

PARENT AND CHILD REPORTS OF DEPRESSIVE SYMPTOMS IN CHILDREN AT LOW AND HIGH RISK OF DEPRESSION

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Abstract—The K-SADS-E psychiatric interview was administered to children and parents ($N = 220$) from families containing proband parents who had previously been depressed or who were normal. Agreement between parents and their children about depressive symptoms in the children was significant but low. Boy's reports agreed more highly with their parents' reports about them than did girls' reports. Overall, the children reported more depressive symptoms than their parents reported about them and the overall pattern suggests that parents are relatively insensitive to their children's depressive symptomatology, but their reports show high specificity. The implications of these findings for research and clinical work are discussed.

Keywords: Parent-child agreement, childhood depression, symptoms, high and low risk

INTRODUCTION

It is now clear that children and adolescents are capable of reliably and validly reporting their emotional states in psychiatric interviews and self-report questionnaires (Herjanic, Herjanic, Brown & Wheatt, 1975; Hodges, Kline, Stern, Cytryn & McKnew, 1982; Kovacs, 1983; Kazdin, French, Unis & Esveldt-Dawson, 1983a; Chambers, Puig-Antich, Hirsch, Paez, Ambrosini, Tabrizi, & Davies, 1985; Edelbrock, Costello, Dulcan, Kalas & Conover, 1985; Moretti, Fine, Haley & Marriage, 1985). There is also evidence that other informants, such as parents or teachers, may be relatively insensitive to evidence of affective disturbance in children (Orvaschel, Weissman, Padian & Lowe, 1981; Poznanski, 1985; Moretti *et al.*, 1985; Cytryn, McKnew and Bunney, 1980). A number of studies of outpatient and community samples have indicated that children of various ages report more depressive symptoms than their parents report them to have (Leon, Kendall & Garber, 1980; Weissman, Orvaschel & Padian, 1980; Reich, Herjanic, Welner & Gandhi, 1981; Orvaschel *et al.*, 1981; Herjanic & Reich, 1982; Moretti *et al.*, 1985; Lobovitz & Handal, 1985; Edelbrock *et al.*, 1985), while a single study of children on an intensive inpatient psychiatric unit found the opposite (Kazdin, Esveldt-Dawson, Unis & Rancurello, 1983b; Kazdin *et al.*, 1983a). On the other hand, conduct disorder symptoms appear to be more commonly reported by parents than their children (Edelbrock, Costello, Dulcan,

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Conover & Kalas, 1986). However, the tradition in child psychiatry has been to collect details of the history of psychiatric disorder from one or both parents, usually only the mother. In some areas of the history, such as the accurate temporal ordering of events, there are sound reasons for such an approach, in that preadolescent children have been shown to have deficits in their ability to perform such tasks (Weller & Weller, 1984; Kovacs, 1986). But it is likely that the higher levels of depressive symptoms reported by children and adolescents about themselves, in contrast to their parent's reports, represent insensitivity to the details of their children's affective states on the part of parents (Poznanski, 1985; Weller, Weller & Fristad, 1984; Cytryn *et al.*, 1980). Indeed, these findings are consistent with those from adults where information from family members in general has been found to underestimate symptomatology when compared with information from direct interviews with the subjects themselves (Orvaschel, Thompson, Belanger, Prusoff & Kidd, 1982). Recent data from the DISC reliability studies further indicate that parents, in a test-retest paradigm, become less reliable reporters of their children's mental states as their children age, while the children themselves become more reliable (Edelbrock *et al.*, 1985). On the other hand, it has been suggested that psychiatrically ill parents may tend to over-report symptoms in their children (Moretti *et al.*, 1985). A closely related issue is that of parent-child agreement over symptomatology where both have been interviewed. Agreement is generally significant but rather low and probably especially low when the reports are about younger children (Edelbrock *et al.*, 1986). Requests for "factual" information such as expulsion from school has been found to result in better agreement than that found for more "internal" items of the child's mental state, such as fears or depressive symptoms (Herjanic & Reich, 1982; Kovacs, 1983; Edelbrock *et al.*, 1986).

Data from the Yale Depression Research Unit's study of Children at High and Low Risk for Depression are germane to the discussion of child and parent reports of major depressive symptomatology. They confirm and extend the findings of a number of these previous studies.

METHOD

Subject selection

The child subjects were children of proband parents from the Yale Family-Genetic Study of Major Depression. (For complete methodology see Weissman, Gershon, Kidd, Prusoff, Leckman, Dibble, Hamovit, Thompson, Pauls & Guroff, 1984; Weissman, Wickramaratne, Merikangas, Leckman, Prusoff, Caruso, Kidd & Gammon, 1984; Weissman, Kidd & Prusoff, 1982.) Ninety-one of 104 families (87.5%) with children between the ages of 6-23 yrs agreed to participate. Fifty-six families with 125 children in which at least one parent had had a treated major depression were included. Depression in the adults was defined according to the Research Diagnostic Criteria of Spitzer, Endicott and Robins (1978) modified to require a four week duration of symptoms and impairment in a major role. The normal controls were 35 families with 95 children in which neither parent had a history of major depression or any other psychiatric disorder. These normal controls were families obtained from a 1975 community survey (Weissman & Myers, 1978), and the parents had no history of psychiatric illness or treatment based on at least four direct interviews over an 8-yr period. All the probands and controls were white and were group matched by age and sex.

Assessments

Direct interviews were obtained with 181 (83%) of the eligible children, and with a parent of 214

(97%) of the children. In all but six families the parent interviewed was the biological mother. The interviewers were M.D., Ph.D. and masters-level mental health professionals with a minimum of four years experience in child assessment or treatment. The interviewer of the child and of the mother about the child was always the same person and was blind to the diagnostic status of the child's parents. Similarly, the interviewer of the parent was blind to the diagnostic status of the child (since the mothers were interviewed first) and to any previous psychiatric data on the parents. The interviewers received approximately 30 hours of training in research assessments.

Diagnostic assessment of the children was made using the Schedule for Affective Disorders and Schizophrenia for School-Aged Children, Epidemiologic Version (K-SADS-E), which has been shown by its authors to be a reliable instrument for obtaining lifetime diagnoses in prepubertal children (Orvaschel, Puig-Antich, Chambers, Tabrizi & Johnson, 1982). It was modified and pilot tested by us in a small study of adolescent inpatients before the present study (Gammon, John, Rothblum, Mullen, Tischler & Weissman, 1983). The K-SADS-E generates DSM-III diagnoses (American Psychiatric Association, 1980) for most of the major Axis I disorders.

The K-SADS-E is designed to elicit the information upon which a range of DSM-III psychiatric diagnoses can be made for the period of the child's lifetime. In order to reduce the length of the interview and increase its acceptability, many sections are completed only if certain screening questions are answered affirmatively. In the case of the depression section, each of the symptoms required to make the diagnosis of major depression according to the DSM-III criteria are enquired about only if an informant agrees that the subject has suffered from low mood or pervasive anhedonia lasting for a period of at least one week. (Such a positive rating of low mood or pervasive anhedonia will be referred to as "dysphoria" in the rest of this paper). In other words, DSM-III Part B symptoms are sought only if dysphoria is found to be present, but dysphoria is enquired after in all cases (for example, feelings of worthlessness or guilt are only asked about specifically if sadness or anhedonia of one week's duration is known to have occurred at some time). Other criteria govern the completion of sections covering minor depression and dysthymia; however, this report will concentrate solely on major depressive symptomatology as defined by DSM-III and operationalized in the K-SADS-E.

It will be apparent that there are two aspects to reports of major depressive symptomatology collected with the K-SADS-E. Firstly, one may examine rates of assent to the presence of dysphoria, and then within the subgroup of those reporting an episode of dysphoria one may examine the rates of part B symptoms. However, the rates of part B symptoms are unknown in those who deny that they have ever had an episode of dysphoria. The rest of this paper considers these two aspects of the reporting of depressive symptomatology in children by themselves and by their parents.

The K-SADS-E provides for ratings of a current depressive episode (if present) and the worst past episode (if present). If both have occurred the subject is asked which episode was worst of all. The ratings for this worst ever episode are considered here.

Demographic characteristics of families

The children of depressed and normal parents came from demographically comparable families. There were no significant differences between the groups on the parents' ages, number of marriages, education, current marital status, religion, social class, or number of children in the family. Over 30% of the parents came from the professional and upper-middle classes; over 80% had at least a high school education; and more than 80% were currently married.

Statistical analysis

Overall agreement between parents and children on the presence of a symptom is assessed by the well known chance-corrected measure of agreement Kappa (K) (Cohen, 1960). Additional insight into the nature of agreement and disagreement may be obtained by partitioning the overall K into a set of partial K 's. These quantities measure agreement between two observers conditional upon the response of one of the observers (Bishop, Feinburg & Holland, 1975). In this paper K_p represents the partial Kappa which measures the agreement between parent and child conditional on the parent reporting the symptom to be present, while $K_{\bar{p}}$ represents the partial Kappa conditional on the parent reporting the absence of the symptom. Similarly K_c and $K_{\bar{c}}$ measure agreement conditional on the child reporting the presence or absence of the symptom respectively. It should be noted that $K_c = K_{\bar{p}}$ and $K_p = K_{\bar{c}}$.

RESULTS

Age and sex of children

Of the 220 children (105 boys and 115 girls) studied, parental K-SADS-E reports were obtained for 214 and child self-reports from 181. Many of the 39 missing child interviews resulted from parents refusing permission for their children to be contacted. The non-interviewed children tended to be older and male, but these differences did not reach statistical significance. Both child and parent interviews were completed for 175 children. The mean age of the children at interview was 17 yrs (range = 7–25).

Parent-child agreement about dysphoria

Table 1 shows the rates of positive reporting of dysphoria in the child by the parent and the child respectively. It will be immediately apparent that whilst there is considerable overlap between the child and parent reports, there is also considerable disparity. It is also notable that more children reported dysphoria than their parents reported about them.

TABLE 1. NUMBER OF CHILDREN WITH DYSPHORIA BY INFORMANT

		Parent about child		Total
		+	-	
Child's report	+	43	41	84
	-	11	80	91
Total		54	107	175

Kappa = 0.40, $P < 0.001$.

The chance-corrected coefficient of agreement (K) is 0.40 ($P < 0.001$). Though this is a highly significant level of agreement it should be noted that it represents only modest agreement between the two sets of informants. Looking more closely at Table 1, it will also be seen that positive parental reports of dysphoria in the absence of a positive child report are distinctly uncommon (occurring in only 6.3% of cases). Thus the children whose parents say that they have been dysphoric are mostly a subgroup of those who report themselves to have been dysphoric. In statistical terms, we find the K_p is 0.61, K_c is only 0.29. Thus relatively good agreement between parents and children is found for this item in those instances where the parent reports the presence of the symptom, despite the overall low agreement. But, if one considers the group where the child reports dysphoria as having occurred, parent-child agreement is low (though still statistically significant). It is also a direct corollary that when children state that they have not suffered from dysphoria, agreement is good, whereas when parents reported that their child has not suffered from dysphoria, agreement is poor. Parent-child agreement is much higher for the boys ($K = 0.55$) than for the girls ($K = 0.28$). No consistent differences in agreement were found between older and younger children.

Table 2 shows the distribution of reports of dysphoria in the child depending upon the proband parent's status (i.e. whether the child has as one parent a depressed proband or a normal proband). There is no significant difference between the rates

of child reports of dysphoria for the children of depressed and normal proband parents ($\chi^2 = 0.01$, n.s.), but a significant excess of parent reports of dysphoria is obtained from the depressed proband parent group ($\chi^2 = 4.31$, $P < 0.05$). It is interesting to note that 8 of the 11 parent-only reports of dysphoria are from families with a depressed proband parent. However, the adult informants from the depressed parent's families still report fewer depressive symptoms in the children than the children report about themselves.

TABLE 2. AGREEMENT ON DYSPHORIA BY INFORMANT AND PROBAND STATUS

	Proband Status	Parent's report of dysphoria						Overall total child reports
		Depressed			Normal			
		+	-	Total	+	-	Total	
Child's report of dysphoria	+	26	17	43	17	24	41	84
	-	8	37	45	3	43	46	91
	Total	34	54	88	20	67	87	175
Overall total parent reports					54	121	175	

Comparison of rates of parent and child reports of part B DSM-III criteria

Table 3 presents the percentages of those with an episode of dysphoria who report the various part B symptoms (89 child reports and 70 parent reports). It will be seen that for every symptom more children than parents report symptoms in the child. The difference reaches statistical significance at the 0.05 level or better in 10 of the 21 symptoms rated. In this situation, the χ^2 test yields a conservative estimate of the probability of any particular difference arising by chance, since these groups are partially overlapping in each case. This has the effect of decreasing the variance between the child and parent reports, which will in turn reduce the value of χ^2 .

Despite the pervasive pattern of higher levels of reporting from the children than from their parents, it should be noted that their rank ordering of the frequencies of the symptoms is very similar (Table 3), and the six commonest symptoms are identical (with only slight differences of rank ordering). The Spearman rank order correlation coefficient for this comparison is 0.94 ($P < 0.001$). The commonest symptoms are predominantly those related to the spectrum of anhedonia, while biological symptoms are relatively uncommon for the most part, and cognitive items such as guilt, worthlessness and thoughts of death occur with intermediate frequencies.

We may now return to the question of the distinctions between those cases in which parent and child agree on the presence of sadness or anhedonia and those where there is disagreement. It is possible that the group for whom both parents and children reported sadness or anhedonia were suffering from more marked or intense symptoms, hence their observation by two reporters. If this were the case then we might expect higher rates of part B symptomatology where both parent and child agreed on the presence of dysphoria than where such agreement was lacking. Table 4 compares part B symptom rates by (i) child report, according to whether the parent report of dysphoria is positive or negative and (ii) parent report according to whether the child's

TABLE 3. DEPRESSIVE ITEM FREQUENCIES FOR ALL CHILDREN FOR WHOM DEPRESSION SECTION COMPLETED BY EITHER PARENT ABOUT CHILD OR CHILD ABOUT SELF

Symptom in child	N = 89 Child report		N = 70 Parent report		χ^2 (dif.)	P
	%	Rank	%	Rank		
Distinct mood	56	6	42	5	2.61	
Lack of reactivity	29	13	26	7	0.10	
Diurnal variation	20	18	7	20	4.10	*
Weight loss	38	10	23	9	3.88	*
Weight gain	13	20	10	18	0.24	
Initial insomnia	36	12	22	11	3.17	
Middle insomnia	23	17	15	15	1.36	
Terminal insomnia	18	19	8	19	3.45	
Hypersomnia	26	15	16	13	2.21	
Agitation	36	11	16	14	7.83	**
Retardation	29	14	14	16	4.65	*
Loss of pleasure	83	1	74	1	1.94	
Loss of interest	74	2	52	2	7.65	**
Boredom	56	5	44	3	2.27	
Fatigue	58	3	43	4	3.06	
Guilt	40	8	24	8	4.57	*
Feelings of worthlessness	44	7	22	10	7.93	
Loss of concentration	57	4	32	6	9.68	**
Thoughts of death	40	9	18	12	8.89	**
Suicidal ideas	25	16	12	17	4.30	*
Suicidal attempt	9	21	6	21	0.66	

* = $P < 0.05$; ** = $P < 0.01$.

report of dysphoria is positive or negative. It will be seen that little support is provided for the interpretation that the cases where both parents and children agree about the presence of dysphoria show more depressive symptomatology than those cases where they disagree. Although the only two significant differences in child reports are in the direction of increased symptomatology in the agreeing group, the only significant difference by parent report is in the opposite direction and the overall differences in symptom rates are mostly small and variable in direction.

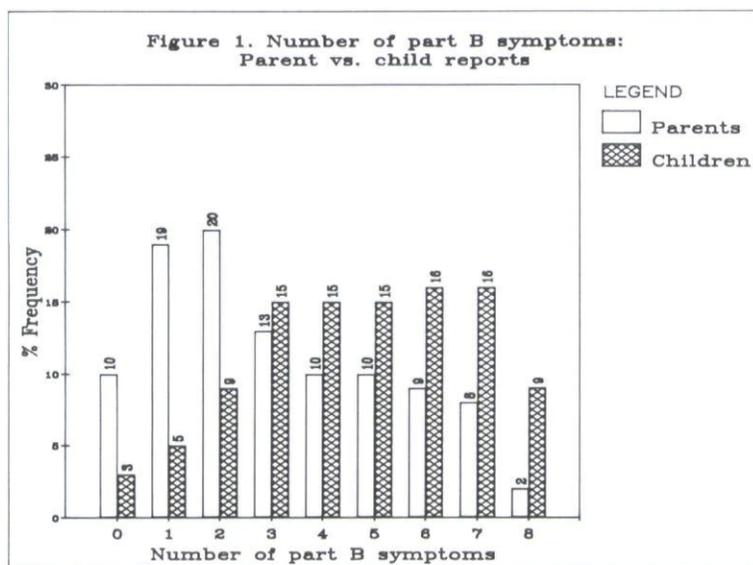
Sub-comparisons of the rates of part B symptoms according to parents and children when both report dysphoria and when only one reports dysphoria [comparisons of columns (a) vs (c); and columns (b) vs (d) in Table 4] reveal similar excesses of child over parent reports in both subgroups as in the comparison between total child reports and total adult reports shown in Table 3.

If rather than individual symptoms we consider the total part B symptom scores, a similar pattern emerges. The K-SADS-E groups the 21 part B items into eight sections to conform to the 8 DSM III part B criteria. Figure 1 shows the percentage frequencies of the numbers of part B criteria fulfilled by those who had had an episode of dysphoria. Children reported significantly higher total DSM III symptom scores than their parents ($P < 0.05$).

When the reports are further broken down by sex, both boys and girls report more symptoms than their parents report about them, but the difference remains statistically significant only in the case of the girls. There is also a non-significant trend for girls

TABLE 4. COMPARISONS OF REPORTS OF DEPRESSIVE ITEM FREQUENCIES (% POSITIVE) BY WHETHER OR NOT DYSPHORIA WAS REPORTED BY BOTH PARENT AND CHILD

	Child self reports of part B symptoms where reports of dysphoria from:			Parent reports of part B symptoms in children where reports of dysphoria from:		
	(a) Parent & child N = 43 %	(b) Child only N = 41 %	$\chi^2(a \text{ vs } b)$	(c) Parent & child N = 43 %	(d) Parent only N = 11 %	$\chi^2(c \text{ vs } d)$
Distinct mood	70	44	5.50*	41	20	1.44
Lack of reactivity	26	30	0.15	33	18	0.95
Diurnal variation	19	21	0.03	9	0	0.85
Weight loss	40	35	0.26	29	27	0.01
Weight gain	14	10	0.35	12	9	0.07
Initial insomnia	45	28	2.78	22	30	0.29
Middle insomnia	21	25	0.15	15	10	0.17
Terminal insomnia	24	13	1.75	8	10	0.07
Hypersomnia	33	18	2.70	20	10	0.50
Agitation	38	36	0.04	17	9	0.39
Retardation	31	26	0.28	12	18	0.30
Loss of pleasure	79	88	1.15	74	72	0.01
Loss of interest	79	65	1.87	57	36	1.51
Boredom	62	45	2.36	50	30	1.30
Fatigue	69	45	8.83*	43	36	1.15
Guilt	48	28	3.53	17	45	4.13*
Feelings of worthlessness	40	40	0.96	17	36	1.94
Loss of concentration	67	50	2.35	29	36	0.21
Thoughts of death	40	40	0.00	20	18	0.10
Suicidal ideas	31	20	1.29	12	9	0.08
Suicidal attempt	15	5	2.11	7	0	0.83

* = $P < 0.05$.

to report more symptoms than do boys and for the girls' parents to report more symptoms than do boys' parents.

The mean number of individual symptoms reported by the children themselves is 7.0 (SD = 3.9) for boys and 8.7 (SD = 4.0) for girls out of 21 possible symptoms (Wilcoxon $\chi^2 = 3.56$; $P < 0.059$). Parents reported 5.0 (SD = 4.1) symptoms for boys and 5.4 (SD = 3.2) symptoms for girls (Wilcoxon $\chi^2 = 0.63$, n.s.).

Parent-child agreement on part B symptoms

Table 5 shows the agreement on individual symptoms on the 43 cases where both parent and child reported dysphoria. Using the Kappa statistic we find that agreement is usually very low. Indeed in most cases agreement between the child and parent reports of symptomatology is no greater than expected by chance even after they have agreed on the presence of an episode of low mood or anhedonia of at least a week's duration. Agreement is significant only for diurnal variation, weight loss, hypersomnia, feelings of worthlessness, thoughts of death and suicidal ideas. These agreements, even though significant, are by no means high. Interestingly, the best agreement is in the area of suicidality.

TABLE 5. AGREEMENT BETWEEN CHILDREN AND PARENTS ON SPECIFICS OF DEPRESSIVE SYMPTOMATOLOGY WHEN DEPRESSION SECTION COMPLETED BY BOTH ($N = 43$)

	KAPPA	COND. KAPPA _p	COND. KAPPA _c
Distinct mood	0.08	0.27	0.05
Lack of reactivity	0.14	0.12	0.17
Diurnal variation	0.52**	0.62	0.45
Weight loss	0.32*	0.43	0.25
Weight gain	0.05	0.06	0.05
Initial insomnia	0.21	0.39	0.14
Middle insomnia	0.17	0.19	0.16
Terminal insomnia	0.25	0.57	0.16
Hypersomnia	0.30*	0.44	0.23
Agitation	0.14	0.30	0.09
Retardation	0.17	0.12	0.03
Loss of pleasure	-0.02	-0.03	-0.16
Loss of interest	-0.05	-0.07	-0.02
Boredom	-0.07	-0.09	-0.05
Fatigue	-0.07	-0.13	-0.04
Guilt	-0.04	-0.39	-0.09
Feeling of worthlessness	0.34**	0.75*	0.22
Loss of concentration	0.08	0.23	0.05
Thoughts of death	0.50**	1.00*	0.34*
Suicidal ideas	0.45**	1.00	0.30*
Suicidal attempt	0.46	1.00	0.30**

* = $P < 0.05$, ** = $P < 0.01$.

Examination of the partial Kappas again suggests that parents are relatively unlikely to report symptoms which their children do not report, whereas children usually report symptoms which their parents say are present (i.e. the K_p 's were higher than the K_c 's and the $K_{\bar{p}}$'s were lower than the $K_{\bar{c}}$'s). It is striking that when a parent reported suicidal thinking, thoughts about death, or suicide attempts, the child always reported this symptomatology.

Now a question may be raised that, as far as the part B symptoms are concerned, the structure of the interview has created a speciously low rate of agreement by allowing Kappas to be computed only for the 43 cases where child and parent agreed about the presence of dysphoria. It might be argued that if the "screening questions" about dysphoria were answered negatively, then it is unlikely that the part B symptoms would have been present. If so, then the 2 x 2 tables upon which the Kappas are based should include, in the agreed absent cell, all those cases where neither parent nor child were asked the part B questions. And where only the child or only the parent had completed part B, all symptoms should be regarded as having been absent in the reports of the child or parent who had not been asked the part B questions rather than being treated as being missing data. If this is done, then the Kappa values will be based on the full 175 pairs of reports (as was the case for dysphoria). This procedure seems reasonable for one of the part B items, "distinct quality of mood", which refers specifically to the dysphoric state which has just been rated as being present or absent, and so could not occur in its absence. When looked at in this way we obtain a Kappa value of 0.19, compared with the value of 0.08 yielded by looking at agreements within only the 43 cases where both parental and child part B sections were completed. This level of agreement is significant but small. However, as far as the other items are concerned, it is not at all clear that their occurrence can be ruled out by the absence of a dysphoric episode as defined here.

TABLE 6. AGREEMENT BETWEEN CHILDREN AND PARENTS ON DEPRESSIVE SYMPTOMATOLOGY ACCORDING TO PARENTAL PROBAND GROUPS (ONLY ITEMS WITH OVERALL SIGNIFICANT AGREEMENT INCLUDED)

	Depressed proband group	Normal proband group
Dysphoria	0.42***	0.35***
Diurnal variation	0.42*	-
Weight loss	0.56**	0.03
Terminal insomnia	0.51**	-
Hypersomnia	0.17	0.45
Worthlessness	0.43**	0.14
Thoughts of death	0.65***	0.32
Suicidal ideas	0.45**	0.45*
Suicidal attempts	0.25	0.64

- = Number of positive reports of the symptom too small for meaningful computation of K

* $P < 0.05$; ** $P < 0.01$; *** $P < 0.001$.

If one considers parent-child agreement in the children of depressed and normal probands separately (Table 6), for dysphoria the Kappa value is 0.42 for the children of depressed probands ($P < 0.001$) as compared with 0.35 ($P < 0.001$) for the children of normal probands. Of the six part B symptoms with significant overall Kappas, two, diurnal variation and terminal insomnia, are too rare in children of normal probands to produce stable kappas, but do have significant kappas for the depressed probands' children. One, hypersomnia, is significant in neither group. The other three, weight loss, feelings of worthlessness, and thoughts of death, have significant kappas only for the children of depressed probands.

Responses about suicidal ideas have identical kappas for children of depressed and normal probands, while responses about suicidal attempts have higher kappas for children of normals, although attempts are so rare in children of normals that the kappa is unstable.

DISCUSSION

The children in this study report more depressive symptoms than their parents report about them and overall agreement between children and parents was low, confirming our expectation, based on previous studies, of the level of agreement to be expected (see Introduction). However, we also found that, for the most part, parental reports of the presence of a dysphoric episode or of specific symptoms within that episode were confirmed by their children. This is reflected in the finding that the K_p values are consistently higher than the K_c values. If the parent said that the child had dysphoria or some other depressive symptom, then the child was very likely to report the presence of that symptom. Similarly, if the child denied the presence of a particular symptom, then the parent was unlikely to report its presence. Conversely, when children said symptoms were present, their parents often disagreed and when parents said symptoms were absent, their children often disagreed.

It would have been very interesting to know the prevalence of the part B symptoms in the absence of an episode of dysphoria, since that would have allowed us to determine the effectiveness of using the presence of dysphoria as a screen for other depressive symptoms. Unfortunately this study does not address that issue. Although DSM III rules out the diagnosis of depression in the absence of low mood or anhedonia, data showing that these symptoms rarely occur in the absence of dysphoria as defined here are entirely lacking. Uncertainty on this point means that it would be inappropriate to assume that part B symptoms were absent in those without an episode of dysphoria, as would be required if one were to attempt to compute Kappa values for these symptoms for the whole group of 175 children. For instance "loss of concentration" occurs so frequently in those who report an episode of dysphoria that it seems extremely likely that a fair number of children who do not report dysphoria would report this item. In the single instance of "Distinct quality of mood" an item that specifically relates to the dysphoric episode and so could not be present in its absence, we find that even when the screen operates perfectly (as by definition it does in this single case), agreement is still low.

Parents appeared to be more sensitive to suicidality in their children than to other symptoms. This sensitivity was not limited to "observable" behaviours in the form of self-harmful acts alone (as might have been expected from the generally better agreement found in other studies reported for "observable" conduct disorder items (Herjanic & Reich, 1982; Edelbrock *et al.*, 1986), but extended to suicidal ideation and thinking about death and dying.

The higher levels of agreement between parents and boys is another notable feature of these data. The opposite was found by Herjanic *et al.* (1975) in the "behaviour" and "mental status" sections of their more highly structured interview, the DICA, with 6-16-yr-old children. However, these sections cover rather different material from that considered here. For the other two DICA sections, called "facts" and

"psychiatric symptoms", the levels of agreement between parents and sons were almost identical to the levels for parents and daughters. In that study agreements for specific depression items were not reported, but it seems entirely possible that different patterns of agreement might emerge in relation to different sorts of items. How then might we explain the sex differences we found? No obvious answers are available, but perhaps the most likely explanation is that depression is less readily recognized or admitted by boys than girls, while parents are similarly resistant or insensitive to the presence of depression in their children of either sex. If this were the case then we would expect the reports of boys and their parents to resemble one another more than those of girls and their parents, with the result that (i) symptom scores would be lower in the boys than girls according to both their own and their parent's reports, but that the difference would be greater in the former comparison; and (ii) that parent-child agreement would be higher for boys than girls. This description fits our data, but further studies of this problem are clearly indicated and will have considerable clinical relevance since they may indicate areas in which parental sensitivity may be improved, perhaps with therapeutic benefits to the children.

Despite the low levels of specific agreement, the rank ordering of the various depression symptoms according to their frequencies as reported by children and parents' reports are strikingly similar. This suggests that there are robust differences in the likelihood of the occurrence of these depressive symptoms among children, to which the interviews with the child and parents are equally responsive. It seems that parents are relatively insensitive to their children's depressive symptoms, but show a high degree of specificity. To use these terms in their formal statistical sense implies that the children's reports may be regarded as a criterion against which the parental reports can be measured. Given the "internal" nature of much depressive symptomatology, this seems appropriate. It is also in line with the current trend toward giving increased weight to children's self-reports of depressive symptoms (Poznanski, 1985). If we accept the child's assessment as the criterion, then the sensitivity of parental reports of their children's dysphoria was 0.51, their specificity 0.88, their positive predictive power 0.81, and their negative predictive power 0.75.

Accepting the child's report as the criterion is also consistent with one explanation for the finding that the diagnostic status of the parent did not affect the child's rates of reporting depressive symptoms, although depressed parents or depressed proband's spouses did report significantly more depressive symptomatology in their children. Depressed parents and parents in households containing a depressed adult might report more symptomatology in their children without being more accurate in their perception of it. In this case, the rates of reported depressive items would rise, but the level of agreement would not. The data on these points from the present study are equivocal due to the small numbers of subjects available in the comparisons of individual symptoms.

Issues of this sort clearly need a good deal of further research exploration. If the parent's mental state is a determinant of his or her reports about a child, then we must approach the information he or she gives critically and with a willingness to give increased weight to the child's report.

The absence of an increased rate of self-reporting of depressive symptoms by the children of the depressed as opposed to normal probands is particularly interesting

in the light of the considerable previous evidence that depression is more common in the children of depressives (Beardsley, Bemporad, Keller & Klerman, 1983; Weissman, Leckman, Merikangas, Gammon & Prusoff, 1984; Weissman, Prusoff, Gammon, Merikangas, Leckman & Kidd, 1984). These earlier studies were based on parent reports, whereas here we consider both child and parent reports. The parents from the depressed proband group do report more depressive symptoms in their children than parents from the normal proband group, but there is no increase in the number of symptoms reported by their children themselves. However, a further series of analyses to be reported later (Weissman *et al.*, in preparation) indicates that when one considers depressive diagnoses, which depend upon the presence of a cluster of symptoms of specified duration, then a significant difference in child self-reports emerges between the children of depressed and normal parents. This finding underlines the importance of keeping in mind the distinction between depression as a symptom and as a syndrome (Gittelman-Klein, 1977; Carlson & Cantwell, 1980; Birmaher, 1981), since the psychopathological associations of individual symptoms may differ from those found at the syndromic level, as is the case here.

It was suggested that parents and children might agree better about more severe disorders, but comparisons of those cases where both parents and children agreed on the presence of dysphoria with those cases where there was disagreement did not reveal increased numbers of symptoms in the former group. However, other markers of the severity of disorder, such as poor social functioning or withdrawal, might have an effect. It is quite unclear at this stage why some parents had detected the dysphoria which their children reported whilst others apparently had not. A number of possibilities, such as other co-existing morbidity cueing sensitivity to depression, or alternatively masking its observation, are susceptible to examination in this data set and will be reported at a later date. Suffice it to say that our results indicate no simple relationship between the number of symptoms, type of symptoms, their duration, or the source of information about them, and parent-child agreement.

These data have some important implications for research interview methodology. Given the striking level of disagreement between parents and children when they are interviewed separately (even though the interviewer of the child was not blind to the parent's responses), it seems inappropriate to attempt to reconcile parent and child reports, where disagreement has occurred, by confronting the child (or the parent for that matter) with the discrepancies. Such an approach clearly involves placing pressure on one informant to agree with the other. It will probably increase agreement, but may not produce any more "truth". At present it is unclear whose reports are most useful in predicting aetiological relationships or outcome, though it seems that self-reports of internal phenomena are probably more likely to be correct than second-hand (e.g. parental) reports. However, these are questions which may be addressed empirically if child and parent are interviewed separately and neither is confronted with the discrepancies. In fact one might agree that blind interviewing of parents and children would be advantageous methodologically, although it is clear that the level of agreement will be low. Of course, this approach creates a problem, in that disparate sources of information either have to be combined to produce a diagnosis or analysed separately, with the result, in the latter case, that the same subject may contribute to the "sick" group for one set of analyses and the "well" group for another. If one adopts the former strategy then it is clear that attention needs to be paid to

the operationalization of the process of data combination as an aspect of the operational definition of psychiatric disorders. The technique of submitting all the available information to a diagnostician for a "best estimate" diagnosis offers some advantages in producing a unitary diagnosis. But to be valid, such best estimates require that the diagnostician should be operating by fixed decision rules and weighting information from different sources in a comparable manner from one case to the next. Such rules need to be carefully operationalized. As yet we are lacking in the data which would allow us to construct a rational weighting system. The blind collection and separate analysis of data from different sources allow for empirical evidence to be collected for the construction of such a weighted diagnostic system and the testing of different approaches to the final diagnosis. This process has perhaps received too little attention as yet but merits more in the future.

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