Prevalence of Symptoms of Body Dysmorphic Disorder and Its Correlates: A Cross-Cultural Comparison

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The authors investigated the prevalence of body image concerns, body dysmorphic disorder, and related psychiatric symptoms in a group of 101 American students. Results were compared with data from a group of 133 German students. Survey data were collected on body image concerns, self-esteem, depression, anxiety, obsessive-compulsive symptoms, and skin picking. A total of 74.3% of the American students endorsed body image concerns, and 28.7% were preoccupied by them; 40% appeared to meet DSM-IV criteria for body dysmorphic disorder. Body esteem was significantly correlated with self-esteem and depressive anxiety, and obsessive-compulsive symptoms. Body image concerns and preoccupation were significantly greater in American than in German students, although the prevalence of probable body dysmorphic disorder was not.

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Physical attractiveness has been valued over time and across different cultures, with some evidence that physically attractive people are likely to benefit from physical attractiveness stereotyping. Although the perception of beauty is subjective, common culture-specific notions of physical attractiveness do exist. Across cultures, however, notable differences have been reported in the concept of physical attractiveness and in the importance placed on it. Americans, for example, rely more on appearance and attractiveness in their perception of human differences than do their Japanese and Chinese counterparts. In addition, Americans have been found to place greater value on physical attractiveness in a potential mate than do Germans.

When physical attractiveness affects the value attributed to an individual, the importance of an aesthetically pleasing appearance increases and body image concerns become more likely. Hence, one may expect that the cultures that place greater value on physical attractiveness (e.g., American) have a higher rate of people experiencing body image concerns. Indeed, Americans are more likely to be concerned about their appearance than Germans. In a recent study, 19% of men and 25% of women in an American population sample reported marked concerns about their physical appearance.

Dissatisfaction with one’s appearance can commonly occur; however, it generally fails to significantly affect one’s life. Alternatively, body image concerns can be excessive and quite devastating. The diagnosis of body dysmorphic disorder is satisfied when 1) an individual is excessively concerned with an imagined or slight defect in appearance, 2) the concern results in significant distress or functional impairment, and 3) the concern is not better accounted for by another mental disorder (e.g., an eating disorder) (DSM-IV). To date, the prevalence of body dysmorphic disorder has not been examined across cultures. An overview of prevalence rates for various cultures recently presented.
METHOD

Data from 111 American college students were collected by using a questionnaire survey and several self-report scales. Informed consent was obtained and course credit was awarded for study completion. Ten American students were excluded from the final data analyses because of incomplete survey completion. Of the remaining 101 American participants, 83 (82.2%) were female. Ages ranged from 17 to 29 years (mean = 21.0, SD = 2.4), with an average of 14.8 years of education (SD = 1.2). Data were compared with those of 133 German students, of whom 98 (73.7%) were female, with an age range of 19 to 37 years (mean = 22.0, SD = 3.5). The average number of years of education in the German sample was 13.9 (SD = 1.9).

Study participants in both groups were asked to fill out self-report questionnaires. German students filled out German translations of the inventories. The Body Dysmorphic Disorder Questionnaire, a self-report screening instrument for body dysmorphic disorder based on the criteria outlined in DSM-IV, was used to assess body image concerns. The English form of the Body Dysmorphic Disorder Questionnaire is highly correlated with clinicians' diagnoses of body dysmorphic disorder. It has a reported sensitivity of 100% and a specificity of 89% among individuals with a psychiatric diagnosis. To our knowledge, no psychometric data are available for the German version of the Body Dysmorphic Disorder Questionnaire.

Our assessment package also included the Beck Depression Inventory, which is a reliable research instrument with satisfactory validity. Beck Depression Inventory scores indicate the number and severity of self-reported depressive symptoms. The English form of the Beck Anxiety Inventory, which was also included, is also a reliable and valid research instrument. No psychometric data were available for the German translation. Beck Anxiety Inventory scores indicate the number and severity of endorsed somatic anxiety symptoms. Additionally, the Maudsley Obsessive-Compulsive Inventory was included. The English version provides satisfactory coefficients for reliability and validity. No psychometric data are available for the German translation, which has apparent face validity. Maudsley Obsessive-Compulsive Inventory scores represent the number of endorsed obsessive-compulsive symptoms. The Self-Esteem Scale, which has sufficient reliability and validity coefficients, was also included. Higher Self-Esteem Scale scores correspond to higher levels of self-esteem. The Skin-Picking Inventory (N.J. Keuthen et al., unpublished) was included to assess the occurrence of self-injurious skin picking. The Skin-Picking Inventory is described in more detail elsewhere. To date, no psychometric data are available for this inventory.

Data were analyzed by using one-tailed Mann-Whitney U tests, Spearman's correlations, and Cohen's t tests for differences between proportions and two-tailed t tests for independent means. A p value of 0.05 was used to determine statistical significance.

RESULTS

American Students

Data from the Body Dysmorphic Disorder Questionnaire indicated that 75 American participants (74.3%) were very concerned with the appearance of parts of their body. Twenty-nine (28.7%) endorsed preoccupation with these concerns. In 36 American students (35.6%), the main concern was becoming too fat or not being thin enough. Six (5.9%) reported significant social interference, one (1.0%) reported significant academic or occupational interference, and seven (6.9%) reported some avoidance secondary to their body image concerns. Six (5.9%) American students estimated spending 1 to 3 hours on average per day and one (1.0%) more than 3 hours per day thinking about their perceived defect in physical appearance. Four Americans (4.0%) (50% female) appeared to meet DSM-IV criteria...
for body dysmorphic disorder, given that they were preoccupied by non-weight-related body image concerns that caused significant distress or functional impairment.

In a comparison of American students with and without probable body dysmorphic disorder, significant group differences were found in scores on the Beck Depression Inventory (students with body dysmorphic disorder: mean = 17.25, SD = 5.32; students without body dysmorphic disorder: mean = 8.01, SD = 6.74) (Mann-Whitney U = 45, p < 0.01) and the Beck Anxiety Inventory (students with body dysmorphic disorder: mean = 17.75, SD = 8.30; students without body dysmorphic disorder: mean = 10.44, SD = 7.93) (U = 88, p < 0.05). Differences in scores on the Self-Esteem Scale (students with body dysmorphic disorder: mean = 30.00, SD = 5.20; students without body dysmorphic disorder: mean = 31.92, SD = 5.15) and the Maudsley Obsessive-Compulsive Inventory (students with body dysmorphic disorder: mean = 7.50, SD = 1.92; students without body dysmorphic disorder: mean = 6.70, SD = 4.74) were nonsignificant (p = 0.20). One (25%) of the students who appeared to meet the criteria for body dysmorphic disorder also seemed to suffer from recurrent skin picking (defined as daily skin picking causing noticeable tissue damage and resulting in significant distress or functional impairment).

A measure for body esteem was computed by adding the number of items endorsed on the Body Dysmorphic Disorder Questionnaire indicating body image concerns. Scores were inverted so that higher scores represent greater body esteem. In the American sample, body esteem was correlated with general self-esteem (score on the Self-Esteem Scale: r = 0.31, N = 91, p < 0.01). In addition, body esteem was inversely correlated with self-reported depressive symptoms (score on the Beck Depression Inventory: r = -0.35, N = 101, p < 0.001), somatic symptoms of anxiety (score on the Beck Anxiety Inventory: r = -0.20, N = 101, p < 0.05), and OCD symptoms (score on the Maudsley Obsessive-Compulsive Inventory: r = -0.32, N = 99, p < 0.01).

Cross-Cultural Comparisons

With Cohen’s test for differences between proportions, significantly more American (74.3%, N = 75) than German (46.6%, N = 62) participants endorsed body image concerns (h = 0.56, p < 0.05). Additionally, significantly more American (28.7%, N = 29) than German (15.0%, N = 20) students were preoccupied by their concerns (h = 0.34, p < 0.05). American students (mean = 5.71, SD = 1.28) also had significantly lower levels of body esteem than German students (mean = 6.22, SD = 1.21) (t(308) = 3.08, df = 232, p < 0.01). However, the percentage of participants appearing to meet criteria for body dysmorphic disorder (as assessed by positive responses to all DSM-IV criteria in the Body Dysmorphic Disorder Questionnaire) did not differ significantly between the two groups (American students: 4.0%, N = 4, German students: 5.3%, N = 7) (h = 0.05, p > 0.05). In addition, no significant differences between American and German participants were reported on scores on the Self-Esteem Scale (American students: mean = 31.86, SD = 5.13; German students: mean = 31.89, SD = 5.67) (t(0.04, df = 222, p = 0.97), the Beck Anxiety Inventory (American students: mean = 10.73, SD = 8.03; German students: mean = 9.63, SD = 7.64) (t = -1.07, df = 232, p = 0.29), or the Maudsley Obsessive-Compulsive Inventory (American students: mean = 6.73, SD = 4.66; German students: mean = 6.01, SD = 3.56) (t = -1.29, df = 176.82, p = 0.20). However, Beck Depression Inventory scores tended to be higher in American (mean = 8.38, SD = 6.91) than in German (mean = 6.74, SD = 6.42) students (t = -1.86, df = 232, p = 0.06).

DISCUSSION

Body image concerns appear to be common among American students. Nearly three-quarters of the American sample endorsed concerns about their physical appearance, and approximately one-third reported preoccupation with their concerns. Four percent of the American participants appeared to meet DSM-IV criteria for body dysmorphic disorder. This percentage is lower than the prevalence rate for body dysmorphic disorder that has been found previously in American college students (13%) but is comparable to the rate found in a general population sample (1% - 3%).

Consistent with our hypothesis, our data indicate that body image concerns and resulting preoccupation occur more frequently in American than German students. However, differences between Germans and Americans remained on a subclinical level, given that the prevalence of probable body dysmorphic disorder was not higher in American than in German participants. Thus, although Americans were more likely to develop body image concerns and to be preoccupied with them than their German counterparts, in many cases, these symptoms were not severe enough to cause significant distress or impairment in daily functioning.

It appears that Americans in general are more con-
siciously aware of their appearance than are Germans. Similarly, Crystal and co-workers\(^{32}\) found that a higher percentage of Americans than Asians expressed the desire to improve their physical appearance when asked what they would like to change about themselves. Our results are consistent with prior findings that Americans are more likely to be concerned with their appearance\(^{10}\) and to place greater value on physical attractiveness in their judgment of others than do individuals of other cultures (such as Asians or Germans).\(^{8,10}\)

Cross-cultural differences in the value placed on appearance and resulting sociocultural pressures are the most likely explanation for our results. Alternatively, one could argue that Americans exhibit a stronger tendency than Germans to endorse psychological problems in general. However, this seems unlikely given the absence of significant group differences in the number of other psychiatric symptoms.

Our results and those of others\(^{13,14}\) suggest that a negative self-perception of one's body image can be related to low self-esteem and a higher number of depressive, anxiety, and obsessive-compulsive symptoms. One may ques-

tion whether these psychiatric symptoms predispose to, or are the consequence of, body image concerns. It is also possible that body image concerns and psychiatric symptoms may independently co-occur, with no causal relationship.

One limitation of this study is that our data are exclusively based on self-report. In the absence of independent corroboration, we cannot unequivocally state that the perceived defects in appearance in those who appear to meet the criteria for body dysmorphic disorder were exaggerated. The absence of psychometric information for some of our measures is another study limitation. In addition, we lack information regarding whether participants from the two cultures differed significantly in their socioeconomic or ethnic backgrounds or in their interests (such as athletics or ballet), which might have affected the prevalence of body image concerns.\(^{10}\) The small sample size of the individuals who appeared to meet the criteria for body dysmorphic disorder, as well as the restrictions on age range and educational background, limited the generalizability of the results. Future research with general population samples should be used to replicate our findings.

References

Prevalence of Body Dysmorphic Disorder Symptoms


