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# Appendix

The following is a fuller description of the aggregated scales of the Bristol social adjustment guide with behaviours that define each core syndrome.

#### OVERREACTION

Overreaction is an aggregate of six core syndromes.

Anxiety for acceptance by children comprises behaviours including buffoonery, being overly brave, showing off, and bragging.

Anxiety for acceptance by adults is separated into two parts:
(a) being overly friendly—that is, bringing gifts or other objects to the teacher—and talking excessively to the teacher and (b) seeking to engage excessively or monopolise the teacher and requiring sympathy.

Hostility towards other children includes various criteria for being unpleasant to other children.

Hostility towards adults has three components (a) showing lability of mood when asked to do something or when actually doing it and having variable standards of performance; (b) damaging personal property, lying and using bad language, or being obscene; and (c) stealing and being aggressive.

Inconsequential behaviour comprises (a) poor concentration or lack of perseverance and (b) carelessness and untidiness, lolling about, and being mischievous.

Restlessness includes being too restless in individual games or when working alone and lacking persistence.

#### UNDERREACTION

Underreaction is an aggregate of four core syndromes.

Unforthcomingness—Timidity—for example, not initiating conversation and being reluctant to approach the teacher—and shyness.

Withdrawal—being distant and cut off from people and avoiding communication.

Depression has two parts: (a) variation in mood, the child sometimes being alert and sometimes lethargic and lacking in interest and (b) apathy and lifelessness, or miserableness, and depression.

Dismissing adult values has two parts: (a) unwillingness to work except when compelled to and (b) suspiciousness, selfishness, and untrustworthiness.

#### MISCELLANEOUS

Miscellaneous symptoms has two parts (a) immaturity, playing only with younger children, or being bullied and (b) truancy.

Miscellaneous nervous symptoms include stuttering, twitching, and biting nails badly.

- 1 Lane EA, Albee GW. Childhood intellectual differences between schizophrenic adults and their siblings. Am 7 Orthopsychiatry 1965;35:747-53.
- 2 Offord DR. School performance of adult schizophrenics, their siblings and age mates. Br J Psychiatry 1974;125:12-9.
- 3 Watt NF, Stolorow RD, Lubensky AW, McClelland DC. School adjustment and behaviour of children hospitalised for schizophrenia as adults. Am J Orthopsychiatry 1970;40:637-57.
- 4 Watt NF. Patterns of childhood social development in adult schizophrenics. Arch Gen Psychiatry 1978;35:160-5.
- 5 Rutter ML. Psychosocial resilience and protective mechanisms. In: Rolf JE, Master AS, Cicchetti D, Neuchterlein KH, Weintraub S, eds. Risk and protective factors in the development of psychopathology. New York: Cambridge University Press, 181-214.
- 6 Done DJ, Johnstone EC, Frith CD, Golding J, Shepherd PM, Crow TJ. Complications of pregnancy and delivery in relation to psychosis in adult life: data from the British perinatal mortality survey sample. BMJ 1991;302:1576-80.
- 7 McCreadie R. The Nithsdale schizophrenia survey. I. Psychiatric and social handicaps. Br J Psychiatry 1982;140:582-6.
- 8 Wing J, Cooper J, Sartorius N. The description and classification of psychiatric symptomatology: an instruction manual for the PSE and CATEGO system. London: Cambridge University Press, 1974.
- 9 Stott GH. The social adjustment of children. Manual to the Bristol social adjustment guides. London: Hodder and Stoughton, 1987.
- 10 Clausen JA, Kohn ML. Relation of schizophrenia to the social structure of a small town. In: Pasamanick B, ed. Epidemiology of mental disorder. Washington, DC: American Association for the Advancement of Science, 1050
- 11 Cannon-Spoor HE, Potkin SG, Wyatt RJ. Measurement of premorbid adjustment in chronic schizophrenia. Schizophr Bull 1982;8:470-84.
- 12 Hartman E, Milofsky E, Vaillant G, Oldfield M, Falke R, Ducey C. Vulnerability to schizophrenia: prediction of adult schizophrenia using childhood information. Arch Gen Psychiatry 1984;41:1050-6.
- 13 Ambelas A. Preschizophrenics: adding to the evidence, sharpening the focus.

  Re # Psychiatry 1992:160:401-4
- Br J Psychiatry 1992;160:401-4.
  14 General Register Office. Classification of occupations. London: HMSO, 1960.
- 15 SPSS. Users' guide for SPSSX release 2.1. 2nd ed. Chicago: SPSS, 1986. 16 Tabachnick BG, Fidell LS. Using multivariate statistics. 2nd ed. New York:
- Harper and Row, 1989.
   Gotlib IH, Hammen CL. Psychological aspects of depression: towards a cognitive-interpersonal integration. Chichester: Wiley, 1992.

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# Evaluation of government's campaign to reduce risk of cot death

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In December 1991 the Department of Health's "Back to Sleep" campaign advised that babies should not sleep on their front, be exposed to cigarette smoke, or be overheated. Since then cot deaths have halved, from 912 in 1991 to 456 in 1992. This has been attributed to the campaign, with little evidence that child care practice has in fact changed. This study compared the way mothers cared for their infants before and after the campaign.

# Subjects, methods, and results

Questionnaires were sent to two randomly selected groups of 450 mothers of normal term babies born in Cambridge, Huntingdon, or Bury St Edmunds. The first group gave birth at least eight months before the campaign. The second group gave birth after the campaign and received the questionnaire when their

baby was six months old. Tog values were calculated using similar methods to those of Fleming *et al.*<sup>4</sup> Approximately equal numbers of babies were chosen from each month and hospital.

The first group returned 385 (86%) completed questionnaires and the second 399 (89%). The high response rate adds robustness to this study. There were no social or demographic differences between the groups and results were consistent from all three districts.

Babies' sleeping positions changed after the campaign at the three ages studied (table). Sleeping position also changed with age, older babies being more likely to sleep on their backs than on their sides. There was no influence of mothers' education, social class, marital status, or parity.

Although duvets or quilts were used less after the campaign, their use increased with the infant's age. The use of more than three blankets increased, younger babies using more blankets than older babies. The tog value for the babies' coverings were unchanged. After the campaign mothers having their first baby were less likely to use a duvet than were mothers with other children (for newborn babies 51/182 (28%) v 156/217 (72%), P < 0.0002; for infants of 3 months 62/182 (34%) v 143/217 (66%), P < 0.001; and for infants of 6 months 62/182 (34%) v 143/217

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Results of survey to evaluate government's "Back to Sleep" campaign to reduce risk of cot death. Values are numbers (percentages) of babies

	Before campaign (n = 385)	After campaign (n=399)	Difference in event rate (95% confidence interval)	P value
	Sleeping	position		
On front:				
As newborn baby	81 (21)	16 (4)	-17 (-13 to -22)	< 0.0001
At 3 months old	105 (27)	29 (7)	-20 (-15 to -25)	< 0.0001
At 6 months old	94 (24)	32 (8)	-17 (-11 to -21)	< 0.0001
On back:	` ′	` ,	,	
As newborn baby	36 (9)	158 (40)	30 (25 to 36)	< 0.0001
At 3 months old	55 (14)	215 (54)	40 (34 to 46)	< 0.0001
At 6 months old	117 (30)	257 (64)	34 (28 to 41)	< 0.0001
On side:	,		` ,	
As newborn baby	262 (68)	224 (56)	-12 (-5 to -19)	< 0.0001
At 3 months old	225 (58)	154 (39)	-20 (-13 to -27)	< 0.0001
At 6 months old	169 (44)	108 (27)	-17 (-10 to -23)	< 0.0001
	Overl	neating		
Duvets or quilts used:				
On newborn baby	139 (36)	104 (26)	-10 (-4 to -17)	0.011
At 3 months old	196 (51)	152 (38)	-13 (-6 to -20)	0.0003
At 6 months old	258 (67)	223 (56)	-11 (-18 to -44)	0.006
≥ 3 Blankets used:		• •	` ,	
On newborn baby	58 (15)	92 (23)	8 (3 to 14)	0.0045
At 3 months old	50 (13)	76 (19)	6 (2 to 11)	0.016
At 6 months old	27 (7)	64 (16)	9 (5 to 13)	0.0005
Mothers' worries:	` '	` ,	` ,	
Baby too cold	119 (31)	76 (19)	-12 (-6 to -18)	0.0001
Baby too hot	91 (24)	149 (37)	13 (7 to 20)	0.0003
Used a wall thermometer	40 (10)	87 (22)	12 (6 to 17)	0.0013
	Sleeping w	nith parents		
In parents' room:				
As newborn baby	300 (78)	315 (79)	1 (-5 to 6)	NS
At 3 months old	150 (39)	188 (47)	8 (1 to 15)	0.028
At 6 months old	77 (20)	129 (30)	10 (4 to 16)	0.004
In parents' bed:				
At any time in first 6 months	193 (50)	243 (61)	11 (4 to 18)	0.002
Usually	15 (4)	24 (6)	2 (-1 to 5)	NS
	Smo	king		
Mothers smoked in pregnancy	72 (19)	87 (22)	3 (-3 to 9)	NS
Other members of household smoke	109 (28)	104 (26)	-2(-4  to  9)	NS
No smoking near baby	242 (63)	286 (72)	-9 (2 to -15)	0.022
	Breast	feeding		
Breast fed in first month	226 (59)	242 (61)	2 (-5 to 9)	NS

(66%), P < 0.0001). After the campaign mothers became less concerned that their babies might get cold and more concerned that they might get too hot. Use of a room thermometer doubled and was higher among first time mothers than mothers with other children (65/182 (36%) v 22/217 (10%), P < 0.00001).

More babies of 3 months and over slept in their parents' room after the campaign, but there was no change in breast feeding. The campaign had no effect on the prevalence of smoking by mothers or other members of the household, but more mothers claimed that there was no smoking near the baby.

#### Comment

The Department of Health's campaign was associated with improvements in sleeping position, use of bed coverings, and attitudes to heating. More babies shared a room with their parents and slept in their parents' bed. Sadly, the campaign did not influence the prevalence of smoking or breast feeding. Although duvets or quilts were used less after the campaign, their continued use on half of the babies by the age of 6 months is worrying. The increase in babies sleeping near their mothers may be beneficial. McKenna et al have suggested that proximity rather than merely increased vigilance may help to reduce the risk of cot death.<sup>5</sup>

The first group were exposed to the campaign before being recruited to our study. If the campaign influenced their answers it is most likely to have reduced differences between the groups. We do not know whether the increased time of recall influenced their response, but in our experience mothers accurately remember how they cared for their babies for a long time. Although the incidence of cot death has decreased dramatically, the risks have not been reduced for all babies. The momentum of this important campaign must not be lost.

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- Department of Health. Sleeping position of infants and the risk of cot death (sudden infant death). Heywood, Lancashire: DoH, 1991. (PL/CMO(91)16, PL(CNO)(91)11.)
- 2 Government Statistical Service. Sudden infant deaths 1988-92. OPCS Monitor 1993; No 2. (DH3 93/2.)
- 3 United Kingdom. Press release. Dramatic fall in sudden infant deaths. Virginia Bottomley praises "Back to Sleep" campaign. London:DoH, 29 March 1993. (H93/666.)
- 4 Fleming PJ, Gilbert R, Azaz Y, Berry PJ, Rudd PT, Stewart A, et al. Interaction between bedding and sleeping position in the sudden infant death syndrome: a population based case-control study. BMJ 1990;301:85-9.
- 5 McKenna JJ, Mosko S, Dungy C, McAninch J. Sleep and arousal patterns of cosleeping human mother/infant pairs: a preliminary physiological study with implications for the study of sudden infant death syndrome (SIDS). Am J Phys Anthropol 1990;83:331-7.

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#### Correction

# Active management of labour: current knowledge and research issues

An editorial error occurred in this paper by James G Thornton and Richard J Lilford (6 August, pp 366-9). Figure 2 was incorrectly captioned as figure 3, and vice versa.

## ONE HUNDRED YEARS AGO

## LADY FOOTBALL.

Woman seems now to have a task before her in which we fear greatly she will fail. Report goes that female football teams will shortly contest in public, and the problem is how, on the one hand, to make the performance graceful, and, on the other, not to spoil the game. Those who have witnessed the modern developments of that noble sport will probably doubt whether even women will be able to harmonise such conflicting aims. Into this question we will not enter. Whether the real game played by women is a graceful or a disgraceful sight Mrs. Grundy must decide, and whether the game played in a ladylike manner is worth looking at will doubtless soon be settled by the polite frequenters of the football field, who, we may be sure, will not be backward in expressing their opinion. In the meantime, we enter our protest against the whole performance. If girls choose to kick a ball about a field between their lessons no one need object, but for young women to attempt to play at football as played is another

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matter. Many of the sudden jerks and twists involved in the game are exactly such as are known to cause serious internal displacements, and it is impossible to think of what happens when the arms are thrown up to catch the ball, or when a kick is made with full force, and misses, without admitting the injury which may be thereby produced in the inner mechanism of the female frame. Nor can one overlook the chances of injury to the breasts. The influence of such injuries in originating the development of various tumours may be more or less hypothetical, but at least there is a strong consensus in its favour. In regard to the proper use of the breast, however, in the rearing of infants, there can be no doubt of the deleterious influence of inflammatory changes following injury, and unless we are prepared to advocate the artificial rearing of infants, we can in no way sanction the reckless exposure to violence of organs which the common experience of women has led them in every way to protect.

(BMJ 1894;ii:1323.)