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Brief report

Depression in Asian–American and Caucasian undergraduate students

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ABSTRACT

Background: Depression is a serious and often under-diagnosed and undertreated mental health problem in college students which may have fatal consequences. Little is known about ethnic differences in prevalence of depression in US college campuses. This study compares depression severity in Asian–American and Caucasian undergraduate students at the University of California San Diego (UCSD).
Methods: Participants completed the nine item Patient Health Questionnaire and key demographic information via an anonymous online questionnaire.
Results: Compared to Caucasians, Asian–Americans exhibited significantly elevated levels of depression. Furthermore, Korean–American students were significantly more depressed than Chinese–American, other minority Asian–American, and Caucasian students. In general, females were significantly more depressed than males. Results were upheld when level of acculturation was considered.
Limitations: The demographic breakdown of the student population at UCSD is not representative to that of the nation.
Conclusions: These findings suggest that outreach to female and Asian–American undergraduate students is important and attention to Korean–American undergraduates may be especially worthwhile.

Major Depression (MDD) is currently among the leading causes of disability in the US and is expected to be the most debilitating disease in the developing world by the year 2030 (Mathers and Loncar, 2006). In the US, the lifetime prevalence for MDD is 16.2%, but only 21.7% of those affected are adequately treated (Kessler et al., 2003). There is a lucid need to identify groups that are at particular risk for developing MDD and to make treatment more accessible.

MDD among college students is a growing public health concern. Early onset depression has been consistently found to be more severe, chronic and disabling form of depression than adult onset MDD and is associated with increased risk of suicide (Zisook et al., 2007, 2009). The age of onset for depressive illnesses peaks between ages 15 to 19 and an estimated 15% of the college student population may be struggling with depressive illnesses. Particularly alarming is the high and increasing prevalence of suicide in this cohort (Miller and Chung, 2009). Suicide is the second leading cause of death amongst college students and in the US, only accidents and homicides claim more young lives.

Accepting treatment for MDD is crucial for recovery. However, Asian–Americans are underrepresented in receiving mental health treatment as only 8.6% use mental health services versus 17.9% of the general population (Abe-Kim et al., 2007). This lack of seeking and receiving depression treatment is partly due to especially negative and stigmatizing beliefs about mental health problems (Alegria et al., 2008). In the student population the likelihood of recognizing a need for seeking mental health services is negatively

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associated with perceived stigma (Golberstein et al., 2008). Therefore, negative perceptions about mental health bolster the tendency to avoid treatment, which then reinforces stigma surrounding mental health topics.

In contrast to the consistent result that fewer Asians seek MDD treatment, mixed results have been obtained with respect to the prevalence of MDD in Asian–Americans as compared to other ethnicities. For example, the prevalence of MDD in Asian–Americans is reported to be much lower than the national average, and Asian–American college students report less agitation on the Beck Depression Inventory—II than Caucasian students (Carmody, 2005; Takeuchi et al., 1998). However, other studies that have predominantly sampled less assimilated populations have found the opposite outcome, reporting a higher MDD prevalence in Asian–Americans than Caucasians (Hasin et al., 2005; Kuo et al., 2008; Okazaki, 1997). Since college students are generally well acculturated, this study hypothesizes that Asian–American undergraduates will exhibit lower depression severity than Caucasian students. Furthermore, since females are at higher risk and are more likely to be diagnosed with MDD, a second hypothesis is that female students will exhibit greater depression severity than their male peers (Hasin et al., 2005).

1. Method

1.1. Participants

A total of 2427 people viewed the consent form and/or began the questionnaire. Those who did not consent, indicated more than one (sub)ethnicity, or did not respond to the gender and ethnicity items were excluded. The remaining sample ($N=1837$) consisted of 1251 Asian–American (869F, 382M) and 586 Caucasian (410F, 176M) undergraduate students ($M=20.32$, $SD=1.93$ years) at the University of California, San Diego (UCSD). The Asian–American group was further subdivided into groups of Chinese ($N=605$), Korean ($N=259$), Vietnamese ($N=189$) and other Asian–American ($N=198$) participants for post-hoc analyses. Participants were recruited through the UCSD Psychology course credit program and an invitational email sent to biology students and members of a health and medical professions preparation program.

1.2. Instruments

The online questionnaire consisted of demographic questions and the nine item Patient Health Questionnaire (PHQ-9). Demographic questions requested gender, ethnicity, and age and assayed whether the participant was primarily raised in the US. The PHQ-9 is a reliable and valid measure that consists of nine questions based on the DSM-IV criteria for a major depressive episode (Chen et al., 2006; Henkel et al., 2004; Martin et al., 2006; Spitzer et al., 1999; Yeung et al., 2008).

1.3. Design and procedure

The independent variables were ethnicity (Caucasian and Asian–American) and gender (male and female); the dependent variable was depression severity. Post-hoc analyses evaluated depression differences across Caucasians, Chinese–Americans, Korean–Americans, Vietnamese–Americans, and other Asian–Americans. Scoring of the PHQ-9 followed canonical procedures; individual scores ranged from 0 (never) to 3 (nearly every day) and the total score ranged from 0 to 27. An alpha level of 0.05 was used for all statistical analyses.

2. Results

Fig. 1 illustrates the raw PHQ-9 score for each ethnicity and gender. Raw PHQ-9 scores were normalized through a square root transformation. A two-factor (2 ethnicity × 2 gender) ANOVA indicated significantly greater depression severity amongst Asian–Americans as compared to Caucasians, $F(1, 1764)=10.340$, $p=0.001$, and significantly more severe depression in females as compared to males, $F(1, 1764)=11.013$, $p=0.001$. There was no significant interaction between ethnicity and gender on depression severity. Tukey's HSD assessed differences in depression severity levels among various Asian–American subgroups and Caucasians. Korean–American students reported significantly greater depression than Chinese–American, $p<0.001$, other Asian–American, $p=0.047$, and Caucasian students, $p<0.001$. Fig. 2 exemplifies the untransformed PHQ-9 scores for each group.

2.1. Internal reliability

Cronbach's alpha was used to measure internal consistency in the PHQ-9 for the total sample and for each ethnic subgroup (Chinese–American, Korean–American, Vietnamese–American, other Asian–American and Caucasian). An alpha level of 0.872 was obtained amongst the complete

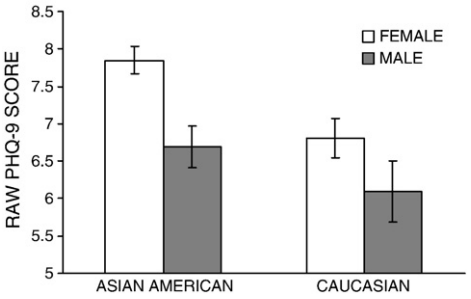

Fig. 1. Mean untransformed PHQ-9 score (±SEM) for each ethnicity and gender group.

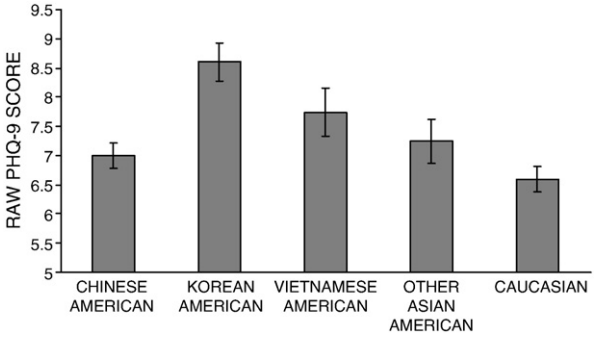

Fig. 2. Mean untransformed PHQ-9 score (±SEM) for each sub-ethnicity.