

SECTION V

Psychological Factors

Early Disturbing Events and Later Enuresis

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The following observations on enuresis derive from a study of about 4500 children born in Great Britain in the first week of March 1946, and are of value because they refer to a complete population that is representative of all children born in 1946 in Great Britain. They are based on the answers given to standard questions on enuresis asked of the mothers of these boys and girls at six ages ranging from 4½ to 15 years. An attempt to get information about enuresis at later ages from the sample members themselves was not successful. The main aim of this chapter is to describe some associations between enuresis and incidents early in life which may be regarded as stressful or anxiety provoking.*

There are two major limitations to the data presented here. First, the ages at which the information on bedwetting was obtained were widely spaced, the shortest period between one age and the next being one year and the longest four years. Second, it was not possible to train and brief the health visitors, school nurses and school doctors who obtained this information for us.

The same two questions were asked at each age, that is to say at 4½, 6, 7½, 9, 11 and 15 years. They were:

(a) 'During the last month, has this child wet his bed at night?', and, if the answer was yes,

(b) 'Has he wet it less than once a week, several nights a week, or every night?'

The limit of one month was imposed in an attempt to minimize the effects of variation in the length of recall. Even so, some mothers may have forgotten the occasional wet bed, and some children who had not yet achieved reliable bladder control may have just had a temporary period of relative dryness. For these reasons a division into primary and secondary enuresis cannot be made in this study; nor would it have been fruitful to do so, unless we had been able to persuade the mothers to keep a running record of wet nights over the whole period of eleven years.

The prevalence of enuresis reported in the National Survey fits well with contemporary figures from Birmingham and York (Bransby *et al.* 1955). The rates for boys and girls at each of the six ages are shown in Table I. These figures allow for the fact that only one quarter of the manual working-class children born in the survey week were included in the follow-up study (Douglas 1964). It will be seen that at each age considered more boys were wetting than girls.

Before describing the association between some selected earlier events and later enuresis, it is desirable to describe the prevalence of enuresis in different sections of

*The data presented here are drawn from a number of different analyses made at intervals over the past 15 years, and they are not necessarily all based on the same numbers.

TABLE I
Proportion of children who had wet their beds within the last month
(population estimates).

	Age (in years)					
	4½	6	7½	9	11	15
Boys (per cent)	13.6	11.9	8.1	6.0	6.4	2.9
Girls (per cent)	10.6	8.4	6.4	4.4	4.1	1.5
Both sexes (per cent)	12.1	10.2	7.3	5.2	5.3	2.2

the population of children. The following figures are based on the analysis given in 'Children Under Five' (Douglas and Blomfield 1958), which was concerned only with the regular bedwetters, namely those who were wet several nights a week. Equivalent figures for those wet less often give a closely similar picture.

There is a marked occupational gradient in bedwetting; enuresis is least often reported in children of professional and salaried workers, and most often in the children of manual workers. These differences between occupational groups stem largely from the high proportion of manual working-class children who become wet for relatively short periods. The proportion of children who were consistently reported as wet between the ages of 4½ and 7½ is similar in each group.

On average, boys were more likely to be wet than girls, but this was only so among the children of non-manual workers. Thus, part of the unfavourable position of the children of manual workers seems to be explained by a higher prevalence of bedwetting among girls.

Jealousy of a younger child is often thought of as an important cause of bedwetting, but the evidence from this study is inconclusive. The birth of a younger sib within four years of the survey child was associated with above average rates of bedwetting at 4½, particularly so if the birth had occurred when the older child was between three and four years of age. The excess of enuresis following the birth of a subsequent child was not, however, large enough to explain more than a small proportion of all bedwetting.

An unexpected finding was that bedwetting was more prevalent among the children of younger than of older mothers. This is probably related to standards of care, as there is an increase in the prevalence of bedwetting as the level of maternal care falls.

Some information is available on the relationship between bedwetting and certain symptoms that are often associated with disturbed behaviour. At the clinical examination given by the school doctor when these children were six years old, more bitten nails and more speech defects were recorded among the bedwetters. In addition, their mothers reported more nail-biting and other habits, and more nightmares, among their children during the periods when they also reported that the children were wetting their beds.

Some of the children examined by the doctors at six had been wet at 4½ but had become dry in the intervening period, and it was of some interest to see whether an excess of symptoms of disturbed behaviour was found only among those who were still wet. According to the mothers this was so. Children who had been wet at 4½ but

were dry at six were not reported by their mothers at the later age as having more nail-biting. According to the doctors who examined the same children, however, nail-biting at six years was as common among the 4½-year-old bedwetters who had become dry as among those who were still wet. Perhaps when mothers are worried about a child who is bedwetting they are more likely to notice other habits and worry about them too.

Before discussing the association of early disturbing events with enuresis, one further comment should be made. Enuresis is often said to clear up around the time of puberty, and, if so, it would be expected that those who reach puberty early would show a more rapid decline in bedwetting than those who reach puberty late. Among the girls no association between enuresis and age of menarche could be established, but among the boys those who were infantile in secondary sexual characteristics at 15 showed a high prevalence of enuresis at 15 and at earlier ages.

A few years ago Keith Turner and I gave a paper to the International Epidemiological Association, describing the provisional results of a study on the relation between some early disturbing events and enuresis. The events considered occurred in the first four years of life and, wherever possible, were located in the third and fourth years. They were:

- (a) break up of a family through death, divorce or separation;
- (b) temporary separation from the mother either in strange surroundings or in familiar circumstances;
- (c) the birth of a younger sib;
- (d) moves of home;
- (e) admissions to hospital;
- (f) accidents; and
- (g) operations.

All these events were shown to be associated with an increased prevalence of enuresis at 4½ years, though many of these increases were small and not statistically significant. A simple additive score was produced to give the figures in Table II.

Children with no recorded events were relatively seldom enuretic. Even a single disturbing event increased the likelihood of bedwetting, though there was little further increase as the score rose from one to two or three. With higher scores, however, there was a substantial increase in the prevalence of enuresis. At each age up to 15 years there were approximately twice as many bedwetters among those with a history of four or more recorded events as among those with no history of such events, and it

TABLE II
Number of disturbing events in the first four years of life related to enuresis at different ages

<i>No. of disturbing events in first 4 yrs</i>	<i>Percentage of children regularly or occasionally wet</i>			
	<i>at 4½ years</i>	<i>at 6 years</i>	<i>at 11 years</i>	<i>at 15 years</i>
None (n = 1157)	7.6	6.7	4.6	1.4
1-3 (n = 3129)	12.4	10.0	5.4	2.3
4 or more (n = 188)	19.1	16.1	7.6	3.1

TABLE III
Number of disturbing events in first four years related to cumulative prevalence of enuresis

<i>Number of disturbing events</i>		<i>Percentage of children wet at, or at any age after,</i>					
		<i>4½ yrs.</i>	<i>6 yrs.</i>	<i>7¾ yrs.</i>	<i>9 yrs.</i>	<i>11 yrs.</i>	<i>15 yrs.</i>
BOYS	None	21	15	9	8	6	3
	1-3	27	19	13	11	8	3
	4-7	32	25	16	15	12	6
GIRLS	None	12	9	5	5	3	<1
	1-3	22	14	10	7	5	2
	4-7	29	24	15	13	4	nil

seems that approximately one third of bedwetting in this sample of children was associated with the relatively small and crudely defined groups of stressful events that had been considered.

Table III presents the data of Table II in a different form, and further sub-divides them by sex. At each age I have shown the proportion wet at that age or any subsequent age. This is a convenient and perhaps more realistic way of expressing our data. It will be seen that while both sexes show the same trend of increasing enuresis with increasing numbers of reported early events, the relationship up to the age of nine was more marked for the girls than the boys.

I am at the moment looking in greater detail at the association of bedwetting with a wider range of early events. The analysis is incomplete, and I propose to discuss here only the relationship with broken homes of various sorts, with regular absences of the father from home, with temporary separations of the child from his mother in the first four years of life, and with early admissions to hospital.

Broken Homes

By the time these children were 15 years old, 540 (11 per cent) were living in broken homes. Death caused 296 breaks (197 fathers and 99 mothers died), and divorce or persistent separation caused 244. Deaths were relatively evenly spread over the first 15 years of the survey, but divorces and separations tended to be concentrated in the early years.

When a family splits up, home circumstances often change profoundly. Apart from suffering a deterioration in living conditions and amenities, the child may be separated from his brothers and sisters, have to adjust to his mother's re-marriage or co-habitation, be fostered, or go to an institution. The extent of re-marriage and foster or institutional care is shown in Table IV. The majority of the children who were fostered or in institutions after the break came from manual working-class homes.

In 1955 Griselda Rowntree showed for the National Survey population that children from broken homes had a high prevalence of enuresis. Table V brings the figures up to date, showing at each age the proportion who still had insecure bladder control. It is noteworthy that the death of the father was not associated with increased bedwetting at any age; the slightly higher rates recorded at 9 and 11 years are no greater

TABLE IV
Care of child after family break

Care of child	CAUSE OF BREAK		
	Death of father (n = 197)	Death of mother (n = 99)	Divorce or separation (n = 244)
Living with parent who had not remarried (per cent)	80	51	50
Living with parent who had remarried (per cent)	17	31	42
In foster care or institution (per cent)	3	18	8

TABLE V
Families broken in the first six years: type of break related to Cumulative prevalence of enuresis

Home situation	Percentage of children wet at, or at any age after,				
	6 yrs.	7½ yrs.	9 yrs.	11 yrs.	15 yrs.
Father dead	14	12	12	12	2
Mother dead	36	24	16	16	8
Parents divorced or separated	28	22	20	15	5
Family unbroken	16	10	8	6	2

than might be expected by chance. Children whose mothers had died or whose parents had divorced or separated were approximately twice as likely to wet their beds as those from unbroken homes. These differences are statistically significant, at a level of $p < 0.01$, at all ages except 15. The differences at 15 are statistically significant if the comparison is limited to children whose mothers had re-married or who were separated from both parents and living in foster homes or institutions.

When the sequelae of family breaks are considered, the association with enuresis is clarified. Children from families broken by divorce or separation are grouped in Table VI as follows:

- (a) Those who remained with their mothers and were not separated from their sibs, and whose mothers did not re-marry.
- (b) those who remained with their mothers, but who experienced some further complication such as their mother's re-marriage or separation from sibs;
- (c) those who after the break were in the care of foster parents or in institutions.

At each age, the highest prevalence of enuresis was among those who were not cared for by their mothers. At six years the prevalence was high among those who were living with their mothers, even if there was no re-marriage and no separation from their sibs, but by the age of eleven the rate of enuresis in this group had fallen

TABLE VI
Divorce or separation in first six years related to cumulative prevalence of enuresis

<i>Sequelae of divorce or separation</i>	<i>Percentage of children wet at, or at any age after,</i>				
	<i>6 yrs.</i>	<i>7½ yrs.</i>	<i>9 yrs.</i>	<i>11 yrs.</i>	<i>15 yrs.</i>
Child in mother's care; no remarriage	25	18	15	8	nil
Child at home, but complications*	30	24	22	19	8
Child fostered or in institution	39	33	33	28	17
Home unbroken	16	10	8	6	2

*Complications = re-marriage of mother or separation from sibs.

to that found in unbroken families. The occurrence of further complications, such as the parents' re-marriage or the separation of the child from his sibs, was associated with an increased prevalence of insecure bladder control at all ages up to 15 years (Douglas 1970).

So far, no account has been taken of changes in the home circumstances or of moving, and it may well be that these explain part of the high excess of early bedwetting among children whose family break-up has not been complicated by re-marriage or separation.

Another factor that has to be taken into account when assessing the effects of family disruption is that a high proportion of women start work soon after a break has occurred. In the unbroken families only 5 per cent of mothers were in full-time work before their children reached the age of four years, whereas among families broken during the first four years of life the figure was 36 per cent.

Apart from complete breaks through death, divorce or separation, many fathers were frequently absent from their homes, although their marriages remained unbroken in the formal sense. These included lorry drivers, commercial travellers and men in the services. Two hundred and seventy (5.7 per cent) were said by their wives to be regularly away from home for at least two nights a week, and a further 176 (3.7 per cent) were away from home regularly but less frequently than this. There was, however, no suggestion that insecure bladder control was unduly prevalent among the children of either of these two groups of fathers. This is in agreement with the previous observation of no increase in bedwetting among children whose fathers had died.

Separation from Mother

I shall now comment on the prevalence of enuresis among children who have been temporarily separated from their mothers for a month or more in the first six years of life. Information on shorter periods of separation is also available, but has not yet been fully analysed. Separations owing to a child's admission to hospital are excluded from this section and are discussed at the end of this chapter.

Four hundred and twenty three children were separated from their mothers for a month or more during the first six years of life. Two hundred and sixty-nine remained during this time in familiar surroundings looked after by people they knew well,

TABLE VII
Temporary separation from mother for a month or more in first six years*
related to cumulative prevalence of enuresis

<i>Caretaker and environment</i>	<i>Percentage of children wet at, or at any age after,</i>				
	<i>6 yrs.</i>	<i>7½ yrs.</i>	<i>9 yrs.</i>	<i>11 yrs.</i>	<i>15 yrs.</i>
Never separated from mother	15	10	8	6	2
Caretaker and environment both familiar	19	12	9	8	2
Either caretaker or environment unfamiliar	23	15	14	12	4
Caretaker and environment both unfamiliar	45	34	29	18	6

**Excluding hospital admissions*

48 were in unfamiliar surroundings looked after by people they did not know, and 81 were separated in circumstances where there was an additional element of unfamiliarity, either of surroundings or caretaker. This last group includes cases in which we were unable to decide whether the caretaker was known to the child. Table VII shows that there was a slight, but statistically insignificant, increase in the prevalence of enuresis among those children whose separation from their mother did not involve either removal to strange surroundings or the presence of an unfamiliar caretaker. Among children who were removed to an unfamiliar environment and looked after by unfamiliar caretakers, enuresis at six years was three times as common as among the never separated, and remained approximately three times as common at all ages up to the age of 15. An intermediate position is occupied by those children whose separation involved either an unfamiliar caretaker or unfamiliar surroundings but not both.**

The age at which the separation occurred has no consistent or statistically significant relation to the level of enuresis among those who remained both in a familiar environment and with familiar caretakers (Table VIII). But when both the environment

TABLE VIII
Temporary separation from mother for a month or more in the first six years:
both environment and caretaker familiar. Age at separation related to cumulative prevalence of enuresis

<i>Age of child at separation</i>	<i>Percentage of children wet at, or at any age after,</i>				
	<i>6 yrs.</i>	<i>7½ yrs.</i>	<i>9 yrs.</i>	<i>11 yrs.</i>	<i>15 yrs.</i>
Less than 2 years	18	9	8	6	nil
2 or 3 years	17	13	11	9	4
4 or 5 years	21	13	9	8	3
All of above ages	19	12	9	8	2

**At ages 5 to 11 these differences are significant at a level of $p < 0.02$

TABLE IX

Temporary separation from mother for a month or more in the first six years:
both environment and caretaker unfamiliar. Age at separation related to cumulative
prevalence of enuresis

Age of child at separation	Percentage of children wet at, or at any age after,				
	6 yrs.	7½ yrs.	9 yrs.	11 yrs.	15 yrs.
Less than 2 years	29	14	14	14	nil
2 or 3 years	40	30	15	5	5
4 or 5 years	56	48	48	30	11
All of above ages	45	34	29	18	6

TABLE X

Number of admissions to hospital in the first five years of life related to
cumulative prevalence of enuresis

Number of admissions in first five years	Percentage of children wet at, or at any age after,				
	6 yrs.	7½ yrs.	9 yrs.	11 yrs.	15 yrs.
None	15	10	8	6	2
One	18	12	10	9	2
Two	22	15	13	7	7
Three or more	29	18	18	18	6

and the caretakers were unfamiliar enuresis was most often reported among children separated at four to six years of age (Table IX).

Admission to Hospital

The last type of event that I wish to mention is admission to hospital, which was left out of the foregoing discussion on temporary separation. Five hundred and sixty-nine children were admitted to hospital on one occasion during the first five years of life, 92 on two occasions, and 34 more often.* Table X shows the prevalence of insecure bladder control in these three groups, and among those with no admissions. There was a slight increase in prevalence with increasing numbers of admissions, and the small group of children admitted three or more times had rates that were two to three times as high as those for children who had not been admitted.** Turning to those admitted on one occasion only, the sex of the child and the age at which the admission occurred, had no consistent or statistically significant relation to enuresis, though a relatively high proportion of those admitted to hospital in the first two years of life did have insecure bladder control at 8 and at later ages up to 15. Enuresis was also more

*These figures refer to children for whom full bedwetting information is available.

**The differences at ages 6 to 11 are significant at a level of $p < 0.02$ and at 15 at a level of $0.05 > p > 0.02$.

prevalent among children who were in hospitals that allowed no visiting, but it is likely that this excess will be fully explained when account is taken of the social intake into the different types of hospital. While there is a tendency for the children who stayed longest in hospital to be the most likely to wet their beds, this might well be a chance finding.

Conclusions

Children who have no stressful event reported during the first four years of life, and in particular during the third and fourth years are considerably less likely to wet their beds than children who have experienced such events. In this sample of children, at each age studied, approximately one-third of bedwetting was associated with the relatively crude selection of anxiety-provoking events which we have recorded. There must, of course, have been many other similar events of which we were not aware, and the inference to be drawn from this study is that stress and anxiety in the third and fourth years of life play an important part in the aetiology of enuresis, and that their effects persist at least into adolescence.

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