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ORIGINAL CONTRIBUTION

P. McArdle
G. O'Brien
A. Macmillan
I. Kolvin

The peer relations of disruptive children with reference to hyperactivity and conduct disorder

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P. McArdle (✉)
Fleming Nuffield Unit
1 Tankerville Tce, Jesmond
Newcastle-upon-Tyne
NE2 3AE, United Kingdom

G. O'Brien
Northgate Hospital
Morpeth, Northumberland NE61 3BP
United Kingdom

A. Macmillan
Consultant Clinical Psychologist
Department of Psychological Services and Research
Crichton Royal Hospital
Nithbank Road, Dumfries, DG1 2SD
United Kingdom

I. Kolvin
Tavistock Centre
120 Belsize Lane, London NE3 5BA
United Kingdom

Abstract Literature reviews indicate that children with disruptive behaviour disorders have peer relationship problems, but little information is available concerning the differential effects of hyperactivity and conduct disorder on peer relationships. Using a database from North of England research, this paper uses standard frequency analysis complemented by multivariate analyses to explore the independent effects of pervasive hyperactivity and conduct disorder on the sociometry of peer relations among 7- to 8- and 11- to 12-year-olds. The findings suggest that (a) social isolation in 7–8-year-olds shows no significant association with hyperactivity. However there is a significant association with conduct disorder in 11–12-year-olds. (b) Rejection is not significantly associated with hyperactivity alone nor with conduct disorder alone in 7–8-year-olds. However, it is associated with a combination of hyperactivity and conduct disorder. In 11–12-year-olds rejection is associated with conduct disorder alone and with conduct disorder and hyperactivity in combination. It is also associated with low cognitive ability alone and in combination with conduct disorder. Overall, these findings provide some limited evidence of adverse sociometric responses to both hyperactivity and below average cognitive ability. However, in the at-risk samples analysed here, conduct disorder emerges as the most powerful independent predictor of isolation and rejection, and this is especially so among older children.

Key words Disruptive behaviour disorder – ADHD – conduct disorder – peer rejection

Introduction

Aims

A major data archive from previous Newcastle research (12) has provided an opportunity to study the sociometric associations of pervasively hyperactive children at two different ages, those with conduct disorder, and those with cognitive or attainment deficits. The hypotheses are that (a) hyperactive children and those with conduct disorder will be isolated and rejected by peers, (b) hyperactivity or conduct disorder and below average cognitive ability or reading attainment will have a combined effect on adverse sociometric responses by peers.

Background

The term 'hyperactivity' refers to a pattern of childhood behaviour characterised by restlessness, overactivity, inattentiveness and, often, impulsivity (37, 38). It is central to the attention-deficit/hyperactivity disorder of DSM-IV (2) as well as the hyperkinetic disorder of ICD 10 (45).

In addition, hyperactive children are typically reported to suffer from impaired relations with other children

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(5) and this contributes to the disability associated with the condition. For instance, the evidence suggests that hyperactive boys may be more critical of peers' social behaviour (42), show immature patterns of play, spending more time in solitary play and less time in associative play (11). They may be more distressed by disciplinary confrontations and may then be predisposed to respond with aggression themselves (34). Consequently, it is suggested that they are rejected by peers, often within a short period of their arrival in a social setting (26, 33). Further, while hyperactivity responds to treatment with methylphenidate and although peer relations are said to improve, they do not necessarily return to normal with medication (42, 43). It has been hypothesised that poor peer relationships may predict lasting morbidity (6, 14, 32) and that even among those whose hyperactivity has diminished, to the extent that the diagnosis no longer applies, there is a lingering limitation of social contact (19).

However, although there are exceptions (35), much of the research linking hyperactivity and impaired peer relations has concerned the differences between hyperactive and normal children. When hyperactivity coexists with other disorders, this strategy does not necessarily enable the specificity of any effects of hyperactivity to be determined (40, 41); whether hyperactivity makes an independent contribution to impaired peer relations, and whether there are any interactive effects.

McGee and Share (23) have questioned whether the underlying problem in hyperactivity is one of learning, rather than of hyperactivity itself. These authors have pointed to the overlap between groups of children who are said to be either hyperactive or learning disabled, with the suggestion that both groups may suffer similar patterns of cognitive deficits and of impaired motivation. Thus, it remains important to clarify whether relationship difficulties are entirely due to learning disability or behaviour characteristics. Finally, the peer relationships of hyperactive children have been studied usually among primary school children alone, thus precluding a study of developmental trends.

Method

The populations under scrutiny

The method is detailed in previous publications (12, 13, 17, 18). The populations consisted of 3,300 11- and 12-year-old senior school children (equal sex distribution) and 1,040 7- and 8-year-old children. They were all attending mainstream schools and so are likely to have been of normal IQ. The populations were identified prior to the common use of psychotropic agents in psychiatric practice and use of stimulant medication was exceedingly rare even in at-risk populations. Consequently it is unlikely that any of the study sample was using medications relevant to the data presented here.

The children were screened using a multicriterion screen: for all the children this included: the Rutter teacher scales (36) and sociometric indices (18); for the older children, the neuroticism subscale of the Junior Eysenck Personality Inventory (8) and for the younger children the Young Group Reading Test (47). Extreme scores on each measure were used as an indicator of deviance (12, 13, 17).

For the senior children, in order to maximise sensitivity, and to avoid excluding children with extreme scores on individual measures because of an insufficiently high summed score, weighting formulae were adopted which allowed children with markedly deviant teacher- or self-ratings to be selected on that basis alone (12, 13, 17). With the younger children the system was less complex. Identification by any one or more criteria was taken as indicating that the child might be 'at risk' (12).

There was a final yield of 263 senior (55.0% male) and 241 junior (60.1% male) screen-positive children. In addition, there were 63 senior and 53 junior screen negative 'normal controls' so that the samples for analysis included 326 senior and 294 junior children.

Symptomatic 'diagnosis' of a syndrome of hyperactivity

By virtue of its association with antisocial behaviour (10), with poor prognosis (38) and, particularly, with cognitive and developmental vulnerability (3, 41), pervasive hyperactivity is said to be the basis of a clinical syndrome (10) and was identified using Rutter parent and teacher questionnaires, following the method of Schachar et al. (38). By this latter approach if a score of three or more on certain symptoms (items) was obtained from both the Rutter scales, then the child was designated pervasively hyperactive. The symptoms in question were (i) 'very restless, often running about or jumping up and down' (ii) 'squirmy, fidgety child' and (iii) 'cannot settle to anything for more than a few minutes'; these symptoms have consistently emerged as forming a distinct dimension on factor analysis of Rutter scales (10, 24, 25, 41).

Diagnosis of conduct disorder

Conduct disorder was indicated by the presence of symptoms such as tantrums, destructiveness, lying, stealing, truanting and fighting (12), overlapping with the concept of conduct disorder in ICD 9 (44). Clinical diagnosis was based on detailed school-based questionnaires and screen data but primarily on data from semi-structured parent interviews by research psychiatrists (8, 9). These rated the children for the presence of

conduct disorder and also for severity of conduct disturbance on a four-point scale. There was satisfactory interrater reliability for this dimension of conduct disturbance (n = 41, r = 0.89) (46). For the purpose of analysis, children were identified either as conduct disordered (if they had at least mild conduct disorder) or not (no conduct disorder).

Sociometric measures

Each child in a class was asked to choose three classmates they *would like* to sit beside in class and three they would like to play with, at playtime (18). In addition, they were asked which they *would not* like to sit beside or play with. This procedure yielded two scores: 'isolation', defined as a lack of positive choice, and 'rejection', receipt of a large number of negative choices. In a class of approximately 30 children, a child was considered to be isolated if he or she scored nought or one positive choice and to be rejected if he or she received 14 or more negative choices. The cut points of nil or one positive choice indicative of isolation and of greater than 14 negative choices identifying rejection had been chosen on the basis of pilot data to identify approximately 6% of the original population, hence extreme or at-risk children. Test-retest reliability for 58 7-year-olds and 61 11- and 12-year-olds, and concerning ratings four-and-a-half weeks apart, yielded correlations of 0.64 and 0.72 for isolation and 0.87 and 0.87 for rejection, for juniors and seniors respectively (18).

Cognitive measures

Since a reading test was part of the junior screen, it was possible to use this as a measure of attainment. At this age, reading was measured using the Young Group Reading Test (47). This measure has been shown to have satisfactory test-retest reliability and concurrent validity (12). Those with a reading quotient below the mean for the populations sampled were identified as having a below average or 'low reading quotient' (LRQ).

For the seniors, a measure of general ability, designed for group administration (the General Ability Test – National Foundation for Educational Research) was used (12). This yielded an overall cognitive ability score. Children scoring below the mean for the population sample were identified as having a 'low cognitive ability' (LCA).

Statistics

The data were analysed using, first, chi-squared analysis and odds ratios (OR). Because of the risk of type 1 errors we have accepted significance at the 1% level. Also, in order to examine the independent and interactive effects of the categorical (behavioural, cognitive or attainment, and sociometric) variables in three-way contingency tables we have made use of log-linear analysis (7). The statistic reported is the likelihood ratio chi-square (G^2) and approximately follows a chi-squared distribution. It reflects the goodness of fit of models to multi-way contingency tables (7).

Results

Social isolation, conduct disorder (CD), hyperactivity (HA) and RQ among 7- and 8-year-old school children (Table 1)

Compared to the rate of social isolation among children without disruptive behaviour (26.2%), there was an elevated rate among those with CD (42.9%).

Table 1 Frequencies and percentages of social isolation among 7- and 8-year-old school children

	No HA		HA		Total sample
	no CD	CD	no CD	CD	
No isolation	58 (72.5)	16 (57.1)	35 (74.5)	108 (77.7)	217 (73.8)
Isolation	22 (27.5)	12 (42.9)	12 (25.5)	31 (22.3)	77 (26.2)
	No HA		HA		Total sample
	no LRQ	LRQ	no LRQ	LRQ	
No isolation	44 (65.7)	30 (73.1)	58 (71.6)	85 (81.0)	217 (73.8)
Isolation	23 (34.3)	11 (26.8)	23 (28.4)	20 (19.0)	77 (26.2)
	No CD		CD		Total sample
	no LRQ	LRQ	no LRQ	LRQ	
No isolation	55 (72.4)	47 (65.3)	38 (74.5)	77 (81.1)	217 (73.8)
Isolation	21 (27.6)	25 (34.7)	13 (25.5)	18 (18.9)	77 (26.2)

HA hyperactivity; *CD* conduct disorder; *LRQ* low reading quotient

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However, this association was not statistically significant. Also, there were no significant associations between either form of disruptive behaviour, LRQ and social isolation.

Social isolation, conduct disorder, hyperactivity, and LCA among 11- and 12-year-old school children (Table 2)

The overall rate of social isolation among 11- and 12-year-olds (26.7%) was similar to the rate among younger children. However, when compared with rates when neither form of disruptive behaviour was present, the rate of isolation was elevated among those with CD (OR = 3.6, X^2 = 11.3, d.f. = 1, $p < 0.01$) but not HA nor combined HA and CD. Also, when compared with those with neither HA nor LCA, the percentage isolated among children with LCA was elevated (OR = 3.2, X^2 = 8.6, d.f. = 1, $p < 0.01$). Further, compared to those with neither CD nor LCA, there was a high rate of isolation among children with LCA (OR = 5.0, X^2 = 13.8, d.f. = 1, $p < 0.01$) or combined LCA and CD (OR = 3.6, X^2 = 11.7, d.f. = 1, $p < 0.01$).

In order to identify independent associations of CD, HA, LCA and social isolation, the data were subjected to log-linear analysis (Table 3). There were independent effects of LCA and CD on social isolation. Also, there was a significant interaction of LCA, CD and social isolation: this reflected a higher rate of isolation among children with LCA compared with those without LCA, but only in the *absence* of CD. In the presence of CD, there was no additional effect of LCA on social isolation.

Association between peer rejection, CD, HA, and low reading quotient (LRQ) among 7- and 8-year-old school children (Table 4)

The next set of questions concern whether HA, CD and LRQ predict sociometric rejection. As shown in Table 4, among children with neither CD nor HA, there was a low rate of rejection (10%). This was significantly higher among children with combined HA and CD (OR = 3.6, X^2 = 10.4, d.f. = 1, $p < 0.01$).

There was also a low rate of rejection in the absence of either HA and LRQ (Table 4). In comparison, the rate of rejection was significantly greater in the presence of either HA or LRQ (OR = 3.3, X^2 = 7.2, d.f. = 1, $p < 0.01$). There was also a high rate of rejection among those with combined CD and LRQ (OR = 2.7, X^2 = 6.7, d.f. = 1, $p < 0.01$).

When the data were subjected to log-linear analyses (Table 5), neither CD alone nor HA alone independent-

Table 3 Log-linear analysis: Prediction of peer isolation among 11- and 12-year olds. N = 326

Analysis	Explanatory variables	df	G^2	Significance
A	CD	2	10.28	$p < 0.01$
	HA	2	5.34	n.s.
	CD + HA	1	2.6	n.s.
B	HA	2	3.2	n.s.
	LCA	2	10.0	$p < 0.01$
	HA + LCA	1	2.4	n.s.
C	CD	2	11.3	$p < 0.01$
	LCA	2	13.2	$p < 0.01$
	LCA + CD	1	8.8	$p < 0.01$

CD conduct disorder; *HA* hyperactivity; *LCA* low cognitive ability

Table 2 Frequencies and percentages of social isolation among 11- and 12-year-old school children

	No HA		HA		Total sample
	no CD	CD	no CD	CD	
No isolation	74 (80.4)	22 (53.7)	33 (78.6)	110 (72.8)	239 (73.3)
Isolation	18 (19.6)	19 (46.3)	9 (21.4)	41 (27.2)	87 (26.7)
	No HA		HA		Total sample
	no LCA	LCA	no LCA	LCA	
No isolation	66 (81.5)	30 (57.7)	64 (78.0)	79 (71.2)	239 (73.3)
Isolation	15 (18.5)	22 (42.3)	18 (22.0)	32 (28.8)	87 (26.7)
	No CD		CD		Total sample
	no LCA	LCA	no LCA	LCA	
No isolation	80 (88.9)	27 (61.4)	50 (68.5)	82 (68.9)	239 (73.3)
Isolation	10 (11.1)	17 (38.6)	23 (31.5)	37 (31.1)	87 (26.7)

HA hyperactivity; *CD* conduct disorder; *LCA* low cognitive ability

Table 4 Frequencies and percentages of peer rejection among 7- and 8-year-old school children

	No HA		HA		Total sample
	no CD	CD	no CD	CD	
No rejection	72 (90.0)	22 (78.6)	38 (80.9)	99 (71.2)	231 (78.6)
Rejection	8 (10.0)	6 (21.4)	9 (19.1)	40 (28.8)	63 (21.4)
	No HA		HA		Total Sample
	no LRQ	LRQ	no LRQ	LRQ	
No rejection	60 (89.6)	34 (82.9)	61 (75.3)	76 (72.4)	231 (78.6)
Rejection	7 (10.4)	7 (17.1)	20 (24.7)	29 (27.6)	63 (21.4)
	No CD		CD		Total sample
	no LRQ	LRQ	no LRQ	LRQ	
No rejection	65 (85.5)	56 (90.3)	45 (73.8)	65 (68.4)	231 (78.6)
Rejection	11 (14.5)	6 (9.7)	16 (26.2)	30 (31.6)	63 (21.4)

HA hyperactivity; *CD* conduct disorder; *LRQ* low reading quotient

Table 5 Log-linear analysis: Prediction of peer rejection among 7- and 8-year-olds. N = 294

Analysis	Explanatory variables	df	G^2	Significance
A	CD	2	4.0	ns
	HA	2	2.7	ns
	HA + CD	1	0.3	ns
B	LRQ	2	1.2	ns
	HA	2	7.1	$p < 0.05$
	LRQ + HA	1	0.4	ns
C	LRQ	2	2.0	ns
	CD	2	9.2	$p < 0.01$
	LRQ + CD	1	1.2	ns

HA hyperactivity; *CD* conduct disorder; *LRQ* low reading quotient

ly predicted peer rejection. Hence, the data appear compatible with an additive effect on rejection of HA and CD. However, HA or CD rather than LRQ proved independently to predict peer rejection, suggesting that behaviour disturbance rather than attainment is the main predictor of peer rejection at this age.

Association between peer rejection, CD, HA, and low cognitive ability (LCA) among 11- and 12-year-old school children (Table 6).

In comparison to older children with neither CD nor HA, there was a high rate of rejection among those with either CD (OR = 4.2, X^2 = 13.0, d.f. = 1, $p < 0.001$), or combined CD and HA (OR = 4.2, X^2 = 22.7, d.f. = 1, $p < 0.001$). Similarly, when compared to those with neither HA nor LCA, there was a higher percentage of rejection among children with LCA alone (OR = 2.8, X^2 = 7.9, d.f. = 1, $p < 0.01$), HA alone (OR = 3.2, X^2 = 9.1, d.f. = 1, $p < 0.01$), or both HA and LCA (OR = 3.7, X^2 = 15.7, d.f. = 1, $p < 0.001$). In a similar comparison, the rate of rejection was high among those with LCA alone (OR = 2.4, X^2 = 4.4, d.f. = 1, $p < 0.05$), CD alone (OR = 4.3, X^2 = 17.2, d.f. = 1, $p < 0.001$) or combined LCA and CD (OR = 4.5, X^2 = 22.5, d.f. = 1, $p < 0.001$). The log-linear analyses (Table 7) indicated that HA predicted rejection independently of LCA but that only CD predicted peer rejection independently of both HA and LCA.

Discussion

Peer ratings of social adjustment in childhood are reported to be powerful predictors of long-term psychosocial adjustment (6, 14). Hence, reports of abnormal peer relations of hyperactive children, characterising them as rejected by peers (5, 26, 33), are likely to be of prognostic significance. More recently, attention has focused on a linked phenomenon, the social impact of aggression and conduct problems (14, 30). However, a feature of this body of literature is the relative absence of data concerning the effect on peer relations of different forms of disruptive behaviour, such as conduct disorder and hyperactivity, and indicators of cognitive ability. As a consequence it is unclear whether reported associations are, for instance, specific to particular types of disruptive behaviours or cognitive deficits.

An extensive data base from previous Newcastle research has allowed exploration of the peer relations of children with disruptive behaviour disorders, at two ages, in relation to hyperactivity alone, or co-morbid with conduct disorder. The effect of below average cognitive or reading ability has been also examined.

There were no significant associations of hyperactivity and sociometric isolation among either 7–8-year-olds or 11–12-year-olds. There was a moderate increase at both ages of sociometric rejection among children with

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Table 6 Frequencies and percentages of peer rejection among 11- and 12-year-old school children

	No HA		HA		Total sample
	no CD	CD	no CD	CD	
No rejection	75 (81.5)	21 (51.2)	28 (66.7)	77 (51.0)	201 (61.7)
Rejection	17 (18.5)	20 (48.8)	14 (33.3)	74 (49.0)	125 (38.3)
	No HA		HA		Total sample
	no LCA	LCA	no LCA	LCA	
No rejection	65 (80.2)	31 (59.6)	47 (57.3)	58 (52.3)	201 (61.7)
Rejection	16 (19.8)	21 (40.4)	35 (42.7)	53 (47.7)	125 (38.3)
	No CD		CD		Total sample
	no LCA	LCA	no LCA	LCA	
No rejection	74 (82.2)	29 (65.9)	38 (52.1)	60 (50.4)	201 (61.7)
Rejection	16 (17.8)	15 (34.1)	35 (47.9)	59 (49.6)	125 (38.3)

HA hyperactivity; *CD* conduct disorder; *LCA* low cognitive ability

Table 7 Prediction of peer rejection among 11- and 12-year-olds. N = 326

Analysis	Explanatory variables	df	G^2	Significance
A	CD	2	15.7	$p < 0.001$
	HA	2	3.4	n.s.
	HA + CD	1	2.0	n.s.
B	HA	2	10.9	$p < 0.01$
	LCA	2	7.1	$p < 0.05$
	LCA + CD	1	2.7	ns
C	CD	2	20.4	$p < 0.001$
	LCA	2	4.3	ns
	LCA + CD	1	2.4	ns

HA hyperactivity; *CD* conduct disorder; *LCA* low cognitive ability

hyperactivity alone, but this did not prove statistically significant. These findings are compatible with the descriptions of peer relationship problems as features associated with A-D/HD (1) or hyperkinetic disorder (45) rather than as diagnostic criteria. They are also consistent with longitudinal data that suggest a benign outcome for even clinically referred hyperactive children (19), in the absence of early comorbidity.

In both age groups, conduct disorder was linked with sociometric rejection. These findings are consistent with reports that conduct problems and delinquency are associated with peer rejection in pre-adolescent youths (14), and that among 9- to 12-year-olds, 'aggression' independently predicts rejection (35). Also, recent evidence suggests that both peer rejection and symptoms of conduct disorder, notably aggression and defiance, may reflect underlying 'disruptions in functioning of the child's primary attachment relationships' (16). Further, surveys of older children with symptoms of conduct disorder reveal links with deficits in trust and supervision (20), with parental remarriage following separation (31), and with single parenthood (27), all either reflecting or potentially impacting upon the security, intimacy and ready availability of family attachments, risking protracted dysphoric, angry behaviour (39). We hypothesise that among children with uncomplicated hyperactivity disorders, attachment is not gravely threatened and severe disruption of human relationships does not occur but that impaired attachment underlies the association between peer rejection and conduct disorder reported here.

Among primary school-age children, but not young adolescents, symptoms of hyperactivity may be a necessary condition for severe conduct disorder (21). Also, among young adolescents, but not primary school children, hyperactivity is linked with emotional disorders (22). In addition, the genetic contribution to the phenotype of conduct disorder is said to differ at these two stages of development (29). The data reported here suggest that peer rejection also differentiates conduct disorder at the two ages, requiring combined hyperactivity and conduct disorder in childhood but conduct disorder alone in adolescence. Hence, these patterns of peer rejection may reflect a subtle qualitative difference, as well as continuities, in the nature and impact of conduct disorder presenting at 7–8 and at 11–12 years.

Taken together, the overall pattern of findings suggests that reported links between disruptive behaviour disorders and peer relationship problems underestimate the influence of conduct disorder and overestimate the contribution of hyperactivity. This may help to explain the inconsistent influence of hyperactivity treatments, such as stimulant medication, upon peer relations (34). It underlines the importance of adequately identifying conduct disorder and of accounting for its influence in future research on peer relationships of hyperactive children, and, given the poor prognosis of conduct disorder, accords with the suggestion that peer rejection is likely to represent 'a marker for developmental risk' (15).

Recent research findings suggest that while childhood reading difficulties are linked with concurrent childhood hyperactivity (3), independently of early behaviour problems or disorder, they pose no substantial long-term risk for later adolescent behaviour disorder (9). The findings reported here similarly indicate no effect, independent of conduct disorder, of below average reading or cognition on rejection. However, at 11–12 years, LCA is linked with peer isolation but the interaction term suggests that this effect disappears among conduct disordered children.

Methodological issues

Five important issues merit comment. First, a category of hyperactivity, based upon teacher and parent rating scales, and diagnosis of conduct disorder, based upon parent interviews as well as teacher and parent rating scales are clearly not equivalent. Nevertheless, parental questionnaires may be as valid and reliable as widely used structured interviews conducted by lay interviewers (4). Also, Taylor et al. (41) reported that the questionnaire-based category of pervasive hyperactivity identified 75% of cases of attention deficit hyperactivity disorder (1) in a community sample and all those of hyperkinetic disorder. Further, hyperkinetic disorder occurred in approximately 60% of children with questionnaire-based pervasive hyperactivity. Thus, we argue that pervasive hyperactivity is an adequately sensitive marker for both ADHD and hyperkinetic disorder. However, its specificity may be less high so that children with symptoms or partial syndromes of AD/HD or hyperkinetic disorder may have been included. However, the prevalence of pervasive hyperactivity in our older sample was 2.2% (21), and in light of the high level of sensitivity to full syndromes, this allows little room for additional partial syndromes. Accordingly the patterns of associations demonstrated here are likely to reflect real and important associations in community samples.

Second, the diagnosis of conduct disorder was not made on the basis of current diagnostic protocols. Nevertheless, it did rely on the judgement of clinicians and, save for the emergence in the UK of a greater awareness of hyperactivity which we have allowed for, we believe that the concept has not changed in a significant way since the research was undertaken and that the diagnosis remains valid. Third, the sample size, although substantial, precluded multivariate analysis for each gender. Fourth, although both samples contained screen-negative children (one-in-five to one-in-six), the majority were identified by high scores on multi-criteria screens, so that conclusions may relate to high-risk rather than normal populations. The rate of isolation was similar in both age groups studied. Also, despite the greater proportion of screen-negative children in the older sample the rate of rejection among the older children was higher than among the younger children. This suggests that the presence of screen-negative children in the samples did not make a substantial difference to rates of isolation and rejection. Hence, the presence of screen-negative children does not necessarily compromise in a critical way the degree to which the samples are likely to be broadly representative of children identified as at-risk in schools. Finally, the sociometric categories discussed here were developed for the original research and are not identical with mutually exclusive sociometric categories developed at a later date (28). However, the sociometric category of rejection in this database and current categories of rejection are very similar.

Conclusions

Hyperactivity showed moderate links with sociometric rejection in younger and older children. However, hyperactivity alone did not make an independent contribution to either sociometric isolation or rejection when included in the same log-linear analysis as conduct disorder. In contrast, conduct disorder had the more important links with peer sociometric responses. These links are more pronounced among older children. In addition, disruptive behaviour disorders proved more important correlates and predictors of isolation or rejection than the cognitive or attainment variables.

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