

The Effects of Age and Sex on Depression Ratings in Children and Adolescents

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Abstract. The self-reports of depressive symptomatology of the 89 children and the parental reports of 62 parents whose children had such symptoms from a sample of 220 children, aged 6 to 23 years, in a family-genetic study of children at high and low risk of depression were examined for the effects of the age and sex of the child. The age of the child at interview proved to have a significant effect upon the dating of the onset of dysphoric episodes and the dating of the worst ever episode of dysphoria. The older girls reported about two more depressive symptoms on average than the younger girls. This finding was obscured unless account was taken of the age at which the subjects were interviewed. However, these effects did not apply to a group of melancholia-related symptoms. There were no consistent effects of age at interview or age at episode on the symptom reports of the boys or in the reports from the parents about both their male and female children. *J. Am. Acad. Child Adolesc. Psychiatry*, 1991, 30, 1:67-74. **Key Words:** depressive symptoms, age, sex, lifetime diagnosis.

There is good evidence that depressive symptoms and disorders are more common in adolescence than in childhood, and it also seems to be the case that the preponderance of females, so typical of adult depressed groups, only emerges at this time (Rutter, 1986; Weissman et al., 1987a; Angold, 1988). The authors wished to examine these changes more closely in a group of children who had been intensively investigated in a study of the children of depressed and normal parents. In particular, there was interest in determining whether similar patterns would emerge across the whole spectrum of depressive symptoms, or whether they were limited to certain subgroups of items (such as depressive cognitions or the vegetative features of depression). Previous findings from the study reported here indicated that there were some (albeit small) differences in symptom profiles between early (before age 15) and later onset depressions (Weissman et al., 1987a), with the latter group more often reporting weight loss and insomnia and less often reporting weight gain. Other workers have also reported age-dependent changes in depressive symptomatology in clinical samples. For instance, McConville et al. (1973) have described three forms of depression characterized by "affectual symptoms," guilt, and low self-esteem, respectively. The first of these appeared to be more common in 6- to 8-year-olds, whereas the low self-esteem type became

more frequent at later ages. The guilt type, which seemed to resemble adult psychotic depression in a number of ways, emerged principally after the age of 11. Inamdar et al. (1979) noted the absence of motor agitation or retardation, delusions of guilt, and hopelessness in their sample of 30 depressed adolescents. However, these symptoms have been reported by others who work with depressed adolescents (Strober et al., 1981; Chambers et al., 1982; Kazdin and Petti, 1982; Friedman et al., 1983).

Ryan et al. (1987) compared the symptomatology of 95 prepubertal children and 92 adolescents with major depressive disorder (MDD), as assessed by the Kiddie-Schedule for Affective Disorders and Schizophrenia for School-aged Children (K-SADS) interview (Chambers et al., 1985). The prepubertal children had more somatic complaints, psychomotor agitation, separation anxiety, phobias, hallucinations, and a more depressed appearance, whereas the adolescents had greater anhedonia, hopelessness, hypersomnia, weight change, use of illicit drugs, and lethality of suicide attempts (though not more severe suicidal ideation or intent). There was no difference between the two groups in their overall levels of depression or the frequency of the endogenous subtype of depression (around 50% in both cases).

In assessing childhood psychiatric disorders, it is usual to collect information from a variety of informants, particularly the children themselves and their parents. However, it is not known whether these different informants report the same patterns of age and sex effects in relation to depression in young people. The idea that they might not do so is reinforced by the fact that most studies show that agreement between parents and children about the child's psychiatric status is rather low. It has been previously found that parental reports of depressive symptoms in children were relatively insensitive measures if the child reports were taken as the criterion, but that they showed high specificity. In other words, if a child reported depressive symptoms, his/her parent was quite likely not to report the presence of depression, but when the child denied the presence of depressive symptoms, it was unusual for the parent to report them (Angold et al., 1987). Given this state of affairs, the authors decided to examine the question of whether parent

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and child reports of depressive symptoms would show the same effects of sex and age, or whether parental reports would be insensitive to any age and sex dependent changes in child self-reports of depressive symptoms.

Structured and semistructured lifetime psychiatric diagnostic interviews have become popular as a means of collecting research information. However, little is known about the effect of the age of the child at the time of the interview on the pattern of symptoms that will be reported as having occurred at any other age. The authors set out to examine the effect of the age at which the lifetime psychiatric assessment of the child was made in relation to: (1) the reported dates of occurrence of the first and worst periods of depressed mood experienced by each child and (2) the level of other depressive symptoms described during the worst episode of depressed mood.

Method

Detailed descriptions of the methodology of the study from which these data were derived have been published elsewhere (Angold et al., 1987). A summary is presented here.

Subjects

The subjects were 125 children of 56 proband parents who, at the time of their recruitment into the study, had had a treated major depression and 95 children of 35 control proband parents, identified from a community survey (Myers et al., 1984). For the purposes of this report, the children were combined into a single group. At the time of their interview, the children were between 6 and 23 years old.

Assessment

Both the children and parents were given a variety of interviews and self-report measures, but this study will deal only with information from the major depression section of a slightly modified version of the K-SADS-Epidemiological Version (K-SADS-E: Orvaschel et al., 1982) psychiatric interviews conducted with each child and one of his/her parents. Direct interviews were obtained with 181 (83%) of the eligible children and with a parent of 214 (97%) of the children. Both interviews were available from 175 (80%) of the children. These interviews were carried out by M.D., Ph.D., and Masters-level mental health practitioners with a minimum of 4 years' experience in child assessment or treatment.

The assessment of major depression in the K-SADS-E consists of screening questions that seek to establish whether the child has ever suffered from low mood or pervasive anhedonia lasting for at least 1 week (which will be referred to as "dysphoria," as in Angold et al., 1987). If 1 week of dysphoria was found to have been present at any time, then questions about its date of first appearance and the presence of the other *DSM-III* defining symptoms for major depression were asked, and the presence of those symptoms was recorded for the current depressive episode (if the patient was depressed at the time of the interview) and the worst past episode. If both a past and present episode were found, the informant was asked which was the worst of all.

TABLE 1. *Conceptual Groups of Depressive Symptoms Recorded in the Kiddie-Schedule for Affective Disorders and Schizophrenia for School-aged Children—Epidemiological Version*

Dysphoria	An episode, lasting at least 1 week, or consistent low mood or anhedonia
Cognitive symptoms	Guilt
	Feelings of worthlessness
Vegetative symptoms	Weight loss
	Weight gain
	Initial insomnia
	Middle insomnia
	Terminal insomnia
	Hypersomnia
Attentional symptoms	Excessive fatigue
	Loss of concentration
Suicidal symptoms	Thoughts of death
	Suicidal ideas
	Suicidal attempt
Melancholic symptoms	Loss of pleasure
	Loss of interest
	Lack of reactivity of mood
	Diurnal variation of mood
	Agitation
	Retardation

As in a previous paper (Angold et al., 1987), this study will consider mainly symptom results from the worst ever episode (whether it was past or present at the time of the interview).

In all, 21 symptoms were rated and grouped together into the eight *DSM-III*, part B, criteria for major depression. It was also possible to combine these symptoms into conceptually related groups (Table 1). The groups employed were: (1) cognitive symptoms, (2) vegetative symptoms, (3) attentional symptoms, (4) suicidal symptoms, and (5) melancholic symptoms. Scores on these groupings were computed by giving a value of one for every symptom rated as being present and summing the number of symptoms (pro-rating for the few scores with missing values for individual symptoms). The total symptom score was the number of symptoms present (and therefore could range from zero to 21).

Results

Analyses of many aspects of the results of this study with respect to these children's psychiatric diagnoses have been presented in previous reports (Weissman et al., 1987a, b). This current study is an investigation of the children's depressive symptoms treated as scalar phenomena, rather than using the symptom ratings to generate *DSM-III* diagnoses.

The Effects of Age at Interview on Reported Age of the First and Worst Episodes of Dysphoria

The use of lifetime psychiatric interviews has usually

TABLE 2. *Effects of Age at Interview on Age at First Episode of Dysphoria*

Age at First Episode	Age at Interview				
	<12	12-15	16-18	19+	
Child self-reports					
< 12	6 (6)	8 (7)	7 (6)	6 (8)	$\chi^2 = 5.44$
12-15	X	8 (9)	11 (8)	8 (10)	(3 <i>df</i>)
16-18	X	X	4 (8)	13 (9)	NS
19+	X	X	X	14 (14)	$N = 86$
Parental reports about the children					
<12	3 (3)	7 (6)	6 (5)	7 (9)	$\chi^2 = 11.65$
12-15	X	3 (4)	8 (4)	5 (7)	(3 <i>df</i>)
16-18	X	X	1 (5)	13 (8)	$p < 0.05$
19+	X	X	X	8 (8)	$N = 62$

Note: X = structural zero; see text for explanation.

Figures not in parentheses are observed values.

Figures in parentheses are expected values.

rested upon the assumption that the age at which a subject is interviewed does not affect what will be recalled at the interview. The data available from this study, however, allowed us to test some aspects of this assumption explicitly. Any effect could only be examined in those children where an episode of dysphoria actually occurred, and there were 89 children and 62 parents who reported such an episode. Therefore these child and parent reports were examined separately. Children of both depressed and nondepressed parent probands were grouped together.

In particular, this study examined the assumption that the ages at which the first and worst episodes of dysphoria were recalled were independent of the age of the subject at interview. In fact, the hypothesis of independence is a little more complicated than this, since there is a structural relationship built into the fact that older children have been alive through a longer period of risk for psychiatric disorder. Put more simply, only children over the age of 10 at interview can possibly have had an onset after the age of 10, thus there is a structural correlation between age at interview and age at the first episode of dysphoria and age at the worst episode of dysphoria.

In order to allow for the presence of this structural relationship, the available age ranges for age at first interview, age at first episode, and age at worst episode were divided into four groupings: <12, 12 to 15, 16 to 18, and 19+. Then four \times four (e.g., age at first episode \times age at interview) contingency tables were constructed (Tables 2 and 3), and expected values for each of their cells were computed by fitting a log-linear model to the data, taking into account the presence of structurally empty cells. The probability that the observed and expected cell frequencies were the same were then computed (using the GLIM statistical package). Tables 2 and 3 show the results of these analyses. For three of the four comparisons (child report of date of worst episode, parent report of date of first episode, parent report of date of worst episode), the observed and expected distributions were significantly different, whereas for the fourth (child report of date of first episode), the pattern of the distribution of the subjects deviated from the

TABLE 3. *Effects of Age at Interview and Age at Worst Episode of Dysphoria*

Age at Worst Episode	Age at Interview				
	<12	12-15	16-18	19+	
Child self-reports					
< 12	6 (6)	5 (4)	5 (3)	1 (4)	$\chi^2 = 10.80$
12-15	X	10 (11)	12 (9)	8 (10)	(3 <i>df</i>)
16-18	X	X	5 (10)	17 (12)	$p < 0.05$
19+	X	X	X	16 (16)	$N = 86$
Parental reports about the children					
<12	3 (3)	5 (5)	5 (3)	3 (5)	$\chi^2 = 8.60$
12-15	X	6 (6)	7 (4)	5 (7)	(3 <i>df</i>)
16-18	X	X	3 (7)	16 (12)	$p < 0.05$
19+	X	X	X	9 (9)	$N = 62$

Note: X = structural zero; see text for explanation.

Figures not in parentheses are observed values.

Figures in parentheses are expected values.

expected pattern in the same way, but this effect did not reach statistical significance.

The observed deviations were not very large, but they were quite consistent across the four analyses: In the 16- to 18-year-old group there were more early and fewer later onsets than predicted, whereas in the 19+ group, there were fewer early and more later onsets than predicted.

Regression Analyses of Symptom Scores

The current study undertook a parallel series of nonhierarchical multiple regression analyses for the child interview and parent interview data, using PROC GLM in the SAS statistical package. The initial models included the predictor variables, sex, age at episode, age at interview, plus their interactions. Nonsignificant effects were then removed from the models in a stepwise fashion (beginning with the effect with the smallest F value) to produce the final, best fit model. Parameter estimates, with their associated F values, were based on Type III sums of squares and thus represent the effect of each parameter controlling for the effects of all the other parameters in the model.

Total Depression Scores by the Children's Own Reports

Of the 89 children where the depression section was entered, 88 had complete data for this analysis. The maximum score attainable was 21. The mean score for the group as a whole was 8.2. Plots of depression score by age group for parent and child reports from the whole group are shown in Figure 1.

An initial series of regression analyses with the boys and girls combined, including sex as a predictor variable, suggested that very different results characterized the boys and girls, since complex interactions between sex, age, and age at interview were found. Therefore it was decided to analyze the data for the boys and girls separately, and these separate analyses are reported here. Tables 3 and 4 show the results for models including age at interview, age at episode of dysphoria, and their interaction. None of the reduced models tested revealed significant effects in the absence of significant effects in these models.

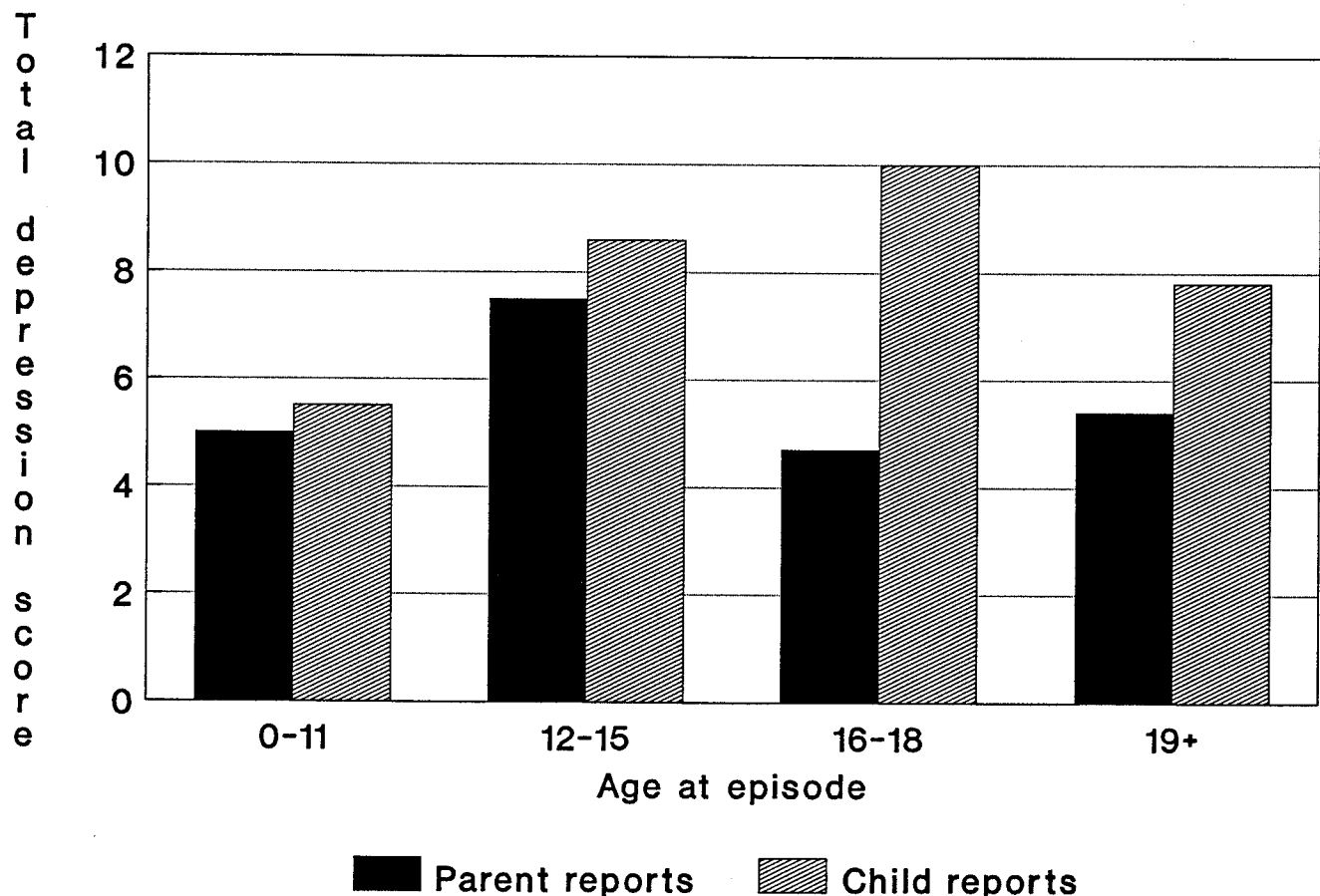


FIG. 1. Total depression score versus age-group at time of episode.

The pattern that emerged indicated that the age at which the worst episode of dysphoria occurred and the age at which the interview with the child was conducted had marked effects on the level of symptoms reported by the girls but not the boys (Table 4). Initial inspection of the effects of age (Figure 1) suggested that models including quadratic and even cubic terms relating to age at episode should be included in models of the children's self-reports. However, comparisons of a range of models indicated that the best fit for girls was provided by a model including age at episode, age at interview, and the interaction of the two ($F_{2,47} = 5.04$). Not considering age at interview led to the strength of the effect of age at episode on symptom scores being considerably underestimated. There was no evidence of a consistent effect of any of these age-related variables on the overall symptom scores for boys. However, it should be noted that the number of boys was rather smaller ($N = 34$ boys compared with 54 girls), and that therefore the ability to compare these models adequately was limited.

To understand these analyses of the girls' responses, graphs were plotted of the predicted total symptom score from linear for girls who were interviewed before the age of 16 and for those interviewed after 16. The results are presented in Figure 2. For both groups, dysphoric episodes occurring at later ages were associated with increasing amounts of de-

toms across the age ranges involved. The rate of increase with age was steeper in the reports of the younger group. However, it is also notable that the older group reported higher rates of symptoms in dysphoric episodes at every age, even though their earlier occurring worst episodes were farther away in time than those of the younger group (the mean time elapsed between the worst episode and the date of the interview was 1.7 years for the younger group and 3.9 years for the older group). For instance, dysphoric episodes occurring at the age of 12 were on average associated with a predicted total symptom score of around seven in the younger group, but with a score of around nine in the group interviewed after the age of 16.

Effects of Age, Sex, and Age at Interview on Subscale Scores from the Interview with the Child

Similar analyses of the subscale results suggested that the effects of age were not consistent across the different symptom areas (Table 5) but were most marked with respect to the vegetative symptoms and not significant with the melancholia group of items or the rest of the groupings. Now items, but the other groups (Table 1) each consist of rather few items, so the cognitive, attentional, and suicidal items were combined together on the grounds that, if the depressive syndrome was a unitary phenomenon, then all the sub-

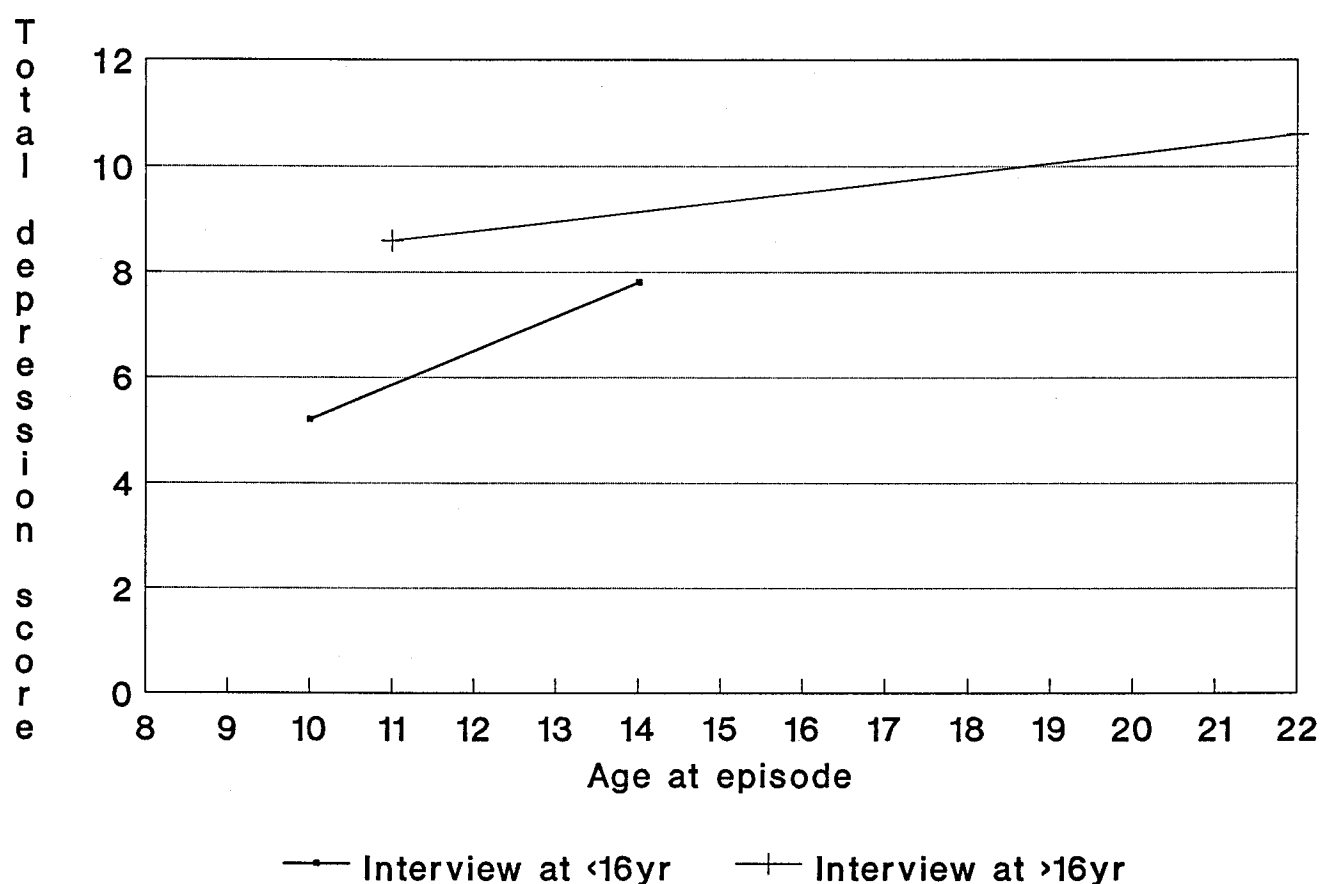


FIG. 2. Girls' predicted total depression scores from regression model versus age at episode of dysphoria.

way as far as the age effects were concerned, even though their contents appear, on the face of it, to be less coherently linked than is the case for the vegetative and melancholic symptoms. In fact, when combined together, the other symptom groups did show the same pattern of results as the biological symptoms. The addition of the melancholia group of symptoms to this group only served to weaken the association between age at episode and the depression score; so it seemed that the melancholia items were behaving differently from the rest of the symptoms.

As expected from the results with the total depression score, the results for the male children showed no consistent effects of age at episode or age at interview. However, previous caveats about the small numbers involved here apply even more strongly as smaller groups of items are addressed.

Total Depression Scores by Parental Report

A series of regression analyses similar to those conducted with the child interview data failed to find any effect of the child's age at interview or age at episode on the rates of symptoms in dysphoric episodes for either the boys or the girls, according to their parents' reports. Thus it appears that at whatever age a dysphoric episode occurred, similar rates of symptoms were recalled by the parents.

Depression Subscale Scores by Parental Report

The lack of association between age and symptom rates was apparent throughout the different subscales.

Discussion

Episodes of dysphoria (persistent low mood or anhedonia) were reported as occurring earlier by those interviewed between the ages of 16 and 18 than by those interviewed either at younger or older ages. The 16- to 18-year-olds also reported more episodes of dysphoria than the other groups. Two possible explanations for this effect spring to mind: First, cohort effects might have been operating (Klerman, 1988), such that children of different ages at the time of entry into this study had been subjected to differences in their lives that affected the probability of their having experienced a dysphoric episode. However, the interviewing for this study took place over two years; so when considering any particular birth cohort, they could have fallen into either of two of the interview age groups. Thus, only a rather strong cohort effect would be expected to be demonstrable in these data, and there is no reason to suppose the presence of such an effect. Changes in symptom rates with age have also been documented in longitudinal community studies (Rutter et al., 1976), thus strongly implicating a developmental process. Therefore, it can be argued that develop-

TABLE 4. *Effects of Age at Interview and Age at Worst Dysphoric Episode on Total Symptom Scores by Sex and Interviewee*

	(1) Age at Episode		(2) Age at Interview		Interaction (1) × (2)	
	F	p	F	p	F	p
Girls						
Self-reports (N = 54)	11.49	0.001	9.56	0.003	10.09	0.003
Parent-reports (N = 34)	1.03	0.319	0.88	0.356	1.39	0.248
Boys						
Self-reports (N = 34)	0.37	0.545	0.00	0.981	0.11	0.740
Parent-reports (N = 36)	1.24	0.276	0.02	0.879	0.58	0.452

mental changes in the children themselves were the most likely cause of the effects of age at interview on recall. Consider the example of a 10-year-old boy who had a depressive episode at the age of 9; the data indicate that it makes a difference to his description of this episode whether he was interviewed about it at the age of 10 or 16. A number of possible reasons for these differences exist. Most obviously, the passage of time could lead to his forgetting the episode or some aspects of it. However, if an episode is remembered, it is likely that more symptoms will be recalled by subjects in midadolescence. Improved temporal abilities and concerns with identity might lead such individuals to reclassify earlier experiences to conform to their current view of themselves as being a happy or unhappy person. It might be hypothesized that the transition into late adolescence and early adulthood is associated with increased affectual stability, which leads to a further reinterpretation of earlier experiences and a reduction in the reporting of early dysphoric episodes. The impact of the biological changes that occur during adolescence also needs to be addressed in relation to these findings. It is possible that, with increasing cognitive maturity, the 16-year-old may be better able to describe his mental state at the age of 9 than he was at the time or a year later. Younger children have particular problems with dating and ordering events (Kovacs, 1986), and it could be that a better history of the time course of a disorder might be available from an older historian, even though s/he was farther in time from the events being described. Longitudinal studies from prepuberty to young adulthood will be required if these possibilities are to be examined in detail.

The implication of seeing this effect as a result of development is that the effects of age at interview must be regarded as being a methodological problem, since children in the 16 to 18 group were likely to report more dysphoria and to report its onset as being earlier than children interviewed at other ages or young adults. Thus, when considering studies of rates of depression, the age at which the diagnostic assessment was made needs to be taken into account.

Furthermore, since the same pattern of effects was found in the parental reports, it seems that something is happening

TABLE 5. *Effects of Age at Interview and Age at Worst Dysphoric Episode on Depression Subarea Symptom Scores for Girls*

	(1) Age at Episode		(2) Age at Interview		Interaction (1) × (2)	
	F	p	F	p	F	p
Vegetative symptoms	10.73	0.002	5.30	0.026	7.46	0.009
Melancholia symptoms	1.67	0.203	1.96	0.168	1.44	0.236
Other symptoms	4.63	0.031	5.25	0.027	4.93	0.031

that affects others besides the child. If adolescence is a time of increased dysphoria, then it is perhaps not surprising that the adolescent views his or her past more negatively and is therefore prone to recall and report periods of unhappiness in the more distant past. At the same time, if the young person's family is dealing with an individual who has a tendency to be miserable, it may be that the family is sensitized to recalling periods of unhappiness in the past. Ultimately, these issues can only be sorted out in longitudinal studies, but they need to be taken into account, where possible, in cross-sectional studies as well.

Turning to the effects of age on the occurrence of other depressive symptoms during a dysphoric episode, once again considering the effects of the age at which the child was interviewed proved important, since ignoring it tended to obscure the relationship between age at episode and the level of symptomatology. Increasing age was associated with more severely symptomatic dysphoric episodes but only in the girls and only in their reports about themselves. However, in this group, there was a marked effect, with later worst episodes being more highly symptomatic than earlier ones. A pattern such as this could have been due simply to forgetting were it not for the fact that when the age at which the child was interviewed was taken into account, those interviewed later reported more symptoms even in their early episodes than those interviewed before the age of 16. In other words, the older children were remembering more symptoms in their dysphoric episodes than the younger children, even though those episodes were farther away in time. The level of this difference (for example, of about two symptoms at the age of 12) is sufficient to suggest that such an effect might be important in affecting the rates at which depressive disorders are reported at different ages, since the presence of disorder is usually operationalized as some function of the number of symptoms.

Ryan et al. (1987) found no differences in the overall symptom scores of their groups of prepubertal and adolescent children, but all of their subjects had been referred to a child and adolescent depression specialist clinic and were thus highly selected for the severity of their depressions. Inspection of the symptom rates reported in their paper indicates that these children were very severely disturbed, and 15% required hospitalization at the time of initial evaluation or shortly thereafter. The subjects in the present study were selected on the basis of their parent's status, rather than on the basis of their own symptomatology. The availability of data about the full range of depressive symptoms depended only upon the subjects reporting that they had had

an episode of dysphoria at some time. The findings are also in line with other epidemiological data that suggest that in the general population there is an increase in depressive symptomatology in the adolescent period (Rutter et al., 1976; Angold, 1988). Ryan and his colleagues also present only combined analyses for boys and girls, and this may have obscured age trends that the authors found to be confined to the girls. Furthermore, the K-SADS requires that a clinician make summary ratings of reports from both the child and a parent (with the latter being interviewed first). Since no age effects in the parent data were found, this procedure is also likely to have obscured age effects that the authors would expect to be specific to self-reports of symptoms.

Therefore, it is suggested that, as far as possible, future studies using lifetime diagnostic interviews should take steps either to interview children at the same age when comparing different groups, or to control for the child's age at interview in their analyses. Almost all such studies will have data on the child's age at interview available, and so the latter strategy seems to be quite practicable. Such an approach would also serve to test the present findings.

As far as the various groups of depressive symptoms were concerned, the effects of age were not equally distributed. The vegetative symptoms were most strongly affected, whereas most of the other areas showed similar but weaker effects. Data from polysomnographic studies and studies with the dexamethazone suppression test suggest that a subject's age affects the pattern of association of sleep disturbance and cortisol secretion with depression (Puig-Antich, 1986), and so changes in the rates of symptoms in this area might be expected. These findings also fit in with Ryan et al.'s (1987) findings that adolescent depressives showed more hypersomnia and weight change. On the other hand, the group of items derived from the *DSM-III* criteria for melancholia (but excluding early morning waking and anorexia/weight loss, which were included in the group of vegetative symptoms) showed no signs of changes with age.

The level of symptomatology was unrelated to age in the boys' self-reports and in the parents' reports for both boys and girls. This finding is a further reflection of the higher level of agreement in the reporting of depressive symptoms between boys and their parents than between girls and their parents that has been noted previously (Angold et al., 1987).

That the boys and girls differ in the effects of age on their self-reports is not surprising given that it is during adolescence that the female preponderance of depression emerges. It seems that a preponderance of depressive symptoms in girls is being observed in general, since many of those who had the symptom of dysphoria did not qualify for a *DSM-III* diagnosis of depression. The present findings are also quite consistent with the previously reported increased occurrence of weight loss and insomnia in the older subgroup of children who were suffering from *DSM-III* MDD (Weissman et al. 1987a). This suggests that at least some of the age-related changes in symptom patterns might be generalized to subclinical episodes of dysphoria as well as full-blown depressions. However, detailed work in larger samples and particularly population-based samples is needed to examine this hypothesis directly. The authors have previ-

ously characterized parental interview reports of their children's affective status as being relatively insensitive, and the absence of any effect of the child's age on the parental reports of depressive symptoms also fits this description.

Overall, the implication is that reports of depressive symptomatology from boys, girls, and their parents may show different patterns of association with risk factors (such as age). At present, therefore, it would seem to be appropriate to analyze data from different informants separately and for boys and girls separately in the first instance. Combining reports from different informants and for boys and girls may result in investigators missing important effects.

There are a number of methodological problems with the design of this study for addressing age change in depressive symptoms: first, the data were cross-sectional (though a 2-year follow-up has now been conducted); second, only subjects with dysphoria were asked about other depressive symptoms, which might have affected the results of the analyses of symptom scores; and third, the subjects were a mixed group of children of depressed and nondepressed probands. It is quite possible that different processes might be operating in these two groups, but the numbers available did not allow us to analyze them separately. For all of these reasons, additional and especially longitudinal studies of more homogeneous populations of children and adolescents are needed.

A more difficult problem is posed by the change in reported symptom rates with age and age at interview, as far as diagnostic criteria are concerned. It is not known whether the less symptomatic dysphoric episodes reported by the younger children have different implications for the occurrence of later depressions from the more symptomatic dysphoric episodes reported by older children. In answering this question, follow-up studies will be important, but the few studies that are available to date have not directly addressed this issue (Eastgate and Gilmour, 1984; Kovacs et al., 1984a, b; Garber et al., 1988). The children and parents reported on here have now been reinterviewed 2 years later, and analyses of these data should shed additional light on the problem.

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