential, as failure to assess each domain can result in the failure of crisis resolution and the emergence of new issues [11]. The TAS helps clinicians identify the complex interaction between the three domains and aids in the prevention of chronic mental health issues.

The tool provides a structure for the evaluation procedure, which directly translates to treatment. According to research by [12], the inter-rater reliability is moderate, and content and criterion validity are promising, but more research is required to establish the TAS's validity. The TAS may also be used to monitor client reactions to tailor the intervention to their immediate needs. As clients approach crisis resolution, the intensity of their reactions changes, and clinicians must modify their interventions accordingly. The TAS offers a method for carrying out this procedure.

The Crisis Assessment Tool (CAT) is used to identify and communicate the needs of children in a crisis. The questions in this tool require respondents to rate the highest level experienced in the last 24 hours, and not merely what they are experiencing at the time the tool is administered.

Another assessment tool that is widely known is the Psychological First Aid (PFA). PFA addresses basic needs and provides these needs if it is absent during a crisis period. Some of the areas the PFA addresses are safety, calm and comfort, connectedness, self-empowerment, and hope.

These interventions, though varied, have similar goals, which are to help professionals assist a troubled individual or group by either intervening directly, identifying alternative coping strategies, or consulting with others. The professional's primary goals during a crisis are to (1) identify, assess, and intervene with the individual; (2) guide affected individuals to return to their previous functioning levels as soon as possible; and (3) minimize any negative impact the crisis may have on the individual's future mental health. As crises can affect the body in various ways and are often exhibited by symptoms, their intensity can vary from one person to another. This paper will establish the validity and reliability of a newly developed instrument that measures crisis intensity and crisis symptoms.

2. METHODOLOGY

Research Design

The mixed method, quantitative, and qualitative approaches were applied in this study. Open-ended questions and library searches were used to gather information on the intensity and symptoms of the crisis. The items gathered were assembled and analyzed to create an instrument. An online form via Google Forms was employed as a data collection platform. This study was approved by the Human Research Ethics Committee of USM (HREC), JEPeM Code: USM/JEPeM/21100690.

3. SAMPLE

In this study, respondents were individuals aged 9 to 69 years old. 531 voluntary respondents were recruited using purposive sampling, a non-probability sampling method, who had experienced crises.

4. ANALYSIS

The exploratory factor analysis aims to reveal the underlying dimensions of item scores. We first conducted exploratory factor analysis (EFA) for the 531 questionnaires, followed by a confirmatory factor analysis (CFA) that included a validity and reliability test. An additional step in the research process included running a confirmatory factor analysis, which rendered it possible to compute a factorial score for each of the five latent traits: crisis intensity (a), physical symptoms (b), emotional symptoms (c), behavioral symptoms, and (d) cognitive symptoms. The factor loadings estimated by the CFA model were multiplied by the respondent's scores for each item associated with latent trait components, thus resulting in a linear composition.

The data of the present study was analysed using PLS-SEM via the Smart PLS software. This statistical analysis method utilized does not require the assumption of normality to be met, thus analysis can be executed immediately [13, 14, 15, 16, 17, 18, 19, 20, 21].

PLS-SEM provided data for convergent validity via average variance explained (AVE). Information for the reliability of the instrument was also obtained through PLS-SEM analysis. The internal consistency was calculated using Cronbach's alpha, while the composite reliability

provided data to analyse the consistency across items on the same test. This analysis was followed by a confirmatory factor analysis (CFA).

5. RESULTS AND FINDINGS

Demographic Profile of Respondents

Table 1 below explains the demographic profile of the respondent's characteristics. There was a total of 531 respondents, of whom 61.4% (n = 326) were females and 38.6% (n = 205) were males. A majority, 78.2 (n = 415) of the Participants were from the Malay ethnic group. 46% of the respondents were in the age range of 20 to 29 years old, which made up the largest represented age group among the respondents. The least represented age group is the 60- to 69-year-old category, at only 0.8% (n = 4).

Table 1: Respondents Characteristics (N=531)

Characteristics	Number of Experts (n)	Percentage Response (%)	Mean ± SD
Male	205	38.6%	
Female	326	61.4%	
Malay	415	78.2%	
Chinese	46	8.7%	
Indian	31	5.8%	
Others	39	7.3%	
9-19 years old	120	22.6%	
20-29 years old	244	46.0%	
30-39 years old	107	20.2%	26.40
40-49 years old	46	8.7%	(9.437)
50-59 years old	10	1.9%	
60-69 years old	4	0.8%	

Descriptive Analysis

Calculations were made regarding the individual items' frequencies, means, and standard deviations (SD), as well as skewness and kurtosis. Moreover, the highest mean in the crisis instruments was item CSP3 (physical crisis symptoms) at 2.480, and the lowest was item CSB10 (behaviour crisis symptoms), as the result was 1.347. Meanwhile, the significance of the expected

The normal asymmetry of crisis intensity and crisis symptoms items in the direction of small or moderate among respondents with crisis problems was evaluated with the help of skewness and kurtosis. Specifically, the values for skewness varied from -0.464 to 2.253, and the values for kurtosis varied from -1.36 to 4.316. The table below presents the primary descriptive statistics, along with their respective standard errors. Table 2.

Table 2: Main Statistical Description of The Total Sample (N=46)

Descriptive Statistics					
Items	**Mean**	**Median**	**Standard Deviations**	**Kurtosis**	**Skewness**
CI2	2.493	3	0.936	-0.876	-0.036
CI3	1.846	2	0.926	-0.305	0.825
CI4	2.264	2	1.002	-1.059	0.219
CI6	1.755	2	0.887	0.149	1.002
CI8	2.077	2	0.916	-0.730	0.421
CI9	2.316	2	0.998	-1.045	0.177
CSP1	2.482	3	1.064	-1.235	-0.057
CSP2	1.887	2	0.991	-0.498	0.811
CSP3	2.840	3	1.030	-0.939	-0.464
CSP4	2.571	3	1.054	-1.188	-0.129
CSP5	1.755	1	0.961	-0.016	1.056
CSP6	2.062	2	1.051	-0.948	0.558
CSP7	1.972	2	0.990	-0.706	0.652
CSP8	2.454	2	1.120	-1.363	0.055
CSP11	2.051	2	1.028	-0.864	0.575
CSP12	2.448	2	1.108	-1.341	0.023
CSE1	2.277	2	1.069	-1.196	0.257
CSE2	2.269	2	1.042	-1.123	0.265
CSE3	2.407	2	0.997	-1.047	0.099
CSE4	2.107	2	1.004	-0.991	0.411
CSE6	2.190	2	1.001	-0.980	0.347
CSE7	2.015	2	1.027	-0.905	0.577
CSE8	2.154	2	1.023	-1.027	0.386
CSE9	2.119	2	1.070	-1.109	0.447
CSE10	2.584	3	1.081	-1.250	-0.154
CSE11	2.060	2	1.063	-0.982	0.559
CSB1	1.503	1	0.840	1.961	1.683

CSB2	2.096	2	1.040	-0.983	0.492
CSB3	1.782	1	0.959	-0.259	0.949
CSB4	2.011	2	1.010	-0.850	0.582
CSB5	1.989	2	1.043	-0.927	0.611
CSB7	1.358	1	0.747	3.596	2.114
CSB8	1.460	1	0.793	2.220	1.736
CSB10	1.347	1	0.744	4.316	2.253
CSB11	1.348	1	0.740	3.864	2.169
CSB12	1.921	2	1.029	-0.751	0.730
CSC1	2.160	2	1.052	-1.113	0.378
CSC2	1.952	2	1.041	-0.724	0.755
CSC4	1.625	1	0.949	0.416	1.300
CSC5	2.213	2	1.067	-1.234	0.267
CSC6	2.032	2	1.018	-0.947	0.526
CSC7	2.026	2	1.063	-0.935	0.608
CSC8	2.126	2	1.083	-1.116	0.462
CSC9	2.145	2	1.079	-1.153	0.413
CSC10	2.188	2	1.107	-1.255	0.357
CSC11	2.405	2	1.101	-1.321	0.090

Table 3 shows the frequency distributions obtained for each scale value across the five dimensions of crisis instruments. According to the results below, most of the respondents in this study scored a moderate score of 2 in all five dimensions, with the highest score being in behaviour crisis symptoms (CSB) at 269, followed by emotional crisis symptoms (CSE) at 263, cognitive crisis symptoms (CSC) at 238, and physical crisis symptoms (CSP) at 226. The lowest score was crisis intensity (CI) at 217, respectively. In addition, the different frequency profiles (Figure 1) reveal that the degree of internal discrimination to every single item is high, with the exception of behavior crisis symptoms (CSB) scoring 2 as a moderate score of 269, which demonstrates the equivalence of the sample in terms of agreement frequencies to the three scoring interpretation values (1-mild; 2-moderate; 3-severe). In contrast, the lowest level of internal discrimination was also observed for behavior crisis symptoms (CSB), with a mild score of 99 and a score of 1.

Table 3: Score by Dimensions and Frequencies of The Total Sample

Frequencies				
Dimensions	**No. of Items**	**Scoring 1 (Mild)**	**Scoring 2 (Moderate)**	**Scoring 3 (Severe)**
Crisis Intensity (CI)	6	140	217	174
Physical Crisis Symptoms (CSP)	10	136	226	169
Emotional Crisis Symptoms (CSE)	10	132	263	136
Behaviour Crisis Symptoms (CSB)	10	99	269	163
Cognitive Crisis Symptoms (CSC)	10	143	238	150

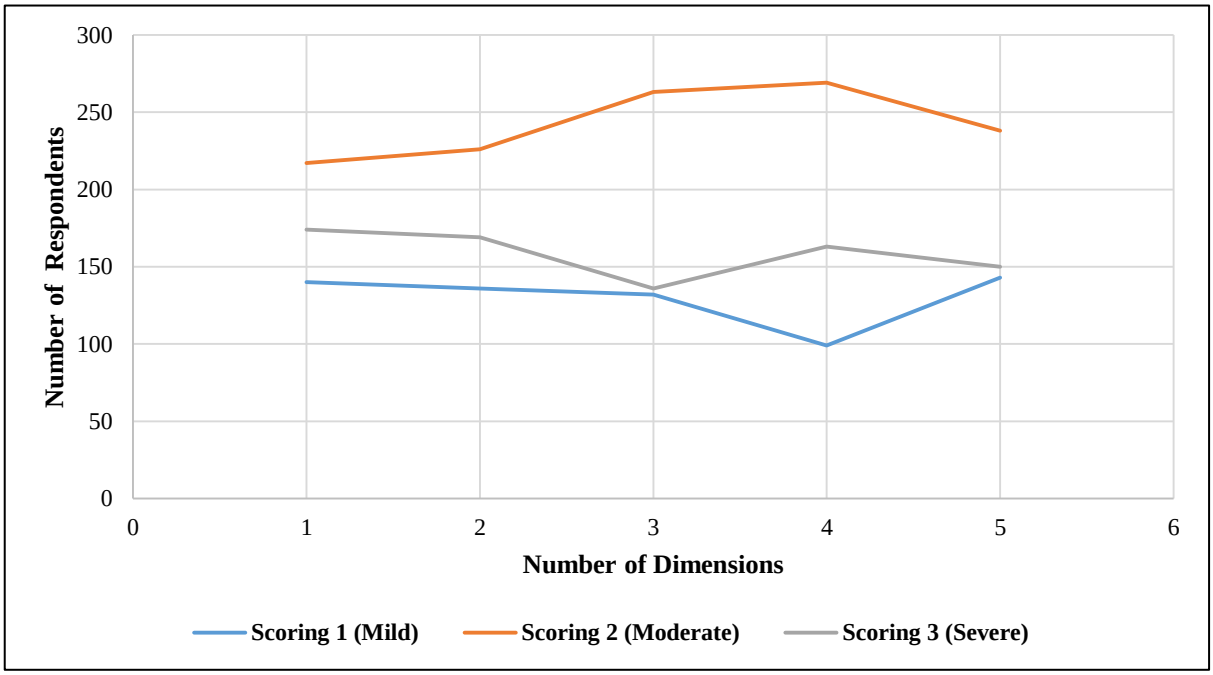


Figure 1: Frequency Splines for each Score and Dimensions

The internal consistency of all of the dimensions or components that make up the crisis intensity and crisis symptoms were computed, as shown in Table 4 and Figure 2.

The tables below show the original instrument, which includes all items. The factor loadings for each item of the instrument are also presented in the table below.

Table 4: Factor Loading of Crisis Instruments with 60 Items

No	Items	Factor Loading	Alpha Initial
Crisis Intensity			
CI1	I never felt this way before.	0.386	0.745
CI2	I am so nervous and scared.	0.710	
CI3	I can't think clearly.	0.763	
CI4	I feel stuck.	0.833	
CI5	I have got to do something.	0.439	
CI6	Nothing can help me.	0.635	
CI7	I can take care of myself.	-0.166	
CI8	I need help now.	0.723	
CI9	I feel miserable and restless.	0.827	
Physical Crisis Symptoms			
CSP1	Body pains include headaches and joint pains.	0.759	0.922
CSP2	Stomach aches, nausea, vomiting.	0.735	
CSP3	Fatigue.	0.745	
CSP4	Weakness.	0.801	
CSP5	Trouble breathing, shortness of breath.	0.762	
CSP6	A fast, thumping, or irregular heartbeat.	0.797	
CSP7	Sweating or hot flushes.	0.723	
CSP8	Sleep problems.	0.699	
CSP9	Changes in your sex drive.	0.547	
CSP10	Appetite problem.	0.688	
CSP11	Indigestion problems (stomached).	0.755	
CSP12	Headache and migraine.	0.726	
Emotional Crisis Symptoms			
CSE1	Overwhelming guilt.	0.746	0.936
CSE2	Appearing sad most of the time.	0.786	
CSE3	Anger.	0.721	
CSE4	Despair.	0.801	
CSE5	Emotional numbing.	0.575	
CSE6	Fear.	0.814	
CSE7	Depression.	0.857	
CSE8	Panic.	0.799	
CSE9	Insecurity.	0.792	
CSE10	Emotionally fatigue.	0.75	
CSE11	Decreased self-esteem.	0.76	
CSE12	Hypersensitivity	0.691	
Behaviour Crisis Symptoms			
CSB1	Self-destructive behavior.	0.765	0.918
CSB2	Decreased performance at school or work.	0.689	
CSB3	Don't care about own self.	0.776	
CSB4	Withdrawal from normal activities.	0.73	
CSB5	Increased relationship conflict.	0.783	
CSB6	Regression in behavior.	0.671	
CSB7	Extreme substance abuse.	0.679	
CSB8	Hurt others.	0.779	
CSB9	Crying	0.573	
CSB10	Attempted suicide.	0.744	
CSB11	Anger at God.	0.709	
CSB12	Feeling detached from family and friends.	0.765	
Cognitive Crisis Symptoms			
CSC1	Negative thoughts about yourself, other people, or the world.	0.774	0.945
CSC2	Hopelessness about the future.	0.794	
CSC3	Difficulty maintaining close relationships.	0.743	
CSC4	Perceive as if there is no reason to live.	0.778	
CSC5	Impaired concentration.	0.794	
CSC6	Impaired decision-making.	0.802	
CSC7	Disbelief.	0.746	
CSC8	Confusion.	0.788	
CSC9	Self-blame.	0.795	
CSC10	Intrusive thoughts/memories.	0.784	

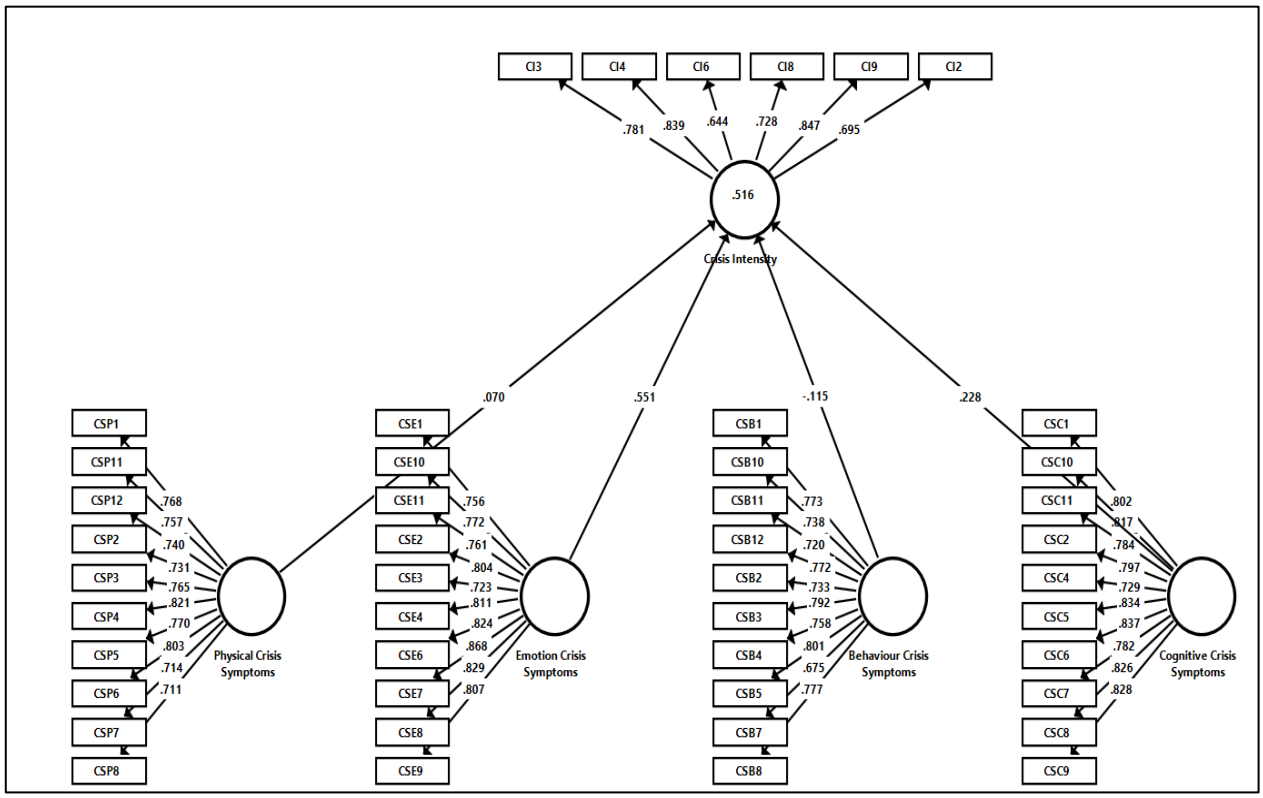
CSC11	Lack of motivation.	0.736	
CSC12	Derealisation (e.g., feeling as if in a dream world).	0.739	
CSC13	Feeling detached from family and friends	0.658	
CSC14	Amnesia	0.578	

Internal Consistency: 0.6 < 0.7 (Moderate), 0.7 < 0.8 (Good), 0.8 < 0.9 (Excellent)

As some factor loading values were considerably low, these items were removed to further strengthen the reliability of the instrument. The items that were removed are CI1, CI5, CI7, CSP9, CSP10, CSE5, CSE12, CSB6, CSB9, CSC3, CSC12, CSC13, and CSC14. Table 5 and Diagram 3 below present the factor loading and alpha value after the items have been removed, which shows improved factor loading and reliability values. The present instrument measured has five constructs, all of which also show strong Cronbach alpha values. These constructs are crisis intensity, $\alpha = 0.853$, physical crisis symptoms $\alpha = 0.957$, emotional crisis symptoms $\alpha = 0.935$, behavior crisis symptoms $\alpha = 0.913$, and cognitive crisis symptoms $\alpha = 0.939$.

Table 5: Factor Loading of Crisis Instruments with 46 Items

No	Items	Factor Loading	Alpha Initial	Alpha Final
Crisis Intensity				
CI2	I am so nervous and scared.	0.695	0.745	0.853
CI3	I can't think clearly.	0.781		
CI4	I feel stuck.	0.839		
CI6	Nothing can help me.	0.644		
CI8	I need help now.	0.728		
CI9	I feel miserable and restless.	0.847		
Physical Crisis Symptoms				
CSP1	Body pains include headaches, and joint pains.	0.768	0.922	0.957
CSP2	Stomach aches, nausea, vomiting.	0.731		
CSP3	Fatigue.	0.765		
CSP4	Weakness.	0.821		
CSP5	Trouble breathing, shortness of breath.	0.770		
CSP6	A fast, thumping, or irregular heartbeat.	0.803		
CSP7	Sweating or hot flushes.	0.714		
CSP8	Sleep problems.	0.711		
CSP11	Indigestion problems (stomached).	0.757		
CSP12	Headache and migraine.	0.740		
Emotional Crisis Symptoms				
CSE1	Overwhelming guilt.	0.756	0.936	0.935
CSE2	Appearing sad most of the time.	0.804		
CSE3	Anger.	0.723		
CSE4	Despair.	0.811		
CSE6	Fear.	0.824		
CSE7	Depression.	0.868		
CSE8	Panic.	0.829		
CSE9	Insecurity.	0.807		
CSE10	Emotionally fatigue.	0.772		
CSE11	Decreased self-esteem.	0.761		
Behavior Crisis Symptoms				
CSB1	Self-destructive behavior.	0.773	0.918	0.913
CSB2	Decreased performance at school or work.	0.733		
CSB3	Don't care about yourself.	0.792		
CSB4	Withdrawal from normal activities.	0.758		
CSB5	Increased relationship conflict.	0.801		
CSB7	Extreme substance abuse.	0.675		
CSB8	Hurt others.	0.777		
CSB10	Attempted suicide.	0.738		
CSB11	Anger at God.	0.720		
CSB12	Feeling detached from family and friends.	0.772		
Cognitive Crisis Symptoms				
CSC1	Negative thoughts about yourself, other people, or the world.	0.802	0.945	0.939
CSC2	Hopelessness about the future.	0.797		
CSC4	Perceive as if there is no reason to live.	0.729		
CSC5	Impaired concentration.	0.834		
CSC6	Impaired decision-making.	0.837		
CSC7	Disbelief.	0.782		
CSC8	Confusion.	0.826		
CSC9	Self-blame.	0.828		
CSC10	Intrusive thoughts/memories.	0.817		
CSC11	Lack of motivation.	0.784		



Internal Consistency: 0.6 < 0.7 (Moderate), 0.7 < 0.8 (Good), 0.8 < 0.9 (Excellent)

Figure 2: CFA of the 46-Items Crisis Instruments Scale

Table 6 provides additional information regarding the validation results for the crisis instruments scale. The average variance explained (AVE) is used as an indicator to measure convergent validity. For a good convergent validity, the AVE is expected to be at least 0.50. The AVE value of the present study ranged from 0.57 to 0.64, indicating good convergent validity.

The construct reliability (CR) measures correlations between items. The scores in the present study range from 0.890 to 0.948 which shows good reliability.

Table 6: Validation Results of The Crisis Instruments Scale

Items	CA	AVE	CR
Crisis Intensity (CI)	0.917	0.570	0.930
Physical Crisis Symptoms (CSP)	0.939	0.647	0.948
Emotional Crisis Symptoms (CSE)	0.851	0.577	0.890
Behavior Crisis Symptoms (CSB)	0.936	0.635	0.945
Cognitive Crisis Symptoms (CSC)	0.918	0.576	0.931
CA = Cronbach's Alpha, AVE = Average Variance Extracted, CR = Construct Reliability			

The path coefficients for both relationships are statistically significant ($p < 0.05$), as shown in Table 7. According to the displayed data ($t = 7.499$, $p < 0.05$), emotional crisis symptoms and crisis intensity are positively correlated. Similarly, cognitive crisis symptoms and crisis intensity are also positively correlated ($t = 3.153$, $p < 0.05$). In contrast, there is no link between physical crisis symptoms and crisis intensity ($t = 1.35$, $p > 0.05$). Moreover, Figure 3 demonstrates that crisis intensity explains roughly 66.73 percent of the variance in emotional crisis symptoms ($R^2 = 6.673$). Crisis severity and cognitive crisis symptoms explain 31.23 percent of the variance in crisis intensity ($R^2 = 3.123$). The current study employed bootstrapping confidence intervals of standardized regression coefficients (Figure 3). Second, the strength of each structural path determined the model's goodness-of-fit, and for the dependent latent variables (i.e. variance explained), the relevant analysis was conducted using the R^2 values. For each path between constructs, the desired values must be at least 0.1. Figure 3 depicts every R^2.

Table 7: Significant Verification Between Crisis Intensity and Crisis Symptoms

Structural Path	t-statistics	p-values	Conclusion
CSP→CI	1.355	0.176	not supported
CSE→CI	7.499	0.000**	Supported
CSB→CI	1.896	0.059	not supported
CSC→CI	3.153	0.002**	Supported
CI = Crisis Intensity, CSP = Physical Crisis Symptoms, CSE = Emotional Crisis Symptoms, CSB = Behaviour Crisis Symptoms, CSC = Cognitive Crisis Symptoms ***significant at α<0.05 confidence interval at 95%*			

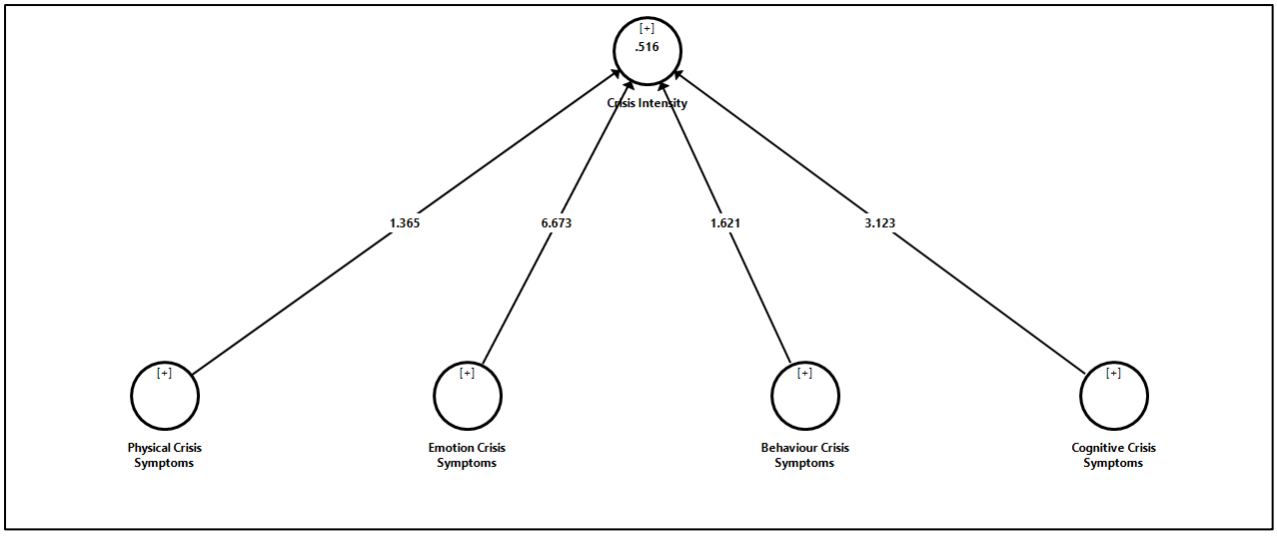


Figure 3: Testing of Validation Crisis Instruments

6. DISCUSSION

The purpose of this study was to investigate the psychometric properties of the Crisis Intensity and Crisis Symptoms instruments using CFA and PLS-SEM. The main aim of the study is to determine the reliability and validity of this instrument.

The validity of an instrument indicates whether it measures what it is supposed to measure. In this study, convergent validity is measured using AVE. Convergent validity gives users and researchers an idea of how similar the construct is to other variables and measures that study the same construct. The results show good convergent validity as indicated by AVE values greater than 0.50, meaning that the crisis intensity and crisis symptoms instrument does measure crisis intensity and crisis symptoms [22].

The reliability of an instrument indicates how similar scores can be obtained consistently across time and various administrations. In the present study, the initial instrument had 60 items. While the reliability of the instrument remained good at this time, it could be further improved with the removal of some of the items with low factor loading values. Items with low factor loadings simply indicate that they do not contribute to the construct that they are in. Thus, removing it will not only remove unnecessary items but also improve the reliability of the instrument [23].

For the crisis intensity items, three items with low factor loadings were removed, bringing the total number of items for crisis intensity from nine to six. Physical symptoms, behavior symptoms, and emotional symptoms originally had 12 items each, and were all reduced to 10 items after two items were removed from each component. For the cognitive symptoms, the final number of items on the instrument was 12, after two items with low factor loadings were removed from the original 14 items.

After the items with low factor loadings were removed, a total of 46 items were left. The current study reported high levels of internal consistency (Cronbach's alpha > 0.80). The composite reliability obtained after the removal of items also shows good to excellent values, ranging from 0.89 to 0.95. These values show that the current instrument is reliable, which means that the same results can be obtained even when the test is used multiple times. This simply shows that the scores obtained from this crisis intensity and crisis symptoms instruments are effective in providing consistent results in the current context.

The consistency in results provided can be very helpful in crisis situations as it would provide crisis helpers with a simple and reliable tool to help gauge the situation. According to the Chinese word of *crisis*, it can mean one of two things: danger or opportunity. More often than not, the crisis experience places individuals in a place of danger, which brings about emotions, feelings, and thoughts associated with being in danger. These include feeling nervous, scared, miserable, restless, and not being able to think clearly. The fight, flight, or freeze response would often kick in, making one's defense mechanism activated. At this point, receiving help could also be challenging because of the fear the person experiences. Thus, it is very important that appropriate intervention strategies be identified as quickly as possible so that intervention can begin swiftly.

In the current instrument, crisis symptoms are measured through four dimensions, which are, physical, behavioral, emotional, and cognitive symptoms. These four dimensions measure various signs and symptoms such as aches and pains, nervousness, feeling miserable, shortness of breath, withdrawals, crying as well and negative thoughts. These symptoms are varied and many, making a validated instrument useful for assessment at the time of crisis.

Crisis symptoms are also a good indicator of the intensity of the crisis experienced. Given the vast symptoms taken into consideration in the instrument, a more accurate level of crisis intensity can be obtained.

In addition to this, both crisis intensity and crisis symptoms measures can complement each other if it is used appropriately. Crisis intensity tells the severity of the crisis experienced. Yet, this severity could stem from many dimensions such as emotional, physical, cognitive, or even behavioral experiences. These experiences differ from person to person, making it challenging for crisis helpers to gauge it quickly and effectively. Thus, the crisis symptoms instrument can help crisis helpers identify the areas that are most affected for each client, enabling them to provide the most effective intervention at the present time.

7. CONCLUSION

The psychometric qualities of the present instrument are shown to be good, which indicates its effectiveness and usefulness to crisis intervention helpers. This validation process involved 531 individuals across Malaysia who have experienced some form of crisis. The present instrument measures crisis symptoms and crisis intensity, both of which are crucial in identifying types of resources that could be helpful for the client at the early stages of crisis intervention.

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