

# Levels of Behavioural Difficulties among Young Welsh Schoolchildren

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#### ABSTR ACT

This paper reviews the challenges faced by teachers and the levels of behavioural difficulties among children in early years classes in schools in north-west Wales. It also briefly describes the Incredible Years school-based programmes and the randomized controlled trial that provided the context for the data collection reported in this paper.

Data, on 248 pupils in twelve reception classes, included the teacher rated Strengths and Difficulties questionnaire and the Teacher Stress Inventory. Pupils had a mean age 4.88 years (50.1% boys) with 12.5 per cent rated as having significant behavioural difficulties. Sub-scale scores on hyperactivity (23.85%) and deficits in social behaviour (22.6%) were the most prevalent. Boys were three times more likely to be rated within the problem range than girls. Teachers also reported moderate levels of stress in relation to the demands of a difficult class.

The results suggest a sizeable increase in levels of problems since a 1982 survey in the same area, particularly in relation to hyperactivity.



#### Introduction

Teachers are reporting significant levels of behavioural difficulties among children in their classrooms, with many children starting school with both behavioural problems and deficits in the linguistic and social skills necessary to engage with an academic curriculum (Scott, et al., 2001). Between 7 and 10 per cent of young school-aged children in the UK meet diagnostic criteria for Conduct Disorder (CD) (DSM IV - TR 1994; National Institute for Health and Clinical Excellence: NICE, 2006) and considerably higher levels are reported in disadvantaged communities (Attride-Stirling et al., 2000; Webster-Stratton and Hammond, 1998) with boys more likely to have such problems than girls (Office for National Statistics, 2007; Webster-Stratton, 1996). This represents a challenge to parents, however, behavioural problems at home or out of school are not necessarily reflected in children's behaviour in school so it is important to also assess children's behaviour difficulties in school since problem behaviour in the classroom can affect both the child's academic progress and that of other pupils.

The link between conduct problems and difficulties in school is well established and includes poor school attendance, inadequate peer relationships, and school failure (DfES, 2003; Woolfenden et al., 2001). Research investigating the specific behaviours that primary school teachers find most troublesome in the classroom has identified talking out of turn, hindering other children, non-attending and non-compliance (Merrett and Wheldall, 1984; Wheldall and Merrett, 1988).

For many years teachers have reported significant levels of behavioural and learning difficulties among children in school (Webb, 1967). Chazan and Jackson (1971) collected teacher reports of children's adjustment in infant schools in London and Wales using the standardized Bristol Social Adjustment Guide (BSAG) (Stott, 1966). In a predominantly urban sample, with only 8 per cent of children attending rural schools, they reported levels of conduct problems of between 5.4 and 5.8 per cent (Chazan and Jackson, 1971).

In contrast to the findings of Chazan and Jackson (1971), a north Wales school-based survey of primary school children undertaken in 1982 by Baker et al. (1985), also using BSAG (Stott, 1956), reported a rate of 1.5 per cent for conduct problems in a very rural part of Wales. The explanation for the lower level of teacher reported problems in the Baker et al. (1985) study is not clear but it is possible that it was, in part, because their sample





came from a more settled rural community that provided more support for children and families. However over the intervening twenty-five years the nature of these rural communities has changed with both inward and outward migration and teachers in rural schools are reporting increasing numbers of children with behavioural problems.

This paper presents teacher reported levels of difficulties among children in early years classrooms in Gwynedd, a rural county in north-west Wales, providing an update on the Baker et al. (1985) study, which was also undertaken in Gwynedd. It also reports sex differences in levels of problems and teacher stress related to child behaviour problems in the classroom. The study for which these data were collected arose from the introduction of the Incredible Years (IY) teacher and child programmes in Gwynedd schools (Hutchings et al., 2004; Hutchings et al., 2007a).

Strategies to address behavioural difficulties in the classroom are underresearched in the UK with little evidence from high quality UK-based randomized controlled trials (RCTs) of school-based interventions (Hutchings et al., 2007a). In 2002, recognizing that behaviour management was something with which teachers were increasingly seeking support, Gwynedd County Education Service decided to implement training for primary school teachers from two schools in the IY Teacher Classroom Management (TCM) programme and the linked IY 'Dinosaur School' social and emotional curriculum (Dino School). This development followed the successful introduction of the IY parent programme across north Wales that commenced in 2000 (Hutchings et al., 2007b).

## The IY TCM programme

This is a group-based programme for teachers (Webster-Stratton, 2000a; Webster-Stratton et al., 2001a) that had been demonstrated to increase teacher competencies and improve home-school links (Webster-Stratton and Reid, 2002). It has three core themes:

- to improve home-school links through promoting ways that teachers and parents can collaborate to address children's educational needs;
- 2. to strengthen children's social and academic confidence through use of effective classroom management strategies;
- to address the specific needs of high-risk children by setting up individualized programmes.







The curriculum covers praise, encouragement, and incentives to increase desired behaviours and proactive strategies such as classroom rules and timetables to achieve increased compliance. The management of problem behaviour includes ignoring inappropriate behaviours that are not disruptive to other children and managing non-compliance through the use of time-out and consequences. Teachers attend the course one day a month for five months and are given classroom assignments including developing behaviour plans.

# The IY Classroom Dinosaur School Social Skills and Problem Solving programme (DINO School)

This is a whole class curriculum (Webster-Stratton, 2000b) through which child-sized puppets teach children social and emotional regulation skills, including how to do your best in school and follow rules, identify and label feelings, deal with negative feelings, problem solve, manage anger and make and keep friends. This is done through discussion, watching video clips and role-play rehearsal. The programme has been demonstrated to promote peer relationships, pro-social problem solving and academic engagement (Webster-Stratton et al., 2001b; Webster-Stratton and Reid, 2006).

Following successful implementation of these programmes in two schools (Hutchings et al., 2004), the project was rolled out further and in 2004 a small evaluation of the TCM programme was undertaken (Hutchings et al., 2007a). This reported on both teacher satisfaction with the programme and observed teacher behaviour. The TCM training was well received by teachers and, when compared with teachers that had not received the training, trained teachers showed significantly greater use of positive strategies including direct commands and praise. Pupils of trained teachers showed significantly less non-compliant behaviour and more positive behaviours (Hutchings et al., 2007a). This pilot study confirmed Gwynedd's intention to continue with the roll out of the TCM programme but they were keen to participate in a more rigorous evaluation of the programme and partnered with Bangor University in co-funding a PhD student to undertake an RCT of the programme. The data reported below were collected as part of this trial.









## The evaluation

Teachers from twelve classrooms in eleven primary schools were recruited for an RCT evaluating the effectiveness of the IY TCM programme. Teachers completed the teacher version of the Strengths and Difficulties Questionnaire (SDQ: Goodman, 1997) on all of the children in their classes in order to identify a representative sample of children for the RCT trial and the Teacher Stress Index (TSI) (Borg et al., 1991). This paper reports on the SDQ data for the whole sample and on teacher reported stress in relation to the demands of a 'difficult class'.

#### Measures

Strengths and Difficulties Questionnaire (SDQ; Goodman, 1997)

The SDQ is a 25-item behavioural screening measure to assess the occurrence of problematic behaviours. The teacher version contains four problem subscales, Emotional Problems, Conduct Problems, Hyperactivity, Peer Problems, and a Pro-social Behaviour scale. Example items from each of the scales include 'Often unhappy, downhearted or tearful', 'Often fights with other children and bullies them', 'Restless, overactive, cannot stay still for long', 'Rather solitary, tends to play alone', and 'Considerate of other people's feelings' respectively. The scores are split into three categories, normal, borderline and abnormal. The normal range on the total difficulties scale is 0–11 whilst the normal range for each of the subscales are above 0–4, 0–2, 0–5, 0–3 and below 6–10 for the pro-social scale, respectively. An additional Impact Supplement scale measures the teacher's view of the impact of the problem on the child's daily life.

Teacher Stress Index (TSI; Borg et al., 1991)

This is a 20-item questionnaire scored on a 5-point Likert scale, with response choices ranging from no stress (scoring 0), mild, moderate, much and extreme stress (scoring 4). This measure has been used in previous studies investigating occupational stress in teachers (e.g. Griffith et al., 1999).









## Sample description

Teachers from twelve classes from eleven schools in Gwynedd participated in the study commencing in 2005. None of the participating schools had previously received any training in either IY TCM or Dino School programmes. One school had two reception classes and the remainder had one, eight were rural schools. Three were small schools, with fewer than 50 pupils, four (36.4 per cent) medium-sized schools, with 50–100 pupils, and four (36.4 per cent) large schools with over 150 pupils. The mean free school meals level across the schools was 13 per cent with three schools having above 20 per cent. The schools were selected to be representative of the county as a whole for which the level of free school meals is 11.5 per cent (Office for National Statistics, 2009). The national average for free school meals for Wales is 16.2 per cent (Office for National Statistics, 2009).

Although the focus of the study was reception-aged children some children were older or younger as a result of being in multi-age classes. Data were obtained for 248 pupils aged between three and seven years old, with a mean age of 4.88 years (SD 0.88). One hundred and forty-seven children (61.3%) were of reception class age, with twenty-one (8.7%) nursery, forty-nine (20.4%) year 1, and twenty-three (9.6%) year 2 aged. One hundred and twenty-six (50.8%) of the children were male.

Teachers from the twelve classes completed the teacher version of the SDQ on every child in their class. Teachers were also asked to report on their stress in relation to pupil misbehaviour, as measured by the TSI.

#### Results

Of the 248 children, 12.5 per cent were reported by teachers as having significant behavioural problems (SDQ total difficulties score) and 22 per cent were above the cause for concern cut off. The mean total difficulties score of 7.2 (SD 6.2) was marginally above the national mean of 6.6 reported by Goodman (1997) as were all four problem sub-scales.

Subscale scores showed considerable variation, with significant levels of hyperactivity at 23.8 per cent and deficits in social behaviour for 22.6 per cent of children, being the two most frequently reported problems. Sample items on these two scales include 'restless, overactive, cannot stay still for long' and 'considerate of other people's feelings'. The conduct problems subscale reported significant difficulties for 8.9 per cent of children with







6.5 per cent for the peer problem subscale and 4 per cent for the emotional problem subscale, 23.4 per cent of children were above abnormal cut-off on the impact supplement scale on which teachers rated the effect that the child's problems had on their daily functioning. The results are shown in Table 1.

The results were analysed by gender and confirmed national figures with boys having more problems than girls (Office for National Statistics, 2007). The percentage of boys above the clinical cut-off for total difficulties was three times that of girls (see Table 2). These differences, analysed using a Chi-square test (Table 3), were highly significant as were the differences on the three sub-scales (conduct, hyperactivity and peer problems). There was a similar but non-significant trend in the difference on the emotion problems sub-scale. There was also a significant, but reversed, difference for the pro-social scale where the percentage of pro-social girls exceeded boys by 4.2 to 1.

Independent t-tests demonstrated significantly higher mean levels of conduct problems, hyperactivity, peer problems, total difficulties and total impact scores for boys than girls with girls having significantly higher prosocial scores as shown in Table 4. There were no significant gender

Table 1 Mean scores for each SDQ scale for whole sample (n=248)

Measure	Mean (SD)	Norm mean (SD)	% at or exceeding clinical cut-off
Total difficulties	7.2 (6.2)	6.6 (6.0)	12.5
Emotional problems subscale	1.3 (1.9)	1.4 (1.9)	4.0
Conduct problems subscale	0.96 (1.6)	0.9 (1.6)	8.9
Hyperactivity subscale	3.7 (3.2)	2.9 (2.8)	23.8
Peer problems subscale	2.0 (0.5)	1.4 (1.8)	6.5
Pro-social subscale	6.7 (3.0)	7.2 (2.4)	22.6*
Impact supplement	1.0 (1.98)	0.4 (1.0)	23.4

<sup>\*</sup> in the case of the pro-social subscale the percentage cited is those below the normal range







Table 2 Number and percentage of boys and girls scoring above clinical cut-off for problems (below cut-off for pro-social scale)

Subscales	Male	Female
Total difficulties	24 (19%)	7 (5.7%)
Conduct	16 (12.7%)	6 (4.9%)
Emotion	7 (5.6%)	3 (2.5%)
Hyperactivity	44 (34.9%)	15 (12.3%)
Peer problems	12 (9.5%)	4 (3.3%)
Pro-social	42 (33.3%)	14 (11.5%)
Total impact	42 (33.3%)	16 (13.1%)

Table 3 Chi-square test of differences in frequencies for boys and girls scoring above the TSDQ clinical cut-off for total problems and subscale scores (below cut-off for pro-social scale)

TSDQ scale	$X^2$	p-value	odds ratio
Total Difficulties	10.04	.002**	4.00
Conduct	4.64	.031**	3.00
Emotion	1.54	.215	
Hyperactivity	17.50	< .001*	3.86
Peer Problems	4.01	.045**	3.67
Pro-social	18.47	< .001*	4.17
Total Impact	14.14	<.001*	3.33

<sup>\*</sup> Significant to p-value < .001

differences for emotion problems although the trend was in the same direction as the other difficulties with boys having a higher mean score.

Additional analyses were performed to explore for possible variation in levels of difficulties in schools with differing levels of socio-economic disadvantage, as measured by free school meal entitlement. No significant correlation was found between the percentage of free school meals in each school and mean total difficulties within the schools (r=.491, n.s.).

Analyses were run to examine which problem behaviours were seen as most stressful for teachers, using the student misbehaviour sub-scale of the





<sup>\*\*</sup> Significant to p-value <.05



TSI. The variable associated with the highest rating of stress was difficult class (mean score 2.06) representing moderate stress (Table 5).

The sub-scale frequencies of problems from the TSDQ were compared to those reported by Baker et al. (1985), as shown in Table 6. The Baker et al. study was also undertaken in Gwynedd, although the county borders were larger in 1982. Baker et al. (1985) used a different measure of teacher reported behaviour problems, the Bristol Social Adjustment Scale (BSAG: Stott, 1956) however several sub-scales are similar to those on the teacher SDQ enabling some comparison. Table 6 shows a similar pattern across four comparable sub-scales but with much higher levels of problems now being reported on all scales. Increases from 5.9-23.8 per cent in reported hyperactivity (a four-fold increase), from 1.5-8.9 per cent (a five-fold

Table 4 Sex differences in mean SDQ scores analysed by Independent t-test

		1		
TSDQ scale	Female Mean (SD)	Male Mean (SD)	t-value	p-value
Total difficulties	5.14 (5.24)	9.25 (6.46)	5.50	< .001*
Conduct	0.57 (1.14)	1.34 (1.83)	3.95	< .001*
Emotion	1.07 (1.65)	1.48 (2.02)	1.75	.082
Hyperactivity	2.57 (2.92)	4.71 (3.18)	5.50	< .001*
Peer problems	0.90 (1.47)	1.63 (1.86)	3.44	<.001*
Pro-social	7.61 (2.51)	5.90 (3.22)	-4.64	< .001*
Total impact	0.56 (1.42)	1.44 (2.15)	3.82	< .001★

<sup>\*</sup>Significant to p-value <.001

Table 5 Mean scores on the Teacher Stress Index (TSI)

( )	
Teacher Stress Index (TSI)	Mean (SD)
Total	1.27 (0.77)
Noisy pupils	1.19 (1.05)
Difficult class	2.06 (1.29)
Maintaining discipline	1.00 (1.03)
Impolite or cheeky pupils	0.81 (0.91)







Table 6 Comparison of levels of behaviour problems in Gwynedd schools for Baker et al. (1985) and this study.

Measure	Hutchings et al. TSDQ (2004 survey)	Baker et al. BSAG (1982 surveγ)
Hyperactivity	23.8	5.9
Peer problems	6.5	1.5
Emotional problems	4.0	2.8/3.1
Conduct problems	8.9	1.5

increase) in conduct problems and from 1.5–6.5 per cent (a four-fold increase) in peer problems are particularly concerning and provide evidence of a significant growth in numbers of young school children with such difficulties, something that teachers have been anecdotally reporting for some time.

#### Conclusions

Teachers are reporting significant and growing levels of problems in young children in schools in a rural county in north-west Wales. The results of this survey conducted in 2005 also confirm previous studies demonstrating significantly higher levels of problems among boys than girls. This is supported by other research from around the UK (Baker et al., 1985; Chazan and Jackson, 1971; Chazan and Jackson, 1974; Merrett and Wheldall, 1984; Wheldall and Merrett, 1988).

Although in general the teachers were not reporting high levels of stress in relation to their work they were reporting moderate levels of stress in relation to the demands of a difficult class. This suggests that teachers find some of these behaviours challenging which, together with the growing numbers of children arriving at school with behavioural difficulties, supports the decision of the Gwynedd Local Authority to introduce the IY TCM programme.

These data were useful in providing Gwynedd with a snapshot of levels of problems faced by teachers in their classrooms and clearly demonstrate the need for teachers to be skilled in managing difficulties and supporting children's social, emotional and academic development.

The RCT trial is now complete and key findings were that the programme had significant positive effects on teacher behaviour that improved









the behaviour of both high-risk children and the whole class for the better (Martin, 2010). These results, demonstrating high levels of teacher concern about behaviour in school, have confirmed Gwynedd's strategy of providing training in the IY programmes for teachers in all of their schools and, by 2009, all 102 primary schools now have teachers trained in both TCM and the Dino curriculum. These programmes have been identified as contributing to excellence in Estyn school inspection reports for both individual schools in Gwynedd and the country as a whole:

Pupils' personal and social development is promoted effectively through activities such as Ysgol Dina, circle time and the School Council ... As a result of implementing the Webster-Stratton programme, there has been a significant improvement in pupils' attitudes towards learning and in the overall standard of their behaviour.

Ysgol Abercaseg (2006)

Pupils' spiritual, moral, social and cultural development is fostered very effectively by a coherent strategy which incorporates and brings together aspects of the curriculum, personal and social education, circle time, services, the use of the 'Webster-Stratton' scheme and procedures for promoting good behaviour and developing emotional intelligence. The strategy ensures that there is progression and balance across the school and the manner in which it is implemented is an outstanding feature of the school.

Ysgol Bro Lleu (2008)

The local authority has adopted the Webster-Stratton programme in all its primary schools to target poor behaviour ... As a results, incidences of challenging behaviour in primary schools have reduced.

Gwynedd (2008)

The data reported here show that the task facing teachers in managing children's behaviour in the classroom, particularly that of boys, is challenging and has increased significantly between 1982 and 2005. By investing in the IY TCM programme and also supporting its evaluation Gwynedd have made a commitment to both their teachers and the children in their classes.

## References

Attride-Stirling, J., Davis, H., Day, C. and Sclare, I. (2000). 'Someone to talk to who'll listen: addressing the psychosocial needs of children and families', *Journal* of Community Applied Social Psychology, 11, 179–91.









- Baker, C., Davies, N., and Stallard, T. (1985). 'Prevalence of behaviour problems in primary school children in north Wales', *British Journal of Special Education*, 12, 1, 19–21.
- Borg, M. J., Riding, R. J., and Falzon, J. M. (1991). 'Stress in teaching: a study of occupational stress and its determinants, job satisfaction and career commitment among primary schoolteachers', *Educational Psychology*, 11, 1, 59–75.
- Chazan, M. and Jackson, S. (1971). 'Behaviour problems in the infant school', *Journal of Child Psychology and Psychiatry*, 12, 191–210.
- Chazan, M. and Jackson, S. (1974). 'Behaviour problems in the infant school: changes over two years', *Journal of Child Psychology and Psychiatry*, 15, 33–46.
- DfES (Department for Education and Skills) (2003). Every Child Matters, London, DfES.
- DSM IV TR (1994). The Diagnostic and Statistical Manual of Mental Disorders (4th edn), Washington DC, American Psychiatric Association.
- Goodman, R. (1997). 'The strengths and difficulties questionnaire: a research note', Journal of Child Psychology, Psychiatry and Allied Disciplines, 38, 5, 581-6.
- Griffith, J., Steptoe, A. and Cropley, M. (1999). 'An investigation of coping strategies associated with job stress in teachers', *British Journal of Educational Psychology*, 69, 517–31.
- Hutchings, J., Lane, E., Owen, E. and Gwyn, R. (2004). 'The introduction of the Webster-Stratton Classroom Dinosaur School Programme in Gwynedd, north Wales', Education and Child Psychology, 21, 4, 4–15.
- Hutchings, J., Daley, D., Jones, K., Martin, P., Bywater, T. and Gwyn, R. (2007a). 'Early results from developing and researching the Webster-Stratton Incredible Years Teacher Classroom Management training programme in north west Wales', Journal of Children's Services, 2, 3, 15–26.
- Hutchings, J., Bywater, T., Daley, D., Gardner, F., Whitaker, C., Jones, K., Eames, C. and Edwards, R. T. (2007b). 'Parenting intervention in Sure Start Services for children at risk of developing conduct disorder: pragmatic randomised controlled trial', BMJ, available at: http://www.bmj.com/cgi/content/full/334/7595/678 (accessed 23 August 2010).
- Martin, P. (2010). From Small Acorns: The Positive Impact of Adopting Simple Teacher Classroom Management Strategies on Global Classroom Behaviour and Teacher-Pupil Relationships, unpublished PhD thesis, Bangor University.
- Merrett, F. and Wheldall, K. (1984). 'Classroom behaviour problems which junior school teachers find most troublesome', *Educational Studies*, 10, 2, 87–92.
- National Institute for Health and Clinical Excellence (NICE) (2006). Parent-training/Education Programmes in the Management of Children with Conduct Disorders, NICE technology appraisal guidance 102, London, SCIE, NHS.
- Office for National Statistics (2007). Three Years On: Survey of the Development and Emotional Well-being of Children and Young People, London, ONS.
- Office for National Statistics (2009). School Census 2009: Provisional Results. Statistics for Wales: Welsh Assembly Government Report, London, ONS.







- Scott, S., Spender, Q., Doolan, M., Jacobs, B., and Aspland, H. (2001). 'Multicentre controlled trial of parenting groups for childhood antisocial behaviour in clinical practice', *British Medical Journal*, 323, 194–8.
- Stott, D. H. (1956). Unsettled Children and their Families, London, London University Press.
- Stott, D. H. (1966). The Social Adjustment of Children (Manual to the Bristol Social Adjustment Guides), London, London University Press.
- Webb, L. (1967). Children with Special Needs in the Infants' School, London, Colin Smythe.
- Webster-Stratton, C. (1996). 'Early-onset conduct problems: does gender make a difference', Journal of Consulting and Clinical Psychology, 64, 3, 540–51.
- Webster-Stratton, C. and Hammond, M. (1998). 'Conduct problems and level of social competence in Head Start children: Prevalence, pervasiveness, and associated risk factors', Clinical Child and Family Psychology Review, 1, 2, 101–24.
- Webster-Stratton, C. (2000a). The Incredible Years Training Series, Washington, D.C., Office of Juvenile Justice and Delinquency Prevention.
- Webster-Stratton, C. (2000b). Dina Dinosaur's Social Skills and Problem-solving Curriculum: Leaders Guide, Seattle, Incredible Years.
- Webster-Stratton, C., Mihalic, S., Fagan, A., Arnold, D., Taylor, T. and Tingley, C. (2001a). The Incredible Years Parent, Teacher, and Child Series. Blueprints for Violence Prevention (Book 11), Boulder, Center for the Study and Prevention of Violence, Institute of Behavioural Science, University of Colorado.
- Webster-Stratton, C., Reid, M. J., and Hammond, M. (2001b). 'Social skills and problem solving training for children with early-onset conduct problems: who benefits?', *Journal of Child Psychology and Psychiatry*, 42, 7, 943–52.
- Webster-Stratton, C. and Reid, M. J. (2002). The Incredible Years Teacher Classroom Management Training Program: Content, Methods, and Process, Incredible Years Teacher Training, Incredible Years, University of Washington, Seattle.
- Webster-Stratton, C. and Reid, M. J. (2006). 'Treatment and prevention of conduct problems: parent training interventions for young children (2–7 years old)', in K. McCartney and D. A. Phillips (eds), Blackwell Handbook on Early Childhood Development, Malden, MA, Blackwell, pp. 616–41.
- Wheldall, K. and Merrett, F. (1988). 'Which classroom behaviours do primary school teachers say they find most troublesome?', *Educational Review*, 40, 1, 13–27.
- Woolfenden, S. R., Williams, K. and Peat, J. (2001). 'Family and parenting interventions in children and adolescents with conduct disorder and delinquency aged 10–17', Cochrane Database of Systematic Reviews, 2, 1–27.





