A symptom profile of depression among Asian Americans: is there evidence for differential item functioning of depressive symptoms?

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non-Latino whites (Breslau ,, . 2006). The discrepancies in prevalence rates in depression across racial and ethnic groups, especially Asian Americans[1]†, have raised concerns about the cultural equivalence of depression as a construct.

One of the major problems with ethnocultural variations of depressive disorders is evident in the measurement of depressive experiences. The existing assessments of depressive symptoms may have limited cultural validity that may reduce their clinical utility in non-Western populations (Marsella ,, . 1985; Kalibatseva & Leong, 2011). In particular, measurement variance may result in misclassification, such that minorities are less likely to meet DSM-IV criteria despite similar levels of an underlying disorder. The symptoms of major depression according to DSM-IV may not be equally culturally sensitive to depressive experience in all populations, that is symptoms may be endorsed differently (Marsella ,, . 1973). Thus, measurement bias or non-equivalence remains a

mood, discouragement, anhedonia and self-reproach) than Asian Americans.

(3) Is there measurement variance in depression symptoms among Asian Americans and European Americans?

Hypothesis

Procedure

Data collection for the NCS-R, NSAL and NLAAS took place between 2001 and 2003. Initially, households and respondents were selected based on probability sampling. The interviewers obtained informed consent and conducted interviews by telephone or in person using computer-based software. All instruments were translated and back-translated into Cantonese, Mandarin, Tagalog and Vietnamese according to standard techniques (Alegría et al., 2004). Participants received monetary compensation for their participation. Pennell et al. (2004) detail the development and implementation of the CPES studies.

Data analyses

Only participants who endorsed depressive experiences in the screening questions and answered questions about symptoms of their most severe MDE were included in the analyses. Therefore, the subsequent analyses are with a limited sample. Frequencies were obtained and χ^2 tests conducted with the Complex Samples module in IBM SPSS 20.0 (SPSS Inc., USA) using sample weights and controlling for sample design effects due to sample stratification and clustering. Additionally, Mplus 6.0 (https://www.statmodel.com/) was used for confirmatory factor analysis; and IRTLRDIF 2.0 (Thissen, 2001) was used for DIF analyses.

(Table 1A). The 29 items used for the previous analyses were reduced to 15 items by combining some of the items based on the CIDI flow. Thus, appetite and weight items were recoded into appetite disturbance; insomnia and hypersomnia into sleep disturbance; and agitation and retardation into psychomotor disturbance. Cognitive difficulty items were combined in one item along with self-reproach items; and five suicidality items were clustered in one suicidality item. Cronbach's α, a measure of the internal consistency of the 15 items, was 0.70. The hypothesized one-common-factor structure for depression was evaluated with a CFA using the Asian

Descriptives

Descriptive statistics are presented in Table 1. The mean age was 39.22 (S.E. = 0.88) years for Asian Americans and 44.15 (S.E. = 0.65) years for European Americans. Both racial groups had more females than

Table 2. [illegible] Asian Americans (n =310) [illegible] European Americans (n =1974)

Symptom item	Asian Americans, mean % (S.E.)	European Americans, mean % % (

decreased (64.9%) and increased (8.3%) appetite were considered jointly.

However, high endorsement rates of affective symptoms were also observed among Asian Americans. In particular, feeling sad, feeling discouraged about things in life and losing self-confidence were endorsed most often. The high endorsement rates of affective symptoms could have several possible explanations. First, the results are consistent with findings that Asian Americans experience depressive affective symptoms and are not denying the underlying psychological problems in depression (e.g. Lu [illegible] 2010).

Second, the high endorsement rates of affective symptoms among Asian Americans might be related to their acculturation level because more acculturated Asian Americans may be more likely to manifest depression

compared. Ten differences were found and, for all of them, European Americans endorsed the symptoms significantly more often than Asian Americans. In particular, European Americans more frequently endorsed

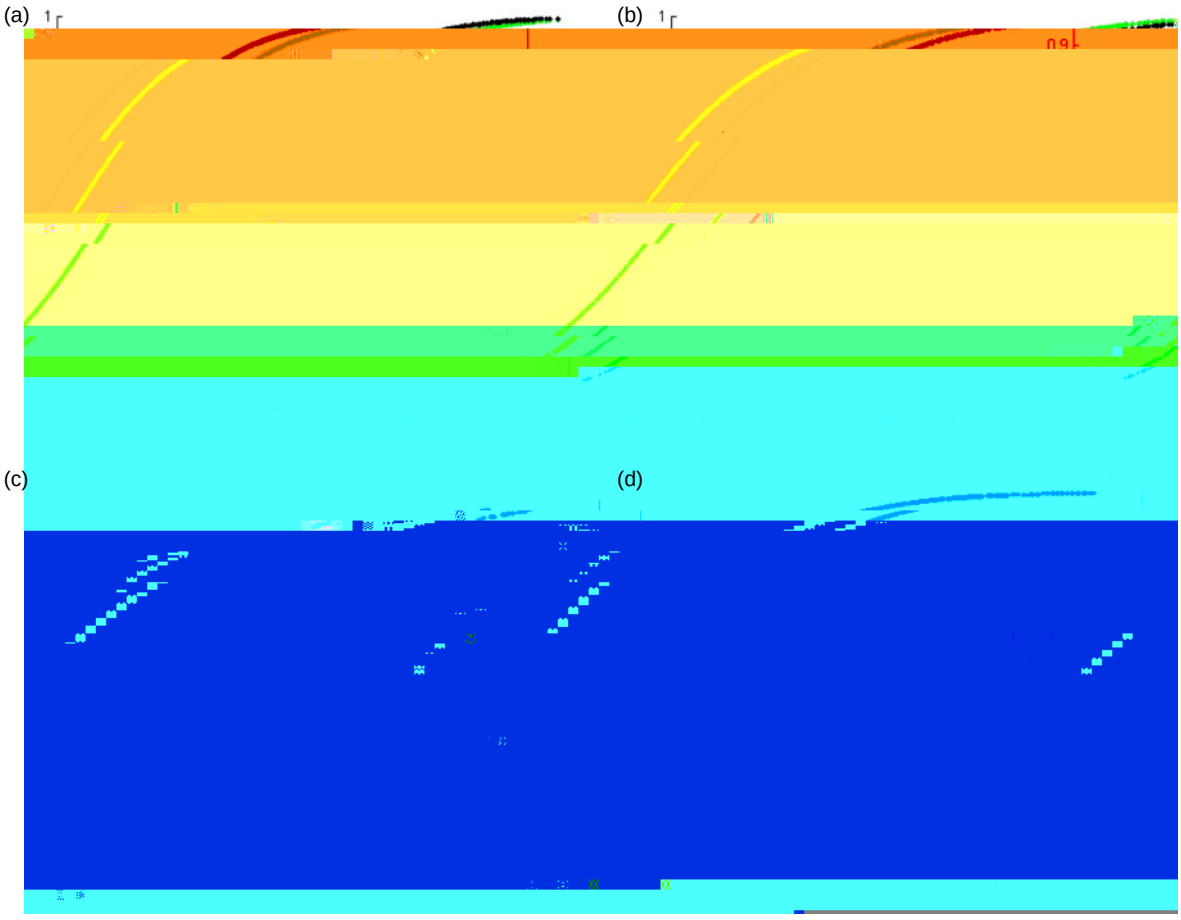

Fig. 2. Expected probability of endorsing through the estimated level of depression by group membership (dark lines represent Asian Americans; light lines represent European Americans; the statistic is associated with the difference in the expected probability between the two groups). ( ) Worthless (=1.47, =0.142); ( ) Nervous (= 11.44, <0.001); ( ) Cried often (= 13.38, <0.001) ( ) Appetite (=0.42, =0.671).

previous research, European Americans reported two affective symptoms more easily than Asian Americans with the same level of depression (Ryder . 2008).

We can speculate that the expression of negative emotions is more socially acceptable among European Americans than Asian Americans due to possible differences in the interaction between self-construal and emotional regulation. Independent self-construal involves construing the self as an individual, whose behavior is organized and meaningful based on the person's own feelings, thoughts and actions. Interdependent self-construal entails perceiving oneself as part of social relationships and realizing that one's behavior is contingent on and organized by the person's perception of others' thoughts, feelings and behaviors (Markus & Kitayama, 1991). Markus & Kitayama (1991) suggested that independent self-construal is observed in Western cultures and interdependent self-construal is more common in Asian cultures, although variations within cultures are possible. In terms of emotional regulation, the authors implied that a person's self-construal can affect the expression, intensity and frequency of emotions. Specifically, those with independent selves learn how to communicate their 'ego-focused' emotions, such as sadness or frustration, very effectively. By contrast, people with interdependent self-construal need to control and de-emphasize their private feelings so as to fit into the interpersonal context. Therefore, European Americans may put more weight on expressing negative affect (e.g. depressed mood, discouragement, crying often) than Asian Americans when they suffer from depression. Using the self-construal framework, we can also discuss European Americans' higher endorsement of wanting to be alone rather than with friends. The desire to be on one's own when depressed may be related to the concept of independence and individualism seen more often among Western cultures. Conversely, Asian Americans may seek help from their social network or they may simply not have the choice to be on their own because isolation and avoidance are not socially appropriate.

The DIF results suggest evidence for measurement non-equivalence for two affective items for European Americans and for one somatic and one affective item for Asian Americans. However, the items that demonstrated measurement variance would probably not explain the significantly higher rate of depression diagnosis among European Americans than Asian Americans.

Clinical implications

The reported findings have important implications for mental health professionals and primary care physicians who work with Asian Americans. A culturally informed assessment of depressive symptoms among Asian Americans would equally emphasize affective and somatic symptoms and may inquire about self-worth and appetite changes. Although affective symptoms may be present among depressed Asian Americans, they may not be the most salient ones or the reason why clients sought help in the first place. In addition, taking into consideration the client's acculturation and probing further may be essential for the assessment, diagnosis and treatment of depression among Asian Americans.

Limitations

This study had several limitations that need to be addressed in future research. First, the screening process that was used in the WMH-CIDI limited our sample to Asian Americans who reported past experiences of sad, empty or depressed mood, discouragement, and lack of interest. Although this screening process is consistent with the DSM-IV diagnosis, it might have eliminated Asian American participants who experienced depression differently. However, we consider that the sample we examined still presented with reasonable cultural variations in depression and provided valid data to answer our research questions. Another limitation of the current study was the small cell counts to examine differences in depressive symptoms based on ethnicity. Although one of the strengths of the CPES dataset is the oversampling of Chinese, Filipino and Vietnamese participants, we could not take advantage of this feature because of the small number of individuals in each ethnic group.

Finally, considerable research has shown that acculturation level is a significant moderator of Asian Americans' mental health status and service utilization (Leong & Lau, 2001). It is possible that measurement variance in depression may differentially affect Asian Americans with high low levels of acculturation. However, acculturation was not measured in this dataset.

Directions for future research

The systematic examination of symptom profiles of mental disorders among ethnic and racial minorities and cross-culturally can provide valuable information for improving assessment, diagnosis and treatment. In the case of depression, it may be particularly important to examine symptoms among individual ethnic groups of Asian Americans and other racial minorities. In addition, although we found cross-racial differences, testing the mechanisms behind these differences in depressive symptoms among Asian Americans will be an important next step. As mentioned earlier, another topic that deserves more attention is the effect of acculturation on the overall prevalence of depression, and of depressive symptoms in particular.

Furthermore, given the importance of face and shame in Asian cultures (Zane & Yeh, 2002), differential symptom expression of depression in questionnaires (e.g. the Beck Depression Inventory-II) clinical interviews (e.g. the CIDI) could be examined in future studies to determine possible method variance (Ryder . 2008). Lastly, future research of depressive symptoms endorsed by both depressed and non-depressed Asian Americans may help to elucidate the diagnostic validity of the DSM-5 MDE diagnosis. In general, having a sample with a wide variation of clinical symptoms, as opposed to a sample limited to participants with a DSM diagnosis, will allow us to examine cultural variations of depression and other disorders more thoroughly.

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Declaration of Interest

None.

Notes

[1] When referring to Asian Americans, we include immigrants from Asian countries to the USA (first generation) and Americans of Asian descent (second, third or fourth generation).

References

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