ORIGINAL ARTICLE

Assessing the Psychometric Properties of the Attitudes Toward Seeking Professional Psychological Help Scale-Short Form in Mainland China

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Abstract This investigation tested the psychometric properties of the Attitudes Toward Seeking Professional Psychological Help Scale-Short Form (ATSPPH-SF; Fisher and Farina [*Journal of College Student Development*, *36*, 368–373, 1995]) in a sample of 338 Mainland Chinese college students. Using back-translation, the ATSPPH-SF was translated into simplified Chinese. Confirmatory factor analysis did not support the original one-factor model. Subsequently, exploratory factor analysis suggested a 7-item, two-factor model; however, the new factor structure yielded poor reliability coefficients, below .60. Results suggest that the help-seeking construct as operationalized by the ATSPPH-SF may not be valid for the Chinese population. The importance of designing indigenous instruments for help-seeking attitudes is discussed.

Introduction

Research focusing on help-seeking attitudes and behaviors has a long history in applied psychology (Gourash 1978), with personality, social status, stigmatization and social support being the primary variables of interest (Phillips 1963; Redlich *et al.* 1955). Given the influence of multicultural psychology, however, attention has been shifted to racial/ethnic variations in help-seeking, with factors like cultural mistrust, worldview, and cultural competence being implicated as critical influences on the help-seeking behaviors (Kim and Omizo 2003; Masuda *et al.* 2009; Nickerson *et al.* 1994).

A more recent development has been the attempt to understand help-seeking attitudes as they apply in cross-cultural or international settings. As such, investigations have focused

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on Middle Eastern populations (Al-Krenawi *et al.* 2009), Korean nationals (Yoo *et al.* 2005), South-East Asians (Fung and Wong 2007) and Chinese Australians (Ho *et al.* 2008), as well as comparisons between U.S. and Chinese college students (Chen and Mak 2008). Although these findings indicate cultural variation in help-seeking attitudes, a significant limitation is the failure to examine cross-cultural validity and factorial invariance across racial/cultural groups (Aegisdóttir *et al.* 2008; Kwan and Gerstein 2008).

The goal of the present study, therefore, was to test the reliability and factorial properties of a widely used measure of help-seeking attitudes, the Attitudes Toward Seeking Professional Psychological Help Scale–Short Form (ATSPPH-SF; Fisher and Farina 1995), in a sample of Chinese college students in Mainland China.

Help-seeking Attitudes and Culture

Large-scale epidemiological studies in the U.S. (e.g., Kessler 1994; Regier *et al.* 1993) have found that the majority of individuals with psychological disorders do not seek professional help in their lifetime. Moreover, fewer individuals seek help from mental health professionals, especially for concerns that do not reach diagnostic thresholds for a mental disorder (Andrews *et al.* 2001). Previous studies have found a significant positive association between help-seeking behaviors and help-seeking attitudes (Fisher and Farina 1995; Lin and Parikh 1999; Mackenzie *et al.* 2004). As a result, the first step in reducing mental health disparities may be to focus on help-seeking attitudes, defined as the tendency to seek or resist professional psychological aid during a crisis or prolonged psychological discomfort (Fisher and Farina 1995; Fischer and Turner 1970).

Numerous psychological factors have been found to contribute to help-seeking attitudes (Vogel *et al.* 2007), including social stigma (Komiya *et al.* 2000), treatment apprehension (Deane and Todd 1996), fear of emotional expression (Komiya *et al.* 2000), perceived symptom severity (Rickwood and Braithwaite 1994), anticipated risks and benefits (Vogel *et al.* 2005), discomfort with self-disclosure (Hinson and Swanson 1993; Vogel and Wester 2003), self-concealment (Cepeda-Benito and Short 1998), social norms (Rickwood and Braithwaite 1994), and self-esteem (Miller 1985). In addition, practical barriers, such as unfamiliarity with the counseling process, lack of knowledge about available services, English as second language, and concerns about money and time, lack of transportation, interpretation, or childcare services may negatively influence help-seeking attitudes and thus reduce utilization among culturally diverse populations (Leong and Lau 2001).

Historically, ethnic minority populations in the United States (U.S.) have underutilized mental health services (Sue 1977; Sue and Sue 1977). Members of Asian minority groups, in particular, have consistently underutilized, delayed seeking, and prematurely terminated from mainstream mental health treatments (e.g., Akutsu and Chu 2006; Hsu and Alden 2008; Sue and Sue 2003). A survey conducted by the U.S. Department of Health and Human Services (USDHHS 2001) indicated that fewer than 6% of Asian Americans with a psychological problem sought psychological help.

Research has found that Asian-American students who reported relatively less acculturation, endorsed less favorable attitudes toward seeking professional psychological help compared to their European American or more acculturated Asian counterparts (Atkinson and Gim 1989; Hsu and Alden 2008; Tata and Leong 1994). Furthermore, compared to U.S. students, Asian international students reported less indirect exposure to counseling, less self-perceived need, and greater discomfort and shame associated with counseling (Yoon and Jepsen 2008). These findings suggest that attitudes toward help-

seeking may well vary as a function of nationality and race. Due to the notable cultural differences between mainland China and the U.S., it seemed reasonable to consider potential differences between help-seeking attitudes of Chinese and American adults.

Psychological Help Seeking in China

In China, psychological counseling is a relatively recent phenomenon, having only emerged some 30 years ago. Thus, counseling processes are likely to be unfamiliar to many Chinese people (Gao 2001; Sue and Sue 2003). The practice of psychotherapy and counseling in the U.S. is heavily based on Western ideology with an emphasis on individualism (Katz 1985); whereas traditional Chinese values emphasize interdependence, humility, and emotional restraint, as indicated by respect for elders and authority figures (Gao 2001). Moreover, Chinese generally prefer an efficient and pragmatic mode of problem-solving that entails practical solutions (Gao 2001).

Within the U.S., most approaches of psychotherapy expect clients to engage in direct communication, open and intimate self-disclosure, exploration of intrapsychic conflicts, collaboration with the counselor (an authority figure), expression of personal feelings, and pursuit of autonomy and self-uniqueness (Gao 2001; Leong and Lau 2001). For some Chinese, seeking psychotherapy may be perceived as an impractical and inefficient method of solving problems that runs counter to traditional cultural beliefs and practices. Other relevant specific characteristics of Chinese culture include conformity to norms, filial piety, avoidance of shame, self-discipline, saving "face," and preservation of family honor through achievement (Kim *et al.* 1999; Sue and Sue 2003). All of these cultural variables are highly likely to influence Chinese people's help-seeking attitudes and behaviors. Therefore, in order to increase understanding of the help-seeking orientation of Chinese people, having culturally appropriate and culturally valid assessment tools is necessary.

Assessment of Help-seeking Attitudes

The Attitudes toward Seeking Professional Psychological Help Scale-Short Form (ATSPPH-SF) was adapted from Fischer and Turner's (1970) original Attitudes toward Seeking Professional Psychological Help Scale (ATSPPHS), a 29-item measure originally developed on 960 students in the U.S. The ATSPPHS has four factors: Recognition of Personal Need for Professional Psychological Help, Tolerance of the Stigma Associated with Psychological Help, Interpersonal Openness Regarding One's Problems, and Confidence in the Mental Health Professional (Fischer and Turner 1970).

The ATSPPHS has been widely used in the U.S. to investigate help-seeking attitudes among varied racial and ethnic groups, immigrants, overseas nationals, refugee groups, and non-Western international students (e.g., Al-Darmaki 2003; Atkinson and Gim 1989; Dadfar and Friedlander 1982; Tata and Leong 1994; Zhang and Dixon 2003). However, several studies have revealed modest internal consistency reliabilities in the range of .50–.60 for some subscales (e.g., Duncan 2003) and inconsistent factorial structure when being applied to non-U.S. populations (Al-Darmaki 2003; Williams *et al.* 2001).

To improve the reliability and validity of the scale, Fisher and Farina (1995) shortened the measure to a 10-item ATSPPH-SF. Normed on 389 U.S. college students, the 10-item measure was shown to possess an adequate internal consistency ($\alpha=.84$) and a one-factor structure reflecting general help-seeking attitudes. Notably, the racial and ethnic characteristics of the participants in this scale development study were not reported.

Similar to ATSPPHS, the ATSPPH-SF has been used extensively in past research. Several shortcomings have been found, however. First, the ATSPPHS items were generated solely by the authors four decades ago in 1970 (Fischer and Turner 1970). Not only may the language of the items be outdated, but also the content validity of the scale may be questionable given the restricted process used to generate items, which did not involve input from community respondents. As a result, the items in the ATSPPH-SF, which were primarily selected from the original ATSPPHS, may not fully capture the domain of help-seeking attitudes held by contemporary community members (Aegisdóttir and Gerstein 2009).

Second, the terms "professional attention," "psychological counseling," "professional help," and "psychotherapy" are used interchangeably. These terms may confuse respondents because of different meanings. For example, some respondents might view seeking "professional attention" as seeking advice from a physician or a professor. Finally, many items in the ATSPPH-SF are double-barreled, e.g., "A person should work out his or her own problems; getting psychological counseling would be a last resort" (item 9). That is, respondents may agree with the first half of the sentence in terms of self-reliance yet disagree with the second half of the item about seeking counseling. Similarly, for item 8, "Considering the time and expense involved in psychotherapy, it would have doubtful value for a person like me," respondents who have one concern (time) but not the other concern (money) might be unsure how to respond. In other words, the ambiguous and double-barreled items in the ATSPPH-SF are likely to limit the Scale's internal consistency (Aegisdóttir and Gerstein 2009).

Despite its limitations, the ATSPPH-SF has been frequently used with culturally diverse populations in the U.S., including Asian Americans (Kim and Omizo 2003; Omizo et al. 2008; Luu et al. 2009; Sung and Tidwell 2005), African Americans (Townes et al. 2009; Wallace and Constantine 2005), Latinos (Ramos-Sanchez and Atkinson 2009), and non-Western international students (Komiya and Eells 2001), as well as refugees living in the U.S. (Ly 2001). Outside the U.S., different translated versions of the ATSPPH-SF have been applied to Japanese students (Masuda et al. 2005), Asian Australians (Hamid et al. 2009), Arabic university students (Al-Darmaki 2003), Kuwait college students (Al-Rowaie 2005), South African college students (Samouilhan and Seabi 2010), Muslim Egyptian students (Leach et al. 2007), Turkish university students (Turkum 2005), Taiwanese students (Chang 2007, 2008), and Mainland Chinese college students (Cao 2007).

Most researchers who used the ATSPPH-SF with non-U.S. populations relied on its standardized reliability and validity. Evidence of cross-cultural equivalence has often been ignored, other than reporting the translation and back-translation procedures. According to Aegisdóttir et al. (2008), in addition to thorough translation and back-translation procedures, researchers should provide evidence of a measure's construct equivalence by conducting exploratory and confirmatory factor analyses.

Among the handful of studies that have investigated the psychometric properties of the ATSPPH-SF, mixed results have been reported. For example, Elahi et al. (2008), using two U.S. samples, found a two-factor structure of the ATSPPH-SF, rather than Fischer and Farina's (1995) one-factor structure. In the Middle East, the Arabic version of the ATSPPH-SF was used on a Muslim Jordanian sample with a problematically low reliability of .15 (as cited in Leach et al. 2007). Subsequently, Leach et al. retested the Arabic version with a group of Muslim Egyptian college students, and found a similarly low reliability, $\alpha=.35$. These authors suggested that "the short form of the ATSPPHS not be used in future studies assessing Muslims in the Middle East" (p. 292).

Even less is known about the cross-cultural validity of the ATSPPH-SF among Asian populations. In Chang's (2007) study on the relationship between depression and help-seeking attitudes among Taiwanese college students, factor analyses revealed a two-factor

structure (i.e., approach and avoidance). However, the translation and back-translation procedures were not specified in the report. Another psychometric study of the ATSPPH-SF among Asian populations was conducted in Singapore (Ang *et al.* 2007). These researchers performed confirmatory factor analyses on Singaporean teachers and college students. Results showed that a 9-item, one-factor ATSPPH-SF was a good fit for the Singaporean samples. However, because English was one of the major languages used in Singapore, the English version of the ATSPPH-SF, instead of the Chinese version, was administered and analyzed.

The current study aimed to further this line of validation research by assessing the psychometric properties of a Chinese version of the ATSPPH-SF in Mainland China. Mainland China was chosen as the region of interest because the Chinese language (Mandarin Chinese) is the most widely used language in the world and the help-seeking attitudes of Chinese individuals (e.g., Chinese Americans, Chinese international students) have been frequently investigated in the U.S. We believe that it is critical to evaluate measurement and construct equivalence before testing U.S.-based theories, models, or instruments on populations from other cultures (Aegisdóttir *et al.* 2008; Lonner 1985; Kwan and Gerstein 2008).

By using both confirmatory and exploratory factor analyses, the present study tested whether a Chinese version of the ATSPPH-SF would be psychometrically reliable and valid for Mainland Chinese populations. Specifically, we hypothesized that given both the cultural uniqueness of Mainland China and the variability in the number of factors of the ATSPPH-SF reported in previous studies with non-U.S. populations (e.g., Chang 2007), the original one-factor solution of ATSPPH-SF may not hold for the Chinese sample.

Method

Participants

A sample of 338 students from a college in Eastern China participated in the study. The sample consisted of 165 men (48.8%) and 172 women (50.9%) (with one participant not specifying gender). Participants' ages ranged from 17 to 30 years ($M=20.26$, $SD=1.16$; 11 students did not report their age). Academic majors were fairly evenly distributed across departments of science (46.2%) and liberal arts (53.8%). Additionally, participants' academic-year status was evenly distributed, with 94 (28%) freshmen, 89 (26%) sophomores, 76 (23%) juniors, and 78 (23%) seniors. Only 28 participants (8.3%) indicated having had previous therapy; 88.9% of these individuals had only one or two sessions, and 46.4% used telephone hotlines or the Internet rather than face-to-face counseling.

Instruments

Attitudes Toward Seeking Professional Psychological Help-Short Form

The ATSPPH-SF (Fischer and Farina 1995) was designed to assess individuals' attitudes toward help-seeking, with a higher score indicating more positive attitudes. Items are rated on a 4-point Likert scale, ranging from 0 (*strongly disagree*) to 3 (*strongly agree*), and the total score is obtained by summing the item scores.

According to Fischer and Farina, the ATSPPH-SF has a unidimensional structure. In the original standardization using the short form, internal consistency of $\alpha=.84$ and a one-

month test-retest reliability of .80 were reported with a U.S. sample. With Asian samples, the internal consistency of the ATSPPH-SF has ranged from .65 (Omizo *et al.* 2008) to .83 (Kim and Omizo 2003). The present study yielded a coefficient alpha of .65 with Mainland Chinese college students.

Evidence of construct validity of the ATSPPH-SF was reported in its correlation of .87 with its original, longer version (Fischer and Farina 1995). Moreover, higher scores on the ATSPPH-SF in a sample of medical patients was significantly associated with lower stigma-related treatment concerns and a greater intention to seek mental health care in the next month (Elahi *et al.* 2008).

Translation Procedures

Translation and back-translation procedures were used to ensure semantic accuracy of the present Chinese version of the ATSPPH-SF. First, the fourth author, who is a Chinese national and fluent in English, translated the original measure into Mandarin Chinese. Next, a bilingual graduate student back-translated the instrument, remaining blind to the original measure. To achieve content equivalence, a third bilingual graduate student compared the back-translated version with the original version. Corrections were made by the three individuals until consensus was achieved.

Adaptation of the Chinese ATSPPH-SF

Due to the linguistic limitations of the original English ATSPPH-SF, as shown in the interchange of terms of "professional attention," "psychological counseling," "professional help," and "psychotherapy," we adapted the current Chinese version by using the same Chinese terminology, *"xin li zi xun"* (psychological counseling) and *"xin li zi xun shi"* (psychological counselor), throughout the scale. These two terms were chosen based on the first and fourth author's experiences as Chinese nationals and their belief that these terms most accurately represent the concept of counseling and the role of the counselor in contemporary Mainland Chinese society.

Demographic Questionnaire

Participants were asked to indicate their age, gender, educational level, academic major, and the nature and extent of previous counseling experiences.

Procedure

Participants were recruited through classroom announcements in the University. Informed consent was obtained prior to the distribution of the questionnaires. Upon completion of the questionnaires, participants were debriefed and thanked for participating. Five Chinese dollars were provided to each participant.

Analytic Strategies

To test if the original one-factor structure of the ATSPPH-SF held for the sample of Chinese college students, we used two analytic strategies: (a) a confirmatory factor analysis (CFA) on the one-factor model and, if the CFA failed, (b) an exploration of an alternative factor structure of the ATSPPH-SF through an exploratory factor analysis (EFA). In order to

achieve the effect of cross-validation, the sample (n=338) was randomly split in half (Bollen 1989). CFA was conducted with one half (n=161), and EFA was conducted with the second half (n=177) of the sample.

Results

CFA of the Chinese ATSPPH-SF

To test if the original one-factor model of the ATSPPH-SF held for the Chinese sample, CFA with maximum likelihood method in AMOS 7.0 (Arbuckle 2006) was performed on the first half of the sample (n=161). In addition to the chi-square statistic, three other criteria were used to assess the goodness of fit: (a) the Tucker-Lewis Index (TLI; Tucker and Lewis 1973), (b) the Comparative Fit Index (CFI; Bentler 1990), and (c) the Root Mean Square Error of Approximation (RMSEA; Browne and Cudeck 1993). We used Hu and Bentler's (1999) recommendations for the approximate cutoff values: TLI>.95, CFI>.95, and RMSEA<.06.

The CFA results yielded a poor fit to the data: χ^2 (35, N=161)=115.07, p<.001; TLI=.426; CFI=.553; RMSEA=.120, indicating that the original one-factor structure of the ATSPPH-SF did not hold for the Chinese sample. Our hypothesis was confirmed.

EFA to Identify the Factorial Structure of the Chinese ATSPPH-SF

In order to identify an alternative factor structure that better fitted the Chinese sample, principal axis factor analysis with oblimin rotation was conducted on the second half of the sample data (n=177). Factor extraction was guided by eigenvalues ≥1.00 and examination of the scree plot. Items were retained if they displayed a loading ≥0.30, loaded uniquely on one factor, and were conceptually consistent (Floyd and Widaman 1995).

Initial EFA produced four eigenvalues greater than 1; however, examination of the scree plot suggested a two-factor solution, accounting for 38% of the variance. Next, all ATSPPH-SF items were re-submitted to EFA, forcing the extraction of two factors. After rotation, items 7, 8, and 9 had factor loadings below 0.30 (see Table 1), and item 7 had cross-loadings on both factors. Thus, these three items were deleted from the scale.

Only seven items were left with minimally adequate factor loadings above .30. We named the first factor (items 1, 2, 3, and 4)—*Confidence in the Value of Counseling*, and the second factor (item 5, 6, and 10)—*Motivation for Seeking Counseling*. Interestingly, the deleted items 7, 8, and 9 were all double-barreled items, which confirmed previous researchers' concerns on the ambiguous wordings of the English ATSPPH-SF (Aegisdóttir and Gerstein 2009; Ang *et al*. 2007).

Internal consistency reliability was particularly problematic for the two-factor model with seven items: α=.55 (overall), α=.59 (Factor 1), and α=.48 (Factor 2) (see Table 2). Given its low number of loaded items and poor internal consistency, the two-factor structure of Chinese ATSPPH-SF was not supported as an alternative solution to the original one-factor model.

Discussion

The present study examined the psychometric properties and factorial structure of a Chinese version of the ATSPPH-SF among Mainland Chinese college students. The scale went

Table 1 Factor loadings for the Chinese Version of the ATSPPH-SF

Item	Factor #1	Factor #2
1. If I believed I was having a mental breakdown, my first inclination would be to get professional attention.	**0.68**	−0.07
2. The idea of talking about problems with a counselor strikes me as a poor way to get rid of emotional conflicts.	**0.61**	0.01
3. If I were experiencing a serious emotional crisis at this point in my life. I would be confident that I could find relief in counseling.	**0.39**	0.10
4. There is something admirable in the attitude of a person who is willing to cope with his or her conflicts and fears without resorting to professional help.	**0.34**	−0.05
5. I would want to get psychological help if I were worried or upset for a long period of time.	−0.17	**0.83**
6. I might want to have psychological counseling in the future.	0.06	**0.45**
7. A person with an emotional problem is not likely to solve it alone; he or she is likely to solve it with professional help.	0.28	0.29
8. Considering the time and expense involved in counseling, it would have doubtful value for a person like me.	0.10	0.26
9. A person should work out his or her own problems; getting psychological counseling would be a last resort.	0.28	0.05
10. Personal and emotional troubles, like many things, tend to work out by themselves.	0.01	**0.34**

$N=177$; Factor loadings in bold are ≥0.30.

through standardized translation and back-translation procedures (Brislin 1970). Moreover, one flaw of the original English scale, as shown in the inconsistent use of different terminologies for "psychological counseling", was modified in the Chinese ATSPPH-SF. The adapted Chinese ATSPPH-SF used the most culturally and professionally appropriate terminology indicating "psychological counseling" for the Mainland Chinese population consistently throughout the scale.

Overall, neither the findings from the internal consistency reliability nor factorial structure provided adequate support for the cultural equivalence of the ATSPPH-SF in Mainland China. As we hypothesized, and consistent with previous studies (Elahi *et al.* 2008), confirmatory factor analysis revealed a poor fit of the current data with the original one-factor model proposed by Fisher and Farina (1995). In terms of internal consistency, the moderate reliability coefficient of .65 for the entire scale was consistent with other studies, which suggested some instability when using the ATSPPH-SF on non-U.S. participants (Leach *et al.* 2007).

More problematically, when a two-factor model was adopted with the double-barreled items (item 7, 8, and 9) deleted from the scale as suggested by EFA, the reliability coefficients of the 7-item scale and the two subscales fell into the low range of the .50s,

Table 2 Internal Consistency and Scale Statistics of the Chinese ATSPPH-SF

$N=336$; Factor 1 = Confidence in the Value of Counseling; Factor 2 = Motivation for Seeking Counseling.

Scale	Cronbach's *alpha*	M	SD
1. Original Scale (10 items)	.65	14.85	3.45
2. Revised scale (7 items)	.55	10.13	2.53
3. Factor 1 (4 items)	.59	5.37	1.88
4. Factor 2 (3 items)	.48	4.75	1.43

indicating that only 25% of variance in the items was associated with attitudes toward help-seeking. A similar reliability problem of the ATSPPH-SF has also been found in the Middle East, where researchers revealed Cronbach's alphas of an Arabic version of the ATSPPH-SF ranged from .15 to .35 among college students (Leach *et al*. 2007).

Given the lack of goodness-of-fit of the current data with the original one-factor model and the failure to produce an alternative factor structure that was psychometrically reliable, we now question the content and construct validity of the ATSPPH-SF when used in a Chinese context. The poor reliability coefficients of the Chinese ATSPPH-SF might indicate a fundamental lack of equivalence of the concept of help-seeking between the U.S. and the Chinese cultures. In other words, the ATSPPH-SF may not accurately assess help-seeking attitudes in Chinese society.

Given that the ATSPPH-SF was originally created on U.S. samples and largely reflects U.S. attitudes toward help-seeking, it is understandable that a broad range of Chinese culture-specific variables on help-seeking was not included. A few examples of these cultural variables are fear of bringing shame to the family, reluctance towards admitting personal weakness, fear of losing face, fear of disclosing emotions, and social and personal stigma (Kung 2004; Sue and Sue 2003). Moreover, help-seeking attitudes affected by practical barriers (Kung 2004), such as lack of knowledge about the nature of counseling, lack of access to counseling services, and financial and language concerns, are all important variables that are largely absent from the domains assessed by the ATSPPH-SF.

In addition to lack of cultural validity, the poor internal consistency of the ATSPPH-SF might also be due to two methodological limitations inherited from the original scale. First, the measure was initially constructed with a 4-point rating scale (*strongly disagree, disagree, agree, strongly agree*), which may be problematic, as narrow ranges of response options tend to be associated with lower reliability and higher susceptibility to Type II errors (Rasmussen 1989). Previous studies have demonstrated that instruments employing rating options ranging from 1 to 5 tend to be less reliable than those with scales from 1 to 7 (Krosnick and Fabrigar 1997; Oaster 1989).

Second, the lack of a neutral or midpoint rating option might also weaken the scale's reliability. Because counseling is not a familiar concept in China, Chinese participants might be confused about certain items, particularly the double-barreled items, or be uncertain about their attitudes related to certain items. The absence of a neutral option, such as "not sure" or "I don't know," might inadvertently force respondents to randomly select a positive or negative response. Therefore, future studies are recommended to employ a broader range of rating options (i.e., 0 = *Strongly Disagree*, 1 = *Disagree*, 2 = *Somewhat Disagree*, 3 = *Not Sure*, 4 = *Somewhat Agree*, 5 = *Agree*, 6 = *Strongly Agree*) when used with the ATSPPH-SF.

In recent years, new instruments of help-seeking attitudes are being developed in light of the uncertainties surrounding the ATSPPHS and ATSPPH-SF, such as Mackenzie *et al*. (2004) Attitudes Toward Seeking Mental Health Services (IASMHS), Aegisdóttir and Gerstein's (2009) Beliefs about Psychological Services (BAPS), and Turkum (2004) Attitudes toward Seeking Psychological Help-Shortened (ATPH-S). In particular, Turkum's ATPH-S (2004) was specifically based on Turkish cultural values and was standardized on a group of Turkish university students. Therefore, it is important for future researchers to further validate these newly devised help-seeking scales and to assess their psychometric properties and cross-cultural applicability for the Chinese population in Mainland China. More ideally, future researchers are encouraged to develop indigenous instruments of help-seeking attitudes based specifically on Chinese or Asian cultural values, preferences and practices related to seeking counseling.

There are several limitations inherent in the current psychometric study. First, generalizability is limited due to the use of Mainland Chinese college students in one university setting. Larger and more diverse samples of Chinese participants would be preferable in future replications. Next, all conclusions of the current study are drawn from quantitative analyses. Future qualitative studies are needed to explore specific themes of Mainland Chinese individuals' attitudes toward seeking psychological counseling. Moreover, future researchers might gain better insights into the strengths and weaknesses of the ATSPPH-SF by holding small focus groups of Chinese participants to discuss what they regard as relevant and irrelevant about the ATSPPH-SF, as well as their suggestions for future revisions. These types of efforts could result in more precise measures of psychological help-seeking for Chinese nationals and thereby provide counselors with a greater understanding of how to structure counseling services in response to attitudes toward help-seeking among the Mainland Chinese population.

In summary, the current study provided the first psychometric considerations of a Chinese version of the ATSPPH-SF with a group of Mainland Chinese college students. Both confirmatory and exploratory factor analysis did not support the 10-item one-factor or the alternative 7-item two-factor version of the Chinese ATSPPH-SF. Even though an improved factorial solution was not identified, these findings are nevertheless meaningful as it provides the first empirical evidence of a lack of strong psychometric properties of the ATSPPH-SF in Mainland China. The current study not only challenged the Eurocentric perspective and culturally encapsulated assumptions within recognized theories, models and practices (Pedersen and Leong 1997), but also served as a foundation and motivation for future development of more culturally sensitive and/or indigenous instruments of help-seeking orientation.

Future researchers, clinicians and educators need to exert caution when using the ATSPPH-SF with Chinese populations, paying particular attention to cross-cultural validity and internal consistency. Finally, for cross-cultural counseling researchers, more attention and efforts are needed to engage in active examination of cross-cultural sensitivity and equivalence of assessment tools before directly applying U.S.-based theories, models or instruments on populations from other cultures (Aegisdóttir *et al*. 2008; Lonner 1985; Kwan and Gerstein 2008).

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