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ASSESSMENT PROCEDURE



Translation and validation of the Reaction to Impairment and Disability Inventory for Chinese population in Hong Kong

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ABSTRACT

Purpose: This study translated the reaction to impairment and disability inventory (RIDI) to Chinese and validated it for use in Hong Kong.

Methods: We conducted an instrument validation of the Chinese RIDI, with a sample of 244 persons with CID. The research questionnaire collected demographic information, illness-related variables, the Chinese version of RIDI (C-RIDI), and measures of resilience and well-being. We examined the factor structure, internal consistency, convergent validity, and criterion-related validity of the C-RIDI.

Results: The C-RIDI has good content validity and no major changes to the translated items were needed for the use in Hong Kong. For factor structure, we replicated the results of Livneh et al. The C-RIDI has two second-order factors of adaptive and nonadaptive scales, which interact with the two denial subscales. Internal consistency of the subscales is satisfactory except for the three-item denial subscales. Correlations of the C-RIDI subscales with illness-related variables, resilience, and mental well-being are consistent with our hypotheses and provide support for the convergent and criterion-related validity of the scale.

Conclusions: The C-RIDI has satisfactory psychometric properties. The study results support its internal consistency, convergent validity, criterion-related validity, and factorial validity.

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KEYWORDS

Disability; chronic illness; emotional adjustment; psychosocial adaptation; reaction to impairment and disability inventory; validation; Chinese

► IMPLICATIONS FOR REHABILITATION



- Emotional adjustment to chronic illness and disability is a key determinant of illness self-management, mental well-being, and quality of life.
- The study translated the reaction to impairment and disability inventory into Chinese and conducted a psychometric evaluation of the translated instrument.
- The Chinese RIDI had a similar second-order factor structure as in the validation studies of the English version, and result of this confirmatory factor analysis support the theory underlying the design of the RIDI.
- The Chinese RIDI had satisfactory convergent and criterion-related validity and internal consistency, and is ready for application in rehabilitation practice and research in the Chinese context.

Introduction

Chronic illness covers a wide range of medical, neurological, and autoimmune conditions, as well as cancer [1]. Acquired physical disabilities, like traumatic brain injuries (TBI) and spinal cord injuries (SCI) and amputations, are often due to work injuries, accidents, falls, violence, or recreational activities [2]. People with chronic illness and disability (CID) often face challenges in self-care and in maintaining their productivity, lifestyle, and relationships, which could have a long-term impact on their mental well-being and quality of life [3–5]. In psychological adjustment, people with CID often need to adjust to changes in their body image and self-concept, cope with their grief from the loss of

functional abilities and independence, and to “live with the illness” [6]. It is often a considerable challenge for professionals to manage the motivation and participation of clients in rehabilitation, and to address the mental well-being of clients, such as managing depression, rebuilding self-esteem, and seeking and maintaining social support [7].

While emotional adjustment to CID has been widely studied in Western countries, this study aimed at addressing the understanding of psychosocial adaptation of people with CID among Chinese populations [8,9]. Cultural background could exert a major influence on how people perceive and react to disability and chronic illness [10,11]. Chinese reactions to disability and chronic diseases may differ from those in Western studies, and this study could

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contribute to the understanding of Chinese perceptions of and reactions to disabilities and illness. The lack of suitable instruments to measure psychosocial adaptation could be a key reason when there were so few studies on the psychosocial adaptation process among Chinese populations [12]. This study will address this lack of instrument by translating a validated English instrument and provide a tool for researching on psychosocial adaptation of people with CID in Hong Kong.

This study selected the reaction to impairment and disability inventory (RIDl) for translation and validation, as is one of the few fully validated instruments designed to assess the degree of psychosocial adjustment to illness and disability [13,14]. Based on theories of grief and loss [15], the phase model of adaptation suggests that a number of emotional reactions are observed in people with CID [14,16,17]. The RIDl measures the common emotional reactions to CID, including shock, anxiety, denial, depression, internalized anger, externalized hostility, acknowledgement, and adjustment. The translation and validation of the RIDl in this project could provide a useful instrument for practice research and clinical assessment of psychosocial adjustment in persons with CID.

As reported in the RIDl Manual [12], eleven studies were conducted among groups of people with CID, including sensory impairments, chronic diseases, neurological disorders, developmental and learning disabilities, and psychiatric disabilities. There have been different results on the factorial structure [13,14,18], but the RIDl is most likely composed of three second-order factors: (1) Nonadaptive factor, comprising shock, anxiety, depression, internalized anger, and externalized hostility; (2) adaptive factor, covering the acknowledgement and adjustment subscales; and (3) denial factor, which correlates with both the adaptive and nonadaptive scales. It is not clear if this factorial structure could be replicated when used with Chinese populations.

The RIDl had acceptable to good internal consistency. In studies of criterion-related and predictive validity, the RIDl subscales correlated significantly and in expected strength and direction with measures of coping strategies, locus of control, anxiety, depression, life satisfaction, self-efficacy, quality of life and well-being. However, no scientific studies on the psychometric properties of this scale have been reported for use with Chinese populations.

This study aimed at translating the RIDl into Chinese and validate the Chinese version of RIDl (C-RIDl). The objectives of the study include a review of content validity and cultural relevance by an expert panel. We then conduct a confirmatory factor analysis of the C-RIDl by attempting to fit factor models from previous studies of the English RIDl. We also obtain measures of the internal consistency of the subscales and examine the criterion-related validity of the C-RIDl with illness variables (history of illness, functional limitations, etc.), and measures of resilience and mental well-being. Pain, fatigue, shortness of breath, visibility of illness, and history of illness are illness variables that we hypothesized to correlate negatively with psychosocial adaptation [19,20]. Measures of resilience and mental well-being are often found to correlate positively with psychosocial adaptation [21–23].

Method

Participants

We planned to recruit a quota (convenient) sample of 240 participants, at least 30 for each of the 8 illness groups (Table 1). The first inclusion criteria that the participant should have the following types of illness/disabilities: (1) diabetes, (2) heart failure and

Table 1. Participant profiles.

Variables	<i>n</i>	%
Gender		
Male	10	55.6
Female	10	45.5
Diagnosis		
Diabetes	34	15.2
Heart disease	33	14.7
Cancer	34	15.2
Stroke	29	12.9
Rheumatoid arthritis or autoimmune diseases	33	14.7
Neurological disease	20	8.9
Acquired physical disabilities	16	7.1
Brain injuries	9	4.0
Others: developmental, congenital, sensory impairment	16	7.1
Educational level		
Below primary education	13	5.8
Primary education	42	18.8
Secondary education	128	57.1
Tertiary education	36	16.1
Post-graduate degree	5	2.2
Work or role status		
Full-time job	14	6.3
Part-time job	18	8.1
Unemployed	56	25.3
Student	1	0.5
Homemaker	41	18.6
Retired	91	41.2
Family income		
Less than HKD10 000	51	23
HKD10 000–19 999	64	28.8
HKD20 000–29 999	27	12.2
HKD30 000–39 999	13	5.9
HKD40 000–49 999	8	3.6
HKD50 000–59 999	5	2.3
HKD60 000–69 999	3	1.4
HKD70 000 or above	3	1.4
No income or do not know	15	20.7
Ordinal or interval variables	<i>M</i>	<i>SD</i>
Age	57.8	12.9
History of illness	14.4	13.1
Functional limitations (range of 1–4)	1.6	0.8

cardiovascular disorders, (3) cancer, (4) stroke, (5) arthritis and other autoimmune disorders, (6) neurological disorders (such as epilepsy or multiple sclerosis), (7) physical disabilities resulting from traumatic brain injuries, (8) acquired physical disabilities, traumatic brain and spinal cord injuries. The second criteria for the assignment of the quota sample are history of illness, which we would recruit participants who have onset of illness in three time periods: less than 2 years, 2–5 years, and more than 5 years. The history of illness could be an important factor affecting the level of psychosocial adjustment. Third, we recruited participants who are able to read and understand Chinese and complete the research questionnaire using either hard copies or online modes. Fourth, all the participants are all Hong Kong residents, and not migrant workers or expatriates.

Translation and evaluation of content validity

We obtained permission from the original authors to translate the RIDl into Chinese. We conducted forward and then backward translation of the instrument, and we compared the two versions to check for potential differences in meaning. An expert panel of five rehabilitation professionals, social workers, and psychologists examined the content validity and cultural relevance of the translated C-RIDl. The content validity review was conducted by asking panel members to complete a questionnaire, in which they rated

Table 2. Internal consistency of the C-RIDI subscales.

Second-order factors	Subscales	Number of items in each subscale	Cronbach's α
Nonadaptive	Shock	7	0.80
	Anxiety	8	0.86
	Depression	8	0.86
	Internalized anger	8	0.86
	Externalized hostility	7	0.80
Denial	Denial 1	4	0.66
	Denial 2	3	0.54
Adaptive	Acknowledgement	7	0.82
	Adjustment	8	0.79

the content relevance of items to their respective subscale using a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The review by the panel revealed no concerns regarding cultural or content relevance in applying the translated RIDI to Chinese people with disabilities in Hong Kong. The panel members generally rated the RIDI as a generic instrument in measuring psychosocial adaptation to disabilities. All the suggested revisions were related to changes in wordings that could help target participants to better understand the questions. The revised version of the C-RIDI was used in the subsequent stage of the study.

Instruments

The survey questionnaire included C-RIDI as well as the convergent measures of resilience and mental well-being. We also collected basic demographic variables and illness variables including visibility of illness, symptoms, pain, fatigue, history of illness, and functional limitations. In selection of the scales for study of criterion-related validity, we have several criteria: (1) the scale must measure the constructs that are theoretically related to psychosocial adaptation, that is, resilience, mental well-being, illness variables, and functional abilities, (2) The scale has been translated to Chinese, (3) The scale has published validation data, (4) we also prefer scales that are shorter in length, as the research questionnaires covers many variables and could take 30–40 min to complete.

Resilience

The 10-item Connor–Davidson Resilience Scale (CD-RISC) is a short version of the 25-item measuring tool for assessing resilience [24,25]. We chose this instrument to measure resilience as it The instrument asks participants to respond to statements using a 5-point scale ranging from 0 (not true at all) to 4 (true nearly all the time), such as whether they view change as a challenge, accept responsibility to manage stress, and are able to maintain optimism. We used a Chinese version developed by Yu et al. [26] for use with young people, and the instrument demonstrated good reliability (Cronbach $\alpha = 0.89$) and validity (significant correlations with social support, depression, and anxiety). We used the CD-RISC to measure resilience, which is considered a convergent measure of the reactions to disability and illness.

Mental well-being

We included the seven-item Chinese Short Warwick–Edinburgh Mental Well-being Scale (C-SWEMWBS) in the questionnaire to measure the mental well-being of the participants [27,28]. The total score could range from 7 to 35, with a higher score reflecting a higher level of mental well-being. A total score below 23 indicates poor well-being. The Chinese version has demonstrated very good reliability and validity in measuring mental well-being in persons with psychiatric illness. Participants answer the questions using a five-point Likert scale. Mental well-being is

considered a convergent measure of the reactions to disability and illness.

Illness variables

We included three visual-analogue scales for measuring pain, fatigue, and shortness of breath, which are modified version of the scales for rating illness experience among people with chronic illness [29]. The score is the number circled on a histogram reflecting how much an individual was affected by the experience of the symptom in the past 2 weeks, with a higher score indicating a higher intensity ranging from 0 to 10. A six-point rating scale was used for measuring the visibility of illness, in which participants rated their illness as “invisible,” “barely visible,” “slightly visible,” “visible,” “very visible,” or “extremely visible.”

Functional abilities

We included the eight-item Disability Scale of the Stanford Health Assessment Questionnaire (HAQ) for a brief screening of the functional abilities of the participants [30]. The scale assesses function in eight categories, namely dressing, arising, eating, walking, hygiene, reach, grip, and activities. The scoring is on a four-point scale from 0 (without any difficulty) to 3 (unable to do). A higher score indicates a higher disability level. This scale was translated and used in a study of self-management behavior among people with chronic illness in Hong Kong [31].

Procedures

This research has been reviewed and approved by the Human Subjects Ethics Committee of the Hong Kong Polytechnic University. To recruit the participants, we contacted and solicited support from community rehabilitation services and self-help organizations. The collaborating organizations invited their clients or members to participate in the study through notices, social media or instant messaging. A research information sheet was distributed to potential participants and informed consent was obtained before data collection. Hard copies of the survey questionnaire were distributed to the participants through the self-help groups or community rehabilitation centers. Participants could also complete the questionnaire online. The questionnaire has a total of 155 items and takes an average of 30 min to complete, and we provided an incentive of HKD100 (USD12.9) for completion of the questionnaire.

Data analysis

First, we conducted confirmatory factor analysis on the C-RIDI. Based on results of previous studies on of the original English version, four factor models (one first-order and three second-order factor models) were proposed, and we used confirmatory factor analysis to compare the model fit of the models. For the reliability study, we obtained the Cronbach's α to estimate the internal

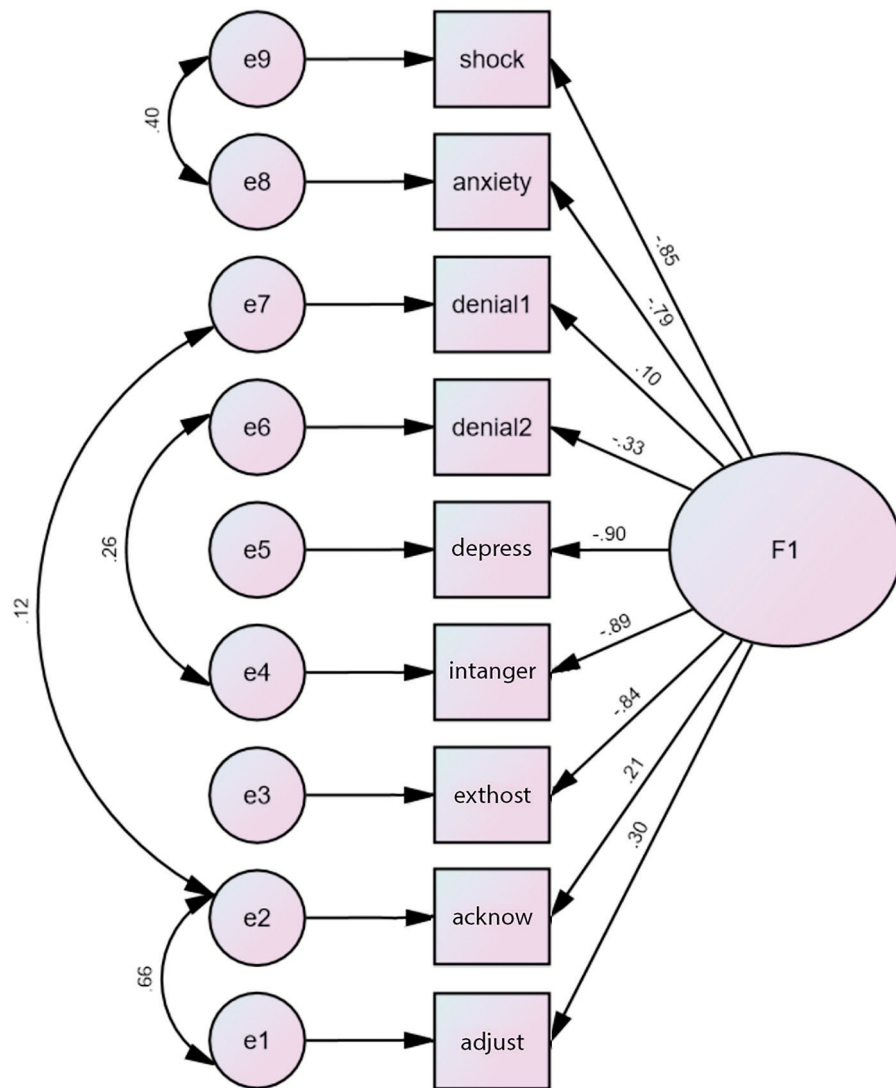


Figure 1. Unidimensional model with all indicators loading on one factor (model 1).

consistency of all the C-RIDI subscales. Lastly, for the study of criterion-related and convergent validity, we obtained the correlation between the RIDI subscales and the convergent measures, including mental well-being, resilience, and illness variables (Table 2).

Results

Participants

There were 224 survey participants. The mean age of participants was 57.8 ($SD = 12.9$), with a range from 19 to 81 years old. There were more females (64.15%) than males. Regarding role status, the participants were retired (41.2%), not employed (25.3%), homemakers (18.6%), or working or studying (14.8%). More than half were married (57.5%), while 26.2% were single. Nearly half had no religion, while the more popular religions were Christianity (32.9%) and Buddhism (15.8%). Most of the participants (67.6%) came from low-income families, earning HKD20 000 (around USD2864) per month. The most common types of primary illness and disability among the participants were diabetes

(15.2%), cancer (15.2%), heart disease (14.7%), stroke (12.9%), rheumatoid arthritis and autoimmune diseases (14.7%), neurological diseases (8.9%), and traumatic disabilities and head injuries (11.1%). The mean history of illness was 14.37 years ($SD = 13.1$), with a range of 66 years. The mean functional limitation of the participants was low ($M = 1.6$, $SD = 0.8$, out of maximum score of 4).

Factor structure and reliability

The four factor models proposed for confirmatory factor analysis of the C-RIDI were: (1) a unidimensional model with all subscale loading on a single latent variable (Figure 1); (2) a two-factor second-order model, with seven subscales (shock, anxiety, denial 1, denial 2, depression, internalized anger, and externalized hostility) loading on a nonadaptive scale, and two subscales (acknowledgment, adjustment) loading on an adaptive scale (Figure 2); (3) a three-factor second-order model, with denial, nonadaptive, and adaptive scales (Figure 3); and (4) a two-factor second-order model, with five subscales (shock, anxiety, depression, internalized anger, and externalized hostility) loading on a nonadaptive scale,

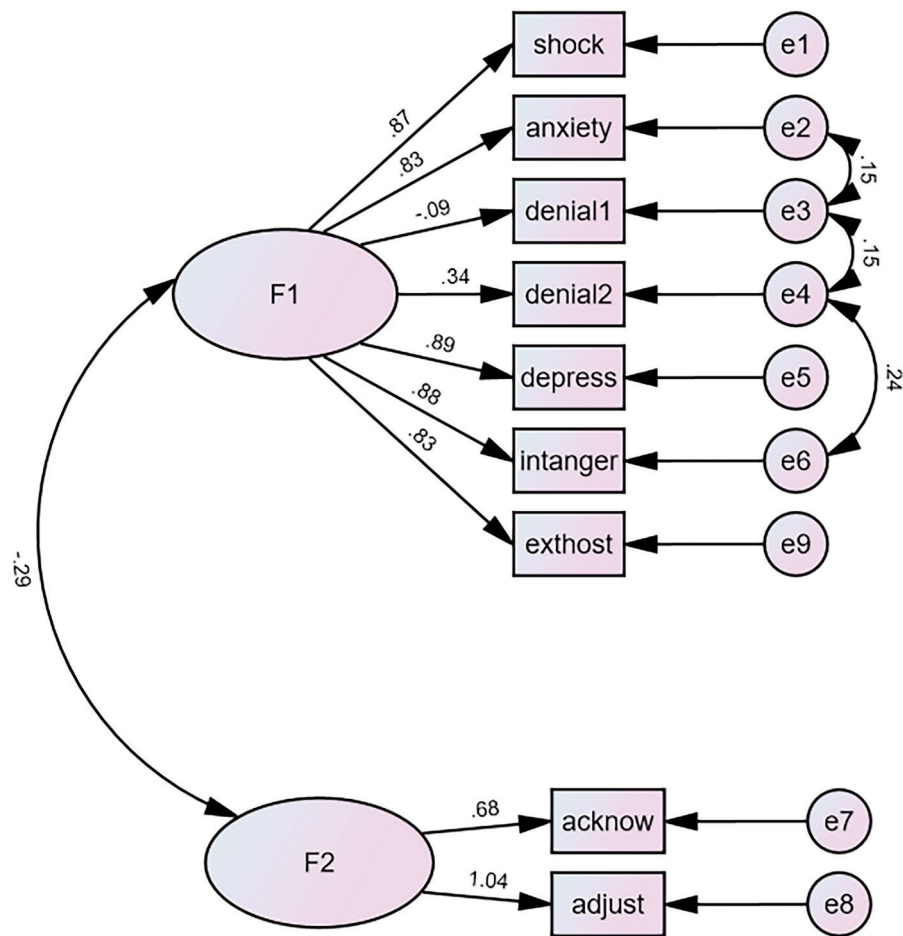


Figure 2. Two-factor model, with adaptive and nonadaptive second-order factors (model 2).

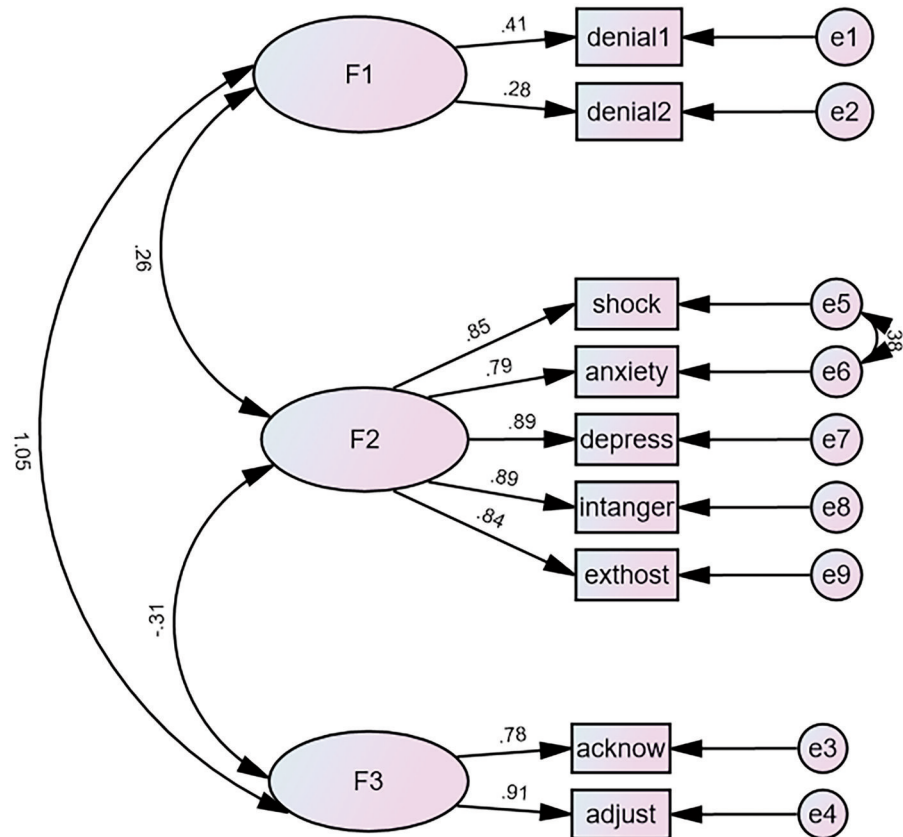


Figure 3. Three factor model, with second-order nonadaptive, denial, and adaptive scales (model 3).

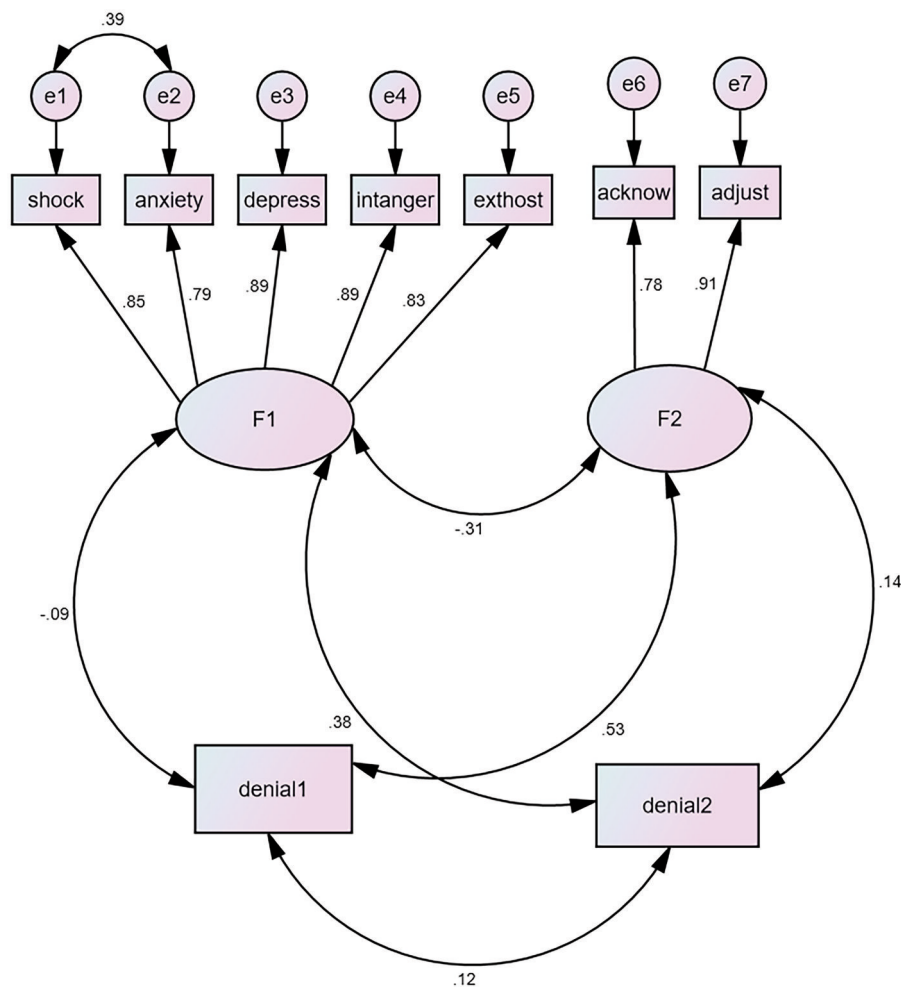


Figure 4. Two-factor model with two second-order factors, adaptive and nonadaptive scales, which interacts with two forms of denial (model 4).

Table 3. Comparison of model fit of four hypothesized models of the reaction to disability and illness.

Model	Model description	Model fit CFI	RMSEA	Model modification	Model fit CFI	RMSEA
1. Unidimensional model	All subscales contributing to one latent factor	0.78	0.21	Add covariance between error terms: e1 and e2, e2 and e7, e4 and e6, e8 and e9	0.93	0.13
2. Two-factor model	The two factors represent: (1) nonadaptive processes, (2) adaptive processes	0.90	0.15	Add covariance between error terms: e2 and e3, e3 and e4, e4 and e6	0.91 ^a	0.14
3. Three-factor model	The three factors represent: (1) denial, (2) negative emotional processes, (3) adjustment	0.93	0.12	Add covariance between error terms: e5 and e6	0.95 ^a	0.11
4. Two-factor model, interacting with two forms of denial	The two factors represent: (1) nonadaptive, (2) adaptive. The two factors interact with two forms of denial	0.96	9.10	Add covariance between error terms: e1 and e2	0.98	0.07

^aOver-fitting of model occurs in at least one path.

two subscales (acknowledgment, adjustment) loading on an adaptive scale, and the two denial scales interacting with the adaptive and nonadaptive scales (Figure 4). We conducted confirmatory factor analyses on these four models using IBM AMOS, and found that the fourth model has the best fit with the data (CFI = 0.98; RMSEA = 0.07) (Table 3). We also note there are potential model fit issues in the second and third model (Figures 2 and 3), as there are paths with over-fitting (above 1.0) in both models. The Cronbach's α of all the subscales was acceptable to good (ranging from 0.79 to 0.86), except for the two denial subscales

(with three items each), which were less than satisfactory (Cronbach's α = 0.66 and 0.54).

Correlations with convergent measures, disease, and disability variables

The correlation matrix in Table 4 shows the correlations between the RIDI subscales and convergent measures, disease, and disability variables. Among all these variables, only history of illness had no significant correlations with all the C-RIDI subscales. Age had

Table 4. Correlations between RIDI subscales and convergent measures, disease, and functional limitation variables ($n = 224$).

RIDI subscales	Age	History of illness	Resilience (RISC)	Mental well-being (CWEMWBS)	Functional limitation	Fatigue	Breathing	Pain
Shock	−0.17*	−0.01	−0.49**	−0.46**	0.36**	0.42**	0.35**	0.42**
Anxiety	−0.18**	−0.01	−0.45**	−0.42**	0.33**	0.50**	0.50**	0.48**
Depression	−0.26**	−0.04	−0.58**	−0.55**	0.43**	0.46**	0.35**	0.40**
Internalized anger	−0.28**	0.03	−0.49**	−0.47**	0.39**	0.40**	0.28**	0.42**
Externalized hostility	−0.32**	0.08	−0.48**	−0.48**	0.40**	0.43**	0.34**	0.45**
Acknowledgement	0.00	0.06	0.56**	0.57**	−0.11	0.00	−0.14*	−0.08
Adjustment	0.00	0.02	0.53**	0.53**	−0.31**	−0.05	−0.19**	−0.15*
Denial 1 (cure, disappeared)	0.07	−0.05	0.29**	0.26**	−0.17*	−0.02	−0.04	−0.12
Denial 2 (bargaining and conditional recovery)	−0.12	−0.03	−0.04	−0.07	0.12	0.17*	0.13*	0.09

* $p < 0.05$; ** $p < 0.01$.

marginally significant negative correlations with all the nonadaptive subscales (r ranging from -0.17 to -0.32 , $p < 0.05$). Resilience had significant negative correlations with the nonadaptive subscales (r ranging from -0.45 to -0.58 , $p < 0.01$), and significant positive correlations with the adaptive subscale (r ranging from 0.53 to 0.56 , $p < 0.01$) and denial 1 ($r = 0.29$, $p < 0.01$). Like resilience, mental well-being had a similar pattern of correlations with the C-RIDI subscales, that is, significant negative correlations with the nonadaptive subscales (r ranging from -0.42 to -0.55 , $p < 0.01$), and significant positive correlations with the adaptive subscales (r ranging from 0.53 to 0.57 , $p < 0.01$) and denial 1 ($r = 0.26$, $p < 0.01$). Illness-related variables, including functional limitation, fatigue, breathing, and pain, had significant positive correlations with the nonadaptive subscales (r ranging from 0.28 to 0.50 , $p < 0.01$). There were some significant negative correlations between illness variables and the adjustment subscale (r ranging from -0.05 to -0.31), but only breathing difficulty had significant correlations with the adjustment ($r = -0.19$, $p < 0.01$) and acknowledgement ($r = -0.14$, $p < 0.05$) subscales.

Discussion

The study results support a second-order factorial structure of C-RIDI, which replicates the factor structure identified in the original English RIDI [14]. First, the denial subscale was found to have two sub-components, one component representing a wish for a magical cure and the other component representing a bargaining stance with a higher power for a conditional cure. Second, this best-fit model has two second-order factors, nonadaptive and adaptive scales, which interact with the two denial factors. The replication of factor structure across the English and translated Chinese instruments supports the validity of the phase model of psychosocial adaptation. It also implies that the psychological reactions to disability and illness could be similar across Chinese and Western culture, and these similar results reinforce the theory underlying the construction of the RIDI.

It is worth mentioning that the two denial subscales may interact with both the second-order adaptive and nonadaptive scales, meaning that denial could modify both adaptive and nonadaptive scales. In fact, the transformation of denial toward acceptance in adjustment to CID has been widely discussed in the literature [32]. Denial could have temporarily emotional benefits in protecting a person with CID from overwhelming anxiety and grief, but it could also prevent the client from facing challenges or moving toward adjustment in the long run [33,34]. It is possible that some clients with denial may appear to cope well without a lot of negative emotions. From this study, we found that the denial 1 subscale (magical cure and disappearance of disability/illness) had a significant correlation of 0.58 with the second-order adaptive scale (adjustment and acknowledgement). The denial 2 subscale

(bargaining and conditional recovery) had a significant correlation of 0.38 with the second-order nonadaptive scale. Thus, the two forms of denial could exert differential but substantial impacts on both adjustment and maladjustment [14].

There were also some interesting observations from the correlations between the C-RIDI subscales and convergent measures, and with measures of functional limitation and disease variables. It is worth noting that history appeared to be unrelated to psychosocial adaptation, while older age was associated with fewer nonadaptive emotions (negative significant correlations). This may be explained by previous studies showing that later onset of illness is associated with better adjustment when compared with earlier onset of illness [35]. We hypothesized that resilience and mental well-being are associated with better adjustment to CID, and these variables would have positive correlations with adaptive scales and negative correlations with nonadaptive scales. The results were consistent with these hypotheses and previous studies of psychosocial adaptation to CID [7,36], and support the validity of the C-RIDI.

The current validation study translated and provided a preliminary psychometric evaluation of the RIDI, which evaluates the content, structural, and criterion-related validity of the instrument. Based on the favorable results of psychometric evaluation, the C-RIDI is ready for use in research on psychosocial adaptation in people with disabilities and chronic illness in the Chinese context.

Study limitations

There are several limitations in the design of the study that could affect the study's validity. First, the participants were mainly recruited from community-based rehabilitation settings and self-help groups, and their history of illness tended to be long. The profile of participants could introduce bias into the results. Second, we intended to recruit participants with a range of CID, but we were not completely successful in recruiting six groups of at least 30 participants with chronic illnesses via quota sampling (n ranged from 20 to 34), and one group of 30 participants with acquired physical disabilities ($n = 25$). Furthermore, there were 16 participants who we later found out had developmental disabilities, congenital diseases, and sensory impairment as their primary illness, rather than the one they indicated in questionnaire. Many participants also had secondary disabilities or illnesses which may have affected their adaptation, and the sample would therefore have been over-represented by people with chronic illnesses. The unbalanced and small numbers of participants with different CID also prevented us from comparing the reactions among the groups with different disabilities and illnesses. In future, it would be helpful to collect data from a larger sample.

Third, the study participants were all Chinese residents in Hong Kong, and are not representative of the Chinese population in mainland China. Many studies highlighted the differences in cultural identity between Chinese mainlanders and Hong Kong people [37,38], the results of this study could not be directly generalized to the huge population of mainland China.

In addition, the COVID-19 pandemic which started in the early months of 2020 could have affected the study results. Some of the research questionnaires were completed by people with CID online or *via* mail during the initial months (February to May 2020) of the COVID-19 pandemic. While we had received many mailed questionnaires (about 70%) by January 2020, 30% of the data were received during a period of lock-down and limited community mobility. The emotional adjustment of participants could have been partly affected by their emotional adjustment to the pandemic lock-down policies during this period. Furthermore, we were not able to complete some parts of the validation due to the pandemic. In particular, the plan for test-retest reliability was dropped as we could not ensure that participants could complete the test and retest with a duration of four weeks in between during the pandemic.

Conclusions

We translated the RIDI into Chinese and the translated instrument went through content validation by an expert review panel. There were no major concerns regarding the content validity or cultural relevance of the items, and the revisions to items were mainly to improve understanding of the items by target respondents. In the study of structural validity, we replicated the factor structure identified by the authors of the RIDI. Like the RIDI, the C-RIDI also has three second-order factors. The second-order nonadaptive and adaptive scales interact with the two denial subscales. The two denial subscales interact with the second-order adaptive and non-adaptive scales. The internal consistency of the C-RIDI subscales was satisfactory to good, except for the two denial subscales, with three items each. The significant positive correlations of the C-RIDI subscales with convergent measures of resilience and mental well-being were consistent with our hypotheses. Illness-related variables, including functional limitation, fatigue, breathing, and pain, had significant positive correlations with the nonadaptive subscales and significant negative correlations with the adjustment subscale. These correlations also support the criterion-related validity of the C-RIDI.

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Disclosure statement

No potential conflict of interest was reported by the author(s).

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