School characteristics and children’s mental health: A linked survey-administrative data study

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Abstract

Mental health difficulties are childhood-onset with lifelong health, social and economic consequences. Children spend a large amount of time in schools, making schools an important context for mental health prevention and support. We examine how school composition and school climate, controlling for individual child-level characteristics, are associated with children’s mental health difficulties (emotional and behavioural difficulties). Data from 23,215 children from 648 primary schools in England were analysed to examine the associations of school composition (size, gender, socioeconomic and ethnicity) and school climate with mental health (emotional symptoms, behavioural symptoms and above clinical cut-off scores) adjusting for individual child socio-demographic characteristics. We find that between 3% and 4.5% of the variation in children’s mental health outcomes could be attributed to schools. Of this, small proportions were explained by school composition (1.4 to 3.8%) and larger proportions were explained by school climate (29.5 to 48.8%). Lower school socio-economic status was associated with higher behavioural symptoms (coef=.02 [95%CI: .01-.04]) and slightly raised odds of high mental health difficulties (OR = 1.05, 95% CI: 1.01,1.09). More positive school climate was associated with lower emotional (coef=-.09 [95%CI: -.11,-.08]) and behavioural (coef=-.13 [95% CI: -.15,-.11]) symptoms and lower odds of mental health difficulties (OR = 0.78, 95%CI:0.74,0.81). Some associations between school factors and mental health were moderated by child sex and SES. School composition factors were weakly associated with children’s mental health, whereas school climate explained a larger amount of between-school variation and appears a good target for universal prevention of mental health difficulties in children.

Keywords: mental health, community, prevention, young people, school, education, children
Introduction

Recent prevalence estimates from 2017 indicate that 1 in 8 children has a diagnosable mental health disorder in the UK (NHS Digital, 2018), with many more children experiencing high levels of mental health difficulties (Deighton et al., 2019). For many individuals, mental health difficulties are first experienced in childhood (Kessler et al., 2005), and have long-term negative consequences on a range of social and health outcomes later in life (Clayborne et al., 2019). Child mental health difficulties, especially emotional symptoms, are increasing (Fink et al., 2015; Patalay and Gage, 2019) and there is some evidence that mental health difficulties are manifesting earlier in primary school-aged children when compared to previous generations (Kovacs and Gatsonis, 1994). This highlights the large public health challenge of child mental health difficulties resulting in increased focus by governments nationally and internationally on prevention efforts specifically in young people (European Union, 2013; Green Paper, 2017; Rampazzo et al., 2017).

Schools, given their near universal access to children and the large proportion of time children spend there, have been highlighted as a key context in which early mental health intervention, screening and prevention efforts might be fruitfully concentrated (European Union, 2013; Green Paper, 2017). However, compared to the vast body of evidence regarding the contribution of the family context on children’s mental health, there is comparatively little investigating the role of school context on children’s mental health. This is a critical omission to the population health literature as both the characteristics of the school itself and socialising within this complex environment likely influences the development of mental health difficulties (Paulus et al., 2016). Even less is known about whether school-level characteristics provide differing levels of risk to different children based on socio-demographic characteristics and needs, that is, what is the interplay between school-level and individual child-level characteristics in understanding child mental health?

In the few studies that have examined the role of schools in the development of mental health problems, socio-demographic composition such as school size, staff-student ratio, gender balance and deprivation have been the main focus, and together they present an inconsistent picture of the role of these factors for child mental health (Gutman and Feinstein, 2008; Saab and Klinger, 2010; Vaz et al., 2014). For example, some research has concluded that school composition is not associated with mental health (Gutman and Feinstein, 2008; Vaz et al., 2014), others have reported that the proportion of disadvantaged children in school is related to mental health outcomes (Gutman and Feinstein, 2008; Saab and Klinger, 2010), while others have shown that school resources (e.g., student-staff ratio) are not associated with mental health outcomes (Gutman and Feinstein, 2008). It is important to highlight that regardless of the influence of these compositional factors for child mental health, they are essentially non-malleable. Nonetheless, understanding the role of these factors may help in the identification of those schools more likely to have students with poor mental health and therefore inform the allocation of additional support.
Conversely, malleable school-level factors, such as school climate (Cohen et al., 2009) are more amenable to intervention. School climate reveals the degree to which children feel a sense of belonging to, have positive perceptions of and feel safe in their school. According to the National School Climate Council (2007) school climate reflects a school’s “norms, goals, values, interpersonal relationships, teaching and learning practices, and organizational structures. Improving school climate has been suggested as a fruitful avenue to promote learning, healthy peer relationships, school connectedness, and reduce school dropouts (Centers for Disease Control and Prevention, 2009; Thap et al., 2013; United Nations Childrens Fund, 2009). Research also indicates feelings of liking and connection to school is a protective factor in the development of mental health difficulties (Patalay and Fitzsimons, 2018; Somersalo et al., 2002; Thumann et al., 2016). Hence focusing on school climate is potentially beneficial to children’s mental health, in addition to other learning and school retention benefits (Centers for Disease Control and Prevention, 2009; Cohen et al., 2009; Thap et al., 2013; United Nations Childrens Fund, 2009).

One likely factor explaining the limited large-scale empirical studies on contextual school factors and child mental health is the lack of appropriately powered datasets with survey data on mental health combined with administrative data comprising both child- and school-level characteristics. In the current study, we use a large English primary school mental health survey dataset that has been linked with both the National Pupil Database (NPD, providing individual child-level sociodemographic information) and a national schools database (providing data on the composition of schools) to investigate, (i) the association between school-level factors (both composition and climate) and children’s mental health difficulties, controlling for child-level characteristics, and (ii) the potentially moderating role of child-level characteristics for the association between school-level predictors of children’s mental health difficulties.

Method
Design
Secondary analysis of cross-sectional survey data from a large-scale school mental health survey in England linked to both student and school administrative records was undertaken.

Participants
Children. A total of 23,215 participants (49.27% female, n = 11439) were included in the current study (M_age = 9.06 years, SD = .56). In each school, children in Year 4 or 5 were invited to participate, with consent from their parents/guardians. A total of 64.3% of participants were in Year 4, (n = 14929) and 35.7% in Year 5 (n = 8286). Participant school records ethnicity comprised White (75.05%), Asian (11.79%), Black (6.57%), mixed (4.48%) and other (2.11%). Socioeconomic status was measured by the child’s eligibility for free school meals (23.5%, n = 5455).

Schools. Students from 648 state-maintained primary schools, selected by their local authority, were included in the current analysis (Wolpert et al., 2011). An average of 35.83 students per school (SD = 18.66, range 1-110) were included. School characteristics are presented in Table 1.
From a sample of 24,565 participants, 221 cases (0.9%) were excluded from the analysis due to missing child-level demographic information. An additional 835 cases (3.6%) were excluded due to missing school composition information. Given the low levels (<5%) of overall missing data and the nature of the missing data we used all available data for analysis \((n = 23,215)\), representing a response rate of 84% from 27,653 students eligible to take part.

**Procedure**

Survey data were collected as part of 1) the baseline of a randomised control trial, and 2) ongoing longitudinal study in the 2009-10 school year(Wolpert et al., 2011). Parents of eligible students were sent study information sheets and opt-out consent forms before data collection. Teachers read a standardised information sheet to children including information on the study aims, confidentiality and the participants’ right to withdraw. Children accessed the online survey in a classroom with school computers using a password. If they agreed to participate in the study they proceeded to complete the survey. Ethical approval was granted by UCL research ethics committee. Child socio-demographic characteristics were obtained by linking these survey data to the NPD. School composition information was obtained by linking these survey data to the EduBase national school database which contains information on school characteristics based on the school census. The data used in this study can be requested from the data holding institution by researchers.

**Measures**

**Mental health.** Emotional and behavioural difficulties are the most common childhood mental health problems(Ford et al., 2003). In this study mental health difficulties were measured using the 10-item emotional difficulties and 6-item behavioural difficulties scales of the Me and My Feelings self-report questionnaire (see supplementary file for full measure)(Deighton et al., 2013). Internal reliability estimates were good (emotional Cronbach’s alpha = 0.73 and behavioural Cronbach’s alpha = 0.78). The measure has strong psychometric properties, and established clinical thresholds (Deighton et al., 2013; Patalay et al., 2014). Children above the clinical cut-off for either emotional(≥12) or behavioural (≥7) difficulties are referred to as having ‘high mental health difficulties’.

**Child-level factors.** Sex, socioeconomic status (SES) as measured by eligibility for free school meals (FSM), ethnicity (White, Black, Asian, mixed, other/unclassified), special educational needs (SEN) status, and age were controlled for in all analysis.

**School composition.** School composition information is presented in Table 1. Headcount (i.e., number of children in the school) ranged between 29 to 1,212, with an average school size of 304 children. School gender composition was based on the proportion of girls, so for instance, if a school value is 40 this indicates that 40% of the students in the school are female and 60% male. The school deprivation measure was based on the proportion of students eligible for FSM, with higher numbers indicating more students from disadvantaged socio-economic backgrounds. School ethnicity was derived by aggregating the proportion of ethnic minority students in each school to create a school-level indicator that represents the proportion of ethnic minority students, where a higher number indicates a greater proportion of ethnic minority students.

**School climate.** Children completed a seven item questionnaire on perceptions of their school climate (see supplementary file for full measure)(Fink et al., 2018). Scores were
aggregated at the school-level by calculating the average school climate from responses within a school to create a single school-level score, with a range between 0 to 14 (higher score indicates a more positive school climate). Internal reliability of the measure was good, Cronbach’s alpha=0.75.

Analysis

Continuous mental health outcome variables (emotional and behavioural symptoms) were standardised to ensure comparability of regression coefficients and effect sizes. Continuous school demographic variables were centred for the interaction analyses and the school climate variable was also standardised to aid interpretation. A multilevel modelling approach was used to account for children nested within schools, with linear multilevel regression for continuous emotional and behavioural symptom outcome scores and logistic multilevel regression for the dichotomous high mental health difficulties variable. We first estimate the proportion of variance in mental health difficulties accounted for by schools then and the associations of school-level characteristics with outcomes, controlling for child-level characteristics. Finally, we estimate interactions between school composition and climate and cross-level interactions between child- and school-level characteristics to examine whether child characteristics moderate the association between school characteristics and outcomes. Incremental model fit is assessed using a log-likelihood test and estimate the intra-class coefficient (ICC) at each stage to estimate amount of school-level variance explained by school composition and climate.

Results

Table 1 presents the descriptive statistics for emotional and behavioural symptoms and school-level composition and climate variables. Analysis comparing these data with national characteristics of primary schools students indicate that study schools have a similar proportion of children eligible for FSM(18.73% vs. 18.5% nationally) and ethnic minority students(22.67% vs. 21.5% nationally) and a larger headcount(304 vs. 241 nationally)(Department for Education, 2010).

Initial multilevel models estimate that approximately 3.1%(95%CI:2.5 - 3.9) of the variance in emotional symptoms, 4.4%(95%CI:3.7 - 5.3) of the variance in behavioural symptoms and 4.3%(95%CI:3.2 - 5.6) of the variance in children with high mental health difficulties is accounted for by schools before any school-level variables are accounted for. The percentage of school-level variation in outcomes accounted for by school composition factors was small(1.4% for emotional symptoms, 3.8% for behavioural symptoms and 1.9% for high mental health difficulties), while the percentage of school-level variation explained by school climate after accounting for composition was substantially higher(29.5% for emotional, 47.8% for behavioural symptoms, and 48.8% for high difficulties).

Including school-level predictors in the models, while controlling for child-level characteristics (Table 2), indicated that school composition was not associated with mean levels of emotional symptoms. School SES was associated with behavioural symptoms and high levels of mental health difficulties, such that students in schools with higher proportions of disadvantaged students had on average more behavioural symptoms and were more likely
to have high (i.e., above clinical cut-off) levels of mental health difficulties. A more positive school climate was associated with lower levels of emotional and behavioural symptoms, and lower likelihood of having high levels of mental health difficulties (OR = 0.78, 95% CI: 0.75-0.81). There were no interactions between school composition and school climate in predicting any of the mental health outcomes in this study.

For emotional symptoms an interaction between child SES and school SES was observed (see Figure 1a), such that disadvantaged children in a school with lower levels of disadvantage were more likely to have emotional symptoms, while non-disadvantaged children’s emotional symptoms were not associated with school SES. For instance, in a school with 10% disadvantaged students, average symptoms for children eligible for FSM was 0.16 SD above the mean and for other children it was -0.01 SD below the mean; however in schools with 40% and above disadvantaged students mean scores were not different by FSM eligibility. The association between school climate and emotional symptoms was moderated by sex (Figure 2a), such that while both boys and girls were more likely to have emotional symptoms if they were in a school with poor school climate, this effect was larger for girls compared to boys.

For behavioural symptoms, an interaction between child- and school-level SES (Figure 1b) was also observed. Unlike the interaction noted above for emotional symptoms, for behavioural symptoms high SES children in a school with higher levels of disadvantage were more likely to have behavioural symptoms, while for disadvantaged children behavioural symptoms were unrelated to school-SES. In terms of school climate and sex, both girls and boys were more likely to have behavioural symptoms if they were in schools with poor school climate, but this effect was larger for boys compared to girls (Figure 2b).

Interactions between child- and school-level characteristics were also observed for those children with high mental health difficulties. Child sex moderated the association between school sex composition and high levels of difficulties, such that girls in schools with greater proportions of female students had lower odds of having high difficulties compared to girls in schools with fewer females. While socio-economically disadvantaged children were more likely to experience high difficulties, the magnitude of this effect was less pronounced in children in more disadvantaged schools. Finally, there was a school climate and sex interaction whereby the protective effects of school climate were larger for boys compared to girls.

**Discussion**

Children’s mental health is a public health issue frequently in the spotlight due to its lasting impact on development and increasing prevalence (Patalay and Gage, 2019). Given the growing focus on schools as an important context for mental health prevention and intervention efforts, understanding the extent to which schools influence children’s mental health is crucial. The current analyses investigate the associations between children’s mental health and school composition and climate. We use large-scale survey data of children’s
mental health from over 600 schools, linked to student and school national databases to
investigate the school-level variation in mental health, how much of this is explained by
school composition and climate and whether the association of school-level factors are
moderated by child-level socio-demographic factors.

Schools accounted for 3-5% of the variation in children’s mental health, of which
only a small amount was explained by school compositional factors (1.4 to 3.8%). School size
was associated with slightly raised odds of high mental health difficulties, however, the effect
size was small (odds ratio of 1.03 for an additional 100 students). School deprivation
predicted behavioural symptoms and rates of high mental health difficulties, supporting
previous research showing schools with higher levels of disadvantaged children have an
increased likelihood of students with behavioural difficulties regardless of a child’s
individual socio-economic position (Kellam et al., 1998). This may be due to the fact that
schools with higher proportions of disadvantaged students may have characteristics that
increase risks for poor student behaviour, including higher teacher turnover and less effective
management (Smithers and Robinson, 2004).

Conversely, school climate was associated with all three mental health outcomes.
More positive school climate was associated with a tenth of a standard deviation lower
emotional and behavioural symptoms and children at these schools were almost 25% less
likely to experience high levels of difficulties. This supports existing literature studying the
impact of the quality of the school environment for children’s mental health (Somersalo et al.,
2002). It is worth noting that in primary school settings, when schools are often smaller than
secondary schools in England, the school level variation observed regarding school climate
might in reality reflect classroom level climate where some classes have teachers that create
more positive climates than others. More detailed studies that are able to differentiate school-
and class-level factors will shed light on the relevance of classroom level factors within the
school context.

One-third to one-half of school-level variation in child mental health was explained
by school climate, highlighting the importance of school climate as a target for intervention.
Analyses examining moderation by child-level characteristics suggest that the association of
school climate with mental health difficulties is moderated by child sex, with poorer school
climate specifically associated with greater levels of behavioural symptoms for boys and
emotional symptoms for girls. This gendered pattern highlights that school climate potentially
moderates the difficulties children are more likely to experience; for example, our finding
show that in schools with poorer school climate the expected gender gap in emotional
symptoms (i.e., higher prevalence in girls) becomes wider with girls experiencing
increasingly greater emotional problems as school climate decreases.

We also found interactions between school-level and child-level socio-economic
status, such that a disadvantaged child in a relatively non-disadvantaged school had higher
levels of emotional symptoms while, comparatively, socio-economically non-disadvantaged
children had similar rates of difficulties irrespective of their school’s SES level. This suggests
that the higher SES of a school magnifies the likelihood of emotional symptoms for disadvantaged children. The inequality between a disadvantaged child in a non-disadvantaged school may prompt negative social comparisons which have been shown to be associated with poorer mental health outcomes (Mishra and Carleton, 2015; Patalay and Fitzsimons, 2016). Individual by school-level disadvantage effects on mental health were also seen in the context of behavioural symptoms. However, in contrast to emotional symptoms, the moderation was observed in non-disadvantaged students showing greater behavioural symptoms in more disadvantaged schools. The effect size for the moderation of child by school SES was larger for behavioural symptoms compared to emotional symptoms.

Strengths of the current study include a large sample of schools, child mental health data linked to national child and school databases and the inclusion of different domains of child mental health. Nonetheless, some limitations deserve note. First, schools included in the study were slightly larger in terms of headcount compared to the national average, and only state-maintained schools were included in the dataset. However, given the included schools being similar to national figures on proportions of disadvantaged and ethnic minority students, it is likely that these findings are generalisable to primary schools nationally. In addition, given the study is based in England, the findings might not generalise to different cultural contexts with different school systems or different structural challenges such as segregation.

Second, school climate was aggregated from student responses regarding their school, potentially leading to higher estimates of the school-level variation in children’s mental health scores explained by this variable, as children’s mental health might influence their ratings of the school climate. Although our measure of school climate captures key components of school climate including safety, positive adult-student relationship and morale; some aspects included in the broader conceptualisation of school climate (Cohen et al., 2009), such as the structural elements of the school like space, building materials and aesthetics were not assessed. Future research exploring the role of these physical environment aspects of school climate on child mental health is needed. In addition, the use of cross-sectional data precludes us from examining whether student mental health difficulties are responsible for poor school climate, longitudinal datasets of this nature will permit further understanding of this association in shaping school climate. There are also other factors related to family and neighbourhood socio-economic and climate characteristics that we were not able to include in the study that might be important to consider.

Currently, the majority of school-based mental health interventions are expensive to deliver with specific copyrights and associated training or manuals and, importantly, have limited evidence for their efficacy (Adi et al., 2007). In contrast, a focus on improving school climate might provide an accessible and actionable target that is also low cost to help promote students mental health; and there is some evidence for the efficacy of school climate based interventions (Bradshaw et al., 2008) and school practices such as mental health support, socio-emotional learning provision and non-punitive disciplinary strategies might be important strategies to improve school-climate. Future research should investigate the
influence of malleable, contextual school factors other than school climate (such as policies, leadership, teacher quality) in association with child- and school-level demographics in influencing child mental health outcomes. Schools are increasingly facing an expanding remit that includes supporting the rising mental health difficulties faced by their students (European Union, 2013; Green Paper, 2017). Constraints on school budgets and squeezed timetables further compounds the issue and reduce scope for the delivery of mental health focused interventions within schools. Tackling school climate is an attractive focus for improvement as, not only does it not necessarily place demands on curriculum time, it is within the scope of schools’ remit and has potential benefits for other outcomes such as school engagement and academic outcomes alongside mental health difficulties.

Contributors statement: PP, EN and EF conceptualised and planned the study. PP and EN analysed the data. JD and PP were part of the group that collected the data. All authors contributed to drafting the manuscript for publication. The corresponding author attests that all listed authors meet authorship criteria and that no others meeting the criteria have been omitted. PP acts as guarantor for the paper.

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Conflicts of interests: All authors have completed the ICMJE uniform disclosure form at www.icmje.org/coi_disclosure.pdf and declare: no support from any organisation for the submitted work; no financial relationships with any organisations that might have an interest in the submitted work in the previous three years; no other relationships or activities that could appear to have influenced the submitted work.
References


Table 1
Descriptive statistics of mental health outcomes (n=23215) and school composition and climate (n = 648) showing means (with 95% CI) and ranges.

<table>
<thead>
<tr>
<th>Mental health outcomes, children (n = 23215)</th>
<th>Mean (or %)</th>
<th>95% confidence intervals of the mean or %</th>
<th>Range</th>
<th>(10th and 90th percentile)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotional symptoms score</td>
<td>6.78</td>
<td>6.73, 6.82</td>
<td>0 – 16</td>
<td>2, 11</td>
</tr>
<tr>
<td>Behavioural symptoms score</td>
<td>3.18</td>
<td>3.15, 3.21</td>
<td>0 – 12</td>
<td>0, 7</td>
</tr>
<tr>
<td>% above clinical threshold</td>
<td>16.84</td>
<td>16.4, 17.3</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>

Schools (n = 648)

| School headcount                           | 304         | 293.5, 314.5                            | 29 – 1212| 160, 471                 |
| School gender (proportion female)          | 48.45       | 48.1, 48.8                              | 0 – 60   | 44.3, 52.9               |
| School deprivation (proportion FSM eligible)| 18.73       | 17.7, 19.7                              | 0 – 87.5| 3.9, 37.4                |
| School ethnicity (proportion ethnic minority)| 22.67      | 20.5, 24.8                              | 0 – 100 | 0, 74                    |
| School climate                             | 11.77       | 11.7, 11.8                              | 7.03-13.82| 10.76, 12.77             |
Table 2.
Regression coefficients (with 95% CIs) from 1) model with school predictors controlling for child level socio-demographic characteristics, 2) model 1 plus interactions between school composition and corresponding child factor, 3) model 1 plus interactions between child socio-demographic characteristics and school climate

<table>
<thead>
<tr>
<th>From model with child level controls and school level predictors</th>
<th>Emotional symptoms Coef (95% CI)</th>
<th>Behavioural symptoms Coef (95% CI)</th>
<th>High mental health difficulties Odds ratio (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>School headcount (per 100 children)</td>
<td>0.0 (-0.01,0.02)</td>
<td>-0.01 (-0.02,0.01)</td>
<td>1.03 (1.00,1.06)</td>
</tr>
<tr>
<td>School gender (% female, 10%)</td>
<td>-0.02 (-0.07,0.02)</td>
<td>0.04 (-0.01,0.09)</td>
<td>1.04 (0.92,1.17)</td>
</tr>
<tr>
<td>School deprivation (% fsm eligible, 10%)</td>
<td>-0.02 (-0.03,0.00)</td>
<td>0.02 (0.01,0.04)</td>
<td>1.05 (1.01,1.09)</td>
</tr>
<tr>
<td>School ethnicity (% ethnic minority, 10%)</td>
<td>0.0 (-0.01,0.00)</td>
<td>0.0 (-0.01,0.01)</td>
<td>0.99 (0.97,1.01)</td>
</tr>
<tr>
<td>School climate (1 SD)</td>
<td>-0.09 (-0.11,-0.08)</td>
<td>-0.13 (-0.15,-0.11)</td>
<td>0.78 (0.74,0.81)</td>
</tr>
</tbody>
</table>

From model adding interactions between child characteristics and corresponding school level factor

| School gender % x child sex (female) | -0.06 (-0.13,0.02) | -0.07 (-0.14,0) | 0.77 (0.62,0.96) |
| School ethnicity% x child ethnicity (BME) | -0.01 (-0.02,0.01) | 0.01 (0,0.02) | 1.02 (0.98,1.06) |
| School deprivation % x child deprivation (FSM) | -0.03 (-0.06,-0.01) | -0.05 (-0.07,-0.02) | 0.90 (0.84,0.96) |

From model adding interactions between child characteristics and school climate

| School climate x child sex (female) | -0.05 (-0.08,-0.01) | 0.10 (0.07,0.13) | 1.13 (1.02,1.24) |
| School climate x child age | -0.04 (-0.07,0) | 0.02 (-0.01,0.06) | 1.03 (0.93,1.13) |
| School climate x child ethnicity (BME) | 0.04 (-0.01,0.08) | 0.02 (-0.02,0.07) | 1.09 (0.96,1.23) |
| School climate x child deprivation (FSM) | 0.02 (-0.02,0.06) | -0.03 (-0.07,0.01) | 1.03 (0.93,1.15) |
| School climate x child special needs (SEN) | -0.04 (-0.08,0) | -0.04 (-0.07,0.00) | 0.98 (0.89,1.08) |

Note: BME = black, minority ethnic, FSM = free school meals, SEN = special educational needs. All models controlling for child sex, age, ethnicity, socio-economic status and special education needs status.
Figure 1
Figures 1a and 1b showing interactions between child SES (FSM eligibility) and school level deprivation in predicting emotional (1a) and behavioural symptoms (1b)

Figure 2
Figures 2a and 2b showing interactions between child sex and school level school climate in predicting emotional (2a) and behavioural symptoms (2b)