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EMPIRICAL PAPER

Cultural adaptation in measuring common client characteristics with an urban Mainland Chinese sample

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Abstract

Objectives: This study aimed to develop a culturally adapted version of the Systematic Treatment Selection-Innerlife (STS) in China. **Methods:** A total of 300 nonclinical participants collected from Mainland China and 240 nonclinical US participants were drawn from archival data. A Chinese version of the STS was developed, using translation and back-translation procedures. After confirmatory factor analysis (CFA) of the original STS sub scales failed on both samples, exploratory factor analysis (EFA) was then used to access whether a simple structure would emerge on these STS treatment items. Parallel analysis and minimum average partial were used to determine the number of factor to retain. **Results:** Three cross-cultural factors were found in this study, Internalized Distress, Externalized Distress and interpersonal relations. **Conclusions:** This supported that regardless of whether one is in presumably different cultural contexts of the USA or China, psychological distress is expressed in a few basic channels of internalized distress, externalized distress, and interpersonal relations, from which different manifestations in different culture were also discussed.

Keywords: culture and psychotherapy; client characteristics; STS; cross-cultural psychology; Chinese sample

There has been a growing awareness of expanding theory and practice of psychotherapy to diverse regions and populations (e.g., Pedersen, 2008; Reese & Vera, 2007). Multiculturalism has represented a “fourth” force to modern psychotherapy (e.g., Pedersen, 2008). However, as a country with 20% of the world population and a long history of psychological thinking, China has thus far little representation in the worldwide scholarship that addresses contemporary psychotherapy research and practice. The foundation of the clinical practice and the philosophical understanding of human nature underneath psychotherapy theories, such as psychopathology, and personality are primarily based on the research and clinical experiences of Westerners (Tseng, Chang, & Nishizono, 2005). Thus, an important question is to what extent the

constructs derived from Western-derived psychotherapy are applicable to the Chinese population.

While the universality of psychological process across diverse cultures is debated, several cultural variations have been proposed to exist between the West and the East in regard to social norms, attitudes, and values. For instance, in Chinese culture, power distance, collectivism, and interpersonal “harmony” are highly valued. People value interdependence and hold a holistic and contextual viewpoint when conceptualizing pathology or treatment. It is noteworthy that Western-derived measurements are based on the data collected from Westerners who value individualism and equalitarian. Therefore, Western-originated psychological measures or treatment interventions may not fit with some central values of Chinese culture.

Moreover, these Western-derived measures may overlook culturally specific components when being implemented in Chinese culture. For instance, the findings from indigenous studies on Chinese personality, such as Chinese Personality Assessment Inventory (CPAI; Cheung et al., 1996), indicated specific personality dimensions of Chinese people. However, since it is extremely difficult to establish cultural differences (Triandis, 1980) and it is impractical (even impossible) to develop unique psychotherapy models for each culture, a reasonable strategy is to bridge the West and the East by enhancing the generalizability of the principles of change that have been empirically supported in the Western culture into other cultural regions.

There have been several well-known Western-originated psychological measures implemented in China since the past decade. One type of instrument currently used for treatment planning, monitoring, and outcome assessment is symptom-focused measures, such as the Symptom Checklist 90-R (Derogatis, 1994) and the Beck Depression Inventory-II (Beck, Steer, & Brown, 1996). Another type is personality measures, such as NEO-PI-R measure and the Eysenck Personality Questionnaire (EPQ). These measures have thus far demonstrated consistency between the US and Chinese samples (e.g., Feng & Zhang, 2001; Yang et al., 1999). However, despite the cross-cultural reliability of these measures, being reliable is not sufficient to indicate the relevance of their constructs to Chinese samples nor to verify their capacity to adapt to Chinese culture or predict the behavior of Chinese people. In contrast to symptom and personality measures, the Systematic Treatment Selection-Innerlife form (STS; Beutler & Clarkin, 1990; Beutler & Harwood, 2000) is based on the STS model that integrates treatment with factors of patients, cultural context, and therapeutic relationship in order to enhance treatment outcome. By retaining sound principles of behavior change, the STS model was developed with the aim of providing clinicians with flexibility and creativity in diverse cultures and across a wide range of treatment approaches. Hence, the principles of the STS may be more consistent with the traditional Chinese values in that it emphasizes that all changes are interactive and must not be perceived in a vacuum, which is closer to the holistic perspectives in the Eastern culture.

The STS model (Beutler & Harwood, 2000) integrates both specific treatment approaches from clinical trials as well as common factor conceptualizations in order to identify optimal treatments and a broad range of variables that contribute to treatment process and outcome (i.e., Beutler, Forrester, Gallagher-Thompson, Thompson, & Tomlins, 2012;

Castonguay & Beutler, 2006; Norcross, 2002). Therefore, this approach is based on the assumption that neither specific treatments derived from Randomized Clinical Trials nor the variables from Common Factors research can provide adequate answers for identifying nonpsychotherapy factors that contribute to change. In addition, the newly developed STS-Innerlife System has been developed as a collaborative web-based tool and to be utilized jointly by therapist and patient (www.innerlife.com). It generates conceptualized narrative reports that are designed for use by primary care physicians, mental health clinicians, and other professionals. One contribution of the STS-Innerlife System is that it meets the urgent demand for the cost-effectiveness of both assessment procedures and interventions (i.e., Groth-Marnat, 1999; Groth-Marnat & Edkins, 1996).

In the recent decade, China has witnessed the drastic development in the mental health field. The Chinese Society has been facing a huge gap between the demands for costly effective and culturally adaptive psychotherapy, and the scarcity of research and clinical interventions in this field. However, despite the conceptually cross-cultural adaptability of the STS system in Chinese culture and the significant development of the STS in the North America, there was no study to assess the consistency of the STS instrument in the Chinese culture. Therefore, the present study sought to assess reliability and construct validity of the STS measure in Chinese population.

Instead of taking a categorical view of patient characteristics, the STS approach relies on systematically identifying patient variables and tailoring treatment options based on empirically and clinically established relationships with treatment outcomes (Groth-Marnat, 2008). These patient characteristics include levels of functional impairment (FI), social support (SS), level of problem complexity/chronicity (CH), coping style, resistance (RE), subjective distress (SD), and other empirically identified variables (Norcross & Beutler, 2011). In particular, three variables (FI, coping style, and trait-like RE) have been recognized by the American Psychological Association's Division 29 Task Force commissioned as effective moderators of treatment to identify qualities that enhance therapeutic change (Norcross, 2002). In the present study, these variables were used to assess cross-cultural utility.

An important issue in adapting and transporting Western-derived measures involves not only the accurate language converting, but also maintaining consistent content and construct validity (Ghorpade, Hattrup, & Lackritz, 1998; Guillemin, Bombardier, & Beaton, 1993; Herdman, Fox-Rushby, & Badia, 1997; Wagner et al., 1998). Some cross-cultural

researchers have proposed several standards of equivalence that should be met when evaluating cross-cultural validity of measures, such as semantic equivalence, idiomatic equivalence, experiential equivalence, and conceptual equivalence (Guillemin et al., 1993). The research method most frequently used for cross-cultural adaptation in verifying the equivalence of the adapted measures and source questionnaires is the procedure of translation and back-translation (Beaton, Bombardier, Guillemin, & Ferraz, 2000; Bjorner, Kreiner, Ware, Damsgaard, & Bech, 1998; Mallinckrodt & Wang, 2004), which includes initial translation, synthesis of the translations, and back-translation (Beaton et al., 2000).

The present study sought to translate and back-translate the STS into Chinese language. We predicted the following results: (i) the original six STS subscales will fit with a six-factor structure of the STS, (ii) the Chinese and US samples will share a similar factor structure, and (iii) there will be mean differences of the subscales of the STS instrument between the US and Chinese participants. For instance, the Chinese sample is assumed to endorse higher scores on internalization (IN) scale than the American sample. It was also hypothesized that Chinese participants would endorse the same level of RE with the US sample. Although Chinese people are conceptualized as high RE in therapy, their inclination of RE may be offset by their tendency to maintain the harmonious relationships.

Method

Participants

Chinese sample. The data were collected in Shanghai, China. It included a total of 300 participants (12 = clinical, 282 = nonclinical; 35% male, 64% female; 38% currently married, 30% in a relationship, 31% single). The mean of age is 30.32 and the standard deviation is 4.5. Twelve participants indicated that they had received previous therapy or counseling services (the remainder indicated no previous therapy experience). Some participants were undergraduate and graduate students of Fudan University, and others were members of various academic, company, hospital, and government organizations. The majority of the samples were from Shanghai city ($n = 273$) and the rest were from some other cities in China. The inclusive standards of selection include (1) represent a range of age and gender and (2) are 18 years old or above. No identifying information is retained or extracted beyond demographic characteristics and Innerlife responses.

US sample. Archival data were used for the North American sample. The participants were drawn from four locations within the Northern California area and the data were collected in face-to-face contact. These participants consisted of clinical and nonclinical samples ($N = 240$, 28 = clinical, 212 = nonclinical; 27% male, 74% female; 40% currently married, 18% in a relationship, 24% single). The mean of age is 37.5 and the standard deviation is 10.9. Clinical samples included patients at both a mandatory mental health treatment program and outpatient community mental health training clinic. Nonclinical samples consisted of graduate students at a clinical psychology program as well as members of various religious, academic, and multicultural organizations across California, Oregon, and Pennsylvania.

The Chinese nonclinical sample ($n = 288$) and the US nonclinical samples ($n = 216$) were used for exploratory factor analysis (EFA), and the results revealed that the factor structure of nonclinical samples was almost identical with those of the whole Chinese sample ($n = 300$) and US sample ($n = 240$), accordingly. Therefore, the Chinese samples ($n = 300$) and US samples ($n = 240$) were used in order to optimize the sample sizes. Missing items were replaced with the value of the series mean (Acock, 1997) when there were less than 10 missing items. As a result, six cases in the US sample and three cases in the Chinese sample were deleted. Therefore, the following analyses were conducted on 234 drawn from the US sample and 297 from the Chinese sample.

Procedures

The Chinese sample consisted of undergraduate sample and counselor sample. The student sample was recruited via a recruitment flyer distributed to the classes. Consistent with usual policies in China, the students were informed that it was an option for them to decline to fill out the questionnaire and that their decision would not impact any aspects of their academic life. The counselor sample was recruited via recruitment flyers distributed to the Counselor Certificate Training classes and the participants were informed that it was optional for them to complete the questionnaire. All responses were anonymous and no names were used. Participants were notified that the process would take about 45 minutes in most cases and that a short section with three feedback questions would be at the end of the measure. Names were not recorded in data transfer at any point during the study, and ID numbers were used for each consent form and questionnaire.

Measures

STS-Innerlife form (English version). The study used the newly revised STS assessment system (designed STS-Innerlife), which consists of 172 questions each rated on a 4- or 5-item Likert-type scale. Of the total, 151 items were composed of 27 symptom scales (22 scales and 5 subscales) and 7 treatment planning scales (client characteristic scales). Questions in the treatment planning dimensions included both unique items and relevant items contained in one or more of the symptom scales. For instance, some items loaded on both the RE scale and the substance abuse scales). In addition, among the treatment planning dimensions, nine basic demographic questions were included such as age, ethnic identification, marital status, client's preferences for self-help resources (e.g., movies, books, and web-resources) as well as preferences for type of therapist (Norcross et al., 2003), and three items designating readiness for change.

The original clinician-rated and self-report STS measures (STS-CR and STS-SR) were found to have good levels of reliability and both construct and predictive validity. Two studies have been conducted to assess the internal consistency and construct validity (Corbella et al., 2003; Fisher, Beutler, & Williams, 1999) and over 20 studies have tested the predictive validation of the STS measures. In Corbella et al.'s (2003) study, Cronbach's alpha for the RE subscale is .68, the internalizing subscale earned an alpha of .72, and the externalizing subscale earned an alpha of .65. The items of the original two versions of the STS were refined, and subjected to item analyses in order to reduce the total item pool and construct the STS-Innerlife—version II of the STS system.

STS-Innerlife form (Chinese version). The Chinese version of the STS-Innerlife was developed from items on the English version of the STS-Innerlife Form. The English version was used as a template from which the translation/back-translation was conducted for the Chinese version. Based on this procedure, semantic equivalence was established. The procedure of translation/back-translation in this study was conducted by an expert committee. The two groups of translators consisted of bilingual psychologists who were proficient in both Chinese and English languages. The first group of translators was composed of three native Chinese. Two of them were studying clinical psychology in the USA. The other was a faculty member from Psychology Department at Fudan University, China. Three translators made their translation, respectively, and then made a consensus on the first draft of the

Chinese version. The second translator team was composed of a faculty member of Psychology Department at Fudan University and two other graduate students from Psychology Department and English Department at Fudan University. The two graduate students made back-translation independently and the faculty made a final decision on item acceptability for the first back-translation draft. In the following phase, the expert designated for this measures included a committee of four clinical psychology graduates who were knowledgeable in the STS measures, and a professor who was one of the creators of the original STS instruments. Of the four graduate students, two were Americans, one was Japanese, and the other was Chinese.

Content equivalence was established by determining the relevance of each item on the STS-Innerlife to Chinese culture. The core items used in the Chinese version were the same as those in the North American version, but several items were revised for the Chinese version in order to accommodate to the language and cultural differences. First, eight items were restated according to Chinese culture. For instance, the item 8, "sexual partner" was changed to "significant partner." The description of the items 68 and 100 "people have it for me" was changed to "people intend to harm me." Second, the responses of the four cultural items (items 155, 156, 157, and 171) were revised. For instance, "I have a preference for a non-Caucasian therapist" was changed to "I have a preference for a non-Chinese therapist." Third, half of the items had answer scores reversed to be consistent with other questions. Fourth, two items were omitted due to the cultural concern based on item analyses of clinical and nonclinical populations. These items were not able to discriminate among the problem areas sufficiently for inclusion. The item numbers in the test were left as fillers and so the item numbers would be the same as in the English version. The two items were item 7 "Recently work has been more upsetting and aggravating than usual" and item 53 "I generally follow the rules and the directions of those in authority." Sixth, some answer choices were changed from "strongly agree-strongly disagree" to "almost always-never." Seventh, three open-ended questions were added at the end of the questionnaire aiming at getting narrative feedback about the questionnaire. These were "Were there any items you could not understand or thought was poorly worded? If so, please explain below:" "Were there any items you thought could have been taken out or replaced? If so, please explain below:" "What suggestions would you have to improve the measure?" These narrative input was used in assessing the content validity of each item. Among the 172 items of the original questionnaire,

51 items that consisted of the seven treatment scales were used in this study. The seven treatment scales include FI, CH, SS, IN, externalization (EN), RE, and SD.

Results

The subscales of FI, (RE, and EX were highly correlated with one another on both the USA ($r = .788-.830$) and Chinese samples ($r = .631-.724$), while the correlations among other subscales were medium to low. The mean scores of the two STS treatment dimension scales for the USA were somewhat below the Chinese equivalents (see Table I). They were FI ($t = -4.827, p < .001, d = -.186$) and CH ($t = -.305, p < .05, d = -.0125$) scales. The mean score of the other five scales for the USA were above the Chinese sample. They are SS ($t = 2.223, p < .001, d = .087$), IN ($t = 2.834, p = .001, d = .107$), RE ($t = 1.700, p < .001, d = .0656$), EX ($t = .207, p < .001, d = .009$), and SD ($t = 20.406, p < .001, d = .619$).

In order to test the equivalence of the two language versions of the STS questionnaire, a series of confirmatory factor analyses (CFA) were conducted. The underlying assumption was that there were seven dimensions investigated through a CFA of responses obtained from both the USA and Chinese samples to the STS questionnaire. Given that the SD scale was a factor that reflects general well-being rather than specific personality types and items of SD correlate with most of the items in the scales, SD scale was excluded from the factor analysis method. As a result, the total number of items used in the CFA was 40. As evidenced by the values of the model fit indices for the six-factor model, the model could not adequately fit the US sample (the root mean square error of approximation [RMSEA] = .13, comparative fit index [CFI] = .48, normed fit index [NFI] = .45, and Tucker-Lewis index [TLI] = .40) or Chinese sample (RMSEA =

.69, CFI = .73, NFI = .64, and TLI = .69). Therefore, our first hypothesis of the independence of the original STS dimensions was not supported. Moreover, given the fact that the subscales of EX, RE, and FI were highly correlated on both the USA and Chinese samples, we assumed that there might be a unique factor structure underlying the original dimensions or no organization on these items.

Thus, a series of EFA were conducted as a tool to detect underlying structure of items on the samples from the USA and China. Velicer’s (1976) minimum average partial (MAP) test and parallel analyses were used to determine the number of components in this study. MAP test and parallel analysis have been validated to be superior to some conventional methods, such as criteria of scree plot or eigenvalue above 1 (O’Connor, 2000). Some other methods were also used to determine the number of factor to retain, which included the percentage of variance accounted for by both the individual factors and the total factor solution, as well as the theoretical consideration. The principal component method of EFA was utilized, as it is a preferred method and also because MAP test involves a complete principal components analysis (O’Connor, 2000). Varimax rotation, as fairly standard method of rotation, was used in this study. The correlation of factors for the US sample were $r = .09$, $r = -.14$ and $r = .38$. For the Chinese sample, the correlations ranged from $r = .01$ to $r = .32$. When between factor correlations are below .32, varimax rotation is recommended (Tabachnick & Fidell, 2007). Thus, varimax rotation was a preferred method in this study.

The results of MAP and parallel analyses suggested a three-factor solution for the US sample. In the output, the first three eigenvalues from the actual data were larger than the corresponding first three 95 percentile random data eigenvalues. The fourth and remaining eigenvalues from the actual data were smaller than their corresponding 95% random data eigenvalues. In total, the first three factors accounted for 31.37%, 9.27%, and 5.11% of the total variance. As for the Chinese sample, the results of MAP and parallel analyses suggested a four-factor solution. The four factors accounted for 24.33%, 9.35%, 5.43%, and 4.56% of the total variance. A cut-off of .40 was used to identify items that loaded “substantially” on a factor, those items loading above .40 then were used to define the factor.

Factor Identification

Table II showed the factor loadings for both the USA and Chinese samples in the MAP and parallel analyses. It is important to note that the patterns of

Table I. Means and SDs of the seven STS treatment scales on the US and China samples.

| | USA ($n = 234$) | | China ($n = 297$) | |
|----|-------------------|------|---------------------|------|
| | Mean | SD | Mean | SD |
| FI | 3.452 | .511 | 3.640 | .333 |
| CH | 2.790 | .499 | 2.803 | .425 |
| SS | 1.925 | .503 | 1.837 | .372 |
| IN | 2.755 | .479 | 2.648 | .365 |
| RE | 3.230 | .498 | 3.165 | .357 |
| EX | 3.273 | .576 | 3.264 | .332 |
| SD | 2.954 | .444 | 2.334 | .154 |

Note. FI, functional impairment; CH, chronicity; SS, social support; IN, internalization; RE, resistance; EX, externalization; SD, subjective distress.

Table II. Factor loadings for the STS treatment items on US and Chinese samples: principal component factoring with varimax rotation.

| Item # | Short description of items | US sample | | | Chinese sample | | | |
|----------|--|-------------|---------------|---------------|----------------|---------------|---------------|-------------|
| | | ED | ID | II | ED | ID | SC | IO |
| FI23 | Drug and alcohol use | .551 | .111 | -.008 | .682 | .218 | -.013 | .026 |
| FI24 | Legal issues | .687 | -.035 | .197 | .491 | -.054 | -.095 | .040 |
| FI25 | Work FI | .514 | .428 | -.011 | .123 | .446 | -.028 | -.131 |
| FI_SS67 | Suicidality | .600 | .290 | .298 | .505 | .325 | .009 | .063 |
| FI95 | Job loss or demotion at work | .658 | .171 | .277 | .554 | .115 | .130 | -.006 |
| FI144 | Concentration difficulties | .601 | .355 | .196 | .234 | .320 | -.047 | .067 |
| FI105 | Drug use | .703 | .115 | -.138 | .891 | .105 | .053 | .013 |
| CH27 | Recurrence of this problem | .491 | .474 | .013 | .101 | .336 | .313 | -.204 |
| CH29 | Content and satisfied | .008 | .569 | .395 | -.028 | .444 | .286 | -.021 |
| CH30 | Worry | .068 | .696 | -.059 | .047 | .687 | .345 | -.136 |
| CH31 | Stressed out | -.096 | .731 | -.225 | .051 | .534 | .178 | -.126 |
| CH32 | Feel like crying | .384 | .532 | .075 | .111 | .705 | .222 | .092 |
| CH33 | Feel faint and dizzy | .405 | .305 | .167 | .306 | .663 | .063 | .063 |
| CH34 | Headaches or stomach pains | .257 | .435 | .077 | .351 | .603 | .070 | .059 |
| CH35 | Should be doing much more | .130 | .534 | .026 | -.011 | .238 | .371 | .041 |
| CH36 | Sadness | .289 | .709 | .191 | .136 | .655 | .204 | .113 |
| CH_SS37 | Indecisiveness | .193 | .666 | .201 | .162 | .590 | .273 | .149 |
| SS_IN38 | Loneliness | .295 | -. 689 | -.264 | -.143 | -. 560 | -. 452 | -.094 |
| SS39 | Friends with common interests | .052 | -.236 | -. 581 | -.083 | -.025 | -. 458 | -.009 |
| SS40 | Close friend or family member | -.239 | .040 | -. 739 | -.235 | -.325 | -.089 | -.129 |
| SS_IN47 | Loneliness | .235 | .691 | .227 | .073 | .387 | .526 | .120 |
| SS93 | Conflict with family members | .499 | .153 | .428 | .701 | .051 | .146 | .008 |
| SS_RE100 | Other people intend to harm me | .607 | .006 | .365 | .417 | .356 | .297 | -.146 |
| EX_RE22 | Somatization | .589 | .257 | .032 | .383 | .286 | .038 | -.115 |
| EX42 | Drug or alcohol use | .463 | .234 | -.331 | .657 | .147 | .031 | -.012 |
| EX43 | Conduct problems | .774 | .177 | .034 | .333 | .479 | .057 | -.089 |
| EX44 | Express physical problems | .492 | .213 | -.058 | .033 | .018 | .075 | .959 |
| EX73 | Sprees | .645 | .232 | -.068 | .073 | .352 | -.024 | -.017 |
| EX103 | Legal issues caused by substance use | .812 | .126 | -.127 | .841 | .095 | .052 | .024 |
| EX_RE101 | Trouble caused by substance use | .803 | .127 | -.041 | .859 | .146 | .086 | -.003 |
| IN45 | Socially outgoing | -.152 | .292 | .470 | .034 | .019 | .073 | .959 |
| IN46 | Lacking of self-confidence | .050 | .698 | .181 | .044 | .299 | .668 | .112 |
| IN48 | Socially withdrawal | .149 | .314 | .017 | .005 | -.004 | .706 | -.009 |
| IN49 | Socially withdrawal | .383 | .182 | .055 | .014 | -.178 | .648 | .006 |
| IN120 | Embarrassment in social setting | .405 | .369 | .219 | .169 | .323 | .446 | .053 |
| RE50 | Miss or late to appointment | .420 | .174 | .134 | .086 | -.307 | .136 | .014 |
| RE51 | Interpersonal defensiveness | .243 | .397 | -.056 | .170 | .243 | .337 | -.201 |
| RE99 | Job loss | .704 | .107 | .349 | .552 | .100 | .283 | -.006 |
| RE106 | Drug use | .798 | .149 | -.126 | .746 | .171 | .090 | -.018 |
| RE28 | Recurrent depression when interpersonal difficulties | .418 | .533 | .126 | .259 | .586 | .312 | -.007 |

Note. The factor loading cutoff score was .40. The factor loading values above the cutoff score were bolded. Factor labels on the US sample are F1 = externalized distress (EX); F2 = internalized distress (ID); F3 = interpersonal isolation (II). Factor labels on the Chinese sample are F1 = externalized distress (ED); F2 = internalized distress (ID); F3 = sociability (SC); F4 = interpersonal openness (IO). Item labels are composed of the acronyms of the original STS treatment scales and the item numbers. Some items are ascribed to two scales, therefore, the labels of these items are composed of the acronyms of both scales linked with hyphen. The initials stand for as follows: FI, functional impairment; CH, chronicity; SS, social support; IN, internalization; EX, externalization; RE, resistance.

the factor loadings on Factor I and Factor II on both samples were nearly identical. The first factor was composed primarily of the items of FI and EX, and resistance (RE). The second factor consisted of the items of CH, IN, SS, and resistance (RE) scales. As for the third factors, they consisted of conceptually similar but in actuality different items. Moreover, the Chinese sample generated a unique fourth factor.

Factor I: externalized distress. This factor consisted of 23 items on the US sample and 13

items on the Chinese sample. The internal consistency (Cronbach's alpha) of this factor was .93 on the US sample and .88 on the Chinese sample. They were essentially identical and were a composite of EX, FI and resistance scale items. It included FI in multiple life areas such as substance issues, legal issues, somatic problems, low social support, interpersonal difficulties, acting out, etc. This factor appeared to capture externalized behaviors and their associated distress and FI. Items that spoke to substance abuse and legal issues (items 103, 101,

and 106) are the most highly loaded on both the samples. Item that endorsed intense distress such as item 67 (“I don’t want to live”) and item 100 (“Some of the people at work intend to harm me”) also had high loading weights on both the samples.

Factor II: internalized distress. This factor was composed of 14 items on the US sample and 12 items on the Chinese sample. The internal consistency of this factor was .81 on the US and .78 on the Chinese samples. They were rather similar and included a variety of internalized symptoms of distress, such as somatic symptoms, psychological distress, and indecisiveness. As compared to Factor I, the distresses reported in this factor were internalized or internally focused. For instance, as for the US sample, the highest loading items on this factor involved client’s experience of feeling “stressed out,” “feeling unhappy or sad,” and “feeling lonely” (items 31, 36, and 47). As for the Chinese sample, the highest loading items (32, 30, and 33) reported experiences of “I feel like crying,” “worrying,” and “sadness.” The difference on this factor between the two samples is that the two somatic items (33 and 34) loaded highly on the Chinese sample, whereas, these two items scattered on Factor I and Factor II on the US sample.

Factor III: interpersonal relations. This factor was mainly composed of items related to the respondent’s SS system and social relations. The internal consistency of this factor was .42 on the US sample and .56 on the Chinese sample. However, there were some differences between the two samples. First, despite the conceptual similarity of the items loaded on this factor on the two samples, they were composed of almost completely different items on the two samples. It consisted of four items on the US sample and six items on the Chinese sample. Second, in the US sample, it involved isolation from family and close friends, whereas, in the Chinese sample, none of the family items were included in this factor. Third, despite the conceptual similarity, in the US sample, the highest negatively loading items (39 and 40) were about the lack of primary SS including family (items 40 and 93) and close friends (items 39, 40, and 46); whereas, in the Chinese sample, it included introversions, interpersonally withdrawal, and associated distress. For example, the highest loading items (48, 46, and 49) were about socially reservation and lack of confidence. Items 47 and 120 also endorsed psychological complaints of “loneliness” and “humiliation” in social setting.

Factor IV (Chinese sample): interpersonal openness. This scale was only consisted of two highly loaded items (44 and 45). It seemed to reflect a distinctive trait of the Chinese sample. Although two items seemed to be not sufficient to define a factor, the weights of the factor loadings of these two items were both .959 and its internal consistency was 1.00. Moreover, the content of these two items was highly similar (item 44 “I don’t hesitate to tell friends or family about my physical problems” and item 45 “I am socially unreserved and outgoing”). It matched well with the label of “Interpersonal Openness.” In addition, Factor IV produced a low correlation with the other three factors ranging from $r = .04$ to $r = .11$. Therefore, this might be a unique factor to Chinese population.

Taken together, the most remarkable finding is the considerable similarity of the first two factors on the two samples. Thus, an effort was made to identify cross-culturally consistent factors. A cut-off score of .45 was used to identify items that loaded “substantially” on factor. Items that loaded below .45 on neither of the two samples were removed. Theoretical consideration was also given when determining whether or not to retain the items. Items that did not make sense on the factor that they loaded on were also removed. As a result, 13 items (items 23, 24, 67, 95, 105, 93, 100, 22, 42, 103, 101, 99, and 106) consistently loading on the first factor on both samples. Ten items (items 25, 29, 30, 31, 32, 34, 36, 37, and 38) consistently loaded on the second factor. We used the identical labels to define these two new factors as: (1) externalized distress (ED) and (2) internalized distress (ID). The two new factors were moderately correlated ($r = .55$). Mean differences were compared between the US and Chinese samples (see Table III). Interestingly, the mean scores of the two new factors, ED ($t(531) = -4.80, p < .001$) and ID ($t(531) = -3.93, p < .001$), on the Chinese participants are both somewhat above than the US equivalents. The internal consistency (Cronbach’s alpha) of these two scales were .89 (ED) and .72 (ID).

Table III. Means and SDs of the two cross-cultural factors on the US and Chinese samples.

| Factors | Sample | | | |
|---------|------------------|-----------|---------------------|-----------|
| | US ($n = 234$) | | China ($n = 297$) | |
| | <i>M</i> | <i>SD</i> | <i>M</i> | <i>SD</i> |
| ED | 3.42 | .55 | 3.60 | .37 |
| ID | 2.75 | .43 | 2.88 | .36 |

Discussion

This was the first study designed to assess the cross-cultural factor structure of the STS-Innerlife treatment planning items. In addition to the nuance of cultural variances, the most noticeable finding in the present study is the two culturally consistent dimensions, ID and ED, which may provide a framework to understand the cultural difference. It appeared that a measure of patient characteristics rooted in English language could be meaningfully applied in Chinese culture. While this finding was unexpected in terms of expectations regarding the six STS variables, it consists with a large amount of evidences regarding the cultural universality of personality variables. We will discuss the findings first in terms of the substantial cross-cultural similarities, followed by cross-cultural differences.

Cross-Cultural Similarities: ID and ED

Various forms of Internal versus External personality characteristics have been frequently identified in classical models of personality, including (1) Eysenck's three-factor model (1957) which also has been found as consistent personality factors among both Chinese and US participants using the EPQ (Barrett, 1998); (2) the Big Five as represented on the NEO-PI-R (McCrae & Costa, 1997); (3) internal versus external locus of control (Rotter, 1971), which has also been generalized in some cross-cultural studies (e.g., Mahler, 1974; McGinnies, Nordholm, & Ward, 1974; Parsons, Schneider, & Hansen, 1970; Reltz & Groff, 1974). Clinical disorders also have long been organized similarly in terms of distress that is either directed internally (e.g., depression) or externally (e.g., conduct disorder) for both children (e.g., Kazdin, 1995) as well as one basic conceptual factor in adult personality psychopathology (e.g., Benjamin, 2003). Moreover, the two factors found in this study, ED and ID, were also generally in line with the concepts of EX and IN of the original STS treatment dimensions. The similarity of the factor structure for these two cross-cultural samples would seem to provide additional evidence that these two factors may indeed represent global client factors that can be used in psychotherapy research on treatment planning.

This study suggested a tendency in the Chinese participants to express ID as somatic symptoms, which is consistent with the findings in numerous studies (e.g., Katon, Kleinman, & Rosen, 1982). However, there are also some cross-cultural researchers (e.g., Kleinman & Kleinman, 1985) arguing that somatization is also common in the West among depressed patients, and the difference

may lie in cultural manifestations in how somatic experiences are expressed and accepted. Physical complaints may be more acceptable than psychological complaints for Chinese people, while the Westerners may be more articulate in describing their psychological experiences as independent symptoms.

Surprisingly, the means of the two cross-cultural consistent factors labeled with "Externalized Distress" and "Internalized Distress" for Chinese sample were significantly above US equivalents. The finding that Chinese samples had higher ID is consistent with the widely recognized notion that Chinese people are more internalized than the US people. However, as it is conventionally believed that American people are more externalized than Chinese people, the finding in this study that Chinese people had higher ED than the US sample is somewhat counterintuitive. The factor of "Externalized Distress" was composed of the traditional STS scales of FI, EX, and RE. The counterintuitive finding in this study might be due to the complex relationships among these three STS scales. It might be advisable to refer to the mean differences of the original STS treatment scales between the US and Chinese samples. In this study, it was supported that the mean of the original STS treatment scale, EX, on the US sample was higher than Chinese sample.

Cross-Cultural Differences: Interpersonal Relations

However, despite several qualifications to the claim of a common human structure of patient characteristic in this study, it also showed some relatively small amount of cultural differences. Specifically, the interpersonal relations factor (Factor III) consisted of almost completely different items between the two samples, albeit all items in both samples reflected slightly different forms of social distress. Also, this factor accounted for 2.17% on the US sample but 5.43% on the Chinese sample. For the US sample, distress related to interpersonal relations mainly reflected isolation from family and close friends, whereas, for the Chinese sample, family items were not included in one's sense of isolation. Instead, social distress, such as feelings of "humiliation" and being "lonely," was outside the family or in more generic forms of sociability. This difference may be consistent with the finding of a unique interpersonal relatedness factor found in a Chinese sample (Cheung et al., 1996). Chinese people highly value interdependence among family members, therefore, the family distress is either not to be addressed or they are discrete from other social distress. The social distress, such as isolation from social setting

and rejection from close friends, may cause “humiliation” and “lack of self-confidence” for Chinese people. It may be because Chinese people highly regard “social face” (Hu, 1944; Hwang, 1987). Rejection from social connection may mean “losing face” and embarrassment. Therefore, the factor of interpersonal relations may reflect a common psychological need for social connection and a universal problem of a sense of separation from others, whereas, it is expressed differently in different cultures. Finally, another slight cross-cultural difference was an additional (fourth) factor in the Chinese sample labeled as interpersonal openness. This factor accounted for 4.56% of the totally variance on the Chinese sample. This factor was conceptually highly similar to Factor III in that it had a low correlation with the other factors as well as the fact that the content of this factor involved social connection. However, this additional factor may also speak to differences in how interpersonal distress is manifested in Chinese culture.

These factorial differences around social and interpersonal relatedness might point to differences in how people from different cultural backgrounds perceive interactions with others differently. The mean differences on the STS original subscale of resistance were also consistent with this explanation. The Chinese sample endorsed a significantly lower level of resistance than the US sample, which is consistent with common assumptions about cultural differences between China and other Eastern cultures and the US and other Western societies. Resistance occurs when an individual reacts to situations where their perception of freedom, image of self, psychological integrity, or power is threatened (Beutler & Harwood, 2000). By definition, then, resistance is tied to interpersonal style and self-image. These findings indicate the extent to which social context might influence these variables. A large body of research documents the greater independent social orientation in Westerners, which stands in contrast to the greater interdependent orientation in East Asians (e.g., Markus & Kitayama, 1991). Independently orientated cultures tend to emphasize self-direction, autonomy, and self-expression – all traits that are conceptually linked to higher resistance (Beutler, Harwood, Michelson, Song, & Holiman, 2011). However, interdependent cultures tend to value harmony, relatedness, and connection – all of which are conceptually linked to lower resistance. One reason that Chinese people have a lower level of resistance might be that social interdependence tendency leads Chinese people to strive for interpersonal cohesion and avoid interpersonal conflicts. As summarized by Cheung, Gan, and Lo (2005):

In traditional Chinese culture, social behavior is oriented toward maintaining interpersonal harmony and reciprocity. ... The emphases on harmony and relationship reciprocity are also related to less expression of anger, ambivalence in emotional expression, and lower likelihood of seeking professional psychological help. (p. 32)

However, despite the fact that Chinese Society appears to set more restrictions on development of personal freedom, there are some cultural factors, such as interdependent tendency and pursuing for harmony, which may mediate individuals’ reactions to certain external situations where personal freedom is threatened.

This study supported the cross-cultural factors of ED and ID, which are different from the original STS treatment dimensions. However, the two dimensions may not be sufficient to capture the complexity and nuances found within clinical settings. Given the number of empirical findings that have supported the original STS dimensions, it might be useful to combine the more parsimonious factors found in this study with the original STS scales. For instance, it would be meaningful to get FI, EX, and RE scale scores separately and also take a total score of these three scales for a new factor. Alternatively, the two new scales of ED and ID with the cross-culturally consistent items could also be used to assess patient’s variables.

The present study had the advantage of using multiple criteria in the selection of factors for the EFA in which it used Velicer’s MAP and parallel analyses to determine the number of factors to retain. MAP and parallel analyses are validated vigorously to be superior to conventional rules such as eigenvalues-greater-than-one rule or scree plot (O’ Connor, 2000), as eigenvalues-greater-than-one rule may overestimate or underestimate the number of component, and the reliability of scree plot interpretation is low (Crawford & Koopman, 1979).

There are some notable limitations of the generalizability of the findings from this study due to the samples we used. First, the two samples are primarily nonclinical. As a result, the responses of these samples were clustered around the nonpathological end in each item and lacked sufficient variability. Second, individuals in the Chinese sample are younger than those in the US sample on average and the Chinese sample contained 10% fewer females than the US sample. Third, the Chinese sample used in this study was rather specific. The Chinese samples were primarily collected from a Westernized urban area, which may not be a good representation of the Chinese population, especially given that the mental health disparity between the urban and rural areas. In addition, the universal

factor structure does not necessarily mean that two language versions of the questionnaire are parallel forms. One of the strategies to deal with this dilemma is to match patients' variables with adapted therapist style in the future predicative validity study.

In summary, this study calls attention to some future directions of globalized psychotherapy research. Finding from this study may be used to infer that there are not significant cultural barriers to how psychological distress is expressed. Regardless of whether one is in presumably different cultural contexts of the USA or China, psychological distress is expressed in a few basic (directional) channels of ID and ED, and a third shared factor in social domain. This more common attribute of distress may help bridge the gap in "translational" research as Western psychotherapies become more common within China and other Eastern nations.

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