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CHAPTER 12

Anxiety in childhood

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Theories of origin

Much of child psychiatry practice revolves around anxiety and yet academic research workers have given the subject of anxiety relatively short shrift. There is, therefore, more in the way of speculation than a coherent body of knowledge and up-to-date theory about origins, correlates and consequences (1). As was previously the case, child psychotherapists still give great weight to Freud's proposal that anxiety has an important role in the development of symptoms, these being a mechanism by which the individual displaces, reduces or avoids anxiety. Freud distinguished between 'objective' anxiety, which is specific to the object or situation and 'neurotic' anxiety, which is out of all proportion to the real danger and is related to unconscious conflicts. Subsequently Bowlby (2) contended that objective anxiety was rather narrowly conceived as it focused only on the presence of demonstrable objective circumstances and ignored the possibility that the *absence* of other conditions, such as attachment, might be equally anxiety provoking. This is particularly applicable to children. In contrast, learning theorists describe anxiety as a hypothetical construct that mediates escape and avoidance responses (3). Anxiety is associated with unpleasant psychological and subjective feelings. When the condition is severe, the subject may feel that death is imminent. Other general symptoms include insomnia, nightmares and problems of concentration and memory. Thus responses which reduce anxiety, such as avoidance, are strengthened. These responses may be maladaptive and affect behavior and social interactions to the extent of interfering with the child's day-to-day normal functioning. In addition they may cause him to anticipate some unpleasant occurrence.

Anxiety has two components (4): the psychological component is compounded of unreasonable feelings of fear, tension and of panic; the bodily component comprises somatic or autonomic manifestations. Many of the somatic features have origins in increased catecholamine excretion which readily occurs in childhood. This may be the basis of the clinical observation that children 'somatize' their complaints more easily than adults.

Physical and physiological

In general, physical concomitants of anxiety in childhood have been little studied; nevertheless, clinical experience suggests that they are little different from those in adulthood. Anxiety is likely to affect almost every system: cardiac, with palpitations and tachycardia; gastrointestinal, with diarrhoea and vomiting and abdominal sensations (butterflies); urinary, with frequency and urgency of micturition; dermatological, with sweating; muscular, with tension headaches and tremor; and general autonomic, with dryness of the mouth, dizziness and fainting. Adults can appreciate the relationship of such symptoms to objective environmental stress or even psychosocial stress. However, in childhood, such symptoms are almost always experienced as nebulous and unpleasant. Most of these physical symptoms are the result of activity of the autonomic nervous system with increased catecholamine secretion. Again, until recently little work was done on the physiological correlates of anxiety in children and so, again, inferences have to be drawn from adult studies which are reviewed elsewhere in the book. These suggest that physiological changes occur in a wide variety of emotional states and that high physiological arousal and appropriate sensory input interact to produce such states of emotion as anxiety (see Chapters 7, 8 and 11).

The measurement of anxiety in children is also less well developed than in adulthood. Self rating questionnaires have been developed (5) but there are some doubts about their validity and also comments about superficiality. In addition it has been suggested that responses may be distorted due to lack of cooperation (6).

Pathological anxiety

In children, anxiety may be provoked by specific external factors giving rise to a range of situational phobias. Additionally, anxiety may be acquired or learned from chronically anxious parents (7). Not only will the child learn fears from parents, but the anxiety may also act as a stressor in the par-

ent/child relationship, thus perpetuating the child's anxieties. In addition, intra-psychic factors may give rise to anxiety.

Freudian theory has emphasized hidden internal factors which are repressed but which then emerge in a disguised symbolic form as neurotic symptoms (8). These defence mechanisms allow anxiety to be coped with. This gives rise to the Freudian (8) distinction, already alluded to, between normal anxiety about real dangers and neurotic anxiety. When confronted by stress children are particularly prone to develop neurotic symptoms and hence the attractiveness of Freudian explanations for the origins of such symptoms in childhood.

The important distinction between *state* and *trait* anxiety which has been well described by Tyrer (4) in relation to adults is equally applicable to children. State anxiety represents the anxious feelings a child has in relation to a specific circumstance, such as an examination; whereas trait anxiety refers to anxiety-prone children who have life-long sensitivity and an over-reaction to stress (1). The latter may be perceived as a personality trait or a temperamental attribute. However, as Hersov notes, although such a characteristic has roots in biological or genetic influences, it may also have a basis in environmental stress (9).

Physical disease and anxiety

Some of the features of physical disease may resemble somatic manifestations of anxiety. The non-specific symptomatology of any acute illness in childhood may give rise to misdiagnosis. This is also the case in those disorders which give rise to increased secretion of catecholamines; and in addition, thyrotoxicosis and hypoglycaemia may give rise to confusion. Equally, anxiety states with florid physical symptoms may be mistaken for physical disease.

A developmental perspective

Hersov (1) has written: 'fear is an inevitable and necessary emotion in everyday life'. Fears probably have a functional utility. However, some fears outlive their usefulness and their persistence may disrupt the child's capacity to adapt easily and successfully to the usual life stresses. Until about six to nine months of age it is uncommon for infants to show fear in the presence of strangers but at this point in time a fear of strangers or strange situation becomes evident (10). Anticipatory fears emerge about a year (11). Such fears

continue through the toddler years (12) and then decline (13). They are particularly evident when the child is not in a familiar setting nor in the company of its mother. A further peaking of fears in relation to strangers is in girls at the age of about 4 to 5 years (14).

Thus in early infancy fears are uncommon and usually related to actual events in the immediate environment. Another set of fears which become evident are fears of the dark and animals, which occur in the pre-school years. Specific insect phobias are also common at this age but they soon decline in incidence (15). As the child grows older, fantasy and imagination come to play a greater part and fears may become linked to possible future dangers, or there may be an apprehension about the harm that could stem from inner thoughts and an impulse to act out. In middle childhood there is a reduction of fears of animals (6) whereas fears concerning school increase across the primary school years. There is also a decrease in the fears of the tangible and immediate situations and an increase in fears of imaginary creatures of the dark, or of being alone and abandoned.

Bauer (17) reports that fears with imaginary themes decrease with age, with a parallel increase in frequency of objective fears involving bodily injury and physical danger. This may be related to changes in perception of reality with age and a greater separation of fantasy from reality in older children. However, social or situational phobias commonly begin in early adolescence and there is also an increase in anxieties concerning social relationships and personal identity (18).

Bamber (19) has categorised adolescent fears: the first category comprises fears concerning personal safety, injury and disease; the second comprises social fears. Between the age of 14 to 18 years, fears of animals, water, fire and darkness and of aggression decline. In late adolescence fears are more common in girls.

Parental separation and overprotection

Eisenberg (7) suggested that there may be a 'contagion of anxiety' which spreads from chronically anxious and dependent parents to their children. There is some support for this notion and this is complemented by some school refusers tending to be unduly dependent on their parents and staying at home excessively (20). Similarly there is evidence that some mothers tend to be overprotective (21) and the children respond to any threats of separation or to their security with anxiety. However, the notion that school phobia invariably has a basis in separation anxiety (22) has not been substantiated.

Classification

In childhood, anxiety is easy to recognise and yet surprisingly difficult to measure and classify. Children with pathological anxiety have, in the past, been lumped together in the broad categories of emotional and neurotic disorders. The cardinal feature which binds these neurotic disorders together is that the children suffer from subjective distress. Yet these broad categories are not sufficiently specific or circumscribed to allow a study of etiology, natural history, outcome and response to treatment.

Children with neurotic disorders are coded rather differently in the two major diagnostic systems, which are the Ninth International Classification of Diseases (ICD-9) and the Third Diagnostic and Statistical Manual of the American Psychiatric Association (DSM-III). There were high hopes that one or both of these two international classifications would replace the previous chaos with order; however, as indicated below, the confusion remains. Although there are some similarities, the systems bear little deep or meaningful relationship to each other and this is well demonstrated in Table 1, which follows Shaffer (23).

Despite its superficial attractiveness the DSM-III does not make specific provision for many of the common childhood anxiety disorders, such as school phobia without separation anxiety. In contrast, the ICD-9 allows for a predominance of characteristic features. However, so far there is little evidence to support the differentiation into these manifold categories. Much of the distinction of the categories in both systems has been made on the basis of clinical impression. Further there is not always sufficient evidence for clusters of symptoms to constitute definable syndromes; evidence of age/sex trends; stability over time; or much evidence on the basis of factorial analysis.

Quay (24), from a review of factorial studies, emphasizes the aspects of withdrawal or avoidance behavior, isolation and anxiety as distinguishing features. The earliest study was that of Hewitt and Jenkins (25) who highlighted overinhibited neurotic behavior. Patterson (26) emphasized withdrawal, as did Kupfer et al (27); Achenbach (28) applied the label of internalising behavior and Conners (29) emphasized anxious and fearful behavior. It would seem that factorial analysis defines broad rather than multiple discrete syndromes. This was also the case in the Newcastle analysis of data from a sample of infant-school children (30). Using principal component analysis, this group report a neurotic component where the most important features are anxiety, sensitivity, solitariness, shyness, and self-consciousness, as well as a phobic component which was less well defined. However, the sample may have been too young or there may have been insufficient cases to allow a finer distinction to emerge.

TABLE 1
Disturbance of emotions

ICD-9		DSM-III	
313.0	*With anxiety and fearfulness.* This is an ill-defined group but some cases of school refusal and elective mutism might be classified here.	309.21	*Separation anxiety disorder.* Where the cardinal clinical feature is excessive anxiety concerning separation from major attachment figures.
		313.00	*Over-anxious disorder.* A generalised and persistent anxiety or worry concerned with future events, about social and academic competence and somatic complaints for which no physical basic can be established.
313.2	*With sensitivity, shyness and social withdrawal.* Some of the withdrawing reactions of childhood and also some cases of elective mutism might be included here.	312.21	*Avoidant disorder of childhood or adolescence:* where there is persistent and excessive shrinking from contact with strangers sufficient to interfere with social functioning.
313.1	*With depression and misery* There may be associated eating and sleeping disturbances.	313.82	*Identity disorder:* severe subjective distress regarding uncertainty relating to social relationships, sexual orientation and career goals.
301.2	*Schizoid personality disorder*	313.22	*Schizoid personality disorder of childhood or adolescence.*
313.2	*With sensitivity, shyness and social withdrawal.*	313.23	*Elective mutism.* A persistent refusal to talk in unfamiliar situations.
313.3	*With relationship problems.* Emotional disorders in which the main symptoms involve relationship problems.		

For instance, the distinction between depressed inhibited behavior and anxious fearful behavior described by Jenkins (31) has been replicated only when clinical samples have been subject to multivariate analysis (32). Another important possibility is that principal component analysis may not lend itself to exploratory classification as well as cluster analysis.

This brings us full circle to the question of whether the classification of anxiety states in childhood can be based on an adult model. Gelder (33) asserts that neurotic disorders of childhood consist of the common mixed neurotic disorders (or 'anxiety states') and the rarer specific syndromes of anxiety neurosis, obsessional disorders and hysteria. He suggests that the origins are twofold: (1) occurring in previously quite resilient and stable children experiencing substantial stress, or (2) in children inordinately prone to react adversely to stress. Such stresses include anxiety about unusual separations or may be a reflection of the parents' own anxiety which may be stressful to the child or act as a model of disturbance for the child. Any attempts to classify anxiety must take into consideration (a) those disorders in which anxiety is the cardinal symptom; (b) those psychiatric disorders in which the symptom of anxiety is evident but is not the major problem: (c) the nature of the origin of anxiety; (d) personality and anxiety; and finally (e) short-term shifts in symptoms. Unfortunately these criteria have seldom been met.

Prevalence of anxiety

In small town communities the prevalence of emotional disorders at 10 to 11 years is 2.5% (34). There are similar rates in adolescence – 2% in rural and 4% in urban communities (35). However much higher rates have been found in a Northern Industrial Community where unemployment is relatively high. The rate in adolescence of those with a severe disorder was 1.4% with a larger pool of an additional 16% with moderate degrees of neurotic disturbance (estimates based on a population of 1723 secondary school children) (Kolvin – personal communication).

School absence and refusal

School phobia can be viewed as a paradigm of anxiety disorders in childhood and therefore merits particular attention. It consists of a heterogeneous collection of mainly neurotic disorders associated with a profound reluctance to attend school. It is notable that the earliest symptoms about which the children often complain are somatic – they include loss of appetite, nausea, headaches, abdominal pain or other vague discomforts (36) and so may mimic a wider range of medical disorders. Alternatively, the child may present with complaints about some aspect of school or schooling. Manifest anxiety and its more acute somatic correlates, become more evident as school

attendance draws nearer. Such symptoms often build up rapidly over the period just before attending school, in anticipation of return to school and therefore are particularly evident early in the mornings, especially on Mondays, at which time the mounting anxieties may give way to panic. A common pattern consists of the child being fearful and quite incapable of leaving home without parents which is associated with excessive dependency on parents. A less common pattern consists of general anxiety and acute fear at the idea or actuality of attending school. In the light of the above it is not surprising that school refusal may masquerade as physical illness such as 'colitis' the so called masquerade syndrome (37).

It is notable that the majority of children who do not get to school are described as having compliant and comforming personalities when at school and a retreat from social situations and recreational activities is often described. Other descriptions include excessive passivity, dependence and inhibiton (38) and many are described as anxiety-prone personalities with excessive dependency on the family and high self-expectations (39).

Commonly, the child and parents seek a cause and often see this as lying beyond the home, and related to school, schooling, school staff or relationship with peers. Explanations suggested by the early literature include fear of separation from parents or home, and the anxieties and fears attendant on leaving parents and going to school, termed 'separation anxiety' (16, 40-43). This has been expanded to include an inability to cope with the adjustment of new life experiences (44). Separation anxiety does not appear to be an age-related phenomenon as high rates are reported in groups of children with wider age ranges (39, 45). One possibility is that severe separation anxiety may be a cardinal characteristic of one type of school refusal and may occur only to a lesser degree in others. Others have emphasized the mutual clinging interactions of mother and child (46, 47). It has been suggested that the child with school refusal has an impaired capacity for independent functioning (48) and thus an inability to cope with family and environmental changes and their attendant anxieties such as starting school, changing schools and in anticipation of leaving school; or is particularly vulnerable in the face of recent crucial life events such as bereavement, parental illness, and personal physical illness. These significant life events are reported in over 50% of the cases in which the matter has been systematically investigated (44).

Complementary to these personality features is the anxiety-laden or anxiety-prone personality of the mother, which has been emphasized in the literature. Bowlby's (49) summary of his views of the operant psycho-dynamics is one of the more plausible and attractive accounts. He identified four patterns of pathological family interactions: (1) The parents, but especially the mother,

on the basis of chronic anxiety about attachments, keep the child at home to be a companion. (2) The child is worried in case something happens to parents but usually the mother, while he or she is at school, and so prefers to remain at home in order to prevent it occurring. (3) The child is fearful about something unpleasant happening to himself while at school and again remains at home in order to prevent it occurring. (4) The parents, but usually the mother, are fearful that something unpleasant will happen to the child while he is at school and so prefer to keep him at home.

Reports such as those by Eysenck and Rachman (43, 50, 51) suggest that such patterns may be valid. Other factors which are considered to be important are: the child being worried about threats to parental health, but particularly mental health; that the child is fearful of death or illness of his parents if he does not behave. Again, there is some evidence from the literature to suggest that there is some validity in such views (42, 52).

Adelaide Johnson (40) saw school refusal as having familiy determinants, with the child being incapable of attending school because of an anxiety about leaving home or the parents. In contrast, behaviorally orientated researchers would view the self-same syndrome as a neurotic pattern of behavior reinforced by the parents and would further point out that a specific fear of school or school has been demonstrated in a small percentage of cases (53). Thus the school refusal syndrome can be explained differently by workers with different psychological standpoints: some consider that it has a dynamic interactive basis with the child developing fears of leaving home, while others contend that it is based on a fear of school, which is a learned maladaptive behavior. In either situation, the anxiety of fear of mother and child may be reciprocally enhanced or reinforced by the other (46, 47, 54). Hence, anxiety about leaving home may be reinforced by the mother, as may the fear of attending school. In such circumstances the return to home or to the mother may in itself be a fear or anxiety reducing phenomenon. The child may also react with anxiety to parental anticipatory fears about new situations. Furthermore, heightened anxiety states in the parents or actual anxiety-provoking experiences in the school may lead to the child and parents interactively reinforcing each other and thus perpetuating each other's anxieties about separation or changes. In many ways, therefore, the psycho-pathological mechanisms may be far more complex than previously imagined.

Links between school phobia, childhood neurotic and adult disorders

As Berg (55) has pointed out, school phobic and agoraphobic patients suffer from neurotic disturbance, tend to remain at home excessively, and are reluc-

tant to venture into certain situations. An important question is the relationship between the two conditions and this depends on whether one is looking forward or backward or whether one is studying families (Berg 1986 – personal communication).

Retrospective studies show that only about one in ten of adult agoraphobic patients report having suffered from that condition during the school years (55). However, adult patients reported the presence of school phobia to a greater degree than would have been expected (57, 58). In his review Berg (55) concludes that follow-up studies of school phobic patients indicate a greater than expected peristence of neurotic problems including agoraphobic problems. A follow-up of teenagers with school phobia three years after discharge revealed persisting neurotic disturbance and social impairment (59) and longer term follow-up indicated a persistence of such problems as well as work phobia (60). In those teenage school refusers 10 years after inpatient treatment, only about half remained well or were much improved over the follow-up period and about 30% had received treatment for psychiatric illness. These rates proved high in comparison with local and national figures (61). Finally, family studies of agoraphobic women reveal that daughters are at greater risk than their sons (62).

While prospective studies provide evidence that conduct disorders of childhood have a poor long term prognosis (63), the situation in relation to neurotic disorder is more complex. Robins reported that children with neurotic disorder did no worse than normal children coming from the same school population. However, other population studies report a less favorable outcome in mid-adolescence of 10 and 11-year-old children with neurotic disorder (64). The outcome is also unfavorable in children with neurotic disorder followed up into their twenties (65). However, when neurotic disorders do persist from childhood into adulthood, they usually present as neuroses or depressive states (66). Looking at the matter retrospectively Tyrer and Tyrer (57) report that previous episodes of school refusal are found more commonly in adult psychiatric patients with phobic anxiety states and depression when compared with orthopedic and dental patients. It is evident that the childhood anxiety states and neuroses do not have the benign nature that was previously attributed to them.

Depression and anxiety

There are few disorders in child psychiatry in which anxiety is absent and the question which arises is in which of them is it a primary and in which a secondary feature of the disorder (67). For instance anxiety is a feature of

many clinical states including depressive, phobic and obsessional states and hysteria. As in adults, an important question is the relation of depression to anxiety states; so far, research has not sufficiently addressed itself to this question. The Newcastle school led by Roth and colleagues (68-70) contrasted depression with anxiety but this distinction has achieved only partial acceptance.

It is of interest to note that another Newcastle team examined the childhood neurotic disorders subsumed under the rubric of 'school phobia' and identified a differentiating bipolar component which contrasted affective symptomatology of more recent onset at the one pole with the premorbid personality traits often associated with school refusal at the other (32). They go on to conclude that evidence for such a classification is substantial as it derives from the traditional clinical approach (38, 45, 71) and is also supported by findings from principal component and discriminant function analyses (32). Furthermore, Zeitlin (72) suggests a different outcome for depressed and anxious children. This is supported by the observation of Berney et al (49) that, in school phobics, depressive symptoms waned more rapidly and anxiety symptoms receded more slowly. Some 44% of the Newcastle school phobic cohort were classified as suffering from a significant degree of depression. This rate proved similar to that reported in other studies (22, 71) but falls short of the figure of 56% reported by Waldron et al (39).

Kolvin et al (32) reported that when school phobics were dichotomized on clinical grounds into depressed and not depressed groups, the depressed group showed an excess of scores on a wider pattern of what can be considered depressive and anxiety features. This gave rise to speculation that, instead of two separate groups, there may be a spectrum of severity with phobic anxiety states giving rise to lower scores and depression to higher scores; the neuroticism scores on the Junior Eysenck Personality Inventory supported this hypothesis. However, even if the symptomatology of the school phobic shows no evidence of depression, school phobia may still be regarded as masked depression on the questionable grounds that when such patients are treated with antidepressants they improve. However, members of the Columbia school (78) claim that the antidepressants have a wide range of activity and this includes specific anxiolytic action in relation to separation anxiety. Nevertheless, on the current evidence it is not clear whether school phobia merits a categorical or dimensional classification.

Prognosis and treatment

The prognosis for neurotic disorders in childhood is generally good (74, 75)

with considerable spontaneous improvement. Any therapy must achieve more than this and the Newcastle School has demonstrated the feasibility of this (75). They also provide evidence that the effectiveness of treatment seems to increase with time. They report a number of other important findings and they suggest that the greater the directness of contact of trained professionals with disturbed children, the better the outcome. Contrary to expectation, dynamic therapy and behavior modification appeared to be equally effective. Finally, they found no evidence of treatment specificity.

A number of treatment approaches are currently available. Family therapy is currently fashionable. Behavior modification is especially helpful in specific syndromes – it is helpful generally but more specifically by helping the children to relax. Certain children will require brief focussed individual psychotherapy. Any continuing life stresses should be reduced, if at all possible.

Pharmacotherapy

Minor tranquillizers have a limited role in the treatment of childhood neurotic disorder. The benzodiazepines are the most commonly prescribed minor tranquillizers. They have two major advantages: firstly, the dose-response curve is relatively flat, allowing for fine adjustment of dosage: secondly, they have a relatively low toxicity (76). The duration of action varies and their selection must be based on knowledge of the pharmacokinetic properties of the different drugs and their active metabolites. In clinical practice they are most useful when given on a short-term basis to help a child cope with a situational crisis. They may for instance reduce anxiety levels in school phobia sufficiently to make the child amenable to psychotherapy, and can also help to alleviate some of the early morning anxiety which often hinders return to school.

In addition, they have been used for those anxious personalities who are overwhelmed by the stress of school examinations. However, there are some qualifications concerning the use of these agents for the latter purpose: firstly, there is a curvilinear relationship between anxiety and performance, so that a substantial anxiolysis is unlikely to be beneficial; secondly, there may be some drowsiness and transient impairment of cognitive functioning and some impairment of coordination, especially with higher doses (77). Such unwanted effects may be counter-productive in both educational and physical recreational situations.

Work with adults indicates that physical dependence may develop after prolonged use of the benzodiazepines, with evidence of possible withdrawal effects (though some have queried whether these are merely a return to the

original symptoms of anxiety). Whatever the explanation, it is wise to withdraw these drugs gradually in children (33). Other unwanted effects described have been dry mouth, headache and hypersensitivity reactions but these are rather rare in children. Benzodiazepine overdose is an escalating problem in children and adolescents: although these drugs have a wide margin of safety if taken alone, adolescents needs to be warned about the potentiating effect of other drugs, and especially of alcohol.

There is no conclusive evidence to support the use of antidepressants in the treatment of school phobia. Gittelman Klein and Klein (78) demonstrated a positive effect with high dose imipramine compared with placebo: Berney et al (45) were not able to replicate these findings with clomipramine, although the dose used was lower. It must be remembered that these drugs have toxic side effects and their therapeutic windows are small. They should therefore be used with great caution, particularly in younger children.

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