

# ETHNIC DIFFERENCES IN WORRY IN A NONCLINICAL POPULATION

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*The present study examined ethnic differences in worry in a college student population. No differences were found between Caucasians, African Americans, and Asian Americans in pathological worry as measured by the Penn State Worry Questionnaire (PSWQ) or in the frequency with which they met self-report criteria for generalized anxiety disorder on the Generalized Anxiety Disorder Questionnaire for DSM-IV (GAD-Q-IV). Groups differed in Worry Domains Questionnaire (WDQ) total scores and on all WDQ domain subscales except for the Financial domain. Within ethnic groups, Caucasians and African Americans experienced variations in intensity of worry across the specific domains, but Asian Americans did not. These results suggest that ethnic groups may differ from each other in the degree to which they worry and in the breadth of their concerns. Further examination of ethnic differences and worry (and anxiety more generally) is suggested. Depression and Anxiety 15:79–82, 2002. © 2002 Wiley-Liss, Inc.*

**Key words:** worry; anxiety; ethnicity

## INTRODUCTION

Clinical research examining issues related to the psychological health of ethnic minority populations has become increasingly important in our diverse society. Neither the Epidemiological Catchment Area Study (ECA) [Robins et al., 1984] nor the National Comorbidity Survey [Kessler et al., 1994] found consistent differences among ethnic groups across sites in the lifetime prevalence of anxiety disorders. However, questions still remain about the *experience* of anxiety in ethnic minority populations. The unique experiences of individuals from different ethnic backgrounds with regard to cultural values, socio-economic status, and perceptions and interpretations of mental health symptoms may influence the development, diagnosis, and treatment of anxiety disorders [Safren et al., 2000]. For example, several studies have found differences between African American and Caucasian persons with panic disorder; African Americans reported more severe phobic avoidance [Chambless and Williams, 1995], higher rates of comorbid post-traumatic stress disorder, more intense levels of numbing and tingling as well as fears of dying and going crazy [Smith et al., 1999], increased rates of isolated sleep paralysis [Bell and Jenkins, 1994], and decreased response to standard treatments [Chambless and Williams, 1995; Friedman and Paradis, 1991].

The distinct presentation of social anxiety among Asians and Asian Americans has also received attention in the research literature. Okazaki [1997] reported that Asian Americans endorsed significantly

more social avoidance and distress than Caucasian Americans. Furthermore, researchers have noted the similarity between the presentation of social phobia and the reportedly culture-bound syndrome of Taijin Kyofusho in Asian countries, wherein individuals fear that their anxiety will embarrass or offend others [Kleinknecht et al., 1997].

To our knowledge, no studies have specifically focused on ethnic differences in the experience of worry or its closely associated disorder—generalized anxiety disorder (GAD). Worry generally refers to a connected series of negative thoughts and images which represent an attempt to solve a problem whose outcome is uncertain and potentially negative [Borkovec, 1994]. Worry is related to, but not the same as anxiety; worry can be described as a cognitive response to anxiety and an attempt to problem-solve a perceived threat. It has been proposed that individuals with GAD use worry to decrease the experience of anxiety [Borkovec et al., 1998].

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Although Gillis et al. [1995] found no differences in intensity of pathological worry between African Americans and a mixed group of Hispanics and Caucasians, it is premature to assume there are no differences among ethnic groups in any aspect of worry. Given sociocultural differences, ethnic groups may differ not only in the degree to which they worry excessively, but also in the content areas about which they have concerns. In the current study, we add to this scant literature by examining whether ethnic minority college students differ from each other and from Caucasian students in the degree to which they experience pathological worry, the topics about which they worry, and the rate at which they meet self-reported criteria for GAD. These data provide a first step in understanding the ways in which ethnic groups may differ in their experience and report of worry.

## METHODS

### PARTICIPANTS

Five-hundred-two undergraduate students (age,  $M = 18.87$  years,  $SD = 3.38$ ; 73% females; 97% single; highest level of education achieved by parent,  $M = 18.47$ ,  $SD = 4.8$ ) at Temple University, an urban, 4-year, public university in the Northeast, completed a questionnaire packet and indicated their ethnicity. Two hundred seventy-two participants (54%) described themselves as Caucasian (Non-Hispanic), 150 (30%) as African American, 61 (12%) as Asian or Asian American, and 19 (4%) as Hispanic. Because of their small numbers, Hispanic persons were not included in comparative analyses.

### MATERIALS

The Penn State Worry Questionnaire (PSWQ) [Meyer et al., 1990] is a 16-item questionnaire designed to assess the excessiveness, duration, and uncontrollability of worry (e.g., "I am always worrying about something"). Good internal consistency has been reported ( $\alpha = .86-.93$ ) [Brown et al., 1992; Meyer et al., 1990; Stöber, 1998], and retest reliability has also been found to be acceptable ( $r = .87$ ) [Stöber, 1998]. Total scores range from 16 to 80. The 25-item Worry Domains Questionnaire (WDQ) [Tallis et al., 1992] was developed to assess the presence and degree of worry across five domains: Relationships (e.g., "that I will lose close friends"), Lack of Confidence (e.g., "that I feel insecure"), Aimless Future (e.g., "that I'll never achieve my ambitions"), Work Incompetence (e.g., "that I make mistakes at work"), and Financial (e.g., "that my money will run out"). Estimates of internal consistency and 4-week retest reliability of the total score and all subscales are acceptable ( $\alpha = 0.71-.91$ ;  $r = 0.80-.88$ ) [Stöber, 1998]. Total scores range from 0 to 100; subscale scores range from 0 to 20. The Generalized Anxiety Disorder Questionnaire for DSM-IV (GAD-Q-IV) [Newman et al., in press] is a self-report measure designed to identify individuals suffering from GAD and correlates highly with the diagnosis of GAD

made via structured interview [Newman et al., in press]. Only Newman et al.'s [in press] examination of the GAD-Q-IV included data on the ethnicity of participants (88% were Caucasian), and reliability in specific ethnic groups was not reported; all other psychometric studies of these anxiety measures did not report the ethnicity of participants.

## RESULTS

Ethnic groups did not differ in age [ $F(2, 479) = 0.22$ ; n.s.] or highest level of education achieved by parents [ $F(2, 469) = 0.98$ ; n.s.], but did differ significantly in gender composition [ $\chi^2(2, n = 501) = 8.98$ ;  $P = 0.01$ ] and marital status [ $\chi^2(2, n = 472) = 6.59$ ;  $P = 0.04$ ]. There were significantly more women in the African American group than the Caucasian group [81% vs. 69%;  $\chi^2(1, n = 421) = 7.52$ ;  $P = 0.06$ ] and the Asian American group [66%;  $\chi^2(1, n = 211) = 6.04$ ;  $P = 0.01$ ]; the Caucasian and Asian American groups did not differ significantly. There were significantly more individuals who were never married in the Caucasian group than in the African American group [99% vs. 95%;  $\chi^2(1, n = 419) = 6.70$ ;  $P = 0.02$ ], although neither differed significantly from the Asian American group (97%). However, there were no significant differences on worry measures as a function of gender [WDQ,  $F(1, 475) = 0.007$ ; n.s.; PSWQ,  $F(1, 449) = 2.68$ ; n.s.] or marital status [WDQ,  $F(1, 473) = 2.27$ ; n.s.; PSWQ,  $F(1, 448) = .55$ ; n.s.].

Ethnic groups did not differ on PSWQ scores [ $F(2, 449) = 2.05$ , n.s.]. However, they did differ on total WDQ scores [ $F(2, 475) = 10.61$ ,  $P < .001$ ], with African Americans scoring lower than both Caucasians and Asian Americans (Table 1). Reliability of both measures in our samples was high in all ethnic groups. For the WDQ total score,  $\alpha = 0.95$  in Caucasians, 0.94 in African Americans, and 0.95 in Asian Americans. For the PSWQ,  $\alpha = 0.93$  in Caucasians, 0.84 in African Americans, and 0.90 in Asian Americans. Although more Caucasians met self-reported diagnostic criteria for GAD than was the case for the other ethnic groups, this difference was not significant [Caucasians = 11%,  $n = 30$ ; African Americans = 4.7%,  $n = 7$ ; Asian Americans = 6.6%,  $n = 4$ ;  $\chi^2(2, n = 483) = 5.37$ ;  $P = .068$ ].

Between-group analyses demonstrated that for the WDQ Relationships, Lack of Confidence, and Work Incompetence domains, African Americans scored significantly lower than both Caucasians and Asian Americans, who did not differ from each other. For the Aimless Future domain, African Americans again scored lower than Caucasians, who in turn, scored significantly lower than Asian Americans.

Within-group analyses demonstrated significant differences among WDQ domains for Caucasians [ $F(4, 1080) = 7.10$ ,  $P < .001$ ] and African Americans [ $F(4, 584) = 24.13$ ,  $P < .001$ ], but not for Asian Americans [ $F(4, 236) = 1.25$ , n.s.]. Follow up  $t$ -tests with Bon-

TABLE 1. Ethnic groups differences in WDQ total and domain scores\*

	Caucasian (n = 272)		African-American (n = 150)		Asian American (n = 61)		F	P
	Mean	SD	Mean	SD	Mean	SD		
WDQ-Total	35.14 <sup>a</sup>	21.06	26.79 <sup>b</sup>	18.91	38.57 <sup>a</sup>	20.39	10.61	<.001
WDQ-Relationships	6.80 <sup>a</sup>	4.94	4.54 <sup>b</sup>	4.07	7.35 <sup>a</sup>	4.66	13.51	<.001
WDQ-Lack of confidence	7.37 <sup>a</sup>	5.11	5.38 <sup>b</sup>	4.66	7.52 <sup>a</sup>	4.61	8.65	<.001
WDQ-Aimless future	6.37 <sup>a</sup>	4.91	4.27 <sup>b</sup>	4.09	7.93 <sup>c</sup>	4.87	16.14	<.001
WDQ-Work incompetence	7.16 <sup>a</sup>	4.70	5.56 <sup>b</sup>	4.45	8.23 <sup>a</sup>	4.17	9.20	<.001
WDQ-Financial	7.45 <sup>a</sup>	4.74	7.05 <sup>a</sup>	5.05	7.66 <sup>a</sup>	5.02	0.45	.635

\*WDQ, Worry Domains Questionnaire; n varies from 476 to 478 because of missing data. Means in the same row with different superscripts differ at  $P < .05$  according to Newman-Keuls post-hoc comparisons.

feronni correction (.05/10 = .005) showed that Caucasians experienced significantly more worry in the Lack of Confidence domain than in the Relationships ( $t(270) = -2.87, P = .004$ ) and Aimless Future ( $t(270) = 4.65, P < .001$ ) domains. As well, they reported more worry in the Work Incompetence ( $t(270) = -4.57, P < .001$ ) and Financial ( $t(270) = -3.94, P < .001$ ) domains than in the Aimless Future domain. Significant differences were found in all paired comparisons of WDQ domains in the African American sample ( $n = 147, P$ 's  $< .001$ ) except between the Work Incompetence and Financial domains and between the Work Incompetence and Lack of Confidence domains. Overall, African Americans reported the greatest worry in the Financial domain, followed by the Relationships domain, which was greater than the worry they experienced in both the Lack of Confidence and the Work Incompetence domains (which were not different from each other). The lowest reported worry for African Americans was in the Aimless Future domain (see Table 1).

## DISCUSSION

This investigation examined differences in worry among ethnic groups in a college population. Although ethnic groups did not differ in the degree to which they reported pathological worry, they differed in the degree to which they reported worry across several content areas. Specifically, African Americans reported less worry than Caucasians and Asian Americans overall and across the specific domains of relationship stability, self-confidence, future aims, and work competence. An exception was worry in the financial domain, which was similar across groups. Within ethnic groups, Caucasians and African Americans experienced different amounts of worrying across specific domains. African Americans reported the greatest level of worry in the financial domain, whereas Asian Americans experienced a consistent, relatively high level of worry across domains. Mean scores for all ethnic groups were within one standard deviation of previously reported student means for the WDQ total and subscale scores [Tallis et al., 1994] and within

one standard deviation of general population means for the PSWQ [Gillis et al., 1995].

Interpretation of these findings is facilitated by revisiting the constructs assessed by the worry measures. While the PSWQ was designed to assess pathological worry, the WDQ was specifically designed to assess worry across content areas, without regard to excessiveness or uncontrollability. Our findings of ethnic differences on the WDQ, but not the PSWQ, suggest that African Americans may worry as much as other ethnic groups although their concerns may focus on content areas not tapped by the WDQ. This suggests that a more culturally relevant measure of worry content may be necessary or that current measures may need to be revised in order to more fully assess the worries experienced by ethnic minority populations. It may also be possible that the PSWQ and WDQ are not reliable and valid assessments of worry in ethnic minority populations. For example, Carter et al. [1999] demonstrated that the psychometric properties of the Anxiety Sensitivity Index in African Americans differed from previously published reports using Caucasian samples. Our finding of universally high internal consistency in Caucasians, African Americans, and Asian Americans suggest adequate reliability; however, further exploration of the validity of these measures is necessary in order to fully establish their usefulness in ethnic minority populations. Heurtin-Roberts et al. [1997] have suggested that African Americans may respond differently than other ethnic groups to survey methods; in particular, the authors suggest that African Americans may be more cautious about sharing personal information. They reported that African Americans endorsed frequent somatic manifestations of distress in ethnographies, although they did not report more of these symptoms than European Americans in structured diagnostic interviews administered in the ECA study. Therefore, we must further evaluate the validity of self-report measures, in general, in ethnic minority populations.

Asian Americans generally reported worry similar to Caucasians. However, they reported significantly more worries in the Aimless Future domain than both Caucasians and African Americans. This finding is

consistent with the reported greater focus on academic and occupational success in Asian families than in Caucasian-American families [Chen and Stevenson, 1995] and Asian American students' greater self-reported fear of academic failure compared to non-Asian students [Eaton and Dembo, 1997]. However, despite this difference between ethnic groups, Asian Americans did not differ across domains in their experience of worry. Examination of their mean scores also shows that Asian Americans generally reported the highest mean scores for each worry domain, but, perhaps because of their smaller sample size, these differences were not statistically significant.

The current study has several limitations. These findings are based on a sample of undergraduate college students and may not be relevant to ethnic differences in worry in clinical populations. Unfortunately, given the small number of African Americans and Asian Americans meeting self-report criteria for GAD (only seven and four, respectively), we were unable to examine ethnic differences in domains of worry in analog GAD populations. Future studies should examine worry content in ethnic minority persons with GAD. Furthermore, we had only limited information about the socioeconomic background of our participants. Parents' income was not available and the highest level of education received by a parent was used as a proxy for socioeconomic status. While this index was unrelated to ethnicity, specific information about socioeconomic status would have allowed us to more conclusively rule out the possibility that ethnicity was confounded by socioeconomic status.

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