Separation Anxiety and Overanxious Disorders: Relations to Age and Level of Psychosocial Maturity

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ABSTRACT

Objective: To study the developmental underpinnings of age trends in the prevalence of separation anxiety disorder (SAD) and overanxious disorder (OAD) in children and adolescents. Method: The sample consisted of 118 children and adolescents (aged 8–18 years) with SAD or OAD, who were referred to an outpatient psychiatric clinic. Anxiety disorders were assessed with Silverman and Nelles’ Anxiety Disorders Interview Schedule for Children; level of psychosocial development was conceptualized and assessed by means of Jane Loevinger’s model and measure of ego development. Logistic regression analyses were applied to study the extent to which age and level of ego development were related to the presence of SAD or OAD. Results: Level of ego development was the strongest predictor of group membership (SAD versus OAD). Although age was a strong predictor as well, the age effect became insignificant after ego level had been entered into the regression equation. As predicted, SAD was related primarily to the Impulsive ego level, whereas OAD was related mostly to the Conformist ego level. The comorbid condition (SAD and OAD) fell squarely in between the 2 “pure” groups, both in terms of age and ego level. The results were controlled for possibly confounding variables, such as gender, IQ, and socioeconomic status. Conclusions: The presence of SAD and OAD appears to be related to specific levels of psychosocial maturity, irrespective of age. J. Am. Acad. Child Adolesc. Psychiatry, 1999, 38(8):1000–1007. Key Words: separation anxiety disorder, overanxious disorder, psychosocial, development.

This study presents a developmental perspective on the prevalence of anxiety disorders. Evidence indicates that the prevalence of the different anxiety disorders varies systematically with age. At the same time, children or adolescents of the same age may present with different anxiety disorders. It will be argued that both sets of differences—between and within age cohorts—are due to differences in psychosocial maturity.

The question addressed is whether the presence of a particular type of anxiety disorder may be related to a particular stage of psychosocial development. This question was studied with regard to 2 of the most prevalent and debilitating anxiety disorders in childhood and adolescence—separation anxiety disorder (SAD) and overanxious disorder (OAD)—in a cohort of children and adolescents referred to an outpatient psychiatric clinic.

Prevalence studies on community and clinical samples indicate that SAD is more prevalent in childhood, whereas OAD is more prevalent in adolescence (e.g., Kashani and Orvaschel, 1990; Last et al., 1987). A comparison of findings of studies conducted with different age cohorts yields a similar crossover of the prevalence rates for SAD and OAD. Costello et al. (1988) studied 7- to 11-year-old children receiving pediatric care and found SAD to be more prevalent than OAD. In contrast, Kashani and Orvaschel (1988) studied 14- to 16-year-old adolescents and found OAD to be more prevalent than SAD.

The shift from a relatively high prevalence of SAD in childhood to a relatively high prevalence of OAD in
adolescence was observed also within the same population. As part of the Dunedin longitudinal study of New Zealand children, Anderson et al. (1987) reported a prevalence of 3.5% for SAD and 2.9% for OAD when the children were 11 years old. Four years later, when the children were 15 years old, the relative preponderance of SAD and OAD had been reversed to a prevalence of 2% for SAD and 5.9% for OAD (McGee et al., 1990). A reanalysis of the same data yielded similar age trends but slightly different prevalence rates (McGee et al., 1992).

In other words, the prevalence of SAD decreases with increasing age, whereas the prevalence of OAD increases with age. These changes in the relative prevalence of SAD and OAD are mirrored by similar differences in the average age at intake. At time of intake, individuals with SAD are generally younger than those with OAD (e.g., Last et al., 1987).

The studies cited were fairly diverse with respect to the samples studied and methods used. Yet, irrespective of the specific methodology, the results converged on a common age pattern. Just one study reported divergent findings, but only with respect to data obtained from the parents (Costello et al., 1988). Results obtained with the child interview were consistent with the overall age pattern.

Some authors have relabeled the observed age pattern in terms of developmental differences. Kashani and Orvaschel (1988) noted that the age trends for SAD and OAD “...may suggest developmental differences in the prevalence of specific types of anxiety disorders” (p. 963). They did not, however, explain what type of development they had in mind. Last et al. (1987) suggested that the age-related shift might be due to the onset of puberty: “as SAD children grow older and approach or enter puberty, the onset of OAD may be likely” (p. 530). It was not explained, however, why entering puberty would affect the prevalence rates for SAD and OAD.

It has been argued that anxiety disorders may be traced back to early fears and worries (Miller et al., 1990; Wenar, 1990). SAD in particular is frequently related to the normally occurring separation anxiety in the young child (see Crowell and Waters, 1990). However, this assumption cannot explain why full-blown SAD often does not occur until middle or late childhood. Moreover, early fears or worries cannot explain why a switch from SAD to OAD should occur during the early adolescent period.

Anxiety disorders in children and adolescents may be related to the continuing development of regular fears and worries (Marks, 1987; Silverman et al., 1995). This argument appears particularly well-suited for the phobia: there are close conceptual and empirical links between the development of regular fears on the one hand and phobic fears on the other hand (e.g., Wenar, 1990). In contrast, the nonphobic anxiety disorders, such as SAD and OAD, cannot readily be tied to a specific set of regular fears. SAD and OAD are not limited to specific fears of external stimuli, but represent more pervasive and internal mental states.

Westenberg et al. (in press) argued that the nonphobic anxiety disorders might be related to one’s general level of psychosocial development. It is proposed that Loewinger’s (1976, 1993) theory of ego development represents a model of the normal developmental course that might be associated with anxiety disorders such as SAD and OAD.

In this model, “ego” refers to a central, organizing activity and represents the general frame of reference through which we perceive and structure our experiences. The dimension of ego development consists of 3 interrelated facets—impulse control, interpersonal style, and conscious preoccupations—and is marked by 9 qualitatively different milestones: Presocial, Impulsive, Self-Protective, Conformist, Self-Aware, Conscientious, Individualistic, Autonomous, and Integrated level of ego development. Conceptual and empirical parallels may be noted with alternative concepts of psychosocial development (Krebs and van Hesteren, 1994), such as Kohlberg’s model of moral development (Snarey, 1998). Ego level is assessed by means of the Washington University Sentence Completion Test (Loewinger, 1985, 1998), a widely used and validated instrument (see Carlson and Westenberg, 1998; Cohn, 1991; Hauser, 1976; Westenberg et al., 1998a).

Loewinger’s model presumes that there are large individual differences in the timing, rate, and extent of ego development. Consequently, Loewinger (1976) postulated that “[e]go development is at once a developmental sequence and a dimension of individual differences in any age cohort” (p. 13). In other words, developmental differences between age cohorts and individual differences within age cohorts are attributed to differential maturity, a claim supported by numerous studies (e.g., Borst and Noam, 1993; Westenberg and Block, 1993).

Looking at the conceptual and empirical parallels between the ego development sequence on the one hand and anxiety and its disorders on the other hand, Westenberg et al. (in press) arrived at a 4-level model of anxiety
disorders: SAD would be related to the Impulsive level, avoidant disorder (AD) to the Self-Protective level, OAD to the Conformist ego level, and panic disorder (PD) to the Self-Aware ego level. Because of their very low prevalence, AD and PD are not considered here.

The clinical features of SAD fit the general description of the Impulsive level. The Impulsive person is characterized by a combination of impulsivity, vulnerability, and dependency. Impulsive persons are preoccupied with aggression in others and self, and they depend on others for protection, care, and guidance generally. The frustration of dependency needs arouses strong negative emotions and is met with help-seeking. Similarly, the worst fear of the SAD patient is to lose the care and protection provided by the major attachment figures. SAD patients may also seem concerned about the well-being of the parent, but Crowell and Waters (1990) noted that “[t]his anxiety seems particularly related to the concern that the attachment figure will disappear, as opposed to being a concern for the parent’s well-being” (p. 216). In sum, SAD appears to represent an extreme version of key features of the Impulsive level, in feeling extremely vulnerable and displaying excessive dependency.

The clinical features of OAD fit the general description of the Conformist level. The Conformist person follows socially desirable standards for appearance, behavior, and achievements. Conformity cannot be equated with conventionality, because Conformists may conform to unconventional standards. Conformist individuals try to live up to expectations, and they blame themselves if they fail to do so. In the same way, persons with OAD are worried about the appropriateness of their own behavior and the adequacy of their own achievements. They are “overly anxious about competence in a number of areas and, especially, about what others will think of [their] performance” (American Psychiatric Association [APA], 1987, p. 63), and if they fail, they have no one but themselves to blame. In sum, OAD appears to represent an extreme version of the key features of the Conformist level, in that individuals with OAD are excessively concerned about the adequacy of their own performance and constantly focus on their own shortcomings.

The conceptual overlap between SAD and OAD on the one hand and the Impulsive and Conformist ego levels on the other hand is supported by empirical parallels. For example, the observed age trends for SAD and OAD are mirrored by similar age data for the Impulsive and Conformist ego levels (Cohn, 1998; Westenberg et al., 1998b).

The purpose of the article is 4-fold: first, to test whether age predicts the distinction between SAD and OAD; second, to study the relationship between SAD, OAD, and level of ego development and to test whether ego level surpasses age in predicting SAD and OAD; third, to test whether the comorbid condition of SAD and OAD would fall in between the 2 pure groups, both in terms of age and developmental maturity; and fourth, to study the role of possibly confounding variables, such as gender, IQ, and socioeconomic status (SES).

METHOD

Subjects

The population consisted of 464 children and adolescents (301 males, 163 females; 8–18 years of age) consecutively referred to the outpatient clinic of the Academic Center for Child and Adolescent Psychiatry Curium (Oegstgeest, the Netherlands). Patients with pervasive developmental disorder, psychotic disorder, or severe hearing impairments were not included, nor were patients with an IQ below 70. The average age was 12.11 years (SD = 2.71).

Of the 464 subjects, 180 (38.8%) presented with at least one anxiety disorder (96 males, 84 females). Of these, 53 had phobias, 71 had nonphobic anxiety disorders, and 56 had both. SAD and OAD occurred most frequently: 118 cases (65.6%) had SAD and/or OAD. Of these, 46 had SAD, 59 had OAD, and 13 had both (59 males and 59 females). AD or PD occurred in 24 cases, of which 15 cases occurred in conjunction with SAD and/or OAD. The 9 pure AD and PD cases and the 53 cases with phobias only were not considered in the analyses.

Procedures

During the intake phase, all patients and their parents were subjected to a set of standardized tests and procedures (Trefters et al., 1990). The 2 core procedures of the present study (i.e., the interview for the classification of anxiety disorders and the sentence completion test for ego development) were administered to patients aged 8 years and older. The following instruments were independently administered and scored by clinical psychologists and research assistants, who were blind with respect to the hypotheses of the study.

Anxiety disorders were assessed with the DSM-III-R-based Anxiety Disorders Interview Schedule for Children (ADIS-C) (Silverman and Nelles, 1988). The DSM-IV ADIS was not yet available at the time of this study. The ADIS-C, a semistructured interview administered to the child or adolescent, was administered by a trained clinical psychologist. The intrater and test–retest reliability of the ADIS are satisfactory, both at the level of individual symptoms and at the level of classifications (Silverman, 1991; Silverman and Eisen, 1992; Silverman and Rabian, 1995).

Level of ego development was assessed with the child and adolescent version of the Washington University Sentence Completion Test, the SCT-Y (Westenberg et al., 1998c). The SCT-Y consists of 32 sentence stems. For each stem, item responses were typed out, made anonymous, and randomized across subjects. Responses were rated independently by 2 experienced raters on the basis of a detailed scoring manual. Responses were rated on a 9-point scale, according to level of ego devel-
opment. Interrater agreement was satisfactory: 78% to 91% exact agreement. In case of disagreement, the raters discussed and resolved any differences to reach a "compromised" rating. After all responses were rated, they were re-scored to the respective SCT-Y protocols to yield a profile of 52 independent item ratings for each participant. A Total Protocol Rating (TPR) was derived from the cumulative frequency distribution of the item ratings on the basis of previously defined cutoff points. (See Hy and Loening, 1996, for a more detailed description of the scoring procedures.) The TPR was not computed for participants who completed less than 22 sentence stems. Of SAD and OAD cases, 5 had not completed a sufficient number of SCT-Y items.

Intelligence was measured with the WISC-R. The WISC-III was not available in a Dutch translation. Three WISC-R scores were used in this study: Verbal IQ (VIQ), Performance IQ (PIQ), and Full Scale IQ (FSIQ). The WISC-R was administered during the intake phase for the majority of the participants. For 10 cases, FSIQ scores— but not VIQ or PIQ scores—were provided by the school. FSIQ scores were unavailable for one of the patients with SAD or OAD.

Two indicators of SES were used: the caretakers' educational level and the economic status of the family. According to the guidelines of the Dutch Bureau of Census, the educational level of the primary caretakers was measured on a 4-level scale: (1) elementary school only, (2) lower, (3) middle, and (4) upper secondary/vocational education. The second indicator, economic status of the family, was based on information linked to the zip code and was provided by the Bureau of Census and the Telephone Company. A 5-level code was applied: (1) lowest 10% of Dutch population, (2) next 20%, (3) middle 40%, (4) next 20%, and (5) upper 10%.

Data Analysis

Relatively few cases presented with the comorbid condition of SAD and OAD. Therefore, the first set of analyses was aimed at the selection of the best predictors of the distinction between the groups with SAD and OAD only (i.e., group membership). Logistic regression analyses were conducted following the hierarchical principle of backward stepwise elimination, with a maximum p value of .01 for the likelihood ratio test. It was first studied whether the interaction terms could be eliminated. It was then studied whether any of the lower-order variables could be eliminated, with the provision that variables which were part of a significant interaction term would not be eliminated (see Kleinbaum, 1994). The difference between the log likelihood statistics for the complete model (all terms included) and the final model (selected terms only) was used as a measure of the extent to which the final model maintained the same level of predictive power compared with the complete model. This difference is a $\chi^2$ statistic, with the difference between the number of terms of both models as the $df$ ($p < .01$).

Because of the large number of predictors relative to the number of observations, the logistic regression analyses were applied in 3 steps. At the first step it was investigated to what extent age, gender, both indicators of SES, and the interactions between age and the other variables could predict group membership. At the second step it was studied to what extent the 3 IQ scores contributed to an improved prediction of group membership, in addition to the best predictor(s) selected at the first step. At the third step it was investigated whether ego level scores (TPR) would contribute to an even better prediction of group membership, in addition to the best predictor(s) selected at the previous step.

After each step, the predictive value of the selected variable(s) was studied in relation to the 3 diagnostic categories (SAD, OAD, and SAD/OAD) by means of a univariate analysis of variance (ANOVA). In case of a significant F value, the ANOVA was followed by Scheffé post hoc analyses to test for significant mean differences among the 3 groups. Finally, $\chi^2$ analysis was conducted to study the expected relation between a specific type of anxiety disorder on the one hand and a particular level of ego development on the other hand.

RESULTS

In the first series of logistic regression analyses, we investigated to what extent age, gender, and both indicators of SES could predict group membership (SAD versus OAD). The age by gender and age by SES interaction terms did not make a significant contribution to the prediction of group membership. The backward stepwise elimination analysis eliminated gender and SES and left age as the only predictor of group membership (odds ratio [OR] = 2.05, 95% confidence interval [CI] = 1.52–2.70). The odds of SAD decrease while the odds of OAD increase with age. The difference between the log likelihood statistics of the complete model (age, gender, SES, and interaction terms) and the final model (age only) was statistically insignificant ($\chi^2_6 = 7.35$, not significant [NS]). A one-way ANOVA for the 3 diagnostic categories yielded a significant effect for age ($F_{2,115} = 49.73, p < .000$). The Scheffé procedure demonstrated that all 3 groups were statistically different from one another; the comorbid group fell squarely in between the 2 pure groups (Table 1).

### TABLE 1

<table>
<thead>
<tr>
<th>Anxiety Disorder</th>
<th>Age (yr)</th>
<th>FSIQ</th>
<th>Ego Level (TPR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAD</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>10.28</td>
<td>93.72</td>
<td>2.18</td>
</tr>
<tr>
<td>SD</td>
<td>1.80</td>
<td>11.53</td>
<td>0.39</td>
</tr>
<tr>
<td>No.</td>
<td>46</td>
<td>46</td>
<td>45</td>
</tr>
<tr>
<td>SAD &amp; OAD</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>12.35</td>
<td>98.31</td>
<td>2.69</td>
</tr>
<tr>
<td>SD</td>
<td>2.77</td>
<td>18.18</td>
<td>0.75</td>
</tr>
<tr>
<td>No.</td>
<td>13</td>
<td>13</td>
<td>13</td>
</tr>
<tr>
<td>OAD</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>14.54</td>
<td>107.64</td>
<td>3.76</td>
</tr>
<tr>
<td>SD</td>
<td>2.30</td>
<td>12.81</td>
<td>0.77</td>
</tr>
<tr>
<td>No.</td>
<td>59</td>
<td>58</td>
<td>55</td>
</tr>
</tbody>
</table>

| All              |          |      |                 |
| Mean             | 12.64    | 101.13| 3.01           |
| SD               | 2.94     | 14.50| 0.99            |
| No.              | 118      | 117  | 113             |

Note: SAD = separation anxiety disorder; OAD = overanxious disorder; FSIQ = Full Scale IQ; TPR = Total Protocol Rating of ego level (on the scale of ego development, 2 = Impulsive, 3 = Self-Protective, 4 = Conformist).
In the second series of logistic regression analyses, we investigated to what extent the 3 intelligence scores could predict group membership, in addition to age. The age × VIQ, age × PIQ, and age × FSIQ interaction terms did not make a significant contribution to the prediction of group membership. The backward stepwise elimination analysis eliminated VIQ and PIQ and left age and FSIQ as the only predictors of group membership (age: OR = 2.47, 95% CI = 1.68–3.63; FSIQ; OR = 1.08, 95% CI = 1.02–1.15). The difference between the log likelihood statistics of the complete and the final model was statistically insignificant ($\chi^2 = 10.51$, NS). A one-way ANOVA for the 3 diagnostic categories yielded a significant effect for FSIQ ($F_{2,184} = 15.02, p < .000$). The Scheffé procedure demonstrated that the SAD and OAD groups were significantly different from one another. The comorbid group fell squarely in between but was not significantly different from the 2 pure groups (Table 1).

The third and last set of logistic regression analyses introduced the ego level scores (TPR) as the third predictor, next to age and FSIQ. The age × TPR and FSIQ × TPR interaction terms did not make a significant contribution to the prediction of group membership. The backward stepwise analysis eliminated age and FSIQ, leaving TPR as the only predictor of group membership (OR = 33.45, 95% CI = 9.35–119.68). The difference between the log likelihood statistics of the complete model and the simpler model (TPR only) is statistically insignificant ($\chi^2 = 10.60$, NS). A one-way ANOVA for the 3 diagnostic categories yielded a highly significant effect for TPR ($F_{2,184} = 77.40, p < .000$), and the Scheffé procedure demonstrated significant differences among the 3 groups (Table 1). Again, the comorbid group fell squarely in between.

Results presented in Table 2 indicate that SAD was associated predominantly with the Impulsive ego level, whereas OAD was associated predominantly with the Conformist ego level. Taking ego level base rates into account, the comorbid condition was most prevalent at the Self-Protective ego level. The association between anxiety disorder and ego level was highly significant ($\chi^2 = 71.96, p < .000$).

**TABLE 2**

<table>
<thead>
<tr>
<th></th>
<th>E2</th>
<th>E3</th>
<th>E4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SAD</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Row %</td>
<td>82.2</td>
<td>17.8</td>
<td>—</td>
</tr>
<tr>
<td>Column %</td>
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<td>28.6</td>
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</tr>
<tr>
<td>No.</td>
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<td>8</td>
<td></td>
</tr>
<tr>
<td><strong>SAD &amp; OAD</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Row %</td>
<td>46.2</td>
<td>38.5</td>
<td>15.4</td>
</tr>
<tr>
<td>Column %</td>
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<td>17.9</td>
<td>5.1</td>
</tr>
<tr>
<td>No.</td>
<td>6</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td><strong>OAD</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Row %</td>
<td>5.5</td>
<td>27.3</td>
<td>67.3</td>
</tr>
<tr>
<td>Column %</td>
<td>6.3</td>
<td>53.6</td>
<td>94.9</td>
</tr>
<tr>
<td>No.</td>
<td>3</td>
<td>15</td>
<td>37</td>
</tr>
<tr>
<td><strong>All</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>%</td>
<td>40.7</td>
<td>24.8</td>
<td>34.5</td>
</tr>
<tr>
<td>No.</td>
<td>46</td>
<td>28</td>
<td>39</td>
</tr>
</tbody>
</table>

*Note: SAD = separation anxiety disorder; OAD = overanxious disorder.*

* E2 = Impulsive ego level.

* E3 = Self-Protective ego level.

* E4 = Conformist ego level.

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**DISCUSSION**

It has been argued time and again that the field of developmental psychopathology should move beyond age and look for more compelling developmental expla-

nations (e.g., Kazdin, 1989). This study was an attempt to explain age trends in the prevalence of anxiety disorders in terms of psychosocial maturity.

Consistent age trends were observed in the literature, but the statistical significance of these age trends was still unresolved. Our findings indicate a highly significant age difference for the presence of SAD versus OAD: children with SAD are younger compared with those with OAD. Furthermore, our findings indicate that this age difference for OAD and SAD can be attributed to differences in psychosocial maturity. Even within the same age cohort, the presence of SAD or OAD can be attributed to psychosocial maturity. Level of ego development was the strongest predictor of having either SAD or OAD. There was no gain in adding age, gender, IQ, or SES to the regression equation.

Specifically, SAD was related to the Impulsive level, and OAD was related to the Conformist level of ego development. This empirical finding is in line with the conceptual relations between SAD, OAD, and the Impulsive and Conformist ego levels. It is argued that SAD and OAD represent extremely anxious versions of normal levels of ego development.

An implication of the present findings is that the "appropriateness" of SAD- and OAD-like concerns should...
not be evaluated in terms of age, but should be evaluated with respect to level of psychosocial development. This appears consistent with the DSM-IV criterion (APA, 1994) that separation anxiety must be “beyond that which is expected for the individual’s developmental level” (p. 110) in order to qualify for SAD. However, the underlying assumption that separation anxiety is appropriate only until about the third year of life (see Crowell and Waters, 1990) might have to be reconsidered.

At least one study indicated that separation anxiety remains a crucial concern throughout childhood. Halpern et al. (1990) found separation anxiety to be a persistent concern up to age 11 years, with a sharp decline in separation anxiety at age 14 to 15 years. This pattern is consistent with the age data for both SAD and the Impulsive ego level, and it suggests that the normal developmental period for separation anxiety is not limited to the second year of life. Separation anxiety may be most noticeable during the second year of life, but it may linger internally for a much longer period.

It has been demonstrated that SAD may develop at any time during the first decade and even in the second decade of life, particularly in response to separation or loss experiences (e.g., death of a relative or pet, hospitalization of the child or parent, a change of schools or a move to another neighborhood) (APA, 1994). Considering the present findings and those of Halpern et al. (1990), SAD may be seen as the natural response of the Impulsive person to particular life stresses, particularly prolonged or traumatic separation experiences.

Even though SAD and OAD are related meaningfully to level of ego development, the latter cannot be seen as the single causal agent. A particular ego level may predispose the person to develop a particular type of anxiety disorder, but having an anxiety disorder in the first place may be due to (a combination of) biological factors, child-rearing strategies, or environmental stresses (see Rierdan, 1998).

The finding that the comorbid group (SAD and OAD) fell squarely in between the pure groups suggests the intriguing possibility that the comorbid condition represents the developmental transformation of SAD into OAD. As a result of continuing ego development, patients with SAD may over time be switching over to OAD. This possibility was anticipated by Last et al. (1987), who noted that “. . . as SAD children grow older . . . , the onset of OAD may be likely” (p. 530). In contrast, OAD is not expected to transform into SAD, because children and adolescents are generally expected to move up the ego development ladder, a conjecture supported by longitudinal research (e.g., Gfellner, 1986; Westenberg and Gjerde, 1999).

Several prospective investigations of anxiety disorders have been conducted, but only one of these presented detailed analyses needed to ascertain whether SAD may turn into OAD, but not vice versa. Although the numbers were rather small, results from the Cantwell and Baker (1989) 4-year follow-up study were consistent with the expected pattern: 44% of the SAD patients had developed OAD, whereas none of the OAD patients had developed SAD. Prospective studies, incorporating some measure of psychosocial development, will have to be conducted to study the possible transformation of SAD into OAD by means of the comorbid condition.

It may be argued that the exclusive reliance on the child’s perspective limits the generalizability of the present findings and that the present findings may not be replicated on the basis of parent data. As far as agreement between parent and child is concerned, Cantwell et al. (1997) reported good agreement for SAD but poor agreement for OAD. The latter finding is consistent with the finding that adolescents are “better” informants when it comes to internalizing disorders (e.g., Verhulst and van der Ende, 1992). In the absence of a “gold” standard for the assessment of anxiety disorders, child data are at least as reliable and valid as parent data.

SAD and OAD classifications in this study were based on DSM-III-R criteria; thus we must ask whether these classifications would also meet DSM-IV criteria. First, the DSM-IV merged OAD with GAD. However, the core criteria and the clinical features of OAD are very similar to those in children with GAD. The specific worries of the child or adolescent with GAD are very similar to the worries previously associated with OAD (see APA, 1994). In a direct comparison, Tracey et al. (1997) reported a large overlap between cases with OAD and cases with GAD and noted that “DSM-IV GAD criteria are identifying the same sample as the DSM-III-R OAD criteria” (p. 409).

A novelty in the DSM-IV criteria—common to SAD and OAD—concerns the added criterion of “clinically significant distress or functional impairment in daily life.” The setting for the present study represents an end-of-the-line facility for seriously troubled youngsters. Serious suffering and impairment are preconditions for a referral to this setting. There is no doubt that the SAD

J. AM. ACAD. CHILD ADOLESC. PSYCHIATRY, 38:8, AUGUST 1999
and OAD classifications used in this study represent serious and debilitating disorders and did not represent subclinical or subsyndromal states.

Clinical Implications

Distinguishing between age and psychosocial maturity may contribute to a better understanding of individual patients with an anxiety disorder. Anxiety disorders should not be evaluated in terms of age or age-appropriateness, but rather in terms of psychosocial maturity. The therapist should be responsive to the patient’s developmental level in the selection and application of the therapeutic procedure, as was also argued by Dill and Noam (1990) and Kirshner (1988). The present findings may prove relevant to the discussion about developmentally appropriate psychotherapy for children and adolescents.

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Lack of Long-Term Effects of In Utero Exposure to Zidovudine Among Uninfected Children Born to HIV-Infected Women.

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Context: With the success of zidovudine chemoprophylaxis for prevention of perinatal transmission of the human immunodeficiency virus (HIV), an increasing number of HIV-exposed but uninfected children will have in utero exposure to zidovudine and other anti-retroviral drugs. Objective: To evaluate the long-term effects of in utero exposure to zidovudine vs placebo among a randomized cohort of uninfected children. Design: Prospective cohort study based on data collected during Pediatric AIDS Clinical Trials Group Protocol 076, a perinatal zidovudine HIV prevention trial, and Protocol 219, a long-term observational protocol. Setting: Pediatric research clinics in the United States. Patients: Two hundred thirty-four uninfected children born to 230 HIV-infected women enrolled in Protocol 076 and followed up through February 28, 1997, in Protocol 219 (122 in the zidovudine group and 112 in the placebo group).

Main Outcome Measures: Physical growth measurements, immunologic parameters, cognitive/developmental function, occurrence of neoplasms, and mortality data assessed every 6 months for children younger than 24 months and yearly thereafter or as clinically indicated. Baseline echocardiogram and funduscopic evaluations were collected before 36 months of age. Results: Median age of children at time of last follow-up visit was 4.2 years (range, 3.2-5.6 years). There were no significant differences between children exposed to zidovudine and those who received placebo in terms of sequential data on lymphocyte subsets; weight, height, and head circumference z scores; and cognitive/developmental function. No deaths or malignancies occurred. Two children (both exposed to zidovudine) are being followed up for abnormal, unexplained ophthalmic findings. One child exposed to zidovudine had a mild cardiomyopathy on echocardiogram at the age of 48 months; the child is clinically asymptomatic. Conclusions: No adverse effects were observed in HIV-uninfected children with in utero and neonatal exposure to zidovudine followed up for as long as 5.6 years. Continued prospective evaluations of children born to HIV-infected women who are exposed to antiretroviral or immunotherapeutic agents are critical to assess the long-term safety of interventions that prevent perinatal HIV transmission. JAMA 1999;281:151-157. Copyright 1999, American Medical Association.