

Cognitive Distortion in Depressed Adolescents

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Cognitive theories of the etiology of depression in adulthood have received widespread acceptance. To date there is little evidence of the role of cognitive distortion in the etiology of depression among adolescents. This study was conducted to determine whether or not cognitive distortion differentiates depressed adolescents from non-depressed adolescents. The Dysfunctional Attitude Scale, a measure of cognitive distortion, was administered to three groups of adolescents: clinically depressed; non-depressed with non-psychotic psychiatric disorders; and a non-clinical group of adolescents without psychiatric disorders. A subset of the depressed patients was re-administered the scale after they had clinically recovered from the depressive episode. The depressed adolescents had significantly greater cognitive distortion than the non-depressed adolescents. Remission of the depressive disorder was associated with a significant reduction in cognitive distortion, although the level of cognitive distortion was still significantly higher than normal.

Key Words: cognitive distortion, unipolar depression, adolescents

INTRODUCTION

Clinical depression affects five percent to eight percent of the general adolescent population and is a common disorder among adolescent psychiatric patients (Kutcher and Marton 1989). Depressed adolescents exhibit impairments in social functioning, academic achievement and interpersonal relations which persist beyond the acute symptomatic phase of the illness (Kovacs 1989). In addition, they are at greater risk of developing further episodes of depression in later adolescence and adulthood (Harrington et al 1990; Kandel and Davies 1986). To date, strides have been made in the understanding of the phenomenology of the disorder (Kutcher et al in press). However, the gathering of relevant data that will lead to an understanding of the etiology and pathogenesis of this disorder is only beginning (Kutcher and Marton 1990). One strategy is to examine the hypotheses advanced regard-

ing adults which show promise of explaining some aspects of the disorder in adolescents.

Beck has proposed an etiological model of depression in which maladaptive cognitive schemas, expressed as global, rigid and inappropriate attitudes, place individuals at risk (Beck 1976; Kovacs and Beck 1978; Beck et al 1979). This model has received attention in both the research and clinical literature on adult depression (Stark et al 1989). Research findings have generally supported this model's prediction of the co-occurrence of dysfunctional attitudes and depression in both non-clinical (Dobson and Breiter 1983; Gotlib 1984; Oliver and Baumgart 1985; Weissman and Beck 1978) and clinically depressed adults (Blackburn et al 1986; Dobson and Shaw 1986; Dohr et al 1989; Eaves and Rush 1984; Hamilton and Abramson 1983).

Cognitive distortion is a symptom commonly observed among depressed adults, but the role of this distortion in the etiology and pathogenesis of the disorder is not yet clear. Some researchers have reported that cognitive distortion is

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not specific to depression, but is also found in patients with non-affective disorders (Hollon et al 1986; Zimmerman et al 1986). Furthermore, it is not clear whether or not cognitive distortion is state-dependent. Some studies have found that cognitive distortion diminished with the clinical remission of depression, such that depressed and non-depressed individuals had comparable levels of cognitive distortion (Dohr et al 1989; Hamilton and Abramson 1983; Reda et al 1985; Silverman et al 1984; Simons et al 1984). Other studies indicate that although levels of cognitive distortion diminish, differences between depressed and non-depressed groups persist (Dobson and Shaw 1986; Eaves and Rush 1984).

The role of cognitive distortion in depression among adolescents has not been examined, despite the fact that, during early adolescence, cognitive processes mature to reflect adult forms of thinking (Piaget 1972). Since these adult forms of cognition are thought to be consolidated by mid-to-late adolescence, it is expected that depressed adolescents will demonstrate cognitive distortion similar to that of adults. This study was designed to determine whether or not cognitive distortion can be measured in clinically depressed adolescents and whether or not it would differentiate them from non-depressed adolescent psychiatric patients and from normal adolescents.

METHOD

Subjects

The subjects for this study consisted of a convenience clinical sample of non-psychotic, adolescent psychiatric outpatients and a sample of normal volunteers. The clinical sample consisted of 117 patients consecutively referred to the adolescent psychiatry service of a university teaching hospital. All subjects provided their informed consent before participating in the study. The subjects were accepted into the study if they met the DSM-III criteria for either a current depressive disorder (major depression or dysthymic disorder) or a non-affective psychiatric disorder other than mental retardation, organic brain syndrome, psychotic disorder, or the presence of an affective disorder other than major depression or dysthymic disorder. (The diagnostic procedures are described below.) Thirty-four normal students were recruited from an urban high school. The total study sample consisted of 151 adolescents divided into three groups: a clinically depressed group ($n = 69$), a non-depressed psychiatric group ($n = 48$) and a non-clinical group of high-school students ($n = 34$). A subsample of the clinically depressed group ($n = 29$) completed the measures on a second occasion, while in remission.

An examination of the diagnostic status of the clinically non-depressed group showed that the majority of adolescents had a disruptive behavior disorder, primarily conduct or oppositional disorder. The demographic characteristics of the three groups are presented in Table 1. Because convenience samples were used, some inequalities were found in the

demographic characteristics. The subjects in the non-depressed clinical group were significantly younger than those in the depressed and normal groups ($F(2,148) = 7.61$, $p < 0.0007$; $\text{scheffé} = 0.05$). The gender distribution was unbalanced: there were more females in the depressed group ($\text{chi-square} = 6.07$; $p < 0.01$). Furthermore, the socioeconomic status of the normal control group was significantly higher than that of the two outpatient groups ($F(2,148) = 11.47$; $p < 0.0001$). These differences were not unexpected and were associated with the natural occurrence of the disorders. It was decided to examine naturally occurring groups rather than to force a match, since the relationships between these demographic characteristics and cognitive distortion were not clear. Meehl (1971) has argued eloquently that matching on some variables can have the unfortunate consequence of systematic unmatching on other variables.

Assessment measures

The Diagnostic Interview for Children and Adolescents (DICA) (Herjanic and Reich 1982) is a structured interview for the diagnosis of DSM-III disorders among children and adolescents. It is administered to both the parent and the child or adolescent. There are scoring algorithms which evaluate each diagnostic category using a pre-set number of symptoms to determine the presence or absence of a disorder. In order to determine the reliability for this study, one-third of all structured interviews were rated by a second clinician. For the DICA, the diagnostic agreement between clinicians ranged from 87.5% to 100% for individual diagnostic categories.

The Youth Self Report Inventory (YSR) (Achenbach and Edelbrock 1987) is a 102-item self-report measure of behavior problems.

The Dysfunctional Attitude Scale (DAS-A) (Weissman and Beck 1978) is a self-report inventory which measures depressogenic schemas as proposed by Beck (Beck 1984;

Table 1
Demographic characteristics

	Depressed	Non-depressed	
		Clinical	Non-clinical
Number	69.0	48.0	34.0
• males	23.0	27.0	18.0
• females	46.0	21.0	16.0
Age in years	17.1	16.4	17.5
• standard deviation	1.3	1.3	1.2
SES	56.6	60.3	74.4
• standard deviation	17.9	14.0	20.8
BDI	21.3	8.1	4.4
• standard deviation	9.4	6.3	3.7

Giles and Rush 1983). Each item is rated on a seven-point scale with higher scores indicating more dysfunctional attitudes. The 40-item DAS-A version was used in this study. This measure has high internal consistency and satisfactory test-retest reliability (0.79).

The Beck Depression Inventory (BDI) (Beck et al 1961) is a 21-item depression rating scale that is found to have adequate psychometric properties.

Procedure

The clinically depressed patients and their parents were interviewed separately using the DICA. All available information was subsequently reviewed and a final clinical diagnosis was made using DSM-III criteria. Patients who met the DSM-III criteria for major depression or dysthymic disorder and who did not meet one of the exclusion criteria were assigned to the index group. The non-depressed clinical group consisted of adolescents who had a non-affective, non-psychotic Axis I disorder. After the diagnostic interview, the adolescent completed the DAS and the BDI as part of a package of self-report measures.

Fifty-four volunteers at an urban high school were initially screened using the YSR and the BDI. The students who were below the clinical threshold on the YSR for any narrow band factor and below the threshold for mild depression on the BDI (a score of 9) were included in the study. Using these criteria, 34 adolescents were included in the study. Within one week of the initial screening, the non-clinically depressed subjects completed the self-report measures.

To assess cognitive distortion after remission of the mood disorder, 29 of the previously depressed adolescents were contacted monthly after a six-month interval and interviewed over the telephone to determine whether or not they were still symptomatic. If they reported an absence of depressive symptoms during the eight weeks preceding the telephone contact, they were scheduled for a reassessment interview. At this time, the DICA and the self-report measures were completed a second time. The patients were considered to have recovered if they failed to meet the DSM-III criteria for any affective disorder during the eight weeks preceding the assessment. The average period between initial assessment and reassessment was 9.4 months (range = six to 15 months). All of the patients had received some type of treatment, which consisted of various forms of dynamic psychotherapy. Seven of the adolescents had also been treated with antidepressants. None of the adolescents had received cognitive therapy.

RESULTS

An examination of the psychometric properties of the DAS indicated that there was good internal reliability for the total sample and all three groups (Chronbach's alpha = 0.88 to 0.92). These findings are similar to those of adult populations and give validity to the application of this measure to this age group. A positive correlation was found between cognitive distortion, measured by the DAS, and the presence

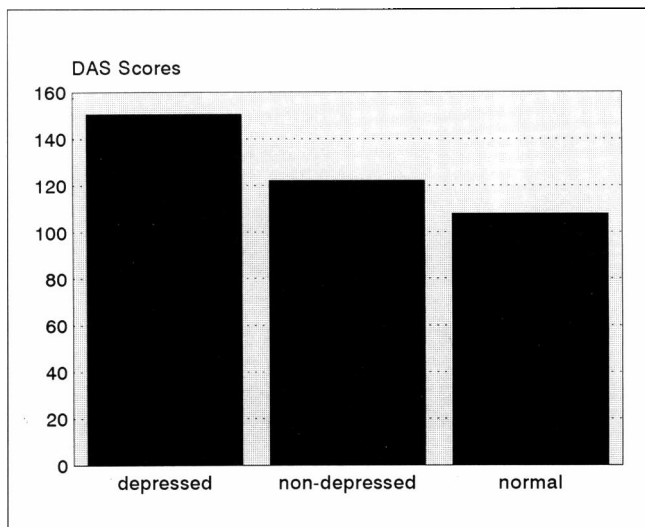


Fig. 1: Cognitive distortion in clinical and non-clinical groups.

of depressive symptoms, reported on the BDI, for all three groups (range $R = 0.28, p < 0.05$ to $R = 0.62, p < 0.0001$). This association was also maintained at follow-up for a subgroup of depressed adolescents ($R = 0.61, p < 0.0001$).

Although there were significant differences in age, gender and socioeconomic status among the groups, there was no significant association between these demographic variables and the DAS scores. Consequently, they were not used as covariates in the comparison of the dependent measure. A one-way analysis of variance was used to compare the DAS scores of the three groups. A significant main effect for groups was found ($F(2,148)=21.9; p < 0.0001$). Scheffe' post-hoc comparisons ($p < 0.05$) indicated that the depressed group had more cognitive distortion than both the non-depressed patients or the normal teenagers. The non-depressed subjects did not differ significantly from the normal

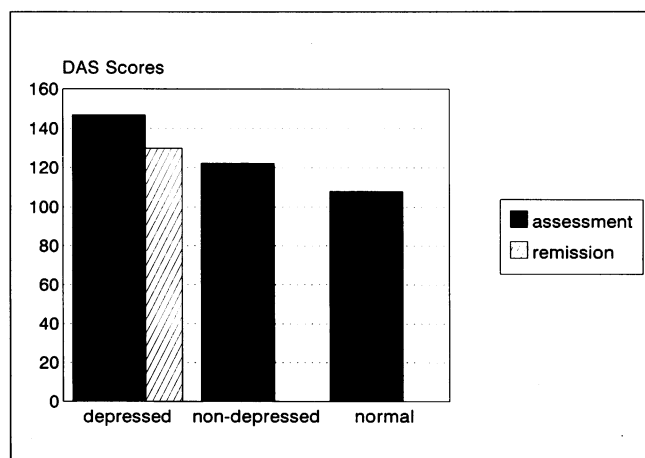


Fig. 2: Cognitive distortion in depressed adolescents at assessment and remission.

subjects.

The changes in the DAS scores were examined using a repeated measures analysis of variance with time as the within-subject factor and sex as the between-subjects variable. This analysis indicated that cognitive distortion diminished significantly upon clinical remission of the depressive disorder ($F(1,27) = 8.84, p < 0.006$). No other significant differences were found.

DISCUSSION

The Dysfunctional Attitude Scale was found to be a useful measure of cognitive distortion among clinically and non-clinically depressed groups of adolescents. The scale differentiated depressed and non-depressed adolescents with acceptable reliability.

Our findings indicate that the experience of depressive symptoms in adolescents is associated with cognitive distortion. Furthermore, adolescents who meet the DSM-III criteria for major depression or dysthymia have significantly more cognitive distortion than non-depressed psychiatric patients or normal adolescents. Thus, there may be continuity between depression in adulthood and adolescence in terms of the presence of cognitive distortion. Whether these cognitive distortions are etiologically related to clinical depression or are the consequence of the depressive state can not be determined from these data. However, the persistence of differences in the presence of dysfunctional cognitions after clinical remission of the depressive syndrome suggests that ongoing cognitive distortions may be involved in recurrences of the disorder. This hypothesis needs to be tested.

Clinically, our findings indicate that depressed adolescents should be considered as candidates for cognitive therapy. However, a referral for cognitive therapy should be made only after an assessment indicating that the patient demonstrates clinically significant cognitive distortion. To date, although some preliminary studies indicate that cognitive-behavioral psychotherapies may be effective in treating clinically depressed adolescents (Lewinsohn et al 1987; Reynolds and Coates 1986) no definitive data are available. Cognitive therapy warrants further examination, since to date no other psychotherapeutic modalities have demonstrated efficacy for treating adolescent depression.

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