The influence of problematic child-teacher relationships on future psychiatric disorder in a population survey with three year follow up.

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Abstract

Aims: To explore later psychiatric disorder among children with problematic teacher-pupil relationships (TPR).

Method: Secondary analysis of a population-based cross-sectional survey of children aged 5-16 and three-year follow up.

Results: Of the 3799 primary school-aged children assessed, 2.5% of parents reported problematic TPRs; for secondary school aged children (n= 3817) this rose to 6.6%. Among secondary school pupils, even when ***children with psychiatric disorder at baseline were excluded AND we adjusted for baseline psychopathology score***, problematic TPRs were statistically significantly related to higher levels of psychiatric disorder at three year follow up (Odds Ratio (OR) 1.93, 95% Confidence Interval (CI) 1.07-3.51 for any psychiatric disorder, OR 3.00, CI 1.37-6.58 for conduct disorder). Results for primary school pupils were similar but non-significant at this level of adjustment.

Conclusions: This study underlines the need to support teachers and schools to develop positive relationships with their pupils.

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Abstract word count 156

Introduction

Positive and supportive relationships promote healthy child development and resilience[1], including those formed within school. Many qualified teachers' report insufficient training in the management of socio-emotional and behavioural difficulties, which they cite as a common source of stress and burn out [2]. While teachers are highly aware of the importance of the teacher-pupil relationship (TPR), some children can be very challenging to work with. The potential impact of adverse TPR the health and well-being on the child, their teacher and their peers is not often discussed explicitly, but is important as school-based problems are a common cause for referral to child mental health services.

Teachers' assessments of closeness and conflict in their relationships with children may be associated with pupils' subsequent ability to acquire social and academic skills [3]. Hughes [4] showed that higher quality TPR attenuate the associations between children's background characteristics and their levels of classroom engagement; the latter mediates academic performance. A positive TPR can moderate the associations between temperament and disruptive play, and with risky behaviour [5]. Children with developmental vulnerabilities have better educational outcomes when they receive strong emotional and instructional support in the classroom [6].

Conversely, unsupportive relationships may impair development and amplify psychosocial problems and psychological distress [7]. There is evidence that problematic TPRs are stronger predictors of later school-related adjustment than positive relationships [8]. A study of over 3500 children followed from first to the third grade reported that children's psychosocial adjustment was associated with teachers' relationships with individual children and average classroom levels of teacher-child conflict and closeness [9]. Academic and behavioural problems as far ahead as the eighth grade may be predicted by negative TPR in kindergarten [10]. Similar findings have been reported in older children [11]. Teachers report that they need to provide higher levels of support and more behavioural regulation for children with whom they perceive that they have poor relationships [12].

A number of factors have been identified as associated with quality of TPR, such as challenging behaviour and learning difficulties [10]. Less conflictual TPRs are reported with female pupils [13], while boys have been shown to be more vulnerable to the negative effects of problematic TPRs [8,14]. Teacher-pupil ethnic differences are associated with difficulties in the TPR [4,14,]. There is less closeness reported in relationships with children who are shy [11], and lower quality TPRs of greater instability were found in children with intellectual disability compared to a control group with typical cognitive development, primarily due to differences in behavioural problems and social skills [15].

Relationships are reciprocal and teachers struggling to manage children who are behaviourally challenging with insufficient support may have more difficulty establishing a positive relationship with those children than with other children. Teacher rated problem behaviours only account for half of the variance in problematic TPR s [16].

In the most extreme cases, problematic TPRs may shade into bullying. Most research on bullying focuses on school children's peers [17], and there is limited information available about the extent and consequences of bullying of pupils by teachers, partly because it is extremely difficult to study. Over 40% of high school pupils in a South Australian study reported having been 'picked on' by teachers [18]. A cross-sectional survey of Israeli pupils reported that just over one-quarter of pupils reporting emotional mistreatment by school staff, 12-15% reporting some form of physical maltreatment, and 7-8% reporting sexual maltreatment [19]; rates that seem startlingly high. Perceived psychological abuse by teachers is an important component of children's school-related stress [20] and a retrospective survey of college pupils found almost two-thirds reported their worst school experience involved a teacher rather than a peer [21]. Pupils who feel victimized by teachers and other school staff are more likely to misbehave or to become alienated or aggressive, have less intention of completing school and are likely to engage in high-risk behaviours such as gambling, drug use, and drinking alcohol [18].

In conclusion, studies using a variety of methods suggest a clear relationship between TPR and psycho-social and educational outcomes for the child. The current study aimed to assess the psychosocial effects on pupils of a problematic TPR in a large, nationally representative, general population sample of school-age pupils in Great Britain, followed up after three years. We hypothesised that a problematic TPR would increase pupils' subsequent likelihood of being excluded from school, of having a poor attendance record, of poor family function, and of the presence of psychiatric disorder.

Methods

In Great Britain "child benefit" was a universal state benefit payable for each child in the family, which has almost complete uptake. The British Child and Adolescent Mental Health Survey (2004) [22] used the child benefit register to develop a sampling frame of postal sectors from Great Britain. The sample included children aged 5-16 living in private households but excluded children who were looked after. In total 10,496 families were approached in relation to one child between January to June 2004, of whom 76% (7,977) responded. Sixty-seven percent (5,326) of these children took part in a 3-year follow-up between January and June in 2007; loss to follow up was more common among

children who were older, children who did not live with both biological parents, children from larger families and children who had higher levels of psychopathology.

Measures

Exposure: Teacher-pupil relationship

Parents were asked "over the last year, has (their child) been stressed because s/he feels s/he has been unfairly picked on by a teacher?" Responses were: no, a little or a lot. We report the prevalence of each response. We have no data that would allow us to check the veracity of the parental report, or to ascertain whether the child was either stressed and / or picked on. A parental report of "a lot" would seem to indicate a significantly problematic TPR, regardless of whether the parent is referring to the severity of their child's distress and / or a belief that their child is being unfairly picked on. Multivariable analyses, therefore, took "a lot" to indicate problems within the TPR, as contrasted with the other two categories combined, while descriptive analysis assumed that a response of "no" indicated no difficulties, and a response of "a little" indicated possible problems.

Outcomes:

Child mental health/ wellbeing

The Development And Well-Being Assessment (DAWBA) assessed the presence of psychiatric disorder at the point of data collection in both surveys[23]. In the validation study, the DAWBA discriminated well between community and clinical samples [23]. There were high levels of agreement between the DAWBA and case notes among the clinical sample (Kendall's tau b = 0.47-0.70). This structured interview was administered by lay interviewers to the parents or carers of all children, and to children aged 11 or over. Interviewers recorded detailed verbatim descriptions of any problem areas. An abbreviated version was mailed to the child's teacher. A small team of experienced clinicians used the information provided by all the informants, combining information as they would in the clinic, to make diagnoses according to *DSM-IV* criteria [24]. The kappa statistic for chance-corrected agreement on 500 children between two raters was 0.86 for any disorder, 0.57 for emotional disorders and 0.98 for behavioural disorders[23].

Parents completed the Strengths and Difficulties Questionnaire (SDQ), a 25 item dimensional measure of psychopathology, which has been shown to have good reliability, internal consistency and convergent validity with comparable scales on the Child Behaviour Checklist [25].

The General Functioning Scale of the McMaster Family Assessment Device (FAD) was administered to all parents during the 2004 survey. The FAD questionnaire measures family functioning and

consist of 12 items, such as; “we confide in each other” and “we are accepted for who we are” [26]. An overall score of family functioning is given ranging from 1-3, while a cut point of 2 was taken to indicate unhealthy family functioning. The measure has been shown to have good reliability, internal consistency and validity in distinguishing between non-clinical families and families attending a psychiatric service [26]. The family life questionnaire (FaLQ) was used to assess family function during the 2007 survey. It is a 14-item questionnaire comprising four theoretical scales; Affirmation, Discipline, Special allowances and Rules [27].

Other variables.

In our full model we adjusted for the following potential confounders collected at baseline: gross weekly household income (split into eight categories by 100s of pounds sterling); housing tenure (owned/ rented); mother’s highest educational qualification (none; poor GCSE or equivalent; A level or good GCSE; diploma or degree); parental symptoms of anxiety and / or depression (twelve item version of the General Health Questionnaire (GHQ 12) score [28]; child’s score on social aptitudes scale; level of intellectual disability (none; borderline; moderate or severe); and parental report of the child’s health general health (very good or good; fair, bad, or very bad). We did not adjust for the ethnicity of the child as it was not associated with poor TPR at baseline, which was reported by 4.7% of parents of children who were white, 3.3% of children who were Black African or Afro-Caribbean, 2.4% of Indian children, 3.3% of Bangladeshi/ Pakistani children and 4.0% of children of mixed / other ethnicity (X^2 =9.9 (df 8), p=0.27).

Analysis

Data analysis used STATA (SE 11) and logistic regression for binary outcomes and linear regression for linear outcomes. Analyses were weighted using probability weights calculated by the original survey team (see [22],technical report) that were calculated to represent the age, sex and region structure of the sampling frame and to correct for unequal sampling probabilities of post codes. Given the increase in prevalence of problematic TPR with age and given that primary and secondary schools function very differently, multivariable analyses were completed separately for primary and secondary age children, for each of the following outcomes at three-year follow up: any psychiatric disorder, conduct disorder, parental psychopathology (GHQ score), exclusion, non-exclusionary absence and poor family function. We conducted separate analyses that *adjusted for*, or *excluded*, *children with a psychiatric disorder at baseline*, and that *did*, or *did not*, *adjust for baseline symptom scores on the SDQ* in order to control for the impact that existing psychopathology might have on TPR.

Results

Reassuringly, the majority of parents believed that there was no difficulty in the relationship between their child and their teacher (see Table 1). Of 3799 parents of primary school children, 94 (2.5%) stated that they thought their child was distressed because s/he was being picked on by a teacher 'a lot', which increased among secondary school pupils to 252 out of 3,871 (6.6%; X^2 (1)=70, p<0.001). Table 1 also illustrates the distribution of child and family characteristics among the participants of the baseline survey, while Table 2 indicates the distribution of outcomes at follow up. A slightly lower proportion of children whose parents reported a poor TPR participated in the follow up (60%; n=208) compared to the rest of the sample (67%).

Insert Table 1 and 2 here

Tables 3 and 4 show the adjusted multivariable analyses of the association between the TPR and adverse psychosocial outcomes for primary school (Table 3) and secondary school (Table 4) aged children. Problematic TPR significantly increased odds of any psychiatric disorder and any conduct disorder three years later in both age groups, even when controlling for AND excluding baseline psychiatric disorder. However, the association became non-significant among primary school children when baseline SDQ total difficulties score was also controlled. Adjusting for baseline SDQ total difficulties disorder also reduced other possibly important associations below the level of statistical significance: these were between poor TPR and exclusion from secondary school and poor TPR and unhealthy family functioning among primary school children. There was no clear relationship between poor TPR and non-exclusionary absence or parental psychopathology in either age group.

Insert Tables 3 and 4 here

Discussion

Substantive findings

While it is reassuring that the majority of parents reported no concerns about the relationship between their child and their teacher, nearly one in twenty parents responded "a lot" when asked whether their child had been stressed because s/he feels s/he has been unfairly picked on by a teacher. The proportion of parents reporting problematic TPRs increased significantly with the age of the child, which may reflect the difference in organisation between primary and secondary schools. Older children have to make relationships with a greater number of teachers but spend less time with each of them, which may provide increased opportunities for difficulties, and diminish the

length of time available for the pupil-teacher dyad to build a good relationship. Spending smaller amounts of time with a teacher with whom you have a problematic relationship might be expected to reduce any negative impact of such contact. Our findings, however, suggest a clear association between poor TPR and the presence of psychiatric disorder at secondary school age as well as primary school age: effects that mostly remain significant when adjusted for a range of confounding factors. These results suggest that a difficult relationship with a teacher may be highly detrimental to a child's wellbeing, and may actually precipitate behavioural problems in some young people. While this may seem intuitively plausible, the research literature is littered with examples of intuitively plausible associations that did not stand up to empirical testing, and our study is one of very few to explore the relationship of TPR with psychiatric disorder rather than dimensional measures of distress. It is deeply concerning that the likelihood of school exclusion may be significantly higher among young people whose parents report a problematic TPR at a secondary school age. Childhood psychiatric disorder and exclusion from school are associated with a range of adverse outcomes for individuals and substantial costs to society [29]. At a primary school age and before adjusting for baseline SDQ total difficulties score in addition to baseline psychiatric disorder, problematic TPR was related to poorer family functioning. This effect does not continue for secondary school aged children, possibly because secondary school children are more independent and there are fewer opportunities for direct contact between parents and teachers during these years, or that the smaller, more closed, primary school community magnifies the impact of a challenging TPR on the family.

Methodological considerations

We used data from a large nationally representative survey that involved children attending many different schools, adjusted for many background characteristics and studied psychiatric disorder [22]. In contrast, previous research mostly focuses on teacher perspectives, often with more detail, but in much smaller samples from smaller number of schools and with dimensional measures of psychopathology. The current study also extends the literature through the use of parent-reports of the TPR. We have no information on which to judge the veracity of these reports, and are aware that relatively low levels of inter-informant agreement are common in child mental health studies [30]. In a population-based sample, the desire to locate difficulties in school to avoid guilt / blame that practitioners' may face with parents in the clinic is arguably less likely to influence reporting. There is, to our knowledge, no validated measure that we could have used on such a large scale, but it would be helpful for future studies if researchers could develop standardised methods for classifying and measuring TPRs to allow easier comparison of findings across studies. In the absence of such a

measure, we have assumed that there are, on average, significant difficulties – whether in perception or reality – when parents answer "a lot" to a question about whether their children have been stressed because they feel that they have been unfairly picked on by a teacher in the last year.

Due to the design of the study, only children aged 11 or older contributed directly to the data, and not all parents consented to researcher contact with teachers. It is highly likely that a problematic TPR would influence the decision to allow researcher access to school and that teachers would find it difficult to report problematic TPR. Thus, the decision to question parents about the TPR provided the best opportunity to obtain data on as many children as possible. Both at base-line and follow up, those, who according to our findings, would be most likely to have both the outcome (poor mental health) and the exposure (problematic TPR) were less likely to participate. This suggests that we might have underestimated the prevalence of problematic teacher-pupil relationships, although prior research in relation to the prevalence of disruptive behaviour suggests that this may not influence the pattern and / or size of the association [31].

The limited literature on types of TPRs [32] would benefit from attempts to classify relationships in terms of type and informant. Studies framed from pupils' perspectives have found both agreement and disparities between pupils' and teachers' accounts of the quality of TPR [34]. The best way to objectively assess this conflict also needs to be addressed as observations are unlikely to be effective due to social desirability.

As the study was a cross-sectional survey with a single follow up and did not follow children from their entry to school, it is possible that a problematic TPR is a marker of other difficulties that lead to the outcomes studied, rather than a causal factor. Further research in a cohort study that systematically assessed TPR from school entry could address this issue.

Given the potential of these findings to distress teachers, we thought it important to adjust for both the presence of baseline psychiatric disorders and baseline psychopathology which might not reach the threshold to meet diagnostic criteria but which may be related to both subsequent psychopathology and a problematic TPR. Children were assessed in the middle of the school year (spring and early summer term) so a problematic TPR at baseline might also have influenced psychopathology at the time of baseline assessment. As some may consider that we have over-adjusted, we present the results with four ways of adjusting for baseline psychopathology. We believe that the influence of poor TPR on psychopathology, exclusion and family function probably lies between the results of the model with the highest (excluding children with baseline psychiatric

disorder AND adjusting for baseline SDQ total difficulties score) and lowest (controlling for baseline psychiatric disorder alone) level of adjustment.

As this was a secondary analysis, we were constrained by the variables collected in the original survey. We did not know the ethnicity of teachers as prior research suggests that teacher-pupil ethnic differences may influence TPR [4,14]. We also did not have access to teacher's reports of the TPR or the impact of problematic TPR's on teacher's mental health and well-being. Adverse impacts on teachers, particularly if it leads to time off work or exit from the profession, represent further costs to both individuals and society. Similarly, we had no access to community and school level data; previous work suggests that the impact of TPR might be particularly influential for children living in highly deprived circumstance [4,6] and / or attending particularly well-or-poorly functioning schools [34]. We were, however, able to adjust for a wide range of potential confounders. The limited literature on types of TPRs [32] would benefit from attempts to classify relationships in terms of type and informant. Studies framed from pupils' perspectives have found both agreement and disparities between pupils' and teachers' accounts of the quality of TPR [33]. The best way to objectively assess conflicting reports also needs to be addressed as observations are unlikely to be effective due to social desirability

Implications for policy and practice

Little explicit attention has been paid to the importance of TPR despite an increasing policy focus over the previous 10-15 years on the use of school setting for the promotion of mental health and well-being [35]. The Targeted Mental Health in Schools (TAMHS) project aimed to support schools to deliver timely support to children and young people with mental health problems and those at high risk of developing them, with a particular emphasis on evidence-based practice and interagency working [36]. Schools selected a wide variety of interventions and support; over 500 are named in the national evaluation, but training for staff was not commonly adopted and input related to TPR was implicit rather than explicit[36]. Social and Emotional Aspects of Learning (SEAL) was a "comprehensive, whole-school approach to promoting the social and emotional skills that underpin effective learning, positive behaviour, regular attendance, staff effectiveness and the emotional health and well-being of all who learn and work in schools" in England during the last decade [37]. The national evaluation of SEAL in secondary schools revealed a very mixed picture in terms of how SEAL was implemented and the impact of the initiative across participating schools, particularly in relation to a "whole school approach" with staff "will and skill" and resources seeming to predict progress and success [37]. Both the TAMHS and SEAL evaluations called for greater attention to the evidence-base for programmes that are adopted into schools, and a recent "review of reviews" of mental

health interventions in schools reported that large-scale, multi-component whole school programmes that rely on broad principles rather than focused manualised interventions are unlikely to be effectively implemented [35]. Most interventions in this review of reviews focused primarily on increasing pupil's life skills, but a "positive school ethos" and the nature of teacher-pupil interactions was reported to be a major determinant of the impact of mental health interventions in school[35].

Our findings add to the evidence that a difficult TPR may have a wide-ranging negative impact on a child's development, specifically in relation to mental health and well being, family function and exclusion from school. Previous research has highlighted factors that may contribute to this and therefore offers ideas as to where we can intervene to reduce the likelihood and / or impact of a problematic TPR. Considering the school environment, for instance, levels of conflict in the TPR in kindergarten were associated with teachers' reported workload stress, and the broader relational climate in the classroom and school [38]. In high-school pupils, conflictual TPRs were more commonly experienced by teachers who took a custodial approach to discipline, and had lower morale because of school conditions [38]. Higher levels of conflict than expected based on children's behaviour were recorded by teachers who reported higher levels of depression and lower self-efficacy and in those observed to provide less emotional support in the classroom [16]. Khoury-Kassabri and colleagues [19] suggest that many school staff react harshly to pupils because they lack alternative ways of dealing with difficulties, particularly when pupils are disruptive. Interventions that promote a positive school environment, increase teachers' classroom management skills and address teacher stress and burnout may therefore reduce the likelihood and / or impact of a problematic TPRs. Interventions that successfully improve TPRs have the potential to influence the mental health and academic outcome of all children subsequently taught by that teacher, and are therefore likely to be less costly than interventions aimed at children, which will need to be repeated with subsequent cohorts of children. In addition, parents who had adverse experiences in school may find it particularly difficult to trust and develop positive relationships with teachers;[4] a focus on building relationships and easing communication may be an important but simple strategy to support the most vulnerable families in this respect [35].

Although these interventions are focused on the education system, mental health is often not perceived to be "core business" by education professionals [39]. Our findings have clear public health implications and mental health practitioners may be in a position to influence commissioners and providers to consider interventions that could support teachers and other school-based staff to build more positive relationships that might produce important benefits extending far wider than the education system.

While the call for increased support for teachers in relation to managing behaviour and promoting mental health and well-being is not novel, many teachers still feel insufficiently trained in relation to mental health and classroom management techniques, which may contribute to work-related stress and burn out as well as poor TPRs [2]. Some children and parents may be extremely difficult to work with, but if there is a difficulty in the relationship the teacher has with a particular child or family, then the professional responsibility to address it lies with the teacher, and the school's senior management team has a duty to support the teacher to do so. The current study suggests that effective strategies to improve TPR may reduce the negative outcomes for pupils that are associated with a poor TPR, as well as reducing burn out and stress among teachers. A more explicit focus on the quality of TPRs in research, policy and practice in relation to mental health in schools may improve the impact of other interventions.

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References

1. Dumont M, Provost MA. Resilience in adolescents: protective role of social support, coping strategies, self-esteem, and social activities on experience of stress and depression. *J Youth Adolescence* 1999; **28**(3): 343-363.

2. Kokkinos, C. Job stressors, personality and burnout in primary school teachers, *Brit J Educ Psychol* 2007*;* **77**: 229-243.

3. Pianta RC, Steinberg MS, Rollins KB. The first two years of school: teacher-child relationships and deflections in children's classroom adjustment. *Child Y Psy* 1995; **7**: 295-312.

4. Hughes J, Kwok OM. Influence of student-teacher and parent-teacher relationships on lower achieving readers' engagement and achievement in the primary grades. *J Educ Psychol* 2007; **99**(1): 39-51.

5. Rudasill KM, Reio TG, Stipanovic N, Taylor JE. A longitudinal study of student-teacher relationship quality, difficult temperament and risky behaviour from childhood to early adolescence. *J School Psychol* 2010; **48**(5): 389-412.

6. Hamre BK, Pianta RC. Can instructional and emotional support in the first-grade classroom make a difference for children at risk of school failure? *Child Dev* 2005; **76**(5): 949-967.

7. Ystgaard M. Life stress, social support and psychological distress in late adolescence. *Soc Psych Psych Epid* 1997; **32**(5): 277-283.

8. Ladd GW, Birch SH, Buhs ES. Children's social and scholastic lives in kindergarten: related spheres of influence? *Child Dev* 1999; **70**: 1373–1400.

9. Buyse E, Verschueren K, Verachtert P, Van Damme J. Predicting school adjustment in early elementary school: impact of teacher-child relationship quality and relational classroom climate. *Elem School J* 2009; **110**(2): 119-141.

10. Cadima J, Leal T, Burchinal M. The quality of teacher-student interactions: associations with first graders' academic and behavioural outcomes. *J School Psychol* 2010; **48**(6): 457-482.

11. Murray C, Murray KM. Child level correlates of teacher-student relationships: an examination of demographic characteristics, academic orientations, and behavioural orientations. *Psychol Schools* 2004; **41**(7): 751-762.

12. Thijs JT, Koomen HMY, Leij van der A. Teacher-child relationships and pedagogical practices: considering the teacher's perspective. *School Psychol Rev*2008; **37**(2): 244-260.

13. Koepke MF, Harkins DA. Conflict in the classroom: gender differences in the teacher-child relationships. *Early Educ Dev* 2008; **19**(6): 843-864.

14. Murray C, Murray KM. Child level correlates of teacher-student relationships: an examination of child demographic characteristics, academic orientations, and behavioural orientations. *Psychol Schools* 2004; **41**(7): 751-762.

15. Blacher J, Baker BL, Eisenhower AS. Student-teacher relationship stability across early school years for children with intellectual disability or typical development. *Am J Intellect Dev Disabil* 2009; **114** (5): 322-339.

16. Hamre BK, Pianta RC, Downer JT, Mashburn AJ. Teachers' perceptions of conflict with young students: Looking beyond problem behaviours. *Soc Dev* 2008; **17**(1): 115-136.

17. Solberg M, Olweus D. Prevalence estimation of school bullying with the Olweus Bully/Victim Questionnaire. *Aggressive Behav* 2003; **29**: 239–268.

18. Delfabbro P, Winefield T, Trainor S, Dollard M, Anderson S, Metzer J, Hammarstrom A. Peer and teacher bullying/victimization of South Australian secondary school students: prevalence and psychosocial profiles. *Brit J Educ Psychol* 2006; **76** (1): 71-90.

19. Khoury-Kassabri M. The relationship between staff maltreatment of students and bully-victim group membership. *Child Abuse Neglect* 2009; **33**(12): 914-923.

20. Piekarska A. School stress, teachers' abusive behaviours, and children's coping strategies. *Child Abuse Neglect* 2000; **24**(11): 1443-1449.

21. Whitted KS, Dupper DR. Do teachers bully students? Findings from a survey of students in an alternative education setting. *Educ Urban Soc* 2008; **40**(3): 329-341.

22. Green H, McGinnity A, Meltzer H, Ford T, Goodman R. (2005). *Mental health of children and young people in Great Britain* 2004. Basingstoke: Palgrave Macmillan.

23. Goodman R, Ford T, Richards H, Gatward R, Meltzer H. The development and well-being assessment: description and initial validation of an integrated assessment of child and adolescent psychopathology. *J Child Psychol Psych* 2000; **41**: 645-55.

24. American Psychiatric Association (1994). *Diagnostic and statistical manual of mental health disorders*. 4th ed. Washington DC.

25. Goodman R, Scott S, Comparing the Strengths and Difficulties Questionnaire and the Child Behaviour Checklist: Is Small Beautiful? *J Abnorm Child Psych* 1999; **27**: 17-24.

26. Epstein NB, Baldwin LM, Bishop DS. The McMaster family Assessment Device. *J Marital Fam Ther* 1983; **9:** 171-180

27. Last A, Miles R, Wills L, Brownhill L, Ford T. The reliability and sensitivity to change of the Family Life Questionnaire. *Child Adol Mental Health 2012*: **17**: 121-125.

28. *GHQ: A user's guide to the General health Questionnaire.* Goldberg D, Williams P Windsor UK: NFER-Nelson, 1988.

29. Scott S, Knapp M, Henderson J, Maughan B. Financial costs of social exclusion: follow up study of antisocial children into adulthood. *Brit Med J*; **323**, 191:1-5. DOI: 10.1136.

30. Collishaw S, Goodman R, Ford T, Rabe-Hesketh S & Pickles A. (2009). How far are associations between child, family and community factors and child psychopathology informant-specific and informant-general? *J Child Psychol Psych*: **50**; 571-580.

31. Wolke D, Waylen A, Samara M, Steer C, Goodman R, Ford T et al. Does selective drop out lead to biased prediction of behaviour disorders. *Brit J Psychiat* 2009: **195**; 249-256.

32. Wu JY, Hughes JN, Kwok OM. Teacher-student relationship quality type in elementary grades: effects on trajectories for achievement and engagement. *J School Psychol* 2010; **48** (5)257-387.

33. Murray C, Murray K M, Waas GA. Child and teacher reports of teacher-student relationships: Concordance of perspectives and associations with school adjustment in urban kindergarten classrooms. *J Appl Dev Psychol 2008*; **29**: 49-61.

34. Mantzicopoulos P. Conflictual relationships between kindergarten children and their teachers: associations with child and classroom context variables. *J School Psychol* 2005; **43** (5): 425-442.

35. Weare K & Nind M. (2011). *Promoting the mental health of children and adolescents through schools and school-based interventions: report of work package 3 of the DATAPREV project.* School of Education: University of Southampton.

36. Department for Education. (2011). *Me and my school: findings from the national evaluation of Targeted Mental Health in Schools 2008-11.* Research Report DFE-RR177

37. Humphrey N, Lendrum A & Wigelsworth M. (2011). *Social Emotional Aspects of Learning (SEAL) programme in secondary schools; national evaluation.* Department for Education Research Report DFE RR049.

38. Sava FA. Causes and effects of teacher conflict-inducing attitudes towards pupils: a path analysis model. *Teach Educ* 2002; **18**(8): 1007-1021.

39. Kidger J, Gunnell D, Biddle L, Campbell R, Donovan J. Part and parcel of teaching? Secondary school staff's views on supporting student emotional health and well-being. *Brit Educ Res J* 2010: **36**; 919-935.

Details of authors' contribution

Tamsin Ford conceived the idea for the study in discussion with Robert Goodman. She was involved as a clinical rater in the collection of the data for both waves of the original study; she supervised the analysis and writing of the manuscript. She is the guarantor for the study.

Ruth Marlow led and coordinated the writing of the manuscript. She assisted Iain Lang with the analysis and contributed to each draft of the manuscript.

Iain Lang led the analysis and the literature review that Ruth Marlow incorporated into the manuscript. He contributed to each draft of the manuscript.

Robert Goodman designed both the measures of psychopathology and led the design and data collection for the original surveys. This secondary analysis arose out of a discussion with Tamsin Ford, and he was consulted about the analysis and contributed to each draft of the manuscript.

Howard Meltzer was involved in the design and data collection for the original surveys. He contributed to the development of the analytic plan and contributed to each draft of the manuscript.

All authors had full access to the data used in this analysis.

None of the authors have any conflicting interests

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Table 1. Distribution of problematic teacher pupil relationships (TPR) and characteristics of the children and families from the baseline 2004 British Child and Adolescent Mental Health Survey adjusted for survey design

Variable		Primary age pupils n=3925		Secondary age pupils n=4052		Total sample n=7997		Number with data
Exposure								
Poor Teacher pupil relationship (TPR) (%)[1]		94	(2.5)	252	(6.6)	346	(4.5)	7617
Possible problems with TPR (%)[1]		318	(8.4)	695	(18.2)	1013	(13.3)	
No problems with TPR (%)[1]		3387	(89.2)	2870	(75.2)	6258	(82.2)	
Characteristics of the child								
Mean parental SDQ total difficulties score [2] (Standard error)		8.22	(0.09)	7.71	(0.10)	7.96	(0.07)	7919
Any psychiatric disorder (%)		308	(7.7)	456	(11.0)	764	(9.3)	7997
Any conduct disorder (%)		182	(4.5)	248	(5.9)	430	(5.2)	7997
Male gender (%)		2008	(51.2)	2103	(51.9)	4111	(51.5)	7997
Mean Age (Standard error)		7.56	(0.03)	13.4	(0.03)	10.54	(0.04)	7997
Child's mean social aptitude score (SE)[3]		23.75	(0.10)	24.99	(0.11)	24.38	(0.07)	7805
Ethnicity (%)	White	3377	(85.1)	3543	(87.2)	6920	(86.2)	7973
	Black	108	(3.2)	90	(2.4)	198	(2.9)	
	Indian/ Pakistani	92	(2.4)	107	(2.6)	199	(2.5)	
	Bangladeshi	169	(4.4)	138	(3.3)	307	(3.9)	
	Other	177	(4.9)	172	(4.4)	349	(4.7)	
Intellectual disability (%)	None	3462	(88.3)	3751	(93.4)	7212	(90.9)	7929
	Borderline	370	(9.5)	185	(4.7)	555	(7.1)	
	Moderate	65	(1.7)	50	(1.3)	115	(1.5)	
	Severe	22	(0.6)	24	(0.6)	46	(0.6)	
Child's general health (%)	Very Good	2710	(69.3)	2769	(69.6)	5479	69.6)	7865
	Good	934	(24.2)	988	(24.8)	1922	(24.5)	
	Fair	225	(5.8)	179	(4.5)	404	(5.2)	
	Bad	21	(0.5)	28	(0.7)	49	(0.6)	
	Very Bad	5	(0.01)	6	(0.01)	11	(0.1)	
Characteristics of the family								
Unhealthy family function[4] (%)		618	(16.4)	731	(18.6)	1349	(17.5)	7701
Mean parental GHQ[5] score (SE)[3]		1.52	(0.04)	1.73	(0.04)	1.62	(0.03)	7736
Gross weekly household Income in pounds sterling	700+	719	(2.3)	703	(1.7)	1422	(28.7)	4947
	600-699	380	(11.0)	370	(9.1)	750	(14.9)	
	500-599	234	(12.4)	245	(10.6)	479	(9.7)	
	400-499	282	(11.2)	320	(10.4)	602	(12.2)	
	300-399	285	(11.1)	253	(13.5)	538	(10.8)	
	200-299	316	(9.3)	252	(10.1)	568	(11.6)	
	100-199	274	(14.7)	219	(15.2)	49	(10.1)	
	0-99	54	(28.0)	41	(29.5)	95	(2.0)	
Housing tenure (%)	Rented	695	(26.0)	568	(22.0)	1263	(24.0)	5324
	Owned	2037	(74.0)	2024	(78.0)	4061	(76.0)	
Highest level of maternal education (%)	Diploma /degree	801	(29.2)	779	(39.3)	1580	(29.7)	5288
	A level / Good GCSE	1186	(43.5)	1052	(40.9)	2238	(42.3)	
	Poor GCSE / equivalent	339	(12.7)	324	(12.7)	603	(12.7)	
	None	389	(14.6)	418	(16.1)	807	(15.3)	

1. Parental response to "over the last year, has (their child) been stressed because s/he feels s/he has been unfairly picked on by a teacher?" Responses were: no, a little or a lot and were coded as no, possible and problematic teacher-pupil relationship respectively. 2, SDQ Strengths and Difficulties Questionnaire. 3. SE Standard error. 4.Measured by the McMaster Family Assessment Device . 5. GHQ – General health questionnaire, brief measure of symptoms of anxiety and depression

Table 2 Distribution of outcomes from the follow up British Child and Adolescent Mental Health Survey in 2007 adjusted for survey design

Outcome		Primary age pupils (n=2733)	Secondary age pupils (n=2593)	Total sample (n=5326)	Number with data
Mean parental SDQ total difficulties score [1] (Standard error)		8.04 (0.12)	7.06 (0.12)	7.57 (0.08)	5280
Any psychiatric disorder (%)		229 (8.4)	253 (9.6)	482 (9.0)	5326
Any conduct disorder (%)		126 (4.6)	108 (4.1)	234 (4.4)	5326
Exclusion from school (%)		69 (2.5)	114 (8.1)	183 (4.4)	4102
Mean non-exclusionary absence in days (Standard Error)		3.75 (0.19)	5.07 (0.22)	4.37 (0.15)	4142
Family function Mean FaLQ (standard error)	Affirmation	10.1 (0.03)	9.57 (0.04)	9.85 (0.03)	5234
	Discipline	2.94 (0.03)	2.20 (0.03)	2.58 (0.02)	
	Rules	4.30 (0.03)	3.95 (0.03)	4.13 (0.02)	
	Special allowances	2.96 (0.03)	2.90 (0.03)	2.93 (0.02)	

1.SDQ =Strengths and Difficulties Questionnaires. 2. FaLQ Family Life Questionnaire

Table 3. Multivariable analyses of psychosocial outcomes in relation to poor teacher pupil relationships (stressed because picked on a lot versus no a little) for primary school pupils: All models were adjusted for gender; age; household income (grouped); housing (owned/rented); mother's highest qualification; parental baseline GHQ-12 score; general health (dichotomized); learning disability (none, borderline, moderate/sever); social aptitudes.

Outcome	Details	Statistic	n	No/ A little	A lot without controlling for baseline SDQ score	A lot controlling for baseline SDQ score
Any psychiatric disorder	Controlling for baseline psychiatric disorder	OR	2495	1.00	*4.25 (2.20 to 8.22)*	*2.55 (1.20 to 5.45)*
	Excluding those with any baseline psychiatric disorder	OR	2335	1.00	*2.78 (1.13 to 6.80)*	1.69 (0.63 to 4.51)
Any conduct/behavioural disorder	Controlling for baseline conduct/behave disorders	OR	2495	1.00	*2.62 (1.08 to 6.34)*	1.52 (0.58 to 3.97)
	Excluding those with any baseline conduct/behaviour disorders	OR	2407	1.00	*3.27 (1.08 to 9.89)*	2.01 (0.66 to 6.14)
Exclusion	Excluding those with history of exclusion at baseline	OR	2456	1.00	1.85 (0.54 to 6.31)	1.18 (0.36 to 3.89)
Non-exclusionary absence	Outcome is >10 days absence	OR	2459	1.00	1.43 (0.34 to 6.00)	1.57 (0.39 to 6.31)
Parent psychopathology	Control for baseline parental GHQ[1]	Linear regression	2473	-	1.35 (0.38 to 2.31)	1.08 (0.09 to 2.06)
	Omit those with baseline GHQ>0	Linear regression	1442	-	1.54 (0.11 to 2.97)	1.38 (-0.02 to 2.79)
Family function	Outcome is total FaLQ[2] score, controlled for baseline McMasters score	Linear regression	2448	-	*2.17 (1.17 to 3.17)*	1.83 0.83 to 2.84)

1.GHQ General Health Questionnaire. 2. FALQ Family Life Questionnaire

Table 4. Multivariable analyses of psychosocial outcomes in relation to poor teacher pupil relationships (defined as stressed because picked on a lot versus no a little) for secondary school pupils: all models were adjusted for gender; age; household income (grouped); housing (owned/rented); mother's highest qualification; parental baseline GHQ-12 score; general health (dichotomized); learning disability (none, borderline, moderate/sever); social aptitudes.

Outcome	Details	Statistic	N	No/ A little	A lot without controlling for baseline SDQ score	A lot after controlling for baseline SDQ score
Any psychiatric disorder	Controlling for baseline psychiatric disorder	OR	2358	1.00	*2.15 (1.26 to 3.67)*	1.54 (0.92 to 2.59)
	Excluding those with any baseline psychiatric disorder	OR	2160	1.00	*3.10 (1.71 to 5.60)*	*1.93 (1.07 to 3.51)*
Any conduct/behavioural disorder	Controlling for baseline conduct/behavioural disorders	OR	2358	1.00	*3.10 (1.46 to 6.59)*	*2.22 (1.11 to 4.48)*
	Excluding those with any baseline conduct/behaviour disorders	OR	2262	1.00	*5.32 (2.55 to 11.07)*	*3.00 (1.37 to 6.58)*
Exclusion	Excluding those with history of exclusion at baseline	OR	1249	1.00	*3.12 (1.30 to 7.48)*	2.40 (0.99 to 5.82)
Non-exclusionary absence	Outcome is >10 days absence	OR	1235	1.00	2.38 (0.81 to 6.95)	2.09 (0.71 to 6.17)
Parent mental health	Control for baseline parental GHQ	Linear regression	2318	-	0.35 (-0.21 to 0.91)	0.05 (-0.54 to 0.64)
	Omit those with baseline GHQ>0	Linear regression	1231	-	0.53 (-0.27 to 1.34)	0.25 (-0.58 to 1.09)
Family function	Outcome is total FaLQ score, controlled for baseline McMasters score	Linear regression	2287	-	0.76 (-0.11 to 1.64)	0.54 (-0.34 to 1.44)

1.GHQ General Health Questionnaire. 2. FALQ Family Life Questionnaire

What is already known on this topic

School climate and qualities of the teacher and pupil have been shown to have an impact on the relationship between teacher and child

Teacher –child relationships have been found to mediate behavioural, social and psychological outcomes for children at different ages according to teacher and child report, but most studies have been small

What this paper adds

This research extends current research by examining parental reports (a novel informant) of their child being stressed due to being 'picked on' by teachers and using a large population-based sample

This study adds to the empirical evidence that problematic teacher pupil relationships impact on the child's psychological and social outcomes at both primary and secondary age

Problematic teacher-pupil relationships increases the odds of the child having a psychiatric disorder and being excluded from secondary school over the next three years