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**Mental Capital and Wellbeing:
Making the most of ourselves in the 21st century**

**State-of-Science Review: SR-B4
The Influence of Social, Demographic and Physical Factors on Mental Disorders
in Children and Adolescents**

Professor Howard Meltzer
University of Leicester

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Summary

This review begins with an overview of the extent and impact of childhood mental disorders on the lives of young people. Local and national studies reveal prevalence rates approaching 10%, with boys more prone to these disorders than girls, and teenagers more than younger age groups. Ethnic differences are, for methodological reasons, difficult to identify, though there is some evidence that rates are lower among young South Asian children in particular. A number of inter-related factors are associated with increased rates of childhood mental disorder. Physical health problems and disability are more commonly found among children with mental health problems. Affected youngsters tend to have lower levels of scholastic achievement, especially in basic subjects such as reading, spelling and mathematics. Children of lone parent families are more likely to have mental disorders than those living in two-parent families, but this most likely reflects the situation that young people from economically and socially disadvantaged backgrounds have higher rates of disorder. Further contributing factors are those related to family functioning: high levels of family discord, poor parental mental health, several stressful life events and frequent punishment strategies are all related to higher childhood mental disorder rates.

1. Scope of the problem

Childhood mental disorders can prevent a young person from reaching their full potential by disrupting normal development. The prevention, detection and treatment of these problems are important not only to relieve current distress, but also to improve adult functioning and prevent the perpetuation of disadvantage into the next generation. Improving service planning and promoting equalisation of opportunity for all children depends on accurate estimates of the prevalence of childhood disorder in the population (Ford, Goodman and Meltzer, 2003).

This review deliberately uses the term 'mental disorder' as distinct from psychiatric disorders or mental health problems. However, this should not be taken to indicate that the problem is entirely within the child. Disorders arise for a variety of reasons, often interacting. In certain circumstances, a mental disorder, which describes a constellation or syndrome of features, may indicate the reactions of a young person to external circumstances which, if changed, could largely resolve the problem.

A mental disorder is defined, for this review, as a clinically recognisable set of symptoms or behaviour, associated, in most cases, with considerable distress and substantial interference with personal functions.

Estimates of the prevalence of psychiatric morbidity among young people depend on the choice of concepts as well as how they are operationalised. These, in turn, depend on the particular purposes and aims of the study. This point needs emphasising because it means that estimates from different studies will not necessarily be comparable, as they derive from different concepts, assessment instruments or analytic methods. In general, the less restrictive the criteria used to define mental disorders are, the higher the estimates of prevalence will be.

Some of the large epidemiological surveys on psychiatric morbidity among children, which have been carried out across the world, have concentrated on children of particular age groups: adolescents (Kashani et al., 1987); and 10-year-olds (Vikan, 1985). Others have focused on specific disorders: hyperactivity (Taylor et al., 1991); anorexia nervosa (Crisp et al., 1976) or autism (Wing and Gould, 1978).

Many other studies have looked at a range of disorders but in particular localities: Isle of Wight (Rutter et al., 1976; Rutter, 1989); Edinburgh and Oxford (Platt et al., 1988); and inner cities (Rutter, 1975). However,

most of the data presented in this review relate to the two national surveys of the mental health of children and young people carried out within the past decade (Meltzer et al., 2000; Green et al., 2005).

2. Overall prevalence

Combining the data from the 1999 and 2004 national surveys in Great Britain, 5.5 % of 5- to 15-year-olds had clinically significant conduct disorders; 3.9% were assessed as having emotional disorders – anxiety and depression; and 1.5% were rated as hyperactive. The overall rate of 9.5% includes some children who had more than one type of disorder. These rates are based on the diagnostic criteria for research using the ICD-10 Classification of Mental and Behavioural Disorders with strict impairment criteria, that is, the disorder causes distress to the child or has a considerable impact on his or her day-to-day life.

Several studies have demonstrated that the inclusion of impact criteria decreases prevalence estimates. Those insisting on at least moderate impairment report rates of between 4.4-18.7% (Bird et al., 1988; Costello et al., 1996; Esser et al., 1990; Fombonne, 1994; Gomez-Beneyeto et al., 1994; Shaffer et al., 1996; Simonoff et al., 1997; Verhulst et al., 1997; Vikan, 1985).

3. Sex and age

The combined data from the GB surveys showed that the proportion of children and young people with any mental disorder was greater among boys than girls: 11.4% compared with 7.5%. Among 5- to 10-year-olds, 8.0% had a mental disorder, and in the older age group, 11.3% had a mental disorder. Whereas the rates of emotional disorders were similar for boys and girls, the prevalence of conduct disorders was found to be approximately twice as common among boys than girls, and for hyperkinetic disorders the ratio was even greater: 2.5% among boys of all ages compared with 0.4% of girls. Most of the age and gender effects are in the expected direction, for instance, all the disruptive disorders are significantly more frequent in boys.

Comparing the rates from the two national surveys, there was no difference in prevalence between 1999 and 2004 in the overall proportions of children with a mental disorder (9.5% and 9.6%), nor in the prevalence of conduct or hyperkinetic disorders among children aged 5-15 as a whole. The only change that was statistically significant was a decrease in the proportion of boys aged 5-10 who had an emotional disorder, which declined from 3% in 1999 to 2% in 2004.

4. Ethnicity

Ethnic differences are difficult to interpret because of the small numbers of minority ethnic children identified in nationally representative surveys. When the ethnic differences are analysed by age and sex, the bases are smaller still and make the differences between distributions correspondingly more difficult to interpret. The diagnoses for some minority ethnic children with non-English-speaking parents are based on less complete information than those for white children and English-speaking minorities because their parents are not able to answer the detailed diagnostic questions. This particularly affects children of Bangladeshi and African origin.

Nevertheless, data from the 2004 national survey in Great Britain (Green et al., 2005) suggest that Indian children have a relatively low rate of mental disorder (3% compared with 7-10% in other groups). The prevalence of hyperkinetic disorders was low among all the non-white groups. Similar findings have been observed in clinical practice, suggesting that these are real variations.

5. Physical health of child

Children with physical health problems or disabilities seem especially vulnerable to mental health problems. Rutter (1970) found in the Isle of Wight studies that children with asthma, epilepsy and neurological disorders in general were far more likely than the general population to have a mental disorder. In the first national GB survey, Meltzer et al. (2000) found that the physical illnesses or conditions that showed the greatest disparity in prevalence among children with and without a mental disorder were bed-wetting, speech and language problems, co-ordination difficulties and soiling pants.

In a national survey of disabled children in Great Britain, mental and behavioural problems were found among a large proportion of children with physical disabilities (Bone and Meltzer, 1989). They also found that nearly all the children with the most severe disabilities had a mental health problem.

6. Scholastic ability of child

Children with mental disorders are far more likely to do poorly at school than those with no mental disorder. Green et al. (2005) report that teachers who rated the basic abilities of over 6,000 children assessed those with emotional disorders to be twice as likely as other children to have marked difficulties in reading, spelling and mathematics. Children with conduct and hyperkinetic disorder were four to five times more likely to have this evaluation.

Another way of looking at the relationship between childhood mental disorder and scholastic ability is to examine proportions of children with special educational needs. Meltzer et al. (2000) found that children with any mental disorder were nearly five times more likely than those with no disorder to have special educational needs (odds ratio = 4.61), controlling for the child's age and sex, family structure and employment status.

Goodman, Gledhill and Ford (2003) carried out further analysis of the 2000 GB survey and found that younger children in a school year were significantly more likely to have higher symptom scores and psychiatric disorder. However, a similar analysis carried out in Norway found that being younger children in a school year affected academic performance but not mental health (Lien et al., 2005).

7. Family composition and marital status

Children from lone parent families are about twice as likely as the children of married and cohabiting couples to have a mental disorder. This pattern is evident for girls and boys, in all age groups and for the three main types of disorder (Green et al., 2005). This relationship also emerged in the Western Australian survey which found that children in single-parent families were twice as likely to have a mental health morbidity as those in two-parent families (Zubrick et al., 1995). Green et al. (2005) found that almost one in five boys (18%) living in lone parent families had a mental disorder, of whom about two thirds had a conduct disorder. The corresponding proportion for girls was 13%, equally divided between emotional and conduct disorders.

Secular changes in patterns of family life expose children and young people to more frequent and earlier challenges: marital breakdown, divorce, remarriage, and lone-parent families. These changes lead to conditions that, in turn, end in depression among adolescents (Fombonne, 1994). However, the differences in rates of childhood mental disorder by family type have to be regarded with some caution as they may reflect different social and financial circumstances of lone- and two-parent families (Zubrick et al., 1995). Nevertheless, both Meltzer et al. (2000) and Green et al. (2005) found that even children in reconstituted families have higher rates of mental disorder than in first marriage families.

There is some evidence that children in larger families have higher rates of disorder (Meltzer et al., 2000) but this finding was not replicated by Green et al. (2005). Nevertheless, both studies indicated that children in families with two children have the lowest rates.

8. Household characteristics

Various measures of economic disadvantage and social deprivation based on household characteristics have been shown to be related to higher rates of mental disorders among children, namely: being in the lowest decile of gross weekly household income; receipt of state benefits; parental educational qualifications; unemployment within the household; and social or private renting compared with owner occupiers. This socio-economic gradient was observed among boys and girls, younger and older children and for the three major disorder categories, but it was particularly marked for conduct disorders (Green et al., 2005).

9. Neighbourhood characteristics

ACORN (A Classification of Residential Neighbourhoods) is a geo-demographic classification combining geographical and demographic characteristics to distinguish different types of people in different areas of Great Britain (CACI Information Services, 1993). ACORN has five broad categories at the highest level. These are: wealthy achievers; urban prosperity; comfortably off; moderate means; and hard pressed. Green et al. (2005) showed that children living in areas classed as 'hard pressed' were the most likely to be assessed as having a mental disorder (15%). This proportion was about twice as high as that for children living in areas classed as 'wealthy achievers' or 'urban prosperity' (6% and 7%). This trend was evident for the three main types of disorder, in both boys and girls and for younger and older children, although, as with the socio-economic measure, the relationship was particularly strong for conduct disorders.

The last decade has seen a burgeoning of published articles on the relationship between social capital and mental health (McKenzie and Harpham, 2006). The vast majority of these studies have examined the relationship among adults; very few have focused on children and young people, (Xue et al., 2005). Those which have investigated the relationship among children have concentrated on structural dimensions of the neighbourhood (indices of deprivation, immigrant concentration, residential stability) and other neighbourhood-level socio-economic variables (Xue et al., 2005; Ford et al., 2004) and/or measures of social control or social cohesion (Drukker et al., 2003; van de Linden, 2003).

Van de Linden (2003) found that children living in more deprived neighbourhoods ran a higher risk of coming into contact with mental health care services. Strong trust and social cohesion between citizens in the neighbourhood mitigated the risk-increasing effect of socio-economic deprivation on children's mental health service use. Drukker et al. (2003) found that children's mental health and behaviour were specifically associated with one aspect of social capital, namely the degree of informal social control in the neighbourhood. Similarly, Xue et al. (2005) reported that community social control and cohesion was the mechanism through which neighbourhood economic effects operated on the mental health of children.

10. Interactions between biographic, socio-demographic and socio-economic characteristics

The previous sections have shown variations in the prevalence of childhood mental disorders according to a range of biographic, socio-demographic and socio-economic variables. Many of these are inter-related – for example, family structure and income. Green et al. (2005) carried out modelling analysis (logistic regression) to indicate the independent effects of predictor variables, that is, controlling for all other factors. The statistically significant odds ratios for the correlates of the child having any mental disorder

(compared with no disorder) were: age; sex; ethnic group; family type; whether living in a reconstituted family; family's employment situation; socio-economic classification; household income; parental educational qualifications; and the ACORN classification.

11. Family functioning

There are various ways of describing the social functioning of families. The 1999 survey of mental health in Great Britain (Meltzer et al., 2000) investigated four factors which can broadly be subsumed under the general theme of 'family functioning': the psychological distress of the mother, measured by the GHQ12 (Goldberg and Williams, 1988); levels of family discord measured by the General Functioning Scale of the MacMaster Family Assessment Device (Byles et al., 1988; Fristad, 1989; Miller et al., 1985); punishment strategies; and the experience of stressful life events affecting the child or family (Meltzer et al., 2000).

11.1 Parental mental health

The proportion of children with mental disorders increased steadily as mothers' GHQ12 score increased. The minimum prevalence of any mental disorder was 6.6% among children whose parents scored 0 to 2. The maximum rate, 30.4%, was found among children whose parents scored 9 to 12.

In summary, children with parents who screened positive on the GHQ12 (3 or more) were nearly three times more likely to have a mental disorder than those whose parents had sub-threshold scores – 18.7% compared with 6.6%. In addition, the risk of child behaviour problems increases with the number of areas in which the mother reports difficulties such as mental health, substance use, or domestic violence (Whitaker, Orzol and Kahn, 2006).

11.2 Family discord

Although the overall prevalence of mental disorders among children and young people was 9.5%, the rate among children in families functioning well was 7.5% compared with 18.3% among poorly functioning families, as measured by the General Functioning Scale of the MacMaster Family Assessment Device.

11.3 Punishment strategies

Although parents in the general population may be using less physical strategies than in the past, non-physical punishment is strongly related to mental health problems in children (Vostanis et al., 2006). This association was particularly prominent among children with conduct disorders. In contrast, absence of child psychopathology was associated with a combination of rewarding and non-punitive parenting strategies.

11.4 Stressful life events

Goodyer (1990) suggests that moderately or highly undesirable life events can cause the onset of emotional and behavioural symptoms in children of school age. The association between stressful life events and the increased likelihood of childhood mental disorders was clearly evident from the analysis of the 2004 national survey of children in Great Britain (Green et al., 2005). More than half (55%) of children with emotional symptoms had experienced their parents' separation, and 28% had a parent with a history of serious mental illness. For other children, the proportions were 30% and 7% respectively.

There were also large differences in the proportions of children with conduct disorders whose parents had experienced a major financial crisis (22% and 13%), or who had been in trouble with the police (15% and 5%) (Green et al., 2005).

These different aspects of family functioning may act in a multiplicative way. For example, Chronis et al. (2007) found that maternal depression is a risk factor, whereas early positive parenting is a protective factor, for the developmental course of conduct problems among children with ADHD.

Lieb et al. (2000) found parental psychopathology, particularly social phobia and depression, and perceived parenting style (over-protection and rejection) are both associated with the development of social phobia in young people.

12. Conclusion

In Great Britain, about one in 10 children aged 5 to 15 years have a clinically recognisable mental disorder that has significant impact on the child's scholastic, family and social life.

The factors associated with higher rates of mental disorder among children include: characteristics of the child; physical health problems and having special educational needs; and characteristics of the family such as lone parenthood, reconstituted families, poor educational levels, lack of employment and low income of parents, psychological distress among mothers, and family discord. Also important are neighbourhood characteristics, specifically deprivation and lack of social cohesion.

The findings presented in this scientific review focus on the prevalence of mental disorders among 5- to 15-year-olds and on the associations between the presence of a mental disorder and biographic, socio-demographic, socio-economic and social functioning characteristics of the child and the family. Causal relationships should not be assumed for any of the associations. Psychosocial factors that affect parents can have distinct and separate effects on their children, and children's reactions to the world around them can have an effect on parents' attitudes and behaviour.

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