

# Trainee nursery teachers' perceptions of disruptive behaviour disorders; the effect of sex of child on judgements of typicality and severity

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Accepted for publication 24 June 2003

## Abstract

*Background* Adults' perceptions of children with disruptive behaviour disorders (DBDs), which usually interfere with socialization and referral of children to mental health services, might differ according to the child's sex. Given the importance of (a) the interactions between these children and their educators, and (b) early identification and referral, the impact of the child's sex on adults' perceptions is an important factor to consider.

*Aim* To examine the role of gender-related expectations in the identification and referral of childhood DBDs by trainee nursery teachers.

*Sample* One hundred and fifty-eight female trainee nursery teachers (mean age = 20 years) at the Department of Early Childhood Education in Athens.

*Method* Trainee nursery teachers' perceptions of male and female children with DBDs were explored using a Greek version of the Parental Account of the Causes of Childhood Problems Questionnaire. Eighty-one participants answered questions about a set of disruptive behaviours ascribed to a boy and 77 about the same behaviour ascribed to a girl.

*Results* DBDs ascribed to girls were considered to be no more severe or of greater concern than those ascribed to boys. Judgements of severity were related to concern in the same way for boys and girls. However, DBDs were regarded as less typical for girls than boys.

*Conclusions* The child's sex affected trainee teachers' judgements of typicality, but not severity, of children's behaviour problems. The implications of this finding for socialization practices and referral attitudes are discussed.

## Keywords

ADHD, hyperactivity, perceptions, DBDs, sex differences

## Introduction

Sex differences in the rates of disruptive behaviour disorders (DBDs) are well documented in both clinically referred and community-based samples (Eme & Kavanaugh 1995). Boys have been found

to manifest aggressive and antisocial actions up to 10 times more often than girls (Offord *et al.* 1987). During childhood, male-to-female ratios for attention deficit/hyperactivity disorder (ADHD) range from 9 : 1 to 6 : 1 in clinically referred samples and are approximately 3 : 1 in population-based studies

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(American Psychiatric Association 1987). Moreover, comorbidity between ADHD and oppositional defiant disorder (ODD)/conduct disorder (CD) has been found to be significantly higher in boys (Faraone *et al.* 1991). When present in boys, these disorders seem to have an earlier age of onset and greater persistence than in the case of girls (Zoccolillo 1993). These differences emerge during childhood. While in infancy, minimal sex differences exist; from 5 years onward, there is an increasing divergence in the frequency of girls' and boys' problem behaviour (Prior *et al.* 1993).

Various factors have been implicated in the development of sex differences in DBDs. First, the lower referral rates for girls, it has been argued, reflect the nature and level of difficulties associated with DBDs. For instance, ADHD boys typically display disruptive and aggressive behaviours more frequently, which might lead to higher referral rates (Gaub & Carlson 1997; Biederman *et al.* 1999). ADHD girls, on the other hand, often display cognitive impairments, have lower IQ, demonstrate poorer self-esteem, but present fewer conduct problems, which might lead only the most severely affected girls to be referred (Berry *et al.* 1985; James & Taylor 1990). Moreover, when ADHD girls do display oppositional symptoms, they may be referred at a younger age than boys, a finding that implies lower adult tolerance or greater concern for these behaviours when they occur in girls than in boys (Silverthorn *et al.* 1996).

However, some studies have failed to demonstrate significant differences between ADHD boys and girls either in their primary or secondary symptoms (Seidman *et al.* 1997; Sharp *et al.* 1999). Moreover, it has been found that ADHD boys and girls tend to perform in a similar way on neuropsychological tests (Arcia & Conners 1998; Biederman *et al.* 1999). Based on these findings, several authors suggest that the more severe impairment observed with ADHD girls compared with ADHD boys may be restricted to clinically referred populations (Gaub & Carlson 1997).

A second set of factors implicated in sex differences in the prevalence of DBDs refers to biological differences in vulnerability of boys and girls to develop them. Boys are considered more vulnerable than girls to neuropsychological deficits that

might underlie these disorders (Earls 1987). However, other studies have revealed that the contribution of biological differences between the two sexes in the development of sex differences in the prevalence of DBDs is limited. It has been shown that ADHD boys and girls have similar deficits in executive function (Castellanos *et al.* 2000), are vulnerable to the same family genetic risk factors (Faraone *et al.* 2000) and have a similar response to stimulants (Sharp *et al.* 1999).

A third set of factors thought to play a role in the reporting of higher levels of DBDs in boys than girls is related to sex-differentiated perceptions of and expectations in relation to conduct. Sociocultural expectations differ for boys' and girls' behaviour (Buss 1989). In most societies, quiet play, fearfulness and dependency are considered normative for girls, whereas overactivity, aggression and defiance are not (Simpson & Stevenson-Hinde 1985).

Normative studies have also shown that parents' perceptions of their children's abilities and vulnerabilities differ as a function of the child's sex even when children's real abilities and vulnerabilities do not support such differentiation. Eccles (1984) has documented that parents of girls express less confidence in their child's math competence than parents of boys despite the performance of girls and boys on tests of math competence being typically quite similar (Hyde *et al.* 1990). Jacobs and Eccles (1992) suggest that mothers' gender stereotypic beliefs interact with the sex of their child to influence their perceptions of the child's abilities. Other research reveals sex differences in parental beliefs about vulnerability for injury of boys' and girls' (Hillier & Morrongiello 1998). It has been shown that parents believe that girls are more vulnerable to injury than boys and, thus, they generally encourage and tolerate injury-risk behaviours more often in boys than girls.

These differences in parents' and teachers' perceptions of the two sexes might also influence their perceptions of behaviour disorders in boys and girls in a number of ways. First, they may lead to underestimates of DBDs in girls relative to boys. Second, female and male DBD might be attributed to different causes (Maniadaki *et al.* 2002). Third, adults may be more sensitive to DBDs when displayed by boys. Boys' DBDs might be considered

more provocative and challenging and would therefore be more apparent than girls' behaviour.

Alternatively, differences in adult perceptions may lead to an over-reporting of DBDs in girls. If, for instance, adults have a lower threshold for girls' disruptive behaviour than for boys', then the same incident or pattern of behaviour regarded in girls as problematic, might be regarded as completely normal in boys. If this was the case, then even the relatively low levels of problems reported for girls would represent an overestimate of the 'true' picture. Sonuga-Barke *et al.* (1993) reported such a pattern of 'bias' in teachers' ratings of Asian children's levels of hyperactivity. The actual behaviour of British Asian children identified as hyperactive by teachers was significantly less impulsive and overactive than that of their British white counterparts.

Carlson *et al.* (1997) suggest that it is useful to take into account cultural and familial expectations when assessing adults' views of girls with DBDs. In line with this suggestion, the aim of this study was to use standard vignettes describing DBD symptoms to explore whether adults' perceptions regarding childhood behaviour disorders differ as a function of the child's sex. The assumption underlying this aim was that if these perceptions were sex-differentiated, this would reflect differential expectations held in our society from boys and girls. Two main questions were addressed: 'Are there sex differences in how typical, problematic, and concerning DBDs are considered?' and 'Do judgements of severity and typicality predict concern and advice seeking in the same way for boys and girls?'

The participants in the study were students at the Department of Early Childhood Education in Athens who, upon graduating, would be expected to enter a career as educators at nursery schools and kindergartens. Trainee nursery teachers were chosen for a number of reasons. Educators are important socialization agents whose perceptions influence the socialization practices they adopt with children. It has been shown that teachers' misbehaviour-related attributions are significantly associated with their preferred practices (Bibou-Nakou *et al.* 2000). Moreover, educators play a key role in the referral of children's problems. Finally,

the participants were not exercising their profession yet. Thus, their perceptions would not be influenced by actual observed differences between the sexes that could emerge through their daily interaction with children in school.

## Method

### Participants

The sample consisted of 158 female Greek students of the Department of Early Childhood Education at the Technological Educational Institution of Athens. The mean age of the sample was 20 years.

### Measures

The questionnaire was adapted from the Parental Account of the Causes of Childhood Problems Questionnaire (PACCP; Sonuga-Barke & Balding 1993). It was designed to examine the structure and associations of adult perceptions of common childhood problems ascribed to a child described in a written vignette. The questionnaire was translated into Greek by bilingual Greek/English speakers. It was checked for consistency of meaning by an expert translator. Following this, the questionnaire was back-translated into English and the equivalence of the items on the original questionnaire and the Greek version were rated by five English psychology postgraduate students. There was a very high level of consistency between versions with the mean rating of equivalence being 4.60 on a 5-point scale where 1 represented 'not similar at all' and 5 represented 'identical'. Two versions of the PACCP were used in the present study. In the first behaviours described in the vignette were ascribed to a boy (John) and in the second to a girl (Jane). The vignette presented a combination of symptoms of ADHD, ODD and CD, displayed by a 9-year-old child. These three disorders are included in the category of DBDs in DSM-IV (American Psychiatric Association 1994). It should be noted that this comorbid condition is considered as a severe type of psychopathology, associated with increased levels of symptomatology within each of the disorders, increased levels of impairment in functioning and worse outcomes than each of the disorders

separately (Angold *et al.* 1999). The vignette was followed by 39 questions grouped into four sections. These covered: (i) a rating (on a 10-point scale) of how problematic or severe the behaviour problem was judged to be; (ii) five ratings (5-point scale) of how typical (for sex and age) the behaviour was, the extent to which the behaviours were concerning, and the impact that the behaviour would have on the child's life (friends/family); (iii) 25 ratings (5-point scales) of likely causes of the behaviour described in the vignette; (iv) eight ratings of the most appropriate source from which to seek advice.

In order to maintain the focus of the paper, results relating to the third section will not be presented.

### Procedure

The questionnaire was administered to all participants on the same day. The participants were told that the aim of the study was to investigate adults' attitudes towards children's behaviour. A between-subjects design was used: 81 participants filled in the questionnaire about John and 77 filled in the questionnaire about Jane. These two groups were in different classrooms at the time of the completion of the questionnaires. Consequently, they were not aware of the existence of two identical questionnaires in which only the child's sex was different. In addition, there was no chance for them to exchange information that could bias their answers.

### Results

Table 1 presents the data from sections (i) and (ii) of the PACCP on severity, typicality and concern.

The behaviour presented was generally regarded as severe, untypical for both sex and age and a cause for concern. In order to investigate whether the child's sex influenced the above judgements, a series of independent sample *t*-tests were conducted. No differences were found between the participants' judgements for the boy and the girl for three of the four variables (including severity and concern). Girl's disruptive behaviour was, however, considered to be significantly less typical for her sex than was the same behaviour displayed by boys.

Table 2 displays the ratings for need to seek advice. In general, there was a view that advice should be sought from professional rather than non-professional sources. Child psychiatrist was the most often nominated as an appropriate source of advice. There was no overall sex difference in the perceived need to seek advice from either professional or non-professional sources. Once alpha levels were corrected for multiple tests, there were no sex differences on individual items.

The correlation between the measures reported in Tables 1 and 2 are presented in Table 3. For both boys and girls, there was a correlation between severity and concern (i.e. the greater the severity, the higher the concern). No other correlations reached significance once multiple tests had been taken into account.

In order to establish their independent contribution to predicting concern, severity and typicality were entered as independent variables into two multiple regressions with concern as the dependent measure (Table 4). Only severity accounted for a significant proportion of the variance in concern for both boys and girls when other variables were controlled. There was a trend linking typicality

**Table 1.** Ratings of the severity, typicality and degree of concern for the behaviour described in the vignette for boys and girls

	Whole sample ( <i>n</i> = 158)		Males ( <i>n</i> = 81)		Females ( <i>n</i> = 77)		<i>t</i>
	Mean	SD	Mean	SD	Mean	SD	
Severity	7.69	2.10	7.54	2.40	7.84	1.70	-0.90
Typicality (age)	3.80	0.79	3.77	0.83	3.83	0.75	-0.52
Typicality (sex)	3.80	1.01	3.21	0.96	4.42	0.64	-9.27*
Concern	4.02	0.93	4.05	0.93	3.99	0.92	0.42

Alpha corrected for multiple tests following a Bonferroni test; \**P* < 0.01; d.f. for *t*-tests = 156. Higher ratings indicate the behaviour is rated as more severe, untypical and generating greater concern.

**Table 2.** Ratings of advice seeking from professional and non-professional sources

	Whole sample (n = 158)		Males (n = 81)		Females (n = 77)		t
	Mean	SD	Mean	SD	Mean	SD	
Professional							
Family doctor	3.82	0.97	3.83	0.97	3.81	0.97	0.14
Psychiatrist	4.69	0.61	4.78	0.63	4.60	0.57	1.88
Teacher	4.14	0.72	4.14	0.68	4.14	0.76	0.06
Books	4.07	0.87	4.04	0.91	4.10	0.82	-0.48
Health visitor	3.23	1.06	3.12	1.10	3.34	1.02	-1.27
Mean professional	3.99	0.50	3.98	0.51	4.00	0.49	-0.21
Non-professional							
Religious leader	2.26	1.13	2.20	1.10	2.32	1.16	-0.71
Friends	2.34	0.97	2.52	1.00	2.14	0.90	2.48
Grandparents	2.16	0.90	2.21	0.90	2.12	0.89	0.65
Mean non-professional	2.25	0.70	2.31	0.69	2.19	0.69	1.04

Alpha corrected for multiple tests following a Bonferroni test; d.f. for t-tests = 156; high ratings = should seek advice.

**Table 3.** Inter-correlations between ratings of severity, typicality, concern and advice seeking for boys and girls

	Severity		Typicality		Concern	
	M	F	M	F	M	F
Severity	1.00	1.00				
Typicality	-0.27	-0.24	1.00	1.00		
Concern	0.55*	0.44*	-0.20	-0.28	1.00	1.00
Professional advice	0.17	0.21	-0.14	-0.15	0.15	0.13
Non-professional advice	0.08	0.08	-0.12	-0.01	0.02	0.00

M, male; F, female.

Alpha corrected for multiple tests following a Bonferroni test; \*P < 0.01.

**Table 4.** Stepwise multiple regression of predictors of parental concern according to trainee nursery teachers

	r <sup>2</sup>		F(2, 78)		F(2, 74)		P	
	M	F	M	F	M	F	M	F
Full model	0.30	0.23	16.73	10.81	0.000	0.000		
	Beta		t		P			
	M	F	M	F	M	F		
Severity	0.54	0.44	5.83	4.27	0.00	0.001		
Typicality	0.05	0.18	0.54	1.72	0.59	0.090		

M, male; F, female.

with concern for girls, although the association fell short of significance.

### Discussion

The symptoms of DBDs ascribed to the child presented in the vignette were clearly regarded as being severe, untypical and a cause for concern. They were also seen as warranting advice from professional sources especially child psychiatrists.

In general, as one would expect, severity predicted concern. Against expectation, severity and typicality were not associated with each other (although there was a trend in this direction). This suggests that people's views of the severity of disorders and their judgements about the typicality of the associated behaviours are, to a considerable degree, independent of each other. In short, odd or untypical behaviour is not considered to be the same thing as problematic behaviour and by and large it is these judgements relating to how problematic a behaviour is that determines the level of concern over the behaviour. This is very much in keeping with the thinking that underpins current diagnostic systems where impairment and not just symptom expression is considered a prerequisite for diagnosis.

There were surprisingly few sex differences in perceptions of DBDs. DBDs were considered no more severe, concerning or in need of advice when ascribed to girls rather than boys. The predictive

significance of severity and typicality was similar for DBDs ascribed to boys and girls. The significance of this pattern of results, assuming their generalizability, for discussions about sex differences in the prevalence of DBDs is clear in suggesting that the trainee nursery teachers in the study adopted similar criteria for judging the significance and severity of DBDs as expressed by boys and girls. Furthermore, such judgements of severity were translated into concern to the same degree in boys and girls.

While these associations are similar in quantity, they may differ in quality. Two areas of sex-related differentiation of attitudes suggest that this may be the fact. First, girls' disruptive behaviour was considered less sex-typical than boys' despite the fact that the boy's and the girl's behaviour described in the vignette was seen as equally severe (Maniadaki *et al.* 2001). It could be argued of course that perceptions of child disruptive behaviour are shaped by children's actual behaviour and that sex differences in these perceptions might result from actual differences in the behaviour of boys and girls. Such a view is supported by Scarr and McCartney (1983), who formulated the hypothesis of evocative genotype-environment influences, suggesting that differential practices towards boys and girls are a reaction to differences in boys' and girls' pre-existing dispositions. However, children's actual behaviour does not always predict adults' dispositional inferences, and when significant prediction occurs, it is modest (Bates 1980; Daniels *et al.* 1984). Moreover, in studies exploring the direction of effect between child temperament and maternal behaviour ratings, maternal characteristics have been found to make a greater contribution to maternal perceptions of the child than observed child behaviour (Lancaster *et al.* 1989).

Second, while in general severity was far and away the best predictor of concern for both boys and girls, there was a trend towards sex-related typicality judgements contributing to concern in girls but not boys. This might suggest that the ability of girls to fulfil social expectations may play some role in determining expressions of concern. The fact that girls who display DBDs are not behaving in a typically feminine way is related to concern for their behaviour over and above that associated

with its perceived severity. This finding is consistent with that of Zahn-Waxler (1993), who remarks that externalizing behaviours are expected to be more congruent with social expectations generally held of boys. While worthy of further study, this finding should not be overstated given the weakness of the association reported.

The study has a number of limitations that are important to take into account when interpreting the findings. First, the use of written vignettes, although common in research on attitudes to and attributions of children's behaviour, inevitably leads to limited ecological validity. This approach has the great advantage of allowing the researcher to control for the content of the behaviour to be ascribed to boys and girls. However, future research might benefit from supplementing the vignette-based approach with a more naturalistic approach exploring teachers' perceptions of particular children. Second, only one vignette, describing a relatively serious condition, was used in the current study. As a result, teachers' ratings of severity and concern were rather limited in their range which may have led to a lack of power to detect associations between the various factors. It has been shown that social inferences for inattentive/overactive and aggressive child behaviours are quite different with aggressive behaviours eliciting more negative effect and responses (Lovejoy 1996). It is also possible that associations between severity, typicality and concern are non-linear in nature or that they follow a different function for boys and girls. It is therefore possible that in only sampling extreme cases, one may miss important sex differences in the less severe range.

These findings can serve as a basis for further study into the relationship between sex-differentiated social perceptions and the impact of socialization on expression of behaviour disorders by boys and girls. A number of studies have indicated that labelling a child a boy or a girl, independent of the child's actual sex, leads to differential interaction styles (Huston 1983). It seems therefore that sex differences in interpersonal orientations towards the sexes are in place by the first years of life, which is an important period for the development of children's rule violations and adherence to norms (Zahn-Waxler 1993). Moreover, research from a

social cognition perspective has linked parents' attributions or causal explanations for child behaviour to their affective and behavioural responses (Freeman *et al.* 1997). Consequently, if DBD symptoms are considered as less typical or appropriate for girls, this may lead to socialization practices which reinforce the expression of these behaviours in boys and weaken their expression in girls (Kakouros *et al.* 2002). In other words, aspects of male roles and behaviours can, in extreme cases, contribute to the development of disruptive behaviour problems, while the aspects of female roles can contribute to early decline of this kind of problems for girls. This idea is consistent with that of Huselid and Cooper (1994), who believe that 'gender role attributes substantially, though not completely, mediate sex differences in a range of externalizing and internalizing symptoms.'

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