Normative and Reliability Data for the Children's Depression Inventory

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The present study was undertaken to examine some of the psychometric properties of the Children's Depression Inventory (CDI), a self-report inventory devised by Kovacs and Beck (1977) to measure depression in children and adolescents. Normative and reliability data were obtained from three independent samples taken from eight public schools in central Pennsylvania. Age- and gender-related differences in reported characteristics of depression were also investigated. The subjects were 594 males and 658 females whose ages ranged from 8 to 16 years and whose combined mean age was 11.67 years (SD = 1.91). The CDI was group-administered to all 1,252 subjects; 155 fifth-grade subjects (77 males and 78 females) were retested after 3 weeks, and 107 seventh- and eight-grade subjects (45 males and 62 females) were retested after 1 year. The distribution statistics for the combined samples yielded an overall CDI mean of 9.09, a standard deviation of 7.04, and a cutoff score of 19 for the upper 10% of the distribution. Reliability assessed through coefficient alpha, item-total score product-moment correlations, and test-retest coefficients proved acceptable. Gender differences were obtained for several item-total score correlations and for test-retest reliability of CDI scores.

With the recent increased emphasis on the study of childhood depression, there has been considerable discussion concerning the need for a reliable and valid assessment instrument for the disorder. Carlson and Cantwell (1979) pointed out that "the study of depression in children is hampered by the lack of specific diagnostic criteria . . . and also by the lack of instruments comparable to the Beck, Hamilton, and other scales used with adults" (p. 588).

A major obstacle to the development of an adequate assessment device has been the widespread disagreement over an acceptable definition of depression. At one extreme, Lefkowitz and Burton (1978) argued that, since no reliable and valid method has been developed to assess childhood depression, the concept itself was premature and its diagnosis based largely on surmise. Other investigators, however, have presented convincing data that the disorder exists (Carlson & Cantwell, 1979, 1980a; Kovacs et al., 1984) and that it may even be underdiagnosed (Weinberg, Rutman, Sullivan, Penick, & Deitz, 1973), particularly in adolescents (cf. Rutter, Graham, Chadwick, & Yule, 1976). Still others (e.g., Cytryn & McKnew, 1974; Frommer, 1968; Lesse, 1977; Malmquist, 1975; Toolan, 1962) have discussed that depression in children and adolescents has often gone unnoticed because it is "masked" behind other disorders such as aggression, hyperactivity, conduct disorders, learning disabilities, somatic complaints, school phobia, and so on.

Data supporting the existence of childhood depression (Puig-Antich & Gittelman, 1982), and indicating that masked depression is at worst "thinly veiled" when adequately assessed (Carlson & Cantwell, 1980b), have led to the development of a number of assessment instruments (Kazdin, 1981; Kazdin & Petti, 1982). The one that has been most widely used is the Childhood Depression Inventory (Kovacs & Beck, 1977), a downward extension of the adult Beck Depression Inventory (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961). Its development was based on three then-controversial but increasingly accepted assumptions: (1) that childhood depression does exist, (2) that it can be observed and measured, and (3) that its characteristics are comparable to those of adult depression.

Although some data exist to suggest the validity of a preliminary form of the CDI (Kovacs & Beck, 1977) and a short form (SCDI; Carlson & Cantwell, 1979, 1980a), limited data have been published in journals regarding its other psychometric properties, such as internal consistency, test-retest reliability, and normative data. Kazdin (1981) concluded, "Because of the few studies that have examined basic psychometric properties of the assessment devices, the measurement of childhood depression is still at a very preliminary stage" (p. 366). The purpose of the present study is to contribute to the psychometric development of the CDI by reporting reliability and normative data for a large sample of children and adolescents.

METHOD

Subjects

The CDI was group-administered to three independent samples of regular classroom children in central Pennsylvania. In each school all children with parental consent were tested. The first sample comprised 615 subjects (304 males and 311 females) from six Gettysburg area elementary schools (grades 3-6). The mean age of these children was 10.1 years (SD = 1.19, age range = 8-13 years). Three weeks later 77 male and 78 female fifth-graders ($\bar{X}$ age = 10.7 years, SD = .62) were retested under similar testing conditions. The second sample consisted of 369 students (169 males and 200 females) at the Gettysburg Junior High School (grades 7-9). The mean age of this group was 13.6 (SD = 1.05, age range = 12-16). The third sample was composed of 268 students (121 males and 147 females) from the Clearfield Middle School (grades 6-8). The mean age of this sample was 12.5 (SD = 1.04, age range = 11-15). Of the 177 seventh- and eight-graders participating in this investigation, 107 subjects (45 males and 62 females) had taken the CDI 1 year earlier under similar testing conditions (Green, 1980).

The Child Depression Inventory

The CDI, a paper-and-pencil self-report questionnaire, is essentially a downward extension of the Beck Depression Inventory (Beck et al., 1961). Although the authors included several additional items that attempt to assess areas of school and social/peer relations, the CDI differs from the BDI primarily in its phraseology, which is more suitable to the language of 8- to 13-year-old children (Kovacs & Beck, 1977).

Each of the 27 items on the CDI consists of three statements that are graded in severity and are assigned numerical values from 0 to 2, providing a total score range of 0-54. The items typically are read aloud by the examiner, and the subject is asked to mark the sentence that best describes the way he or she has been feeling and thinking during the preceding 2 weeks.

Procedure

In each of the seven Gettysburg schools, participating children were assembled into a large room (either the cafeteria or auditorium) for group testing, which was conducted by two members of the research team. The ex-

aminers were previously trained in the administration of the test so as to ensure that all testing procedures would be standard. Subjects were asked to write their date of birth, age, grade in school, and gender on the test form. The instructions printed at the top of each test[2] were then read aloud by the examiner. The subjects were instructed to circle the one answer in each item that they felt described them best during the previous 2 weeks. Questions about the test were permitted but were answered only in a general way so as not to influence responses. During the testing of grades 3 to 6, the individual test items were read aloud by the examiner (each item was read twice). The seventh-, eight-, and ninth-graders were instructed to read the test items silently and answer them at their own pace. On the average, the test took 10 minutes to complete. For both Gettysburg samples, Item 9 (the suicide item) was omitted at the request of the Human Subjects Committee at the Pennsylvania State University.[3]

In the Clearfield Middle School the group testing was conducted by the homeroom teachers. In most instances homerooms were pooled, with participating students in one room and nonparticipants in another. The teachers, who had been previously trained in the test administration procedures, were given a typed set of standard instructions describing the appropriate procedures to be followed. Scripted dialogue was included in the instructions to ensure uniformity in administration of the measures and answers to questions that students typically ask. Each subject was asked to write his or her name, date of birth, age, grade in school, and gender on the test form. The instructions printed at the top of each test were read aloud by the teachers, after which the subjects were instructed to read silently the test items and to answer them at their own pace.

RESULTS

Sample 1 (Gettysburg Elementary Schools, Grades 3-6)

The combined elementary grades ($N = 615$) yielded a mean CDI score of 8.67 with a standard deviation of 7.02 and a range of 0 to 47. The cutoff CDI score for the upper 10% of the distribution was 19. For the males ($n = 304$), the mean CDI score was 9.25, $SD = 7.03$, range $= 0\text{-}42$, and the upper 10% cutoff score was 19. For the females ($n = 311$), the mean

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[2]After the CDI, all subjects completed other self-report scales, to be reported elsewhere.
[3]The data obtained when the suicide ideation item was omitted were prorated using the following formula: Adjusted Mean $= X + (X/26)$. The comparability of the distribution statistics to the other samples in this study and to Kovacs (1980/1981, 1983) supports the appropriateness of this procedure.

Table I. CDI Distribution Statistics for Gettysburg Elementary Sample, Grade by Gender

Grade	Sex	N	Mean	Adjusted mean[a]	SD	Range	CDI upper 10% cutoff score
3	Male	84	8.63	8.96	7.60	0-42	18
	Female	88	8.64	8.97	8.29	0-47	19
	Total	172	8.63	8.96	7.94	0-47	19
4	Male	77	8.57	8.90	6.97	0-29	20
	Female	70	8.66	8.99	7.05	0-29	21
	Total	147	8.61	8.94	6.99	0-29	20
5	Male	82	9.67	10.05	6.93	0-32	20
	Female	84	7.68	7.97	6.83	0-40	16
	Total	166	8.67	9.00	6.94	0-40	19
6	Male	61	8.67	9.00	6.48	0-34	17
	Female	69	6.04	6.28	4.64	0-21	12
	Total	130	7.28	7.56	5.72	0-34	15
3-6	Male	304	8.90	9.25	7.03	0-42	19
3-6	Female	311	7.81	8.11	6.98	0-47	17
3-6	Total	615	8.35	8.67	7.02	0-47	19

[a]Because Item 9 (suicidal ideation) was omitted in this sample, the total CDI means were adjusted (prorated) using the following formula: Adjusted Mean = $\bar{X} + (\bar{X}/26)$.

Table II. Reliability Data for Gettysburg and Clearfield Samples

Sample	Grade	Sex	N	Index	Coefficient
Gettysburg					
Elementary schools	3-6	Male	304	Alpha	.84
	3-6	Female	311	Alpha	.87
	5	Male	77	3-week test-retest	.77
	5	Female	78	3-week test-retest	.74
Junior high school	7-9	Male	169	Alpha	.83
	7-9	Female	200	Alpha	.85
Clearfield					
Middle school	6-8	Male	121	Alpha	.89
	6-8	Female	147	Alpha	.89

CDI score was 8.11, $SD = 6.98$, range $= 0$-47, and the upper 10% cutoff score was 17. Table I contains a breakdown of grade by sex CDI distribution statistics.

The coefficient alpha index of reliability was .84 for the elementary males (see Table II); the item-total score product-moment correlations ranged from .19 (somatic preoccupation) to .52 (sense of failure, low self-esteem), with an average item-total score correlation of $r(302) = .42, p < .001$. For the females, coefficient alpha was .87; the item-total score product-moment correlations ranged from .31 (somatic preoccupation) to .65 (self-hate) with an average item-total score correlation of $r(309) = .47, p < .001$. When calculated with Fisher's Z-transformation of r, significant gender differences on specific item-total score correlations were as follows: "sadness," "self-hate," "crying spells," "fatigability," and "loneliness," correlated more highly with overall CDI depression scores for the females, while "general lack of fun" correlated more highly with total depression scores for the males. Data for all items are reported in Table III. Test-retest correlation coefficients, determined by readministering the CDI to 155 fifth-graders (77 males and 78 females) after 3 weeks, were as follows: for fifth-grade males, $r(75) = .77$, $p < .0001$; for fifth-grade females, $r(76) = .74, p < .0001$ (see Table II). Both males and females had lower mean CDI scores at Time 2 than at Time 1. For the fifth-grade males the difference between mean CDI scores at Time 1 ($m = 9.97, SD = 6.85$) and at Time 2 ($m = 8.82, SD = 6.99$) was significant, $t(76) = 2.15, p < .04$; for fifth-grade females the difference between mean CDI scores at Time 1 ($m = 7.83, SD = 7.16$) and at Time 2 ($m = 6.58, SD = 5.64$) was also significant, $t(77) = 2.28, p < .03$.

Sample 2 (Gettysburg Junior High, Grades 7-9)

The combined Junior High grades ($N = 369$) yielded a mean CDI score of 9.59 with a standard deviation of 6.57 and a range of 0 to 38. The cutoff

Table III. Item-Total Score Product-Moment Correlations from Gettysburg Sample

	Grades 3-6				Grades 7-9			
	Males		Females		Males		Females	
	($n = 304$)		($n = 311$)		($n = 169$)		($n = 200$)	
1. Sadness	$.39^a$	<	$.54^a$		$.27^b$	<	$.50^b$	
2. Pessimism	.47		.42		.55		.53	
3. Sense of failure	.52		.59		.45		.56	
4. General lack of fun	$.47^a$	>	$.32^a$		.38		.51	
5. Misbehavior	.43		.47		$.46^a$	>	$.27^a$	
6. Self-victimized ideation	.41		.48		.37		.49	
7. Self-hate	$.48^b$	<	$.65^b$		.50		.61	
8. Self-accusation	.37		.41		.40		.54	
9. Suicidal ideation	—		—		—		—	
10. Crying spells	$.33^c$	<	$.57^c$		$.29^a$	<	$.49^a$	
11. Irritability	.48		.56		.50		.50	
12. Social withdrawal	.33		.41		.38		.33	
13. Indecisiveness	.46		.39		.36		.39	
14. Negative body-image	.35		.46		$.28^a$	<	$.46^a$	
15. Schoolwork difficulty	.49		.41		.41		.39	
16. Sleep disturbance	.43		.49		.46		.45	
17. Fatigability	$.33^a$	<	$.49^a$		.34		.36	
18. Loss of appetite	.43		.32		.28		.36	
19. Somatic preoccupation	.19		.31		.20		.32	
20. Loneliness	$.46^a$	<	$.59^a$		$.47^a$	<	$.64^a$	
21. Lack of fun at school	.45		.46		.48		.36	
22. Lack of friendships	.36		.43		.21		.25	
23. Drop in school performance	.46		.53		.48		.37	
24. Low self-esteem	.52		.49		.54		.47	
25. Feeling unloved	.44		.38		.43		.49	
26. Disobedience	.44		.48		$.48^b$	>	$.22^b$	
27. Aggression	.43		.46		.41		.29	
Average item-Total score r	.42		.47		.40		.43	

$^a p < .05$ (testing equality of correlations using Fisher's Z-transformation of r).
$^b p < .01$ (testing equality of correlations using Fisher's Z-transformation of r).
$^c p < .001$ (testing equality of correlations using Fisher's Z-transformation of r).

CDI score for the upper 10% of the distribution was 19. The Junior High males' ($n = 169$) mean CDI score was 9.65, $SD = 6.57$, range $= 0$-38, and the upper 10% cutoff score was 18. For the females ($n = 200$), the mean CDI score was 9.54, $SD = 6.60$, range $= 0$-28, and the upper 10% cutoff score was 19. Table IV provides a breakdown of grade by sex CDI distribution statistics.

The coefficient alpha index of reliability was .83 for the Junior High males; the item-total score product-moment correlations ranged from .20 (somatic preoccupation) to .55 (pessimism), with an average item-total score correlation of $r(167) = .40$, $p < .001$ (see Table II). For the females, coefficient alpha was .85; the item-total score product-moment correlations ranged

from .22 (disobedience) to .64 (loneliness), with an average item-total score correlation of $r(198) = .43, p < .001$. A Fisher's Z-transformation of r calculated on specific item-total score correlations revealed the following significant gender differences: for the females, "sadness," "crying spells," "negative body-image," and "loneliness" correlated more highly with overall CDI depression scores, while "misbehavior" and "disobedience" correlated more highly with total depression scores for the males (see Table III).

Sample 3 (Clearfield Middle School, Grades 6-8)

The combined Middle School grades ($N = 268$) yielded a mean CDI score of 9.38, a standard deviation of 7.67, and a range of 0-35. The cutoff CDI score for the upper 10% of the distribution was 21. For the males ($n = 121$), the CDI mean was 8.51, $SD = 7.44$, range = 0-35, and the upper 10% cutoff score was 19. For the females ($n = 147$), the mean CDI score was 10.10, $SD = 7.81$, range = 0-34, and the upper 10% cutoff score was 22. Table V provides a breakdown of grade by sex CDI distribution statistics.

The coefficient alpha index of reliability was .89 for the Middle School males; the item-total score product-moment correlations ranged from .16 (body image) to .62 (suicidal ideation), with an average item-total score correlation of $r(119) = .49, p < .001$ (see Table VI). The females had a coefficient alpha of .89; their item-total score product-moment correlations ranged from $r(145) = .27, p < .01$ for "loss of appetite" to $r(145) = .69, p < .001$ for "self-hate," with an average item-total score correlation of $r(145) = .49, p < .001$. When calculated with Fisher's Z-transformation of $r,$ significant gender differences on specific item-total score correlations were as follows: "sadness," "self-hate," and "negative body-image" were more highly correlated with overall CDI depression scores for the females, while "disobedience" and "social withdrawal" correlated more highly with total depression scores for the males.

Test-retest reliability coefficients, determined by readministering the CDI to 107 seventh- and eighth-graders (45 males and 62 females) after 1 year, were as follows: for 45 seventh- and eighth-grade males combined $r(43) = .41, p < .01$; for 62 seventh- and eighth-grade females combined $r(60) = .69, p < .0001$. A Fisher's Z-transformation of r revealed a significantly higher test-retest reliability ($p < .05$) across 1 year for the females than for the males. The grade by sex breakdown of the test-retest reliability coefficients are reported in Table VII. There were no significant differences between mean CDI scores at Time 1 and Time 2. For seventh- and eighth- grade males the mean CDI score at Time 1 was $m = 7.92, SD = 8.03$ and at Time 2 was $m = 7.48, SD = 7.37$. For seventh and eighth-grade females the mean

Table IV. CDI Distribution Statistics for Gettysburg Junior High Sample, Grade by Gender

Grade	Sex	N	Mean	Adjusted mean[a]	SD	Range	CDI upper 10% cutoff score
7	Male	63	9.88	10.26	7.01	0-38	19
	Female	66	8.25	8.57	6.10	0-28	16
	Total	129	9.05	9.40	6.59	0-38	18
8	Male	47	9.39	9.75	7.34	0-28	22
	Female	57	10.10	10.48	6.33	0-28	19
	Total	104	9.78	10.15	6.78	0-28	19
9	Male	59	8.58	8.91	5.36	0-22	17
	Female	77	9.33	9.68	7.15	0-27	22
	Total	136	9.00	9.35	6.42	0-27	19
7-9	Male	169	9.29	9.65	6.57	0-38	18
7-9	Female	200	9.19	9.54	6.60	0-28	19
7-9	Total	369	9.24	9.59	6.57	0-38	19

[a]Because Item 9 (suicidal ideation) was omitted in this sample, the total CDI means were adjusted (prorated) using the following formula: Adjusted Mean $= \bar{X} + (\bar{X}/26)$.

Table V. CDI Distribution Statistics for Clearfield Middle School Sample, Grade by Gender

Grade	Sex	N	Mean	SD	Range	CDI upper 10% cutoff score
6	Male	35	9.21	8.26	0-35	21
	Female	56	10.93	7.47	0-30	22
	Total	91	10.27	7.78	0-35	22
7	Male	42	9.39	8.19	0-32	22
	Female	44	10.41	9.09	0-34	25
	Total	86	9.91	8.63	0-34	23
8	Male	44	7.10	5.76	0-22	17
	Female	47	8.82	6.84	0-30	18
	Total	91	7.99	6.36	0-30	17
6-8	Male	121	8.51	7.44	0-35	19
6-8	Female	147	10.10	7.81	0-34	22
6-8	Total	268	9.38	7.67	0-35	21

CDI score at Time 1 was $m = 9.56$, $SD = 6.74$ and at Time 2 was $m = 9.46$, $SD = 8.28$.

Samples Pooled (Grades 3-9)

Distribution statistics were calculated on the three samples combined. For all subjects in grades 3-9 ($N = 1,252$) the CDI grand mean was 9.09, $SD = 7.04$, and the range was 0.47. The upper 10% cutoff score was 19. The mean for all male subjects combined ($n = 594$) was 9.21, $SD = 6.99$, range = 0-42, and the cutoff score for the upper 10% was 19. For all female subjects ($n = 658$) the mean was 8.99, $SD = 7.10$, range = 0-47, and the upper 10% CDI cutoff score was 19. Grade by gender distribution statistics are reported in Table VIII.

DISCUSSION

The purpose of this paper was to contribute to the development of the psychometric properties of the CDI by reporting test-retest reliability, internal consistency, and normative data for a large sample of children and adolescents. The distribution and reliability statistics for this sample are largely consistent with those previously summarized by Kovacs (1980/81, 1983) for a Canadian school sample. While there were some grade by gender fluctuations in the data, no clear patterns were noted. It is therefore likely that these differences can be attributed to normal sample variability. The results, then,

Table VI. Item-Total Score Product-Moment Correlations from Clearfield Sample

	Grades 6-8	
	Males	Females
	(n = 121)	(n = 147)
1. Sadness	.49[a] <	.66[a]
2. Pessimism	.49	.50
3. Sense of failure	.60	.52
4. General lack of fun	.47	.49
5. Misbehavior	.51	.44
6. Self-victimized ideation	.51	.46
7. Self-hate	.51[a] <	.69[a]
8. Self-accusation	.49	.49
9. Suicidal ideation	.62	.55
10. Crying spells	.52	.49
11. Irritability	.55	.63
12. Social withdrawal	.52[a] >	.31[a]
13. Indecisiveness	.57	.47
14. Negative body-image	.16[a] <	.45[a]
15. Schoolwork difficulty	.55	.42
16. Sleep disturbance	.41	.45
17. Fatigability	.51	.46
18. Loss of appetite	.34	.27
19. Somatic preoccupation	.49	.38
20. Loneliness	.48	.62
21. Lack of fun at school	.44	.50
22. Lack of friendships	.52	.51
23. Drop in school performance	.37	.40
24. Low self-esteem	.49	.57
25. Feeling unloved	.48	.64
26. Disobedience	.61[b] >	.37[b]
27. Aggression	.59	.42
Average item-Total score r	.49	.49

[a] p < .05 (testing equality of correlations using Fisher's Z-transformation of r).
[b] p < .01 (testing equality of correlations using Fisher's Z-transformation of r).

coupled with those summarized by Kovacs, suggest the following normative properties of the CDI: a mean of approximately 9.00, a standard deviation of about 7.00, and a cutoff score of 19 for the upper 10% of the distribution.

Internal consistency reliability (coefficient alpha) for the CDI proved to be acceptable with children in grades 3-9, and adequate test-retest reliability was demonstrated with fifth-grade males and females. With the exception of Item 14 ("negative body-image") for males in the Clearfield Middle School sample, all CDI items yielded statistically significant item-total score correlations, which demonstrated evidence of the scale's homogeneity. These data are also fairly consistent with those summarized by Kovacs (1983).

Table VII. CDI 1-Year Test-Retest Correlation Coefficients for Grades 7-8, Grade by Sex

Grade	Sex	N	Mean CDI (Time 1)	Mean CDI (Time 2)	r	Probability ($|r| < r_o/P = O$)
7	Male	20	8.98	9.50	.50	.0244
7	Female	28	10.09	10.64	.72	.0001
8	Male	25	7.06	5.86	.25	.2242
8	Female	34	9.13	8.49	.66	.0001
7-8	Male	45	7.92	7.48	.41[a]	.0048
7-8	Female	62	9.56	9.46	.69[a]	.0001

[a]Difference between correlations is significant ($p < .05$) using a Fisher's Z-transformation of r.

Table VIII. CDI Distribution Statistics for All Samples Combined, Grade by Gender

Grade	Sex	N	Adjusted mean[a]	SD	Range	CDI upper 10% cutoff score
3	Male	84	8.96	7.60	0-42	18
	Female	88	8.97	8.29	0-47	19
	Total	172	8.96	7.94	0-47	19
4	Male	77	8.90	6.97	0-29	20
	Female	70	8.99	7.05	0-29	21
	Total	147	8.94	6.99	0-29	20
5	Male	82	10.05	6.93	0-32	20
	Female	84	7.97	6.83	0-41	16
	Total	166	9.00	6.94	0-41	19
6	Male	96	9.08	7.14	0-35	18
	Female	125	8.36	6.48	0-30	18
	Total	221	8.67	6.77	0-35	18
7	Male	105	9.91	7.48	0-38	20
	Female	110	9.30	7.46	0-34	22
	Total	215	9.60	7.46	0-38	20
8	Male	91	8.47	6.72	0-28	18
	Female	104	9.73	6.58	0-30	19
	Total	195	9.14	6.66	0-30	19
9	Male	59	8.91	5.36	0-22	17
	Female	77	9.68	7.15	0-27	22
	Total	136	9.35	6.42	0-27	19
3-9	Male	594	9.21	6.99	0-42	19
3-9	Female	658	8.99	7.10	0-47	19
3-9	Total	1252	9.09	7.04	0-47	19

[a]Because item 9 (suicidal ideation) was omitted in the Gettysburg samples, their CDI scores were adjusted (prorated) using the following formula: Adjusted Mean $= \bar{X} + (\bar{X}/26)$.

The stability of CDI depression scores in children and adolescents is clarified by the test-retest data. Although the test-retest reliability coefficients across 3 weeks (for fifth-graders) did not differentiate males from females, striking gender differences were observed in the Junior High (grades 7 and 8) test-retest data across a 1-year time interval. The CDI depression scores were significantly more stable across this time period for the females than they were for the males, with these gender differences being more pronounced among the eighth-graders. This *suggests* not only that depression may be a more stable phenomenon for female adolescents than for their male counterparts, but that depression may stabilize earlier in life for females than for males.

The item-analysis provided some correlational evidence for age- and gender-related differences with regard to the salience of specific characteristics of depression. The data indicated that for adolescent males, acting-out behavior (e.g., disobedience and general misbehavior) was more highly correlated with overall depression scores than for adolescent females. Such gender differences were not observed in the preadolescent children in grades 3-6. This suggests that male pubescents compared to females report more externally focused characteristics of depression. On the other hand, a general dysphoric mood (sadness, loneliness, crying, somatic preoccupation) and a negative view of self (negative body-image, self-hate) correlated more highly with total depression scores for both preadolescent and adolescent females (grades 3-9) than for the same-aged males. One plausible and heuristic interpretation of this could be that females tend to "internalize" depression at an earlier age than males, and they are more likely to manifest internally focused characteristics (e.g., sadness, negative body-image, somatic preoccupation). Such a phenomenon would be in line with recent evidence (Craighead, Smucker, & Duchnowski, 1981) suggesting that females, compared to males, develop a "depressive attributional style" (cf. Abramson, Seligman, & Teasdale, 1978) earlier in life.

The data from this study, taken in combination with other studies (Carlson & Cantwell, 1979, 1980a, 1980b; Kovacs et al., 1984), suggest that depression does exist in children and adolescents and that it can be adequately assessed. Further, the data are consistent with the rapidly growing concept that the characteristics of depression in children and adolescents are comparable to those of depression in adults (cf. Cantwell & Carlson, 1979; Kashani et al., 1981; Puig-Antich & Gittelman, 1982), although much of the critical research remains to be done. The data also suggest that the study of depression and other disorders of children and adolescents should take developmental level and gender into account (Craighead, Meyers, Craighead, & McHale, 1983).

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