Validating an Adapted Version of the Brief Experiential Avoidance Questionnaire in Hong Kong

Chinese

Abstract

There is growing research interest in experiential avoidance and psychological inflexibility across cultures. The original Multidimensional Experiential Avoidance Questionnaire (MEAQ) has strong construct validity, but its length has greatly restricted its application in research and clinical practice. In this study, we validated a 15-item version of the MEAQ in Hong Kong Chinese using student (n = 349) and clinical (n = 200) samples. This short version showed good internal consistency, convergence, and discriminant validity with measures of avoidance, psychopathology, and well-being. Implications for research and clinical practice were discussed.

Experiential avoidance (EA) has been defined as an unwillingness to remain in contact with distressing emotions, thoughts, memories, and physical sensations, even when doing so creates harm in the long run (Hayes, Strosahl, & Wilson, 2012). EA has been found to be associated with a wide range of psychopathologies (Boulanger, Hayes, & Pistorello, 2009; Chawkla & Ostafin, 2018), including substance abuse, posttraumatic stress disorder, generalized anxiety disorder and other anxiety-related problems, and deliberate self-harm. The concept of experiential avoidance has antecedents in psychodynamic, experiential, behavioral, and cognitive approaches (Hayes et al., 1996) and has been highlighted as a central target of change in more recent third-wave cognitive behavior therapy approaches such as acceptance and commitment therapy (Hayes et al., 2012), dialectical behavior therapy (Linehan, 1993), and behavioral activation (Martell, Addis, & Jacobson, 2001).

In the last two decades, there has been growing research interest in developing measures of EA. An early measure of EA, the Acceptance and Action Questionnaire (AAQ; Bond & Bunce, 2003), has been criticized for its inadequate reliability and internal consistency (Bond et al., 2011). The second version of the AAQ (AAQ–II; Bond et al., 2011) has similar weaknesses, particularly in its high correlations with measures of neuroticism and negative affectivity (Wolgast, 2014) and with depression, anxiety, and stress measures (Tyndall et al., 2019). Its weakness is reflected in the item content, which focuses on unsuccessful attempts to control distress and non-specific distress.

The Multidimensional Experiential Avoidance Questionnaire (MEAQ; Gámez et al., 2011) was designed to resolve such assessment issues. It covers six dimensions of experiential avoidance:

behavioral avoidance, distress aversion, procrastination, distraction/suppression, repression/denial, and

distress endurance. It shows both good internal consistency and good discrimination for negative

emotionality (Gámez et al., 2011). Although the MEAQ offers improved assessment of EA, its length

(62 items) might be prohibitive in certain clinical or research settings. A brief version with items from

each of the MEAQ's six subscales was developed to overcome its logistical and practical constraints.

The Brief Experiential Avoidance Questionnaire (BEAQ) has shown good internal consistency and

strong convergence for each of the six dimensions of experiential avoidance. The MEAQ has also been

reported to be associated with measures of avoidance, psychopathology, and quality of life and to be

able to distinguish between negative affectivity and neuroticism (Gámez et al., 2014).

At the same time, research on the relationship between experiential avoidance and

psychological inflexibility has increased. Psychological inflexibility has been defined as the rigid

dominance of psychological reactions over chosen values in guiding action, and experiential avoidance

has been considered an exemplar of psychological inflexibility (Wolgast, 2014). Therefore, the MEAQ

and BEAQ can also be considered as measures of psychological inflexibility (Cherry et al., 2021; Ong

et al., 2020). Recent studies have investigated the expression and patterns of experiential avoidance and

psychological inflexibility across cultures. The MEAQ has been translated into various languages, and

recently, the BEAQ has been validated in a number of languages, including German (Schaeuffele et al.,

2021), Spanish (Vázquez-Morejón et al., 2019), and Chinese (Cao et al., 2021), suggesting the

relevance of experiential avoidance and psychological inflexibility to people of various cultural

backgrounds. Recent studies have investigated the psychometric properties of the BEAQ in clinical samples, such as among people with anxiety disorders (Kirk et al., 2019), posttraumatic stress disorders (Byllesby et al., 2020), and other common mental disorders (Akbari et al., 2022).

However, studies of experiential avoidance and psychological inflexibility in Chinese are limited. As the study on the Chinese version of the BEAQ was based on university samples, we sought to improve the representativeness of the localized BEAQ by validating the instrument for both student and clinical samples. The MEAQ has never been translated and validated using a Chinese sample. When we studied different translations of the BEAQ for different cultures, we observed that the factor loadings for the same item varied, suggesting that certain items could perform better than others in tapping experiential avoidance features in specific cultures. To determine the optimal set of items and a factor structure that best reflects how local participants express EA, instead of directly administering the translated BEAQ, we translated the MEAQ and validated an adapted version of the BEAQ based on an investigation of the MEAQ's factor structure in a Hong Kong Chinese population. We conducted two studies to validate an adapted version of BEAQ based on both student and clinical populations.

Objective

Our goal was to translate the MEAQ into Chinese and to validate an adapted version of the BEAQ that can tap the six dimensions of experiential avoidance in the MEAQ. As it was uncertain whether Chinese participants would respond to the items on the MEAQ, we used the full version of MEAQ and compared the factor structures with the BEAQ developed by Gámez et al. (2014). We

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expected our Chinese version of the BEAQ to demonstrate good internal consistency in both student

and clinical populations, and to have good discriminant validity. We hypothesized the following: (1) the

Chinese version of the BEAQ in our study would be mildly or moderately associated with negative

affect, mindfulness (acting with awareness and nonjudging to inner experience subscales), depression,

anxiety, stress, and the AAQ; (2) the MEAQ and BEAQ would be strongly correlated in both samples;

and (3) the BEAQ would have good discriminatory ability when administered to non-clinical and

clinical participants with AUCs over 0.7.

Study 1

Study 1 aimed to validate a brief version of the MEAQ by testing the reliability and validity

indicators in a sample of university students.

Method

Participants

A student sample (n = 349) was recruited from two universities in Hong Kong.

Students were recruited from the undergraduate and postgraduate courses in the Faculty of Social

Sciences, and they participated voluntarily. All of the students completed a hard copy of the

questionnaire outside of class time; their learning was not disrupted. The students submitted their

completed questionnaires to a research assistant who visited their classrooms at the end of lectures.

Sealed envelopes were provided, and the data were protected. The student sample was 72.5% female

and ranged in age from 18 to 57 years old (M = 22.94 years, SD = 4.65).

Measures

The Multidimensional Experiential Avoidance Questionnaire (MEAQ; Gámez et al., 2011).

The 62-item MEAQ is a measure of experiential avoidance. Its six-subscale structure consists of

Behavioral Avoidance ("I avoid activities if there is even a small possibility of getting hurt"), Distress

Aversion ("One of my big goals is to be free from painful emotions"), Procrastination ("When I have

something important to do, I find myself doing a lot of other things instead"), Distraction/Suppression

("When upsetting memories come up, I try to focus on other things"), Repression/Denial ("I am able to

'turn off' my emotions when I don't want to feel"), and Distress Endurance ("I am willing to put up

with pain and discomfort to get what I want"). The participants rated the items on a 6-point scale

ranging from 1 (*strongly disagree*) to 6 (*strongly agree*). The MEAQ has been shown to have good

internal consistency across its subscales (Allen, 2021; Jung, 2018) and desirable convergent and

discriminant validity (Rochefort, Baldwin, & Chmielewski, 2018), and to be able to distinguish from

negative emotionality (Gámez et al., 2011). The MEAQ was translated from English to Cantonese

Chinese by the second author and back-translated by two research assistants with master's degrees in

psychology. The two back-translated versions were then returned to the first three authors. For cases

with semantic or grammatical differences a) between the two English back-translations or b) between a

back-translated item and the original item, the first three authors worked to achieve consensus on the

final Cantonese Chinese translation. All of the researchers involved in the translation and

back-translation process were fluent in spoken and written English and Cantonese Chinese.

Positive Affect and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988).

The 20-item PANAS is an instrument that measures mood. The participants rated their negative

mood (e.g., guilty, hostile, alert, irritable) and positive mood (e.g., proud, inspired, strong, enthusiastic)

over the past week ranging from 1 (*very slightly or not at all*) to 5 (*extremely*) (Chan, 2009). The

internal consistencies were .89 for the negative dimension and .85 for the positive dimension in this

study.

Five Facet Mindfulness Questionnaire-Short Form (FFMQ-SF; Hou et al., 2014).

The FFMQ-SF is a 20-item scale that measures five facets of mindfulness: Observing ("I pay

attention to sensations, such as the wind in my hair or sun on my face"), Describing ("I can easily put

my beliefs, opinions, and expectations into words"), Acting with Awareness ("I am easily distracted"),

Nonjudging to Inner Experience ("I make judgments about whether my thoughts are good or bad"), and

Non-reacting to Inner Experience ("In difficult situations, I can pause without immediately reacting").

On this scale, the students rated how well the items described them from 1 (*never or very rarely true*)

to 5 (*very often or always true*). The FFMQ-SF was found to be highly and significantly correlated with

the Chinese version of the FFMQ (r = .96; Hou et al., 2014). The internal consistencies for the

subscales in this study were .79, .81, .85, .68, and .40, respectively.

The World Health Organization Five Well-Being Index (WHO-5; Topp et al., 2015).

The WHO-5 was administered to the students as a self-report measure of their current mental

wellbeing. Item response theory analysis has shown that WHO-5 has good construct validity across age

groups (Topp et al., 2015). The students were asked to indicate on a scale between 0 (*at no time*) and 5 (*all of the time*) how they felt in the past two weeks for statements such as "I have felt calm and relaxed" and "I have felt active and vigorous." The Cantonese Chinese version of the WHO-5 has been validated by Kong et al. (2016). Internal consistency in this study was .91.

Acceptance and Action Questionnaire–II (AAQ-II, Bond et al., 2011).

The AAQ-II is a 7-item scale that measures psychological inflexibility, which includes the concept of experiential avoidance (Bond et al., 2001). The AAQ-II was administered to the student participants, who were asked to rate how true the statements were for them on a scale ranging from 1 (*never true*) to 7 (*always true*). Example items are "I worry about not being able to control my worries and feelings" and "Worries get in the way of my success." The Chinese version of the AAQ-II has demonstrated adequate internal consistency reliability and shown gender invariance among college students and athletes (Cheung & Mak, 2016). Internal consistency in this study was .87.

Body-Mind-Spirit Wellbeing Inventory (BMSWBI; Ng et al., 2005); Daily Functioning Scale.

The daily functioning scale of the BMSWBI is a 10-item measure that assesses the level of daily functioning, a domain of general holistic health (Ng et al., 2005). The students responded on a scale of 1 (*extremely poor*) to 10 (*extremely good*) to items related to daily life over the past week, including physical strength, concentration, sleeping, appetite, memory, daily work/doing household chores, energy level, dealing with difficulties, work motivation, and feeling on getting up. Internal consistency for this study was .92.

Data Analysis

We conducted a validation procedure with a parallel analysis to determine the initial number of factors to be extracted from the student sample. Using syntaxes developed by O'Connor (2000), we conducted principal component analysis (PCA) for the student sample. The syntaxes also yielded the mean and 95th percentile eigenvalues of 100 randomly generated data sets for each component. The largest component number for which the eigenvalue of the actual data exceeded the eigenvalue of the randomly generated data sets was considered the number of factors for extraction. Items that did not belong to any apparent component and loaded adequately were eliminated from the item selection process.

With reference to a previous attempt to develop a brief version of MEAQ (i.e., Gámez et al., 2014), we applied a single-factor exploratory factor analysis (EFA) via principal axis factoring to the valid items from the parallel analysis of the MEAQ completed by the student participants. We selected items based on their loadings on the FA. We gave priority to items that loaded well (> |.40|) for the EFA of the student sample and excluded the remaining items. A preliminary shortlist of items was made by removing lower-loaded items. From the preliminary shortlisted items, a further step in the selection procedure was to retain 15 items at most while ensuring that the 15-item list represented a broad range of constructs. Cronbach's alpha values before and after item deletion were also calculated to evaluate the internal consistencies and to explore the possibility of removing further items. A correlation analysis was conducted to compare the total score and the subscale scores for the MEAQ and BEAQ.

Finally, we examined the correlation coefficients between the MEAQ, BEAQ, PANAS, FFMQ-SF, AAQ-II, and BMSWBI (Daily functioning) scores to determine the convergent and discriminant validity.

Results

Parallel Analysis

From the principal component analysis of all 62 MEAQ items, we found that the eigenvalues of the actual data set were 10.87, 4.62, 3.42, 2.44, 2.15, 1.80, 1.67, and 1.51, and the eigenvalues of the randomly generated data sets were 1.94, 1.86, 1.80, 1.74, 1.70, 1.65, 1.61, and 1.57. The eigenvalue of the 7th component number of the actual data set (1.67) was the last one that exceeded the corresponding eigenvalue of the random data set (1.61); hence, a 7-factor extraction was suggested. A 7-factor EFA on the MEAQ items showed that only Item 47 (Procrastination) and Item 48 (Distress Endurance) belonged to one factor; the remaining six factors had items belonging to the same subscales, with some adequately loaded items ($< |.40|$) belonging to other subscales. Before advancing to the brief version item selection, we eliminated Item 47, Item 48, and items that were adequately loaded.

Item Selection for EFA

We retained 54 valid items from the original inventory after removing the items with double loadings and Items 47 and 48. To achieve a 15-item structure, we sought to balance the representativeness of the items from all of the subscales by removing items from Behavioral Avoidance, Distress Aversion, and Distraction/Suppression with relatively low loadings so that no more than four

candidate items were selected from each subscale. Item 29 from the Distress Endurance was the item

from this subscale that best loaded onto the student EFA. In addition, we retained Item 29 in our

validation process to preserve the representativeness of the Distress Endurance subscale.

Ultimately, a 15-item structure (i.e., items 7, 25, 27, 29, 33, 36, 42, 44, 45, 46, 51, 52, 55, 58, and

59) was extracted from the MEAQ through the student EFA with consideration for duplication and

balanced representation. This structure is represented by eight items related to explicit avoidance

behavior taken from the Behavioral Avoidance, Distraction/Suppression, and Procrastination subscales,

four items related to attitudes and beliefs regarding distress taken from the Distress Aversion subscale,

two items on implicit avoidance taken from the Repression/Denial subscale, and one item on ability to

respond effectively to distress taken from the Distress Endurance subscale. This structure thus

accurately represents all of the constructs in the original MEAQ given what the original questionnaire

was designed to measure.

Factor Structure

The descriptive statistics, item analyses, and factor loadings of all 15 items are represented in

Table 1. Factor loadings greater than $|.35|$ can be considered candidates for a structure (Clark & Watson,

1995). Skewness and kurtosis statistics showed satisfactory symmetry and a mesokurtic distribution for

the total and item scores. The average inter-item correlation (AIC) was .24, which falls in the optimal

range (Clark & Watson, 1995). The eigenvalues of the EFA were 4.84, 1.27, 1.17, 1.07, and .92,

explaining 32.25% of the variance. Given the substantially high eigenvalue for the first factor

compared to latter ones, we considered a single-factor structure a valid representation of a brief version

of the MEAQ. The Kaiser–Meyer–Olkin (KMO) Measure of Sampling was .84, suggesting suitability

for factor analysis (Kaiser, 1974).

The Cronbach's alpha was .83. To further investigate internal consistencies, we also considered

Cronbach's alpha values with items deleted (Table 1). Except for Item 4 (Item 29 in the MEAQ),

removing all of the other items did not improve the Cronbach's alpha, suggesting the appropriateness of

the 15-item structure. In the case of Item 4, which was adequately loaded onto the student factor

structure, given the minor improvement from removing it from the structure (i.e., .83 to .85), we

decided to retain this item, as it was the most representative item from the Distress Endurance subscale.

Convergent and Discriminant Validity

Table 2 shows the correlation coefficients for the total BEAQ score and the aggregates of the

subscales and for the BEAQ and MEAQ. All of the BEAQ subscale aggregates were significantly

correlated with the total score ($r > .23$, $p < .01$). Distress Endurance in the BEAQ was not as strongly

correlated with the other subscale aggregates as the other subscales; this phenomenon is also seen in

other BEAQ validations (e.g., Schaeuffele et al., 2021). The total BEAQ score was strongly associated

with the total score of the MEAQ and all of its subscales ($r > .58$, $p < .01$), including distress endurance

in a negative direction ($r = -.12$, $p < .05$). The BEAQ's strong relationships with the Behavioral

Avoidance ($r = .81$, $p < .01$) and Distress Aversion subscales ($r = .78$, $p < .01$) were due to the high

number of overlapping items with the MEAQ compared to the remaining items from the other

subscales. The BEAQ total and subscale aggregate scores were more strongly correlated with their

MEAQ counterparts than the other aggregates ($r > .54$, $p < .01$).

The correlation coefficients between the convergent and discriminant measures with the BEAQ

are displayed in Table 3. The BEAQ total score had a positive relationship with negative affect in

PANAS ($r = .27$, $p < .01$), and this was also seen in the MEAQ counterpart ($r = .26$, $p < .01$). For the

mindfulness measures, which were expected to be negatively correlated with BEAQ, the total BEAQ

correlated significantly with Acting with Awareness ($r = -.32$, $p < .01$) and Nonjudging to Inner

Experience of the FFMQ-SF ($r = -.29$, $p < .05$). Both the Acting with Awareness and Nonjudging to

Inner Experience subscales included items that reflected the construct of taking initiative to uphold a

non-judgmental attitude toward life events and encounters. The total MEAQ showed similar

associations ($r = -.36$ for Acting with Awareness, $r = -.31$ for Nonjudging to Inner Experience, both p

$< .01$). Subscales that described relatively neutral behavior in a mindfulness experience, such as

Observing, Describing, and Nonreacting to inner experience, had non-significant relationships with the

BEAQ ($r = -.03$, $-.09$, and $.08$, respectively). As a measure from the construct of experiential avoidance,

the BEAQ was moderately correlated with AAQ-II ($r = .38$, $p < .01$). A similar relationship was seen

for the MEAQ ($r = .36$, $p < .01$). Daily Functioning from the BMSWBI included a number of items that

reflect wellness related to proactive livelihood behavior, such as concentration, daily work/doing

household chores, and dealing with difficulties. It was expected to correlate negatively with avoidance

measures. Daily Functioning had significant negative relationships with BEAQ ($r = -.24$, $p < .01$) and

MEAQ (r = -.24, p < .01). WHO-5, which evaluates general wellbeing, had no apparent relationship with avoidance measures, and did not have a significant relationship with BEAQ (r = -.09). We had only one item from the Distress and Endurance subscale, but it was significantly correlated in the opposite direction with the convergent and discriminant measures of the total BEAQ, particularly with AAQ-II (r = -.21, p < .01) and Daily Functioning (r = .23, p < .01).

Study 2

Study 2 aimed to validate the adapted version of the BEAQ based on the student sample with a clinical sample.

Method

Participants

A clinical sample (n = 200) was recruited from a mental health organization that offers community mental health services for Hong Kong Chinese. All of the participants had to have a psychiatric diagnosis and to be a current user of one of the organization's service units. They participated in the study on a voluntary basis. According to self-report information, 26.5% of participants had been diagnosed with major depressive disorder. Other prevalent disorders included psychosis (22.5%), mixed anxiety and depressive disorder (17.5%), anxiety disorder (10.5%), bipolar disorder (9.0%), and others (15.0%). This sample was 60% female, and the participants' ages ranged from 19 to 72 years old (M = 40.69 years, SD = 12.43).

Measures

In addition to the MEAQ and PANAS (internal consistencies were .91 for the negative dimension and .87 for the positive dimension), which we used in Study 1, we included the following measures in the questionnaire for the clinical sample.

Depression Anxiety and Stress Scales-21 (DASS-21; Henry & Crawford, 2005).

The DASS is a conventional set of instruments designed to measure depression, anxiety, and stress. The shortened 21-item version was used in this study. Depression (7 items) refers to significant features such as hopelessness and anhedonia ("I felt that life was meaningless"); anxiety (7 items) refers to distinct characteristics such as autonomic arousal and subjective experience of anxious affect ("I was worried about situations in which I might panic and make a fool of myself"); and stress (7 items) regards chronic non-specific arousal ("I tend to overreact to the situations"). The clinical participants rated how well the items applied to them over the past week between 0 (*did not apply to me at all*) and 3 (*applied to me very much, or most of the time*). The Cantonese Chinese version of the DASS-21 has been used previously (Wong et al., 2006) and was used in this study. Internal consistency values in this study were .90, .87, and .89 for depression, anxiety, and stress, respectively.

Penn State Worry Questionnaire (PSWQ; Meyer et al., 1990).

The 16-item PSWQ was administered to examine the trait of worry, which is a distinct feature of generalized anxiety disorder. The PSWQ measures excessiveness, generality, and uncontrollable dimensions of anxiety and has been validated across age groups (Brown, Antony, & Barlow, 1992; Meyer, Miller, Metzger, & Borkovec 1990). The participants rated how well the statements described

their state of worry on a scale between 1 (*not at all typical or me*) and 5 (*very typical of me*). Example

items include "I am always worrying about something" and "Once I start worrying, I cannot stop." The

PSWQ has been widely used in studies based on Hong Kong Chinese, such as Wong et al. (2016).

Internal consistency in this study was .93.

Work and Social Adjustment Scale (WSAS; Mundt, Marks, Shear, & Greist, 2002).

The WSAS is a 5-item measure of impairment in functioning. The participants were asked to

respond on a scale between 0 (*not at all*) and 8 (*very severely*) to statements that describe impairments

to ability to work, home management, social leisure activities, private leisure activities, and

maintaining close relationships. The WSAS has been used in studies based on Hong Kong Chinese

such as Powell et al. (2021). Internal consistency in this study was .89.

Data Analysis

We conducted item analyses and determined the factor loading of the adapted version of the

BEAQ using the clinical sample. Cronbach's alpha values with and without items deleted were

calculated to examine the internal consistency and the possibility of removing further items. The

correlations of the MEAQ total score and subscales and the BEAQ were also investigated. The

correlation coefficients between the BEAQ, PANAS, DASS, PSWQ, and WSAS were determined to

evaluate convergent and discriminant validity. An independent samples t-test was conducted to

compare the total BEAQ scores of the student and clinical samples. Receiver operating characteristic

(ROC) curve analyses were carried out to examine the discriminatory potential of the BEAQ.

Results

Table 4 displays the descriptive statistics, item analyses, and factor loadings of the BEAQ for the clinical participants. The skewness statistics were similar to those in Study 1, and the kurtosis statistics showed that the total BEAQ had leptokurtic behavior ($k = 1.16$), but within the acceptable range (between -1.5 and +1.5, Tabachnick & Fidell, 2013). The AIC was .28, which was also in the optimal range (Clark & Watson, 1995). The EFA eigenvalues were 5.16, 1.51, 1.36, 1.09, and .89, accounting for 34.37% of the variance. Accordingly, we deemed that a single-factor structure was valid for the clinical sample. The Kaiser-Meyer-Olkin (KMO) Measure of Sampling was .86, suggesting suitability for factor analysis (Kaiser, 1974).

The Cronbach's alpha was .85. Similar to Study 1, removing all of the other items did not improve the Cronbach's alpha except for Item 4, supporting the appropriateness of the 15-item structure. As removing Item 4 also only yielded a minor improvement (.85 to .86), we retained this item in the clinical sample. Table 5 shows the correlation coefficients between the total score of the BEAQ and the aggregates of the respective subscales, and between the BEAQ and MEAQ for the clinical sample.

Table 5 shows the correlation coefficients between the total BEAQ score and the aggregates of the subscales, and between the BEAQ and MEAQ for the clinical sample. The correlations for the clinical sample had a similar pattern to those in Study 1, where the total BEAQ was significantly correlated with all of the subscale aggregates ($r > .58$, $p < .01$) except Distress Endurance. The BEAQ

total and subscale aggregates were more highly correlated with their MEAQ counterparts than were the

other subscales (r > .68, p < .01). Similar to Study 1, the BEAQ was strongly correlated with

Behavioral Avoidance (r = .83, p < .01) and Distress Aversion (r = .81, p < .01).

The correlation coefficients between the convergent and discriminant measures with the BEAQ

are displayed in Table 6. The BEAQ total score had a positive relationship with negative affect in the

PANAS (r = .19, p < .01). Mental health measures were expected to have a positive relationship with

the BEAQ. The depression, anxiety, and stress subscales from the DASS-21 all had strong positive

associations with the BEAQ (r > .17, p < .05). Similar to Study 1, the single Distress and Endurance

item was significantly correlated in the other direction with all of the subscales from the DASS-21 (r <

-.17, p < .05). Measures such as Worry in the PSWQ and Work Social Adjustment from the WSAS that

had no relationship with avoidance did not have a significant relationship with the BEAQ and MEAQ,

as expected (r < .10).

Clinical and Student Samples in Discriminant and Normative Comparisons

Because the measures of experiential avoidance are discriminant in the clinical and student

samples (e.g., Pinto-Gouveia, Gregório, Dinis, & Xavier, 2012), we applied an independent samples

t-test to compare the scores of the students and clinical participants. As Table 7 shows, the difference

between the student (M = 50.97, SD = 9.48) and clinical participants (M = 57.31 SD = 11.01) was

significant (t = 7.10, p < .01). The Cohen's *d* of this difference was .62, which was considered a

medium to large effect based on Cohen's (1988) guideline.

We carried out two ROC analyses to better examine the ability to discriminate between non-clinical samples (i.e., students) and clinical samples with a certain degree of psychological distress according to the BEAQ. ROC analyses were conducted for clinical participants who scored 10 or higher on the DASS Depression subscale and for clinical participants who scored 8 or higher on the DASS Anxiety subscale. We used the cutoff scores from the DASS manual (Lovibond & Lovibond, 1995).

Figure 1 shows the ROC curve analysis for the student and clinical participants who scored 10 or higher on the DASS Depression subscale (n = 164). The area under the curve (AUC) was 0.71 (95% CI 0.67 – 0.76, p < .01). Figure 2 shows the analysis of the student and clinical participants who scored 10 or higher on the DASS Anxiety subscale (n = 151). The AUC was 0.72 (95% CI 0.67 – 0.77, p < .01). Conventional interpretation suggests that an AUC below 0.5 indicates no discrimination, acceptable discrimination if the AUC is between 0.7 and 0.8, excellent discrimination if between 0.8 and 0.9, and outstanding discrimination if higher than 0.9 (Hosmer & Lemeshow, 2000). Hence, we consider the BEAQ to have acceptable discriminatory ability when administered to non-clinical and clinical participants, as both AUCs were between 0.7 and 0.8. Analyses of the coordinates of the ROC curves were conducted to identify the cutoff score for the BEAQ that is most sensitive to true positives and that minimizes the risk of detecting false positives. A cutoff value of 53.50 was suggested from both ROC curves.

Discussion

Experiential avoidance has received growing attention in research and practice because of its theoretical contribution to the understanding of dysfunctional coping and problem behaviors. In this study, we validated an adapted version of the BEAQ in Hong Kong Chinese and investigated its psychological properties with student and clinical samples.

In both the student and clinical samples, we found similar patterns between the MEAQ and BEAQ in the associations with all of the other study variables. We also found that the BEAQ total score was moderately or strongly correlated with all of the subscales of experiential avoidance except Distress Endurance, which is consistent with the results for the MEAQ. The 15-item BEAQ showed strong psychometric properties, including convergent and discriminant validity. The BEAQ was mildly and positively correlated with negative affect, depression, anxiety, and stress and mildly and negatively correlated with mindfulness acting with awareness, mindfulness nonjudging of inner experience, and daily functioning. It was not significantly correlated with positive affect, mindfulness observing, mindfulness describing, mindfulness nonreacting to inner experience, well-being, worry, or work and social adjustment. It showed a mild to moderate association with AAQ, a related measure of psychological inflexibility. None of the studied measures showed a correlation with the BEAQ exceeding .40, showing that this measure contributes significantly in the measurement of experiential avoidance. It also demonstrated its consistency, with a Cronbach's alpha of .83 for the student sample and .85 for the clinical sample in our study.

Although experiential avoidance has been found to be closely related to a wide range of

psychopathologies, the original lengthy MEAQ scale is rarely used in clinical research or regular

clinical practice. In this study, we have validated a brief version of this scale in both a student sample

and a clinical sample. We have noted the growing interest in applying experiential avoidance and the

BEAQ in the study of people with chronic conditions and psychiatric disorders (Akbari et al., 2022;

Mayorga et al., 2022). The convenience of the brief scale can promote further studies of experiential

avoidance and psychological inflexibility as a change mechanism in mindfulness-based and other

psychological interventions (Lo et al., 2022).

The creator of the brief version of the BEAQ is aware that one of its major limitations is that the

one or two items used in the BEAQ cannot accurately assess each dimension of experiential avoidance.

When we compared the correlations of the BEAQ total score with the BEAQ and MEAQ subscales, we

found that they mostly followed similar directions except for distress endurance, which showed a

negative association with the MEAQ total score but a positive association with the BEAQ total score.

These findings were consistent with the studies based on the original author's sample (Gámez et al.,

2014) and the German sample (Schaeuffele et al., 2021).

Overall, we found that the BEAQ item selection was informed by the factor analytical method,

and we recruited student and clinical samples to enhance the generalizability and external validity of

the findings. We included a wide range of measures and provided evidence that experiential avoidance

was internally consistent. We also assessed multiple facets of the underlying construct and found that it

was clearly distinguishable from other related constructs such as psychological flexibility, negative

emotionality, and anxiety.

Although this study does not include cross-cultural samples, the findings offer insights for further

studies that would advance our understanding of the effects of cultural factors on experiential

avoidance and psychological inflexibility. Five items in our adapted version of BEAQ are unique: two

items in repression and denial, two items in behavioral avoidance, and one item in distress aversion. In

the original version of the BEAQ, two items in repression and denial are general statements about

disconnection with feelings ("It's hard for me to know what I'm feeling" and "I feel disconnected from

my emotions"). In our study, another two selected items are related to repressing intensive and negative

emotions ("I can numb my feelings when they are too intense" and "It takes me awhile to realize when

I'm feeling bad"). This finding is consistent with previous studies of cultural preferences in ideal affect

and the desire to down-regulate intense and negative emotions in Eastern cultures. Specifically, people

from individualistic cultures tend to promote high arousal emotions such as excitement, while people

from Eastern cultures tend to prefer more balanced and low arousal emotions such as calmness (Tsai,

2007). It is also interesting that the effect of suppression is culture-specific. Emotional suppression was

associated with worse life satisfaction and depressive symptoms in European Americans, while such a

relationship was not found among Chinese (Cheung & Park, 2010; Soto et al., 2011), for whom

emotional suppression is more common but the adverse effects of psychological adjustment are lower

among Chinese (Matsumoto et al., 2008). The selection of these items reflects subtle but meaningful

cultural characteristics and justifies an alternative Chinese version with which further studies could

investigate the implications of such cultural differences regarding experiential avoidance and

psychological inflexibility in mental health and treatment strategies (Kirk et al., 2019).

Limitations in this study include biases that could possibly occur under a single-method approach.

Reliance on self-report measures may be affected by inflated estimates of the associations between

constructs (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Further work could validate the BEAQ

under various sources of information using an experimental design, clinical ratings, or multiple

informants. In addition, the diagnoses among the clinical sample in Study 2 were self-reported;

structured diagnostic interviews were not used. Structured interviews can be used to evaluate the

suitability of participants in the clinical sample, some of whom may experience hardships in

self-reporting their psychological experience because of severe mental health impairment (e.g.,

participants diagnosed with severe disorders such as psychosis). Almost a quarter of the participants

recruited for Study 2 reported having psychosis. Although the participants in our study had a relatively

stable mental state and could complete the questionnaire on their own, it is uncertain whether

participants with severe mental illnesses may express experiential avoidance differently. Further studies

could include an additional sample in hospitals or psychiatric clinics and could use medical records to

verify participants' diagnoses and investigate the validity of experiential avoidance and psychological

inflexibility among people with different psychiatric diagnoses.

Conclusion

The validation of the BEAQ in Hong Kong Chinese indicates that it is a reliable assessment tool

for researchers and practitioners seeking to study and measure experiential avoidance. The brief version

will facilitate the use of repeated measures over time, which would be ideal for monitoring changes in

longitudinal studies and evaluating treatment mediators and outcomes. Further studies of mental health

and psychotherapy should take into consideration the importance of assessing avoidance and

psychological inflexibility.

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