Cognitive Bias and Depression in Psychiatrically Disturbed Children and Adolescents

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The relation between cognitive distortion and depression, found in adult affective disorders, has not previously been demonstrated in childhood affective disorders. Therefore, a Cognitive Bias Questionnaire for Children (CBQC) was developed to examine this relation in a sample of 39 psychiatrically disturbed children and adolescents. The depressed-distorted (DD) scale from the CBQC was significantly correlated with psychiatric and self-reported ratings of depression and could significantly discriminate affective from non-affective disorders. These results are discussed in terms of their limitations and in terms of other evidence suggesting that child, adolescent, and adult depressives share similar cognitive attributes.

Beck (1967) has argued that cognitive distortion, that is, the tendency to misconstrue or distort the significance of events in a way that is consistent with a negative view of the self, the environment, and the future, plays a central role in the development and maintenance of depression. However, evidence in support of this model has been controversial, with concern expressed over the use of nonclinical samples and a single self-report measure to define depression (Coyne & Gotlib, 1983). Nevertheless, research conducted with clinically depressed patients, using the Cognitive Bias Questionnaire (CBQ; Krantz & Hammen, 1979), has demonstrated that depressed patients display significantly more cognitive distortions than do non-depressed patients (Krantz & Hammen, 1979; Norman, Miller, & Klee, 1983).

With the recent evidence that adult diagnostic criteria are reliable and valid for children and adolescents (e.g., Cantwell & Carlson, 1983; Kovacs et al., 1984), it appeared possible to see if cognitive distortion plays a role in childhood affective disorders. The present study developed a measure to extend the work on cognitive distortion to a clinical sample of depressed children and adolescents. It was expected' that the newly developed measure would show results analogous to those found with adult depressed patients.

Method

Subjects were 39 recent admissions to the in-patient or outpatient child psychiatric units of Vancouver General Hospital, who ranged in age from 8 to 16 years old *(M* = 12.8 years); 16 subjects were girls. None of these patients had a previous history of psychiatric contact, and none of the inpatient children *(n* = 25) had been hospitalized longer than 2 weeks prior to this study. Wechsler Intelligence Scale for Children-Revised (WISC-R) IQ scores ranged from 76 to 137 *(M* = 105). Twenty-six percent of sample were from high socioeconomic status (SES) families; 41% were from middle SES families, and 20% were from low SES families. The remaining 13% were from unemployed single-parent families.

A *Diagnostic and Statistical Manual of Mental Disorders* (DSM-III; American Psychiatric Association, 1980) Axis I diagnosis was assigned to each subject by one of two experienced child psychiatrists, without the aid of a formal structured interview. Children and their parents were interviewed separately, and a diagnosis was reached by combining this information with information from

the hospital charts. Interrater reliability between the two psychiatrists was examined on a subsample

of 1 1 cases. Agreement between the two psychiatrists on affective disorder versus nonaffective disorder was found to be acceptable (kappa = .79). Disagreements were resolved by discussion between the two psychiatrists to reach a consensus. Eleven patients met the DSM-III criteria for major depression, and 6 met the DSM-Ill criteria for dysthymic disorder, totaling 17 patients with a diagnosis of affective disorder. The nonaffective disorders included conduct disorder *(n = 9)*, adjustment disorder *(n = 6)*, anxiety disorder *(n =4)*, attention deficit disorder *(n = 1)*, and no Axis I disorder *(n = 2)*.

Each child was rated by the interviewing psychiatrist on the Dysthymic Checklist (DCL), which consisted of 14 symptoms derived from the DSM- III criteria for dysthymic disorder. Items on the OCL include dysphoria, sleep disturbance, fatigue, suicidal ideation, anhedonia, social withdrawal, hopelessness, and others, each of which is rated on a 3-point severity scale and summed to give a total score. Internal consistency for the DCL was found to be acceptable (coefficient alpha = .85, *p* < .001).

Each child completed three self-report measures within a week of the psychiatric assessment: the Childrens Depression Inventory (CDI; Kovacs, 1981), the Childrens Depression Scale (CDS; Lang & Tisher, 1978), and the Cognitive Bias Questionnaire for Children (CBQC). The CBQC was designed for the present study to assess cognitive distortion. The CBQC consists of 10 brief vignettes describing a school, home, or social situation familiar to children and adolescents, and each vignette is followed by four response options, which, like the CBQC, exemplify one of the following categories: depressed-distorted (DD), depressed-nondistorted (DN), nondepressed-distorted (ND), or nondepressed-nondistorted (NN). In a sample item the subject is asked to imagine what a girl is thinking when she notices a boy with a frown on his face. The four options are as follows: (a) Everyone should be happy all the time (ND); (b) I feel bad because he must think I look pretty awful (DD); (c) it doesn't bother me that he looks that way, some people have a lot on their minds (NN); and (d) I feel sad that some people aren't happy (DN). The DN and ND categories control for affect and general distortion. The CDI, the CDS, and the CBQC were administered by a psychology intern who was unaware of diagnosis and psychiatric ratings on the DCL.

Results

Three subjects from the group of nonaffective disorders did not complete the CBQC due to constraints on the length of the assessment. The Spearman-Brown split-half estimates of internal consistency for the DD and NN scales were .87 and .77, respectively (ps < .001). The KR-20 formula resulted in a coefficient of .65 for the DD scale and .69 for the NN scale (ps < .00 I). These reliability estimates were deemed acceptable for JO-item scales. None of the measures including DSM-III diagnosis was significantly related to IQ, SES, patient status, or sex. Age was, however, positively (ps < .01) correlated with the OCL, r(37) = .56; the CDI, r(37) = .43; and the DD scale, r(34) = .47, but was not significantly related to the CDS.

To control for age, intercorrelations among the measures were assessed by partial correlations (all tests were two-tailed). Psychiatric ratings on the DCL were correlated with the CDI, r(36) = .54, *p* < .001; the CDS, r(36) = .45, *p* < .01; the DD scale, r(33) = .47, *p* < .01, but were not correlated with the NN scale. The CDI was correlated with the CDS, r(36) = .73, *p* < .001, and the DD scale, r(33) = .64, *p* < .001, and was negatively correlated with the NN scale, r(33) = -.57, *p* < .001. The CDS was correlated with the DD scale, r(33) = .43, *p* = .01, but was negatively correlated with the NN scale, r(33) = -.53, *p* < .01. Both those with major depression and dysthymic disorder were found to be significantly older than those with nonaffective diagnoses *(Ms = 14.5, 14.3, and 11.3, respectively)*, F(1, 37) = 34.98, *p* < .001. To assess the discriminating capabilities of the measures, analyses of covariance (ANCOVAs) were performed with age as the covariate. The affective group, compared with the nonaffective group, demonstrated significantly higher adjusted means on the CDI *(Ms = 18 vs. 7.3, respectively)*, F(1, 36) = 8.4, *p* = .007; the CDS *(Ms = 154.4 vs. 116.5, respectively)*, F(I , 36) = 6.3, *p* = .018, and the DD scale, *F(I , 33) = 4.2, p = .048*. Finally, those with a diagnosis of major depression *(n = 11)* showed significantly higher adjusted DD scores *(M = 2.5)* than the combined group of dysthymic and nonaffective disorders *(M = 0.7, n = 25)*, F(1, 33) = 12.2, *p* = .001. No other scale on the CBQC could significantly distinguish between affective and nonaffective disorders.

Discussion

The results indicate a moderate but consistent level of agreement between independent psychiatric and self-report measures of depression and suggest that the assessment of depression was reliable and valid. As predicted, the DD scale from the CBQC was related to severity of depression and reliably distinguished those with affective disorder from those with nonaffective disorder. These results parallel those found with adults and are also consistent with a number of studies on depression- related cognitions in children. Kazdin, French, Unis, Esveldt-Dawson, and Sherick (1983) demonstrated

That a children's version of Beck's Hopelessness scale was significantly related to severity of depression on the CDI and to suicidal intent among psychiatric inpatient children. With non-clinical children,

Moyal (1977) reported that a self-blaming tendency and an external locus of control were correlated with depression, whereas Seligman et al. (1984) found that internal attributions for negative events were correlated with the CDI. These cognitive attributes have also been found in adult depression.

Several limitations to the present study should be noted. The results, as presented, form the main evidence for the validity of the CBQC and as such may take advantage of the unique characteristics of this small clinical population. Cross-validation on other clinical samples is desirable. Discriminative validity needs to be demonstrated for the CBQC with respect to such variables as stressful life events, nondepressed traits, and other cognitive constructs. As a step in this direction we have found that the CBQC is not related to parents' ratings of their child's aggression, delinquency, and externalizing symptoms. We have also found that the DD scale is only moderately correlated with a standardized measure of external locus of control $(r = .38)$, suggesting that cognitive distortion and locus of control are different constructs. Although much validity work remains to be done, the data are encouraging and are consistent with the view that clinically depressed children, adolescents, and adults process information via a negative self-bias, which may, as Beck (1967) proposed, prolong the disorder and increase the risk for a subsequent episode.

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