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Factors Affecting Children's Mental Health and Wellbeing: Findings from the Realigning Children's Services Wellbeing Surveys (2015-2017)



CHILDREN, EDUCATION AND SKILLS



Factors Affecting Children's Mental Health and Wellbeing: Findings from the Realigning Children's Services Wellbeing Surveys (2015-2017)

Children and Families Analysis

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Executive Summary

Background

The Realigning Children's Services (RCS) programme has been delivered since 2015 by the Scottish Government to support and challenge Community Planning Partnerships (CPPs) in Scotland to drive improvement in their joint strategic decision making in relation to children's services. RCS is a two-stranded programme. It delivers an evidence programme centred around quantitative school-based wellbeing surveys with primary and secondary school pupils. The surveys engage children and young people directly to gather information on their perceptions of their health and wellbeing across the following domains: Family, School, Peer, Area and Health. RCS also offers a development and facilitation programme to the CPPs to help local stakeholders to understand and implement evidence based policy making in relation to their children's services.

In 2015, three CPPs joined the RCS programme: Clackmannanshire, South Lanarkshire and West Lothian. Two further CPPs joined in 2016 as part of the second tranche of RCS: Falkirk and North Lanarkshire. The research for tranche 2 and the primary school element of tranche 1 was conducted by ScotCen Social Research. The research for the secondary school element of tranche 1 was conducted by Ipsos MORI.

Objectives and Research Questions

This report presents quantitative analysis of data from the Children's Wellbeing Surveys, which were collected between 2015 and 2016 in participating primary and secondary schools in the five Scottish local authority areas named above, as part of the first and second tranches of the RCS programme.

The analysis explores what factors were shown to be associated with emotional and behavioural problems and positive mental wellbeing. It considers potential risk and protective factors in the following domains of children's lives:

- **Family**, including quality of parent-child relationships and family time
- **School**, including teacher-child relationships and enjoyment of school
- **Peer**, including relationships with friends and experience of bullying
- **Area**, including perceptions of local area safety and availability of outdoor space
- **Health**, including subjective general health and physical activity

The report addresses the following research questions:

1. How prevalent are emotional and behavioural problems and positive mental wellbeing amongst different groups of pupils who took part in the surveys?
2. How prevalent are potential risk or protective factors for mental health and wellbeing amongst surveyed pupils?
3. Which of these risk or protective factors are most strongly associated with emotional and behavioural problems or positive mental wellbeing?

4. How do different risk or protective factors work together to influence the likelihood of emotional and behavioural problems or positive mental wellbeing?

Findings

Numerous factors in different domains contributed to mental health and wellbeing outcomes. Protective factors including positive interactions with family members, friends, teachers and school peers were particularly important for positive mental health and wellbeing. Pupils were more vulnerable to emotional and behavioural problems if they were exposed to specific risk factors which included being socially isolated or excluded; feeling negatively towards school or worried by schoolwork; or having a lack of positive family relationships.

Most school pupils had generally positive experiences with their family, school, peers, area and health, however, a relatively small proportion of pupils reported multiple risk factors. Poor mental health was more prevalent in this group compared to those with few or none of these risk factors.

In addition, pupils living in more deprived areas tended to report poorer mental health. However we did not find that this difference was attributable to area deprivation; rather, we found that this was largely explained by the higher prevalence of other risk factors experienced by children and young people living in these areas: e.g. higher instances of children reporting poorer relationships with family and peers, or more negative perceptions of their school and neighbourhood environments.

Therefore, whilst it was found that living in a more deprived area can lead to increased exposure to risk factors that contribute to poorer mental health; deprivation alone was not found to be a driver of poor mental health itself.

Within the secondary school survey, girls were substantially more likely to report emotional problems than boys, even when controlling for other risk factors for negative outcomes. Further investigation is required to better understand what is driving this gender difference.

Recommendations

The findings can help to identify children and young people who are most at risk of poor mental health:

- Practitioners should look out for children who are socially isolated or excluded, who feel negatively towards schoolwork and who have poor interactions with teachers and pupils, or who lack positive family interactions.
- Rather than focusing overly on any single factor, these findings underline the importance of identifying children and young people who have *multiple* risk factors, as this group are most vulnerable to emotional and behavioural problems.

The findings support the need for a holistic approach to supporting the mental health and wellbeing of children and young people:

- Interventions in family settings should aim to promote positive interactions, open communication and quality time together.
- Interventions in school settings should tackle bullying; promote good relationships between peers and between pupils and school staff; and equip pupils to manage the demands of schoolwork.

The findings highlight issues that merit further investigation in future research:

- Future analysis should make use of longitudinal surveys that follow children over time, to explore how exposure to risk factors influences later mental health and wellbeing.
- Further research is required to understand why girls (especially older girls) are notably more likely to report emotional problems. This could include exploring how boys and girls engage with social media differently.

1 Introduction

Understanding the factors that influence mental wellbeing amongst children and young people provides policy makers with an evidence base for targeting initiatives at those who are most at risk. Child circumstances and experiences that can enhance or impair mental wellbeing tend to cluster together: for example, deprivation, family relationships and school experiences are each associated with child mental wellbeing individually, but are also interconnected. This report therefore moves beyond considering associations separately, to examine how a range of factors work together to influence child mental wellbeing when examined together. This approach can help identify the most important factors to target when aiming to maximise the positive impact of child mental wellbeing policies and interventions.

1.1 Policy context

The Realigning Children’s Services (RCS) programme contributes to the Scottish Government’s Getting It Right For Every Child approach. It is a two-stranded programme. The evidence strand gathers data on the experiences of children and young people through school based surveys and maps investment in children and family services. The second strand provides support and facilitation to Community Planning Partnerships (CPPs) to improve their joint strategic decision making in relation to children’s services.

The Scottish Government wants every child to grow up loved, safe and respected so that they can realise their full potential. This is reflected in the National Performance Framework¹. The Getting it right for every child (GIRFEC) approach ensures that this is at the heart of all policies and initiatives to help and support children, young people and their families².

GIRFEC has established a common understanding of wellbeing that is shared by children and young people, their parents and the services that support them. It outlines eight wellbeing domains that can be used to assess dimensions of wellbeing: Safe, Healthy, Achieving, Nurtured, Active, Respected, Responsible and Included (known in practice as SHANARRI). This holistic framework of wellbeing is embedded in the Children and Young People (Scotland) Act 2014³.

¹ The Scottish Government, “National Performance Framework,” [Online]. Available: <https://nationalperformance.gov.scot/>.

² The Scottish Government, “Getting it right for every child (GIRFEC),” [Online]. Available: <https://www.gov.scot/policies/girfec/>.

³ The Scottish Parliament, “Children and Young People (Scotland) Act 2014,” Acts of the Scottish Parliament, 2014. [Online]. Available: <http://www.legislation.gov.uk/asp/2014/8/contents/enacted>.

Within the GIRFEC approach, the Realigning Children's Services (RCS) programme aims to support participating Community Planning Partnerships (CPPs) to make joint strategic decisions using robust and timely evidence. This is achieved by:

- Bringing together organisational stakeholders to share information, build collective understanding, agree priorities and develop joint plans of action.
- Using data and evidence to map current need, services and investment; identify priority outcomes and ways of addressing those; and evaluate subsequent changes to policy and practice.
- Identifying ways to shift investment 'upstream' to allow prevention and early intervention and reduce the need for high intensity, high cost services.
- Finding meaningful and effective ways of involving children, families and frontline practitioners in the process of service redesign.
- Using improvement methodology to help CPPs bring about effective, sustainable and scalable change.

This report makes use of data from the RCS Children's Wellbeing Surveys to examine how a range of potential risk and protective factors combine to influence children and young people's mental health and wellbeing.

1.2 Understanding the mental wellbeing of children and young people

This report is focused specifically on mental health and mental wellbeing. These are key components of children's overall wellbeing more broadly, which also encompasses physical health, safety and development.

There are a core set of national mental health indicators for children and young people in Scotland, outlined in a report by NHS Health Scotland⁴. These indicators cover both mental health problems (using the Strengths and Difficulties Questionnaire; SDQ) and positive mental wellbeing (using the Warwick-Edinburgh Mental Wellbeing Scale; WEMWBS). This report examines mental health problems and positive mental wellbeing, using these measures for secondary school pupils, and age-appropriate equivalent measures for primary school pupils (see Section 2.2 for details on measures).

Mental health problems include symptoms that meet diagnostic criteria for mental illness (most commonly emotional problems and conduct problems) and symptoms below this threshold that still interfere with everyday life. *Mental wellbeing* is complex and can be conceptualised in different ways, with ongoing debate around

⁴ Parkinson, J., *Establishing a core set of national, sustainable mental health indicators for children and young people in Scotland: Final Report*. 2012, NHS Health Scotland.

its exact nature. This report follows the working definition of mental wellbeing used in developing the national set of mental health indicators for children and young people⁵. It is more than an absence of mental health problems, and captures both subjective experiences (e.g. happiness and life satisfaction) and psychological functioning (e.g. confidence, energy and purpose).

Evidence from Scottish secondary school pupils shows that during the last decade, conduct problems have decreased but emotional problems have increased (particularly amongst older girls). In contrast, mental wellbeing has remained relatively stable over time⁶.

1.3 Research questions and report outline

This report presents quantitative analysis of the RCS Children's Wellbeing Surveys to examine how different factors influence children and young people's mental health and wellbeing. It uses individual-level survey data to explore the following research questions:

1. How prevalent are emotional and behavioural problems and positive mental wellbeing?
2. How prevalent are potential risk or protective factors?
3. Which of these potential risk or protective factors are most strongly associated with emotional and behavioural problems or positive mental wellbeing?
4. How do different risk or protective factors combine together to influence the likelihood of emotional and behavioural problems or positive mental wellbeing?

Chapter 2 outlines the study methods, with an overview of the surveys, measures and data analysis. Chapters 3 and 4 then present the findings for the secondary and primary school data respectively, addressing each of the research questions above. Finally, Chapter 5 presents the conclusions of the current findings, with recommendations for both future research, policy and practice.

⁵ Parkinson, J., *Establishing a core set of national, sustainable mental health indicators for children and young people in Scotland: Final Report*. 2012, NHS Health Scotland.

⁶ Scottish Government, *Scottish Schools Adolescent Lifestyle and Substance Use Survey (SALSUS) 2015: Mental Wellbeing Report*. 2017: Edinburgh.

2 Methods

This report uses data from the RCS Children’s Wellbeing Surveys in Scottish primary and secondary schools. It examines what risk and protective factors are associated with emotional and behavioural problems and positive mental wellbeing.

2.1 The RCS Children’s Wellbeing Surveys

As part of the Realigning Children’s Services (RCS) programme, pupils in participating local authorities completed the school-based Children’s Wellbeing Surveys. These census-level surveys gathered data from children and young people, who agreed to participate, on their subjective health and wellbeing. The survey responses were securely linked to local administrative and geographical data about the respondents.

This report uses available data from the primary (P5-P7) and secondary (S1-S4) school-based surveys in five local authorities that participated in the RCS programme between 2015 and 2017. In total, survey responses and administrative data were available for 32,154 secondary pupils and 24,797 primary pupils from these five local authorities.

The report analyses the primary and secondary school surveys separately. The primary school survey included fewer survey questions, with simplified wording and response options. However, both surveys broadly capture similar subjective experiences, with age-appropriate measures of poor mental health, positive mental wellbeing and relevant factors in other domains of life.

2.2 Measures of mental health and wellbeing

2.2.1 Poor mental health

In the **secondary survey**, poor mental health was measured using the Strengths and Difficulties Questionnaire (SDQ)⁷. Pupils’ scores on two subscales provide a measure of two important components of child and adolescent mental health problems: emotional problems and conduct problems. This report examines prevalence rates and associated risk factors for ‘very high’ scores on each of these subscales. Using the ‘very high’ established cut-off score identifies children with the most severe problems in these areas⁸.

⁷ Goodman, R., H. Meltzer, and V. Bailey, *The strengths and difficulties questionnaire: A pilot study on the validity of the self-report version*.

⁸ The ‘very high’ group was selected as the outcome measure of interest for emotional problems and conduct problems because rates of emotional problems were high in our sample (17% of all S1-S4 pupils and 34% of S4 girls scored as ‘very high’). Widening the outcome to include ‘high’ or above, or ‘slightly raised’ or above, would have resulted in a highly prevalent outcome and less meaningful conclusions.

In the **primary survey**, pupils rated how often they experienced six different positive and negative emotions. Their answers were combined into an overall score of positive mood⁹. This report examines factors associated with having a *lower than average* mood score. Children in this group tended to experience negative feelings more often (and positive feelings less often) than other children in the survey sample.

2.2.2 Positive mental wellbeing

Positive mental wellbeing captures more than simply an absence of mental health problems¹⁰. It encompasses subjective experiences (e.g. happiness and life satisfaction) and psychological functioning (e.g. confidence, energy and purpose)¹¹.

In the **secondary survey**, positive mental wellbeing was measured using the Warwick-Edinburgh Mental Wellbeing Scale (WEMWBS)¹². The WEMWBS provides an overall score and was not developed to include established cut-offs for high or low wellbeing. The RCS wellbeing surveys use a cut-off score defined as one standard deviation above the mean WEMWBS score in the 2015 Scottish Schools Adolescent Lifestyle and Substance Use Survey (SALSUS) survey to identify pupils with above average positive mental wellbeing¹³.

In the **primary survey**, pupils completed a measure of life satisfaction, which is one component of positive mental wellbeing¹⁴. Pupils answered five adapted questions from the Student's Life Satisfaction Scale¹⁵, which were combined to give an overall score¹⁶. The analysis examined factors associated with having a *higher than average* life satisfaction score, compared to other children in the survey sample.

⁹ See the Realigning Children's Services Technical report for the Wellbeing Survey Programme, by ScotCen, for full details of measures and cut-offs.

¹⁰ Parkinson, J., *Establishing a core set of national, sustainable mental health indicators for children and young people in Scotland: Final Report*. 2012, NHS Health Scotland.

¹¹ Huppert, F.A., et al., *The science of well-being*. 2005, Oxford: Oxford University Press.

¹² Clarke, A., et al., *Warwick-Edinburgh Mental Well-being Scale (WEMWBS): validated for teenage school students in England and Scotland. A mixed methods assessment*. BMC public health, 2011. 11(1): p. 487-487.

¹³ See the Realigning Children's Services Technical report for the Wellbeing Survey Programme, by ScotCen, for full details of measures and cut-offs.

¹⁴ Huppert, F.A., et al., *The science of well-being*. 2005, Oxford: Oxford University Press.

¹⁵ Huebner, E.S., Initial Development of the Student's Life Satisfaction Scale. *School Psychology International*, 1991. 12(3): p. 231-240.

¹⁶ See the Realigning Children's Services Technical report for the Wellbeing Survey Programme, by ScotCen, for full details of measures and cut-offs.

2.3 Potential risk and protective factors

The analysis examined whether these outcome measures were associated with potential risk or protective factors across broad domains of children's lives. These domains are:

- **Family**, including quality of parent-child relationships and family time
- **School**, including teacher-child relationships and enjoyment of school
- **Peer**, including relationships with friends and experience of bullying
- **Area**, including perceptions of local area safety and availability of outdoor space
- **Health**, including subjective general health and physical activity

Existing research supports that these aspects of children's lives are important for wellbeing and mental health, and the RCS school-based surveys were designed to capture relevant factors associated with wellbeing. Full lists of all risk factors examined in each domain are presented in Table 1 for secondary school pupils (Section 3.2) and in Table 5 for primary school pupils (Section 4.2).

Since this report examines both positive and negative outcomes, depending on the context, the report refers to the same factors (e.g. attitude towards school) as either 'risk factors' for negative outcomes or 'protective factors' for positive outcomes. For example, in the case of attitude towards school, it examines whether *not liking school* is a 'risk factor' for emotional problems, and whether *liking school* is a 'protective factor' for positive mental wellbeing. The categories are the same in both cases: inverting the comparison simply makes results more intuitive to interpret.

2.4 Analysis approach

The analysis in this report considered the primary and secondary school surveys separately, since they used different survey questions. To answer the research questions outlined in Section 1.3, the analysis involved the following steps.

For *each survey* (primary and secondary), the analysis first calculated survey-weighted percentages to examine:

1. How prevalent each mental health outcome was (overall and by school year, gender and area deprivation)
2. How prevalent each potential risk factor was

Then, for *each mental health outcome* in turn, binomial logistic regression models examined:

3. Whether a child's chances of having that mental health outcome were associated with:
 - a. Having each individual risk factor

- b. Having multiple risk factors in a domain¹⁷
4. Whether these associations remained significant after accounting for the combined influence of other factors simultaneously

All analysis was completed using R¹⁸. All associations presented in the report are statistically significant ($p < 0.05$), unless stated otherwise. All associations controlled for relevant child characteristics, outlined below.

2.4.1 Control variables

All associations that were examined accounted for a number of control variables to allow meaningful comparisons between *similar* children with or without a certain risk factor.

For primary surveys, the analysis controlled for: school year, gender, area deprivation (Scottish Index of Multiple Deprivation; SIMD) and free school meal eligibility.

For secondary surveys, additional measures were available and the analysis controlled for: school year, gender, area deprivation and free school meal eligibility (as above); plus child ethnicity and household composition (two parent, single parent, step parent or other families, and number of siblings).

2.4.2 Missing data

There was some missing data, as some children skipped certain survey questions. The analysis therefore used all available data on each measure when presenting prevalence rates, but limited the remaining analysis stages to pupils who had completed the outcome measures (see Section 2.2). This gave analysis samples of 22,935 secondary school pupils and 20,989 primary school pupils.

Within these analysis samples, 26% of primary pupils and 47% of secondary pupils had skipped at least one question of interest in the current analysis. Children who skipped questions were more likely to be younger, live in a deprived area, and report poorer relationships with family and peers, and poorer perceptions of their school and neighbourhood environments. Therefore simply removing children with incomplete data would give a biased sample, so the analysis used multiple imputation (a robust statistical method for dealing with missing data)¹⁹.

¹⁷ The analysis only examined the total number of risk factors in each domain for the secondary school data (since the primary school survey had different numbers of questions for each domain).

¹⁸ R Development Core Team, *R: A language and environment for statistical computing*. 2010, R Foundation for Statistical Computing: Vienna, Austria.

¹⁹ Multiple imputation is a statistical tool that creates multiple datasets where missing values are imputed (assigned plausible values) based on the other available data for a participant. Analysis is carried out on each created dataset and averaged across, to account for the uncertainty in imputed values.

2.4.3 Survey weights

All analyses used survey weights from the RCS wellbeing survey datasets. Weights were computed based on gender, school year and school denomination (non-denominational / Roman Catholic) for secondary school pupils; and gender, school year and free school meal eligibility for primary school pupils. This corrects for any over- or under-representation of these characteristics in the samples, to bring the sample profile in line with the population profile of P5-P7 and S1-S4 pupils in these five local authorities.

2.5 Strengths & limitations of this analysis

Strengths of this analysis approach include: using established, validated questionnaire measures of mental health and wellbeing; controlling for child characteristics; accounting for the simultaneous influence of other factors in the final analysis step; and using multiple imputation of missing data to reduce bias and improve power.

However, this analysis has a number of limitations. The RCS wellbeing surveys are cross-sectional: each participating pupil answered all survey questions at one time point. Therefore, although this analysis can identify an *association* between a particular risk factor and mental health outcome, it cannot establish the direction and temporality of this association or whether the risk factor *causes* poorer mental health outcomes. For example family conflict may lead to emotional problems, but emotional problems may also lead to family conflict.

The list of factors examined in this report is not intended to be comprehensive: there are likely to be additional relevant factors that influence mental health and wellbeing, beyond the current dataset or analysis. Furthermore, since the primary and secondary school surveys used different (age-appropriate) questions and response options, it is not possible to directly compare the results across age groups.

3 Secondary school findings

This chapter presents the findings of the secondary school survey analysis. It contains three sections, which cover the research questions outlined in Section 1.3.

Section 3.1 addresses research question 1. It presents the prevalence rates for each mental health outcome (emotional problems, conduct problems, positive mental wellbeing), including a breakdown by school year, gender and area deprivation.

Section 3.2 addresses research question 2. It presents the prevalence rates for secondary school pupils with each individual risk factor (and with multiple risk factors in a domain).

Section 3.3 addresses research questions 3 and 4. For each mental health outcome in turn, it presents associations with risk and protective factors when these are considered: (a) individually; (b) as clusters within a domain; (c) after accounting for the influence of other factors.²⁰

3.1 Prevalence of mental health and wellbeing outcomes

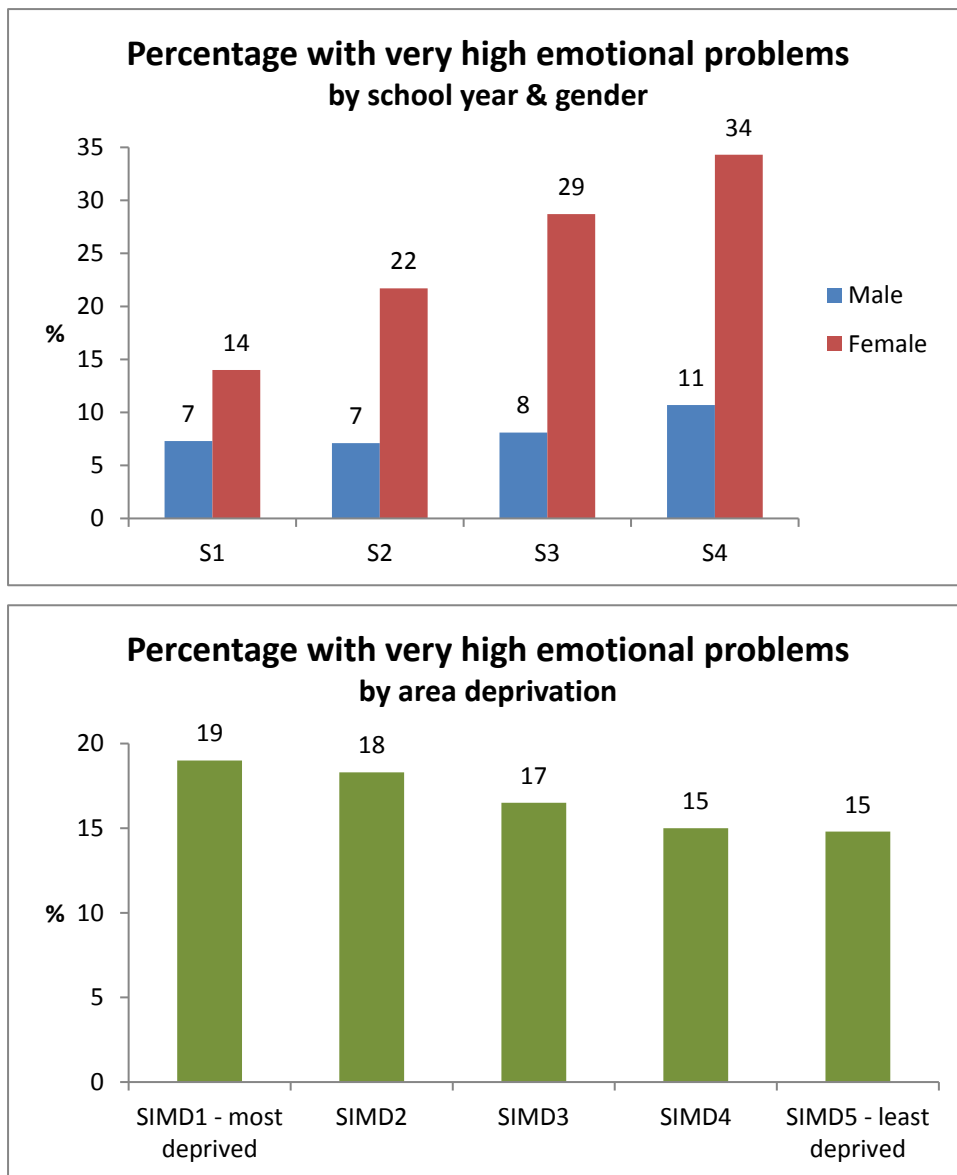
3.1.1 Prevalence of emotional problems

Overall, 17% of S1-S4 pupils were classed as having 'very high' emotional problems on the Strengths and Difficulties Questionnaire (SDQ). Figure 1 shows the percentage of pupils with emotional problems by school year, gender and deprivation.

Rates were higher for girls and this gap widened with age: by S4, 1 in 3 girls had very high emotional problems compared to 1 in 10 boys. There was a smaller but significant gap for deprivation: 19% of pupils living in the most deprived areas had very high emotional problems, compared to 15% of those in the least deprived areas.

²⁰ Exact odds ratios and significance levels for these analyses can be made available upon request.

Figure 1: Prevalence of emotional problems

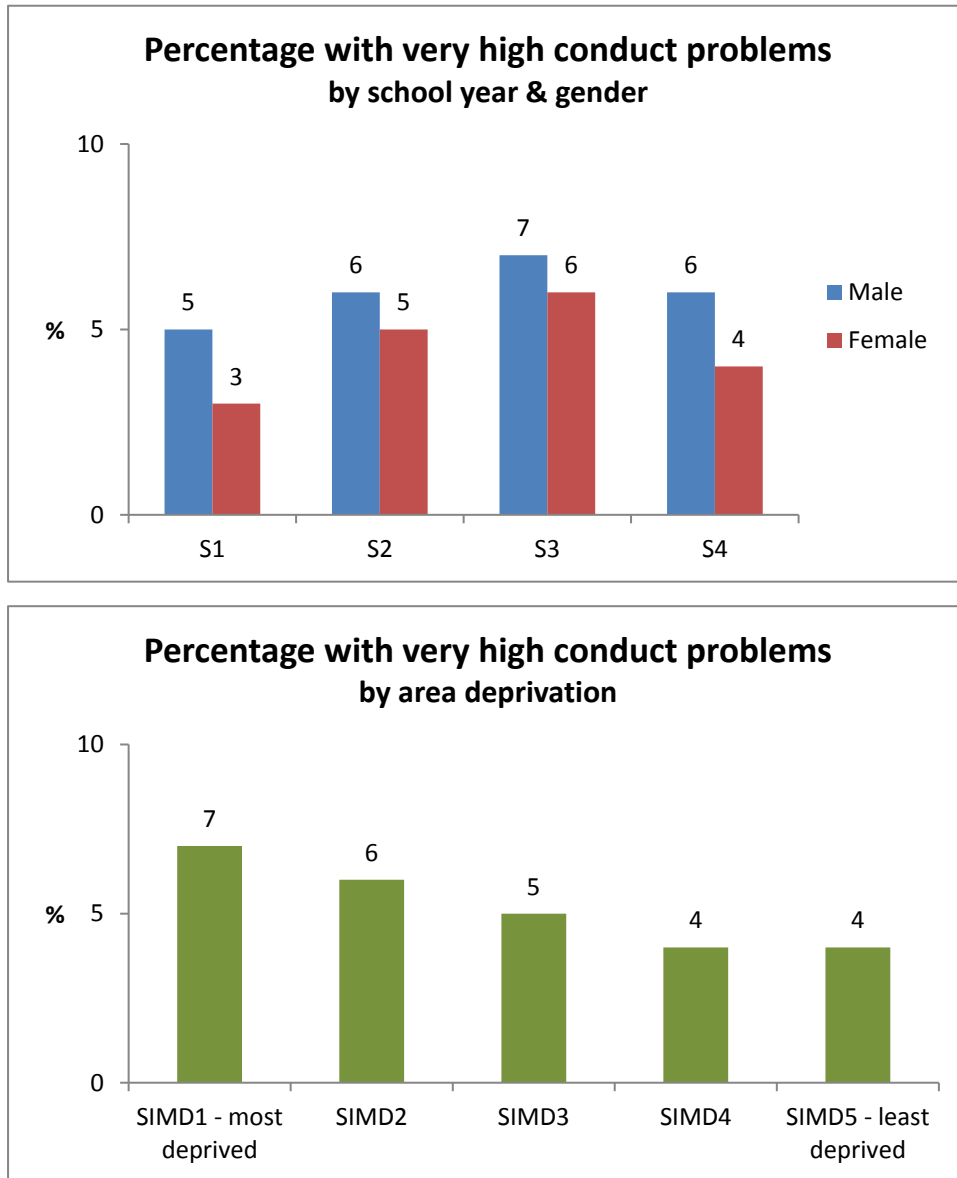


3.1.2 Prevalence of conduct problems

Overall, 5% of S1-S4 pupils were classed as having 'very high' conduct problems on the SDQ. Figure 2 shows the percentage of pupils with conduct problems by school year, gender and deprivation.

Rates were higher for boys. For both genders, conduct problems were lowest in S1 and peaked in S3. Conduct problems were more common amongst children living in more deprived areas: 7% in the most deprived areas compared to 4% in the least deprived areas.

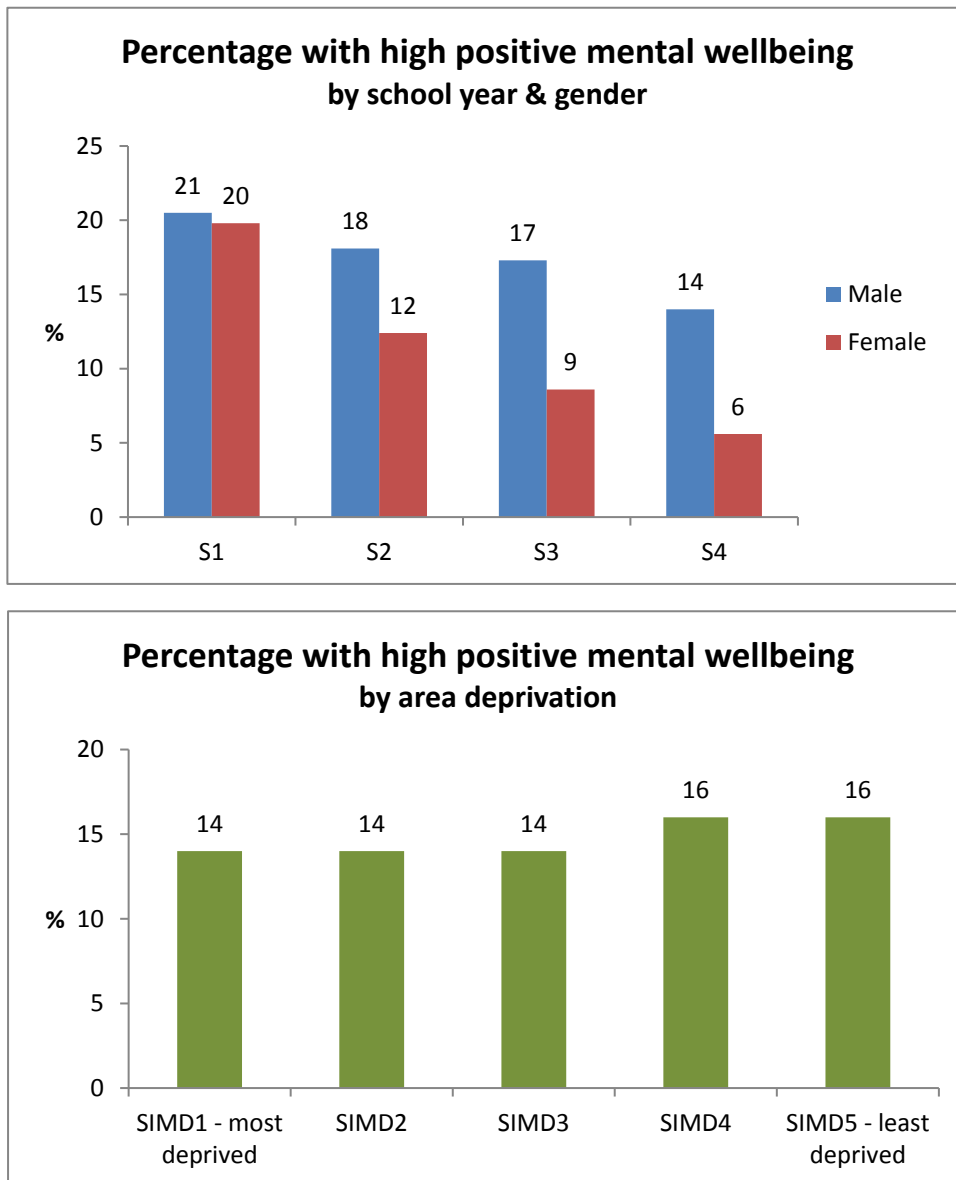
Figure 2: Prevalence of conduct problems



3.1.3 Prevalence of high positive mental wellbeing

Overall, 14% of S1-S4 pupils were classed as having ‘high positive mental wellbeing’ using a cut-off score of 1 standard deviation above the mean Warwick-Edinburgh Mental Wellbeing Scale (WEMWBS) score from the 2015 SALSUS results. Figure 3 shows the percentage of pupils with high positive mental wellbeing by school year, gender and deprivation.

Figure 3: Prevalence of high positive mental wellbeing



The prevalence of high positive mental wellbeing decreased with age for both boys and girls, but this decline was sharper for girls. In S1, boys and girls were equally likely to have high mental wellbeing (roughly 20% of each). By S4, 14% of boys and only 6% of girls were classed as having high positive mental wellbeing.

Although the difference in positive mental wellbeing between the most and least deprived areas was statistically significant, this gap was modest. Only 2 percentage points separated children from the least deprived areas (16%) and children from more deprived areas (14%).

Summary: Girls (especially older girls) are more likely to have emotional problems and less likely to have high positive mental wellbeing. Boys are more likely to have conduct problems. Children from more deprived areas are more likely to have emotional and conduct problems and slightly less likely to have high positive mental wellbeing.

3.2 Prevalence of risk and protective factors

Table 1 presents the prevalence of each potential risk factor. The most common risk factors were feeling that there was nothing to do for young people locally (46%) and experiencing bullying or prejudice (40%). The least common risk factors were child-rated poor general health (2%) and having few or no friends (5%).

Table 1: Prevalence of individual risk factors in each domain²¹

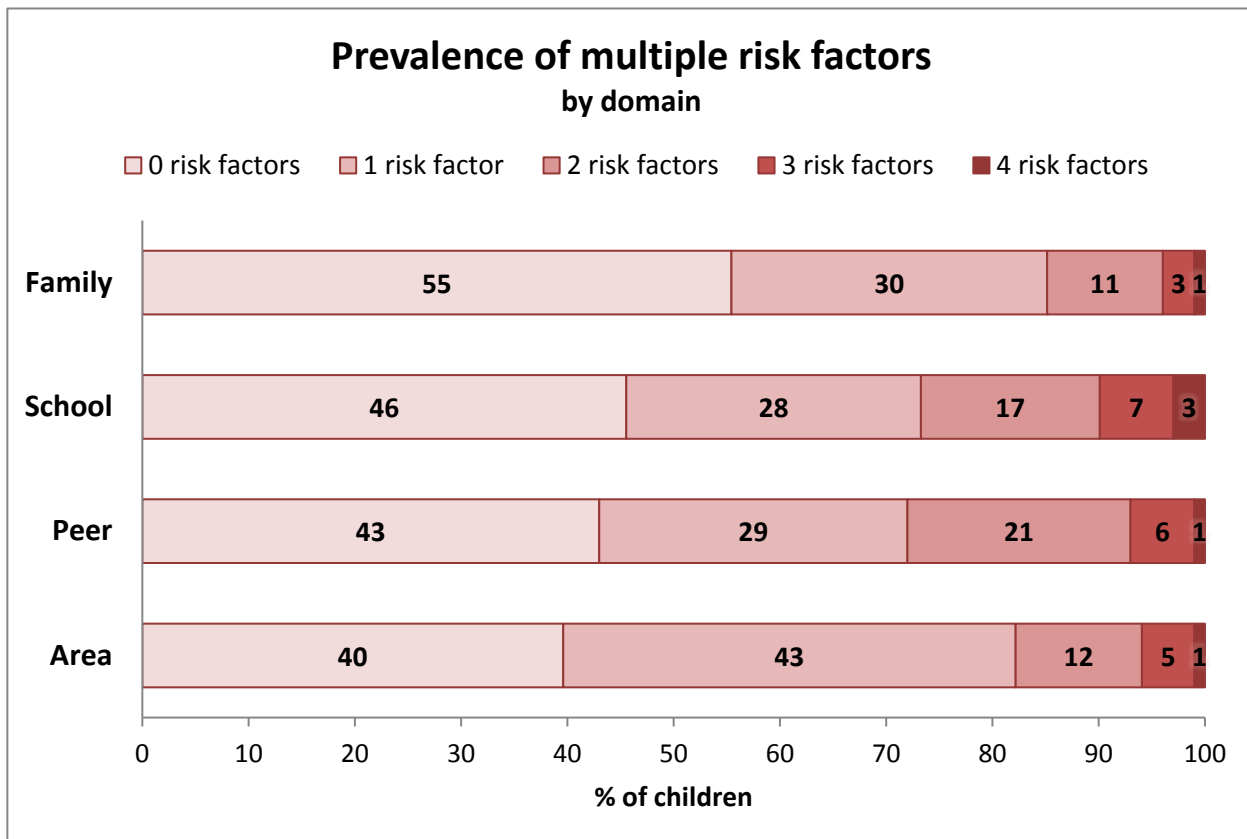
Domain	Risk factor	% of children
Family	Child would not speak to a family member if worried	26%
	Family members shout a lot	23%
	Family rarely or never shares meals	11%
	Child does not enjoy spending time with family	11%
School	Pupils do not respect each other	39%
	Child feels strained by schoolwork	33%
	Child does not like school	31%
	Child feels that teachers do not care about them	29%
Peer	Child experiences bullying	40%
	Child experiences prejudice (from young people or adults)	40%
	Other pupils do not accept child	16%
	Child has few or no friends	5%
Area	Nothing for young people to do in the area	46%
	Child could not ask neighbours for help	33%
	People do not say 'hello' or stop to talk in the street	30%
	Child does not feel safe in area	23%
Health	Child is rarely or never physically active	7%
	Child rates own health as 'bad' or 'very bad'	2%

Generally, risk factors tended to be more prevalent amongst older pupils, girls and those from more deprived areas. This is why it is important to control for these characteristics when analysing associations, to compare *similar* pupils with and without each risk factor.

²¹ See appendix for the exact survey questions and response options used to identify each risk factor (including details of which types of prejudice were included etc.)

The analysis also examined the total number of risk factors that pupils had in each domain²². Figure 4 shows that most children had few or no risk factors in each domain. However a significant minority had multiple risk factors: the percentage of pupils with three or more risk factors ranged from 4% in the Family domain to 10% in the School domain.

Figure 4: Prevalence of multiple risk factors in each domain



Older children and those from more deprived areas tended to have a higher number of risk factors in all four domains. Girls also tended to have more risk factors than boys in the School and Peer domains. This underlines the importance of controlling for child characteristics like age, gender and deprivation when trying to identify which risk factors most strongly contribute to mental health and wellbeing.

These four domains are distinct but associated. It is possible to have high risk in one domain and low risk in others. However pupils with high risk in one domain were more likely to have high risk in others. This is why it is important to not only examine each factor or domain individually, but also examine whether its association remains significant after accounting for the combined influence of other domains simultaneously (see research question 4, outlined in Section 1.3).

²² The analysis did not examine the total number of risk factors in the Health domain, since this only included two indicators.

3.2.1 Note on protective factors

As outlined in Section 2.3, this report refers to negative experiences as possible 'risk factors' for emotional and conduct problems, but reverses these comparisons to examine the opposite (i.e. positive) experiences as possible 'protective factors' for positive mental wellbeing. For example, whilst 11% of pupils rarely or never shared family meals (referred to as a possible 'risk factor'), this means that 89% of pupils shared family meals at least once a week (referred to as a possible 'protective factor'). Similarly, although 5% of pupils had three or four negative experiences (risk factors) in the family domain, 55% had all positive experiences in this domain (i.e. zero risk factors, or four protective factors).

Summary: Most secondary school pupils have generally positive experiences with their family, school, peers, area and health. However, a significant minority have clusters of multiple risk factors.

3.3 Mental health associations of risk and protective factors

To address research questions 3 and 4 (as outlined in Section 1.3) the analysis examined how strongly each outcome in turn (emotional problems, conduct problems and positive mental wellbeing) was associated with risk or protective factors when these were considered: (a) individually; (b) as clusters within a domain; (c) after accounting for the influence of other factors.

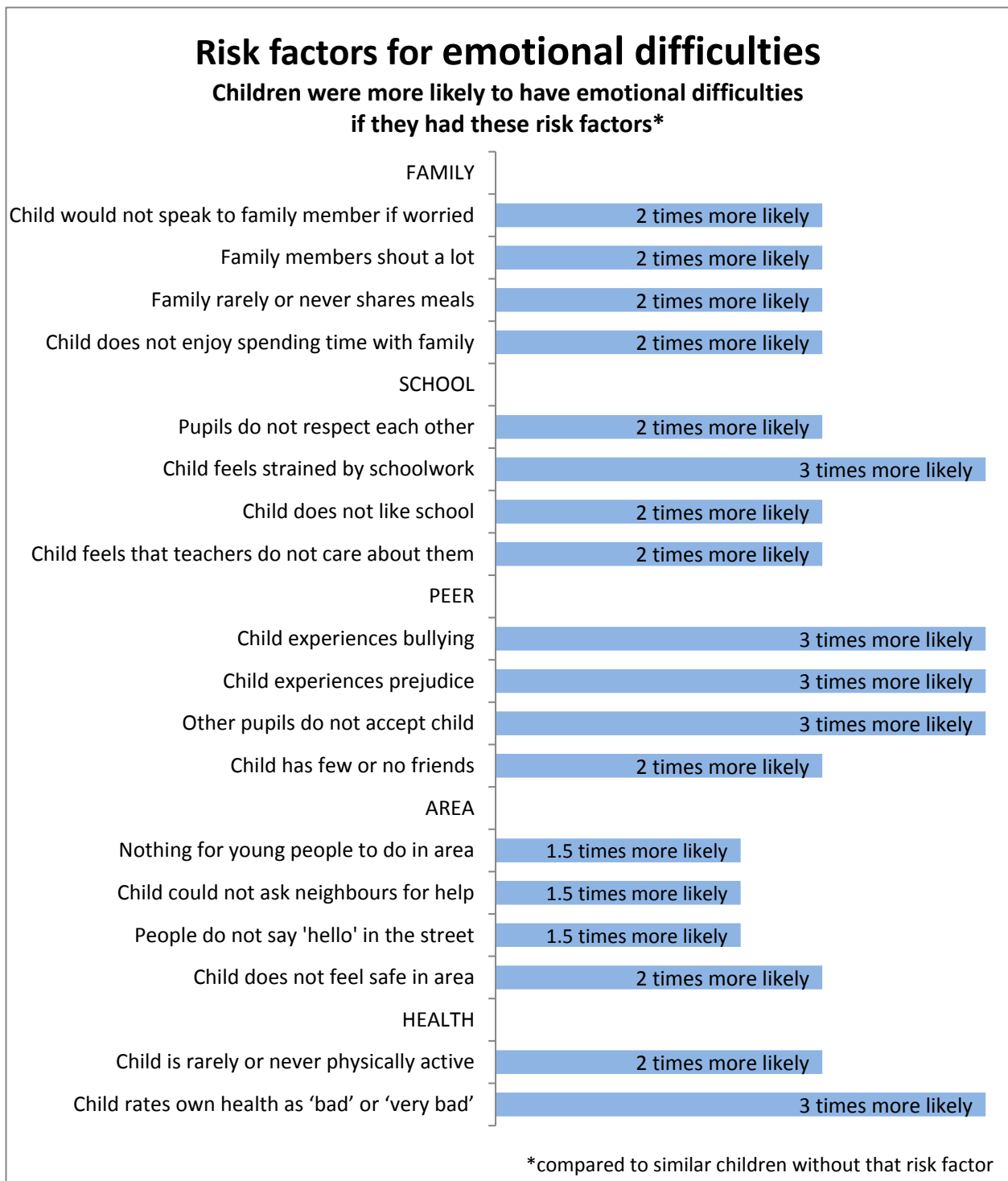
3.3.1 Emotional problems

Individual risk factors for emotional problems

The analysis first explored individual risk factors within each domain (Family, School, Peer, Area, Health) that were associated with emotional problems. Pupils with a particular risk factor were more likely to have emotional problems than similar pupils without that risk factor.

Figure 5 shows the strength of associations between each individual risk factor and emotional problems. Generally, emotional problems were associated with poor family and peer relationships, and negative perceptions of school and neighbourhood environments.

Figure 5: Individual risk factors for emotional problems in each domain²³



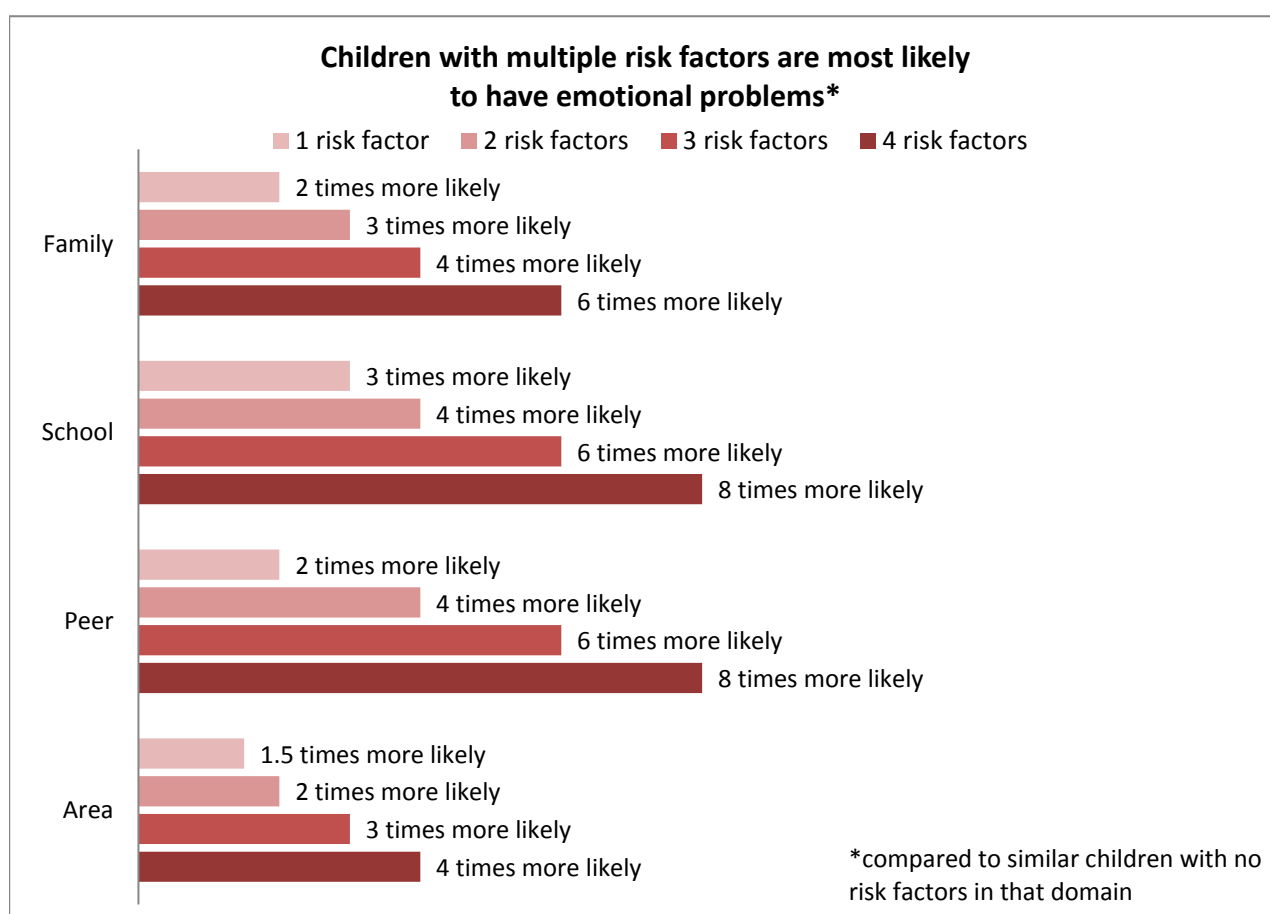
²³ Figure 5 illustrates adjusted relative risks (based on odds ratios) from separate binomial logistic regression models for each individual risk factor, predicting the odds of having very high emotional problems, controlling for child characteristics listed in Section 2.4.1. Adjusted relative risk values have been rounded for illustrative purposes.

For example, pupils who experienced bullying were 3 times more likely to have emotional difficulties than similar pupils who did not experience bullying. Here, “similar” pupils means pupils with the same age, gender, ethnicity, household composition, area deprivation and free school meal eligibility (see Section 2.4.1 on control variables).

Clusters of risk factors for emotional problems

Although each of these risk factors were associated with emotional problems individually, outcomes were poorest for pupils with multiple risk factors in a domain. Figure 6 shows how the likelihood of emotional problems increases for pupils with 1, 2, 3 or 4 risk factors in a domain, compared to similar pupils with no risk factors in that domain.

Figure 6: Multiple risk factors for emotional problems²⁴



²⁴ Figure 6 illustrates adjusted relative risks (based on odds ratios) from separate binomial logistic regression models for each domain, predicting the odds of having very high emotional problems based on the number of risk factors in that domain and controlling for child characteristics listed in Section 2.4.1. Adjusted relative risk values have been rounded for illustrative purposes.

For example, a pupil with only one of the family risk factors identified here (e.g. rarely sharing family meals) is 2 times more likely to have emotional problems, but a pupil with all four family risk factors (who rarely shares family meals, has high family conflict, does not enjoy family time *and* has no trusted family member to speak to) is *6 times more likely* to have emotional problems.

The chances of emotional problems were particularly high for pupils with several risk factors in the Peer domain (who experienced bullying, prejudice and social exclusion and isolation) or the School domain (who felt strained by schoolwork, disliked school and did not feel that pupils or teachers were respectful or caring).

Risk factors for emotional problems accounting for other influences

The final analysis stage examined whether these associations remained significant after accounting for the influence of all domains together. This is important to explore, because pupils with high risk in one domain were also more likely to have high risk in other domains.

After accounting for this by examining factors simultaneously, each of the four domains were still significantly associated with emotional problems. The chances of emotional problems were most strongly associated with the level of risk in the Peer domain, followed by the School and Family domains. The association between the Area domain and emotional problems was still significant but it was the weakest. Table 2 summarises which risk factors were significant or non-significant after accounting for the influence of each other.

Table 2: Significance of different risk factors for emotional problems²⁵

Risk factor	Still significant?*
Gender (female)	✓
More deprived area	✗
Family risk	✓
School risk	✓
Peer risk	✓
Area risk	✓

**after accounting for other factors here*

²⁵ Table 2 summarises the results of one binomial logistic regression model for very high emotional problems with multiple predictors (the number of risk factors in each domain) controlling for child characteristics listed in Section 2.4.1. Predictors labelled as ‘still significant’ had $p < .05$ in the multivariable model.

Girls were still more likely to have emotional problems than boys with similar demographics *and* similar levels of risk in each of these domains. This means that the observed gender gap in prevalence rates of emotional problems cannot be explained by the fact that girls tend to have more risk factors in these domains (especially School and Peer). For example, although girls are more likely to feel strained at school or excluded from their peers, these factors cannot account for higher rates of emotional problems in girls.

In contrast, area deprivation was no longer significantly associated with emotional problems, after accounting for levels of risk in these four domains. This means that the deprivation gap in prevalence rates of emotional problems can be explained by pupils in more deprived areas tending to have more risk factors in each of these domains. To illustrate this, Table 3 presents the percentage of pupils from the most and least deprived areas with at least three risk factors in each domain. It shows that pupils from more deprived areas are more likely to be exposed to multiple risk factors in each of these domains (which all contribute to emotional problems).

Table 3: Exposure to multiple risk factors in the most vs. least deprived areas

Domain	% of pupils with at least 3 risk factors	
	SIMD1 – most deprived	SIMD5 – least deprived
Family	4.7	2.1
School	9.8	8.2
Peer	7.2	5.6
Area	7.6	2.8

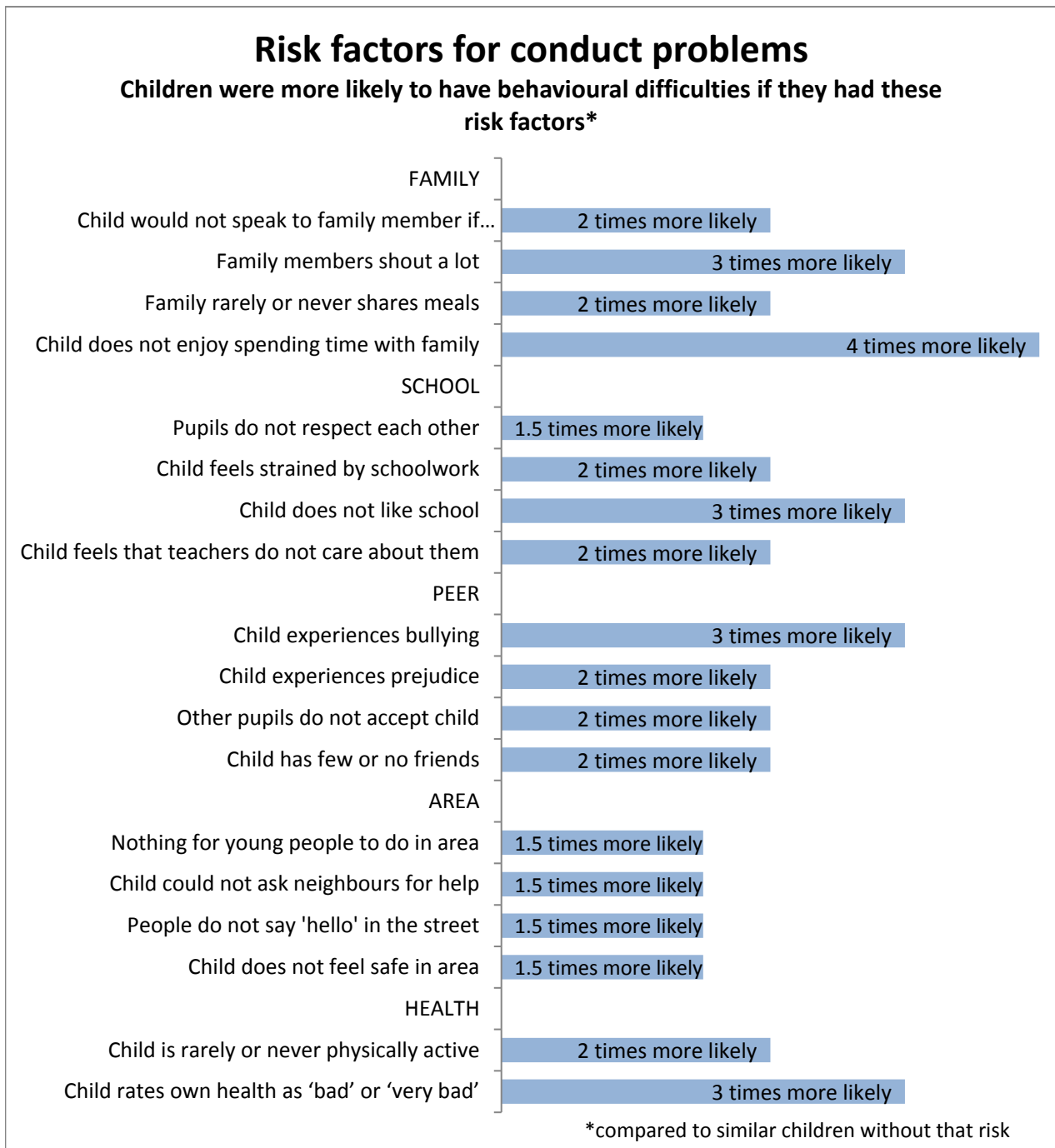
This means that the deprivation gap in rates of emotional problems can be explained by pupils from more deprived areas tending to have poorer experiences in family and peer relationships, and more negative perceptions of their school and neighbourhood environments. Therefore area deprivation is a marker for exposure to risk factors for poor mental health, rather than a driver of poor mental health itself.

3.3.2 Conduct problems

Individual risk factors for conduct problems

Generally, conduct problems were associated with poor family and peer relationships, and negative perceptions of school and neighbourhood environments. Figure 7 shows how strongly each individual risk factor was associated with conduct problems. The strongest risk factors included not enjoying family time or school, and experiencing bullying or conflict at home.

Figure 7: Individual risk factors for conduct problems in each domain²⁶



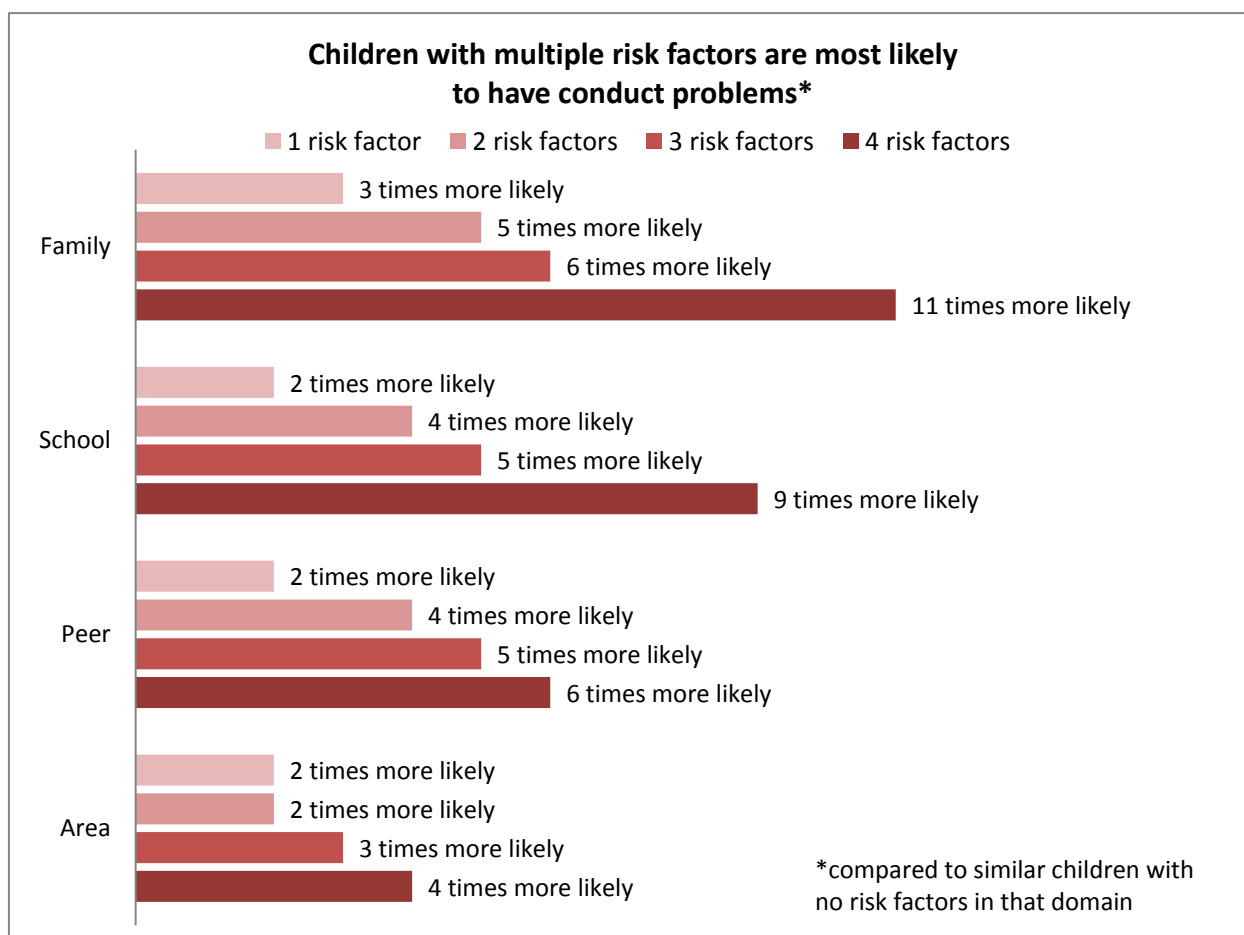
Clusters of risk factors for conduct problems

As with emotional difficulties, the chances of having conduct problems were highest for those pupils with clusters of multiple risk factors in a domain. Figure 8 shows that the likelihood of having conduct problems was particularly high for pupils with several risk factors in the Family domain, closely followed by Peer. As with

²⁶ Figure 7 illustrates adjusted relative risks (based on odds ratios) from separate binomial logistic regression models for each individual risk factor, predicting the odds of having very high conduct problems, controlling for child characteristics listed in Section 2.4.1. Adjusted relative risk values have been rounded for illustrative purposes.

emotional difficulties, Area showed the weakest association with conduct problems of the four domains.

Figure 8: Multiple risk factors for conduct problems²⁷



Risk factors for conduct problems accounting for other influences

When examining domains simultaneously, the chances of conduct problems were most strongly associated with the level of risk in the Family domain, followed by the School and Peer domains.

The association between the Area domain and conduct problems was no longer significant after accounting for the other domains. This indicates that although pupils with poorer perceptions of their area are slightly more likely to have behavioural problems, this association can be explained by the fact that these pupils also tend to have poorer experiences in other domains (Family, School and Peer).

²⁷ Figure 8 illustrates adjusted relative risks (based on odds ratios) from separate binomial logistic regression models for each domain, predicting the odds of having very high conduct problems based on the number of risk factors in that domain and controlling for child characteristics listed in Section 2.4.1. Adjusted relative risk values have been rounded for illustrative purposes.

Table 4 summarises which risk factors still significantly predicted conduct problems after accounting for the influence of each other.

Table 4: Significance of different risk factors for conduct problems²⁸

Risk factor	Still significant?*
Gender (male)	✓
More deprived area	✓
Family risk	✓
School risk	✓
Peer risk	✓
Area risk	✗

*after accounting for other factors here

Together these risk factors did *not* explain the deprivation gap in conduct problems, as area deprivation remained a significant predictor. Pupils in more deprived areas were still more likely to have conduct problems after accounting for levels of risk in these four domains. Similarly, boys were still more likely than girls to have conduct problems, allowing for these factors.

3.3.3 Positive mental wellbeing

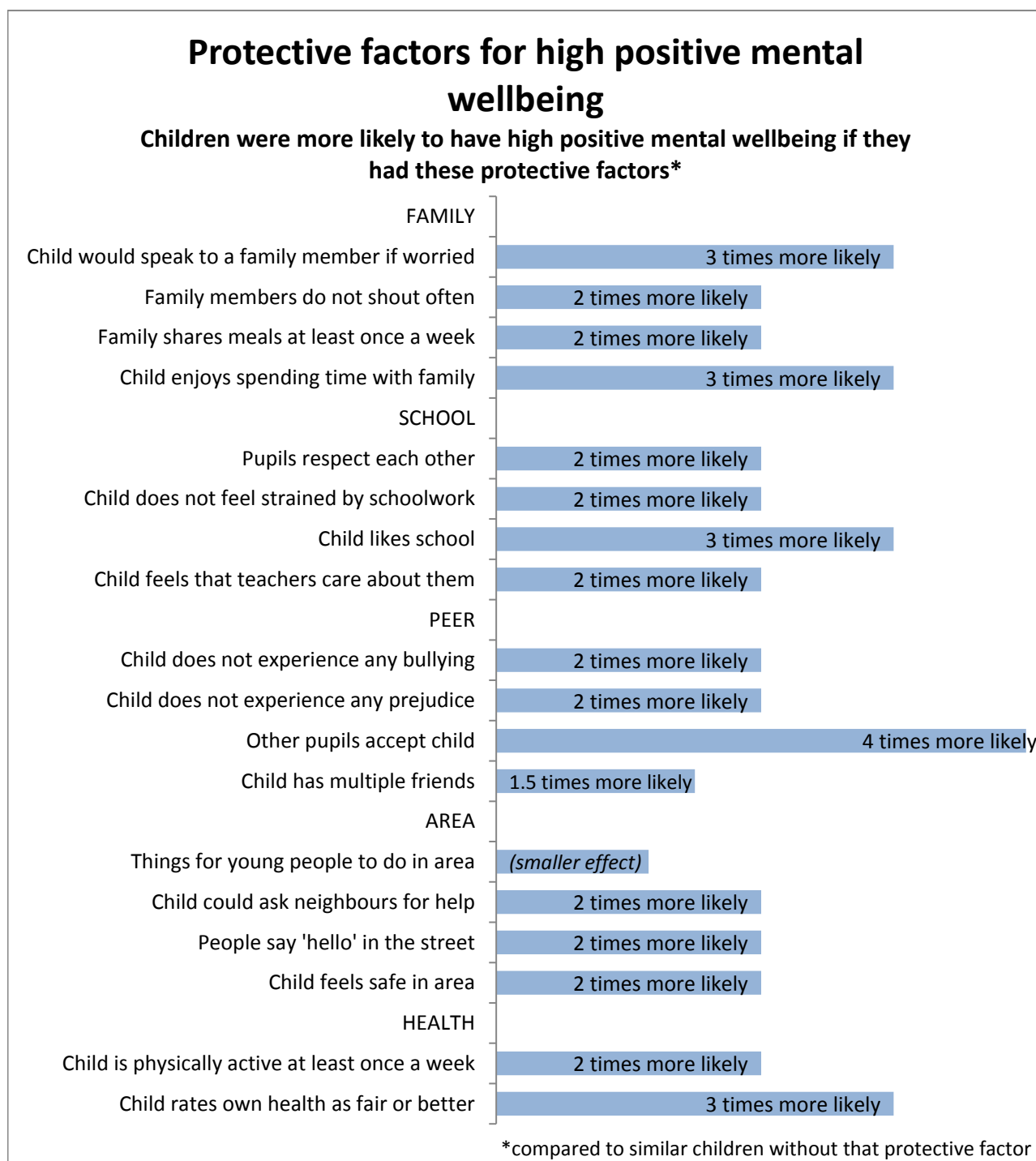
Individual protective factors for positive mental wellbeing

For factors associated with positive mental wellbeing, rather than negative experiences as potential ‘*risk factors*’, the analysis examined the opposite (positive) experiences as potential ‘*protective factors*’.

Positive mental wellbeing was associated with good quality relationships with family and peers, positive experiences in school and positive perceptions of the local area. Figure 9 summarises how strongly each protective factor is associated with positive mental wellbeing. The strongest protective factors included feeling accepted by other pupils, liking school and having a trusted family member to speak to if worried.

²⁸ Table 4 summarises the results of one binomial logistic regression model for very high conduct problems, with multiple predictors (the number of risk factors in each domain) controlling for child characteristics listed in Section 2.4.1. Predictors labelled as ‘still significant’ had $p < .05$ in the multivariable model.

Figure 9: Individual protective factors for positive mental wellbeing²⁹

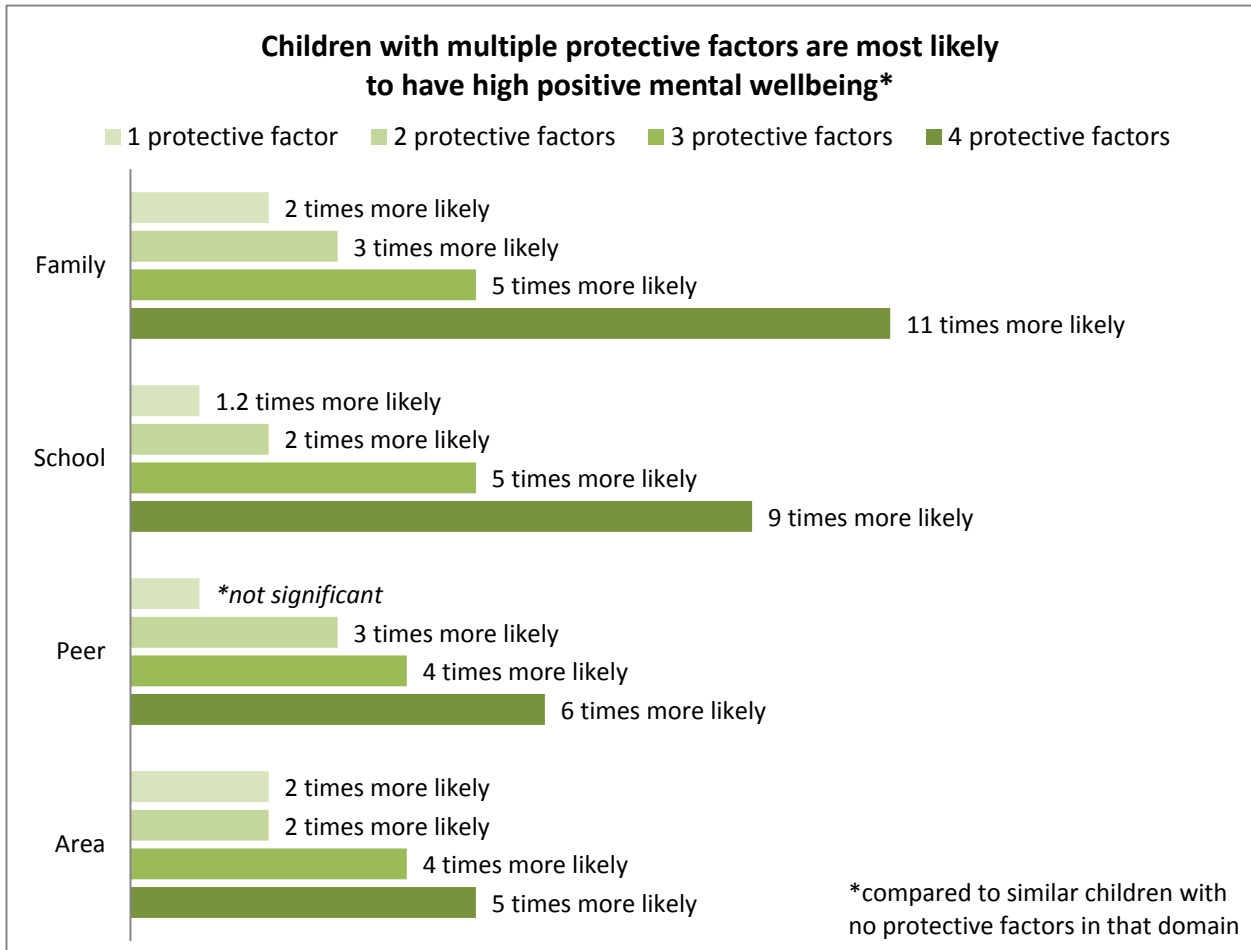


²⁹ Figure 9 illustrates adjusted relative risks (based on odds ratios) from separate binomial logistic regression models for each individual protective factor, predicting the odds of having high positive mental wellbeing controlling for child characteristics listed in Section 2.4.1. Adjusted relative risk values have been rounded for illustrative purposes.

Clusters of protective factors for positive mental wellbeing

Pupils with multiple protective factors in a domain were most likely to have high positive mental wellbeing. Figure 10 shows how the chances of having high positive mental wellbeing increased with each additional protective factor.

Figure 10: Multiple protective factors for positive mental wellbeing³⁰



When examining domains simultaneously, the strongest predictors of having high mental wellbeing were the Family and School domains, followed by the Peer and Area domains (which had smaller but significant associations).

Table 5 summarises which protective factors were still significantly associated with positive mental wellbeing after accounting for the combined influence of other factors.

³⁰ Figure 10 illustrates adjusted relative risks (based on odds ratios) from separate binomial logistic regression models for each domain, predicting the odds of having high positive mental wellbeing based on the number of protective factors in that domain and controlling for child characteristics listed in Section 2.4.1. Adjusted relative risk values have been rounded for illustrative purposes.

Table 5: Significance of different protective factors for positive mental wellbeing³¹

Protective factor	Still significant?*
Gender (male)	✓
Less deprived area	✗
Family	✓
School	✓
Peer	✓
Area	✓

**after accounting for other factors here*

After accounting for these factors, the previously observed small gap for deprivation was no longer significant. However, gender was still significantly associated with positive mental wellbeing even allowing for these other factors. Therefore boys were still more likely to have positive mental wellbeing than girls with similar characteristics *and* similar numbers of these protective factors.

Chapter summary: There are gender and deprivation inequalities in secondary school pupils' mental health and wellbeing. Pupils with multiple risk factors are most vulnerable to poor mental health. Positive interactions with other young people and adults are particularly important to good mental health and wellbeing.

³¹ Table 5 summarises the results of one binomial logistic regression model for high positive mental wellbeing, with multiple predictors (the number of protective factors in each domain) controlling for child characteristics listed in Section 2.4.1. Predictors labelled as 'still significant' had $p < .05$ in the multivariable model.

4 Primary school findings

This chapter presents the findings of the primary school survey analysis. It contains three sections, which cover the research questions outlined in Section 1.3.

Section 4.1 addresses research question 1. It presents the prevalence rates for each mental health outcome (low mood and high life satisfaction, including a breakdown by school year, gender and area deprivation).

Section 4.2 addresses research question 2. It presents the prevalence rates for each individual risk factor.

Section 4.3 addresses research questions 3 and 4. It considers each mental health outcome in turn. For each outcome, it presents associations with risk and protective factors when these are considered: (a) individually; (b) after accounting for the influence of other factors³².

Unlike the secondary school analysis, the primary school analysis does not examine prevalence rates or associations for the *total number* of risk factors in each domain, since the primary school survey has different numbers of questions in each domain.

4.1 Prevalence of mental health and wellbeing outcomes

Both outcomes (low mood and high life satisfaction) are defined relative to the *average* mood and life satisfaction of the primary school survey sample. Therefore the overall prevalence rates would change according to the cut-off used for 'above/below average'³³. However, it is still possible to explore patterns in prevalence rates according to school year, gender or deprivation.

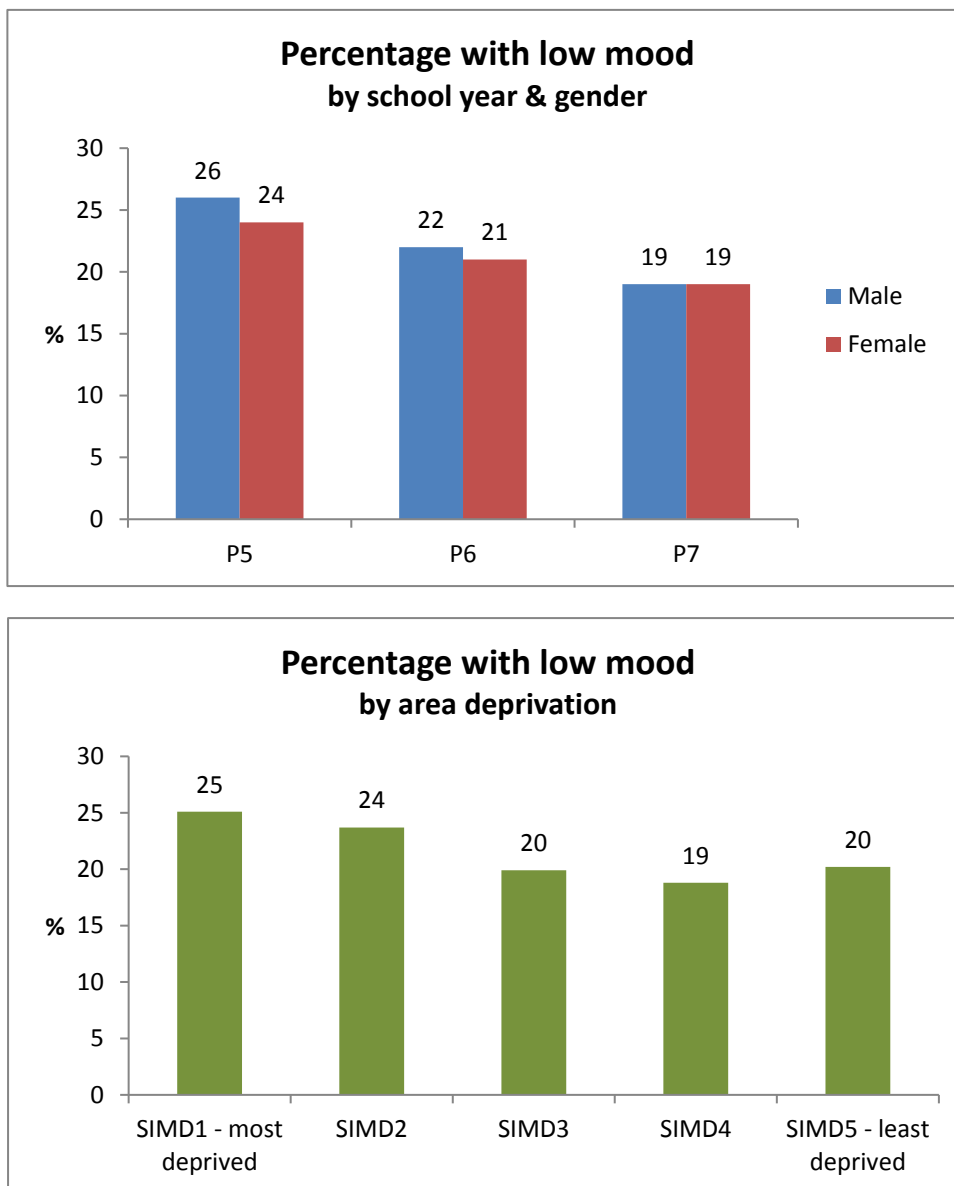
³² Exact odds ratios and significance levels for these analyses can be made available upon request.

³³ See the Realigning Children's Services Technical report for the Wellbeing Survey Programme, by ScotCen, for full details of measures and cut-offs.

4.1.1 Prevalence of low mood

Overall, 22% of P5-P7 pupils were classed as having lower than average mood. Figure 11 shows the percentage of pupils with low mood by school year, gender and deprivation. It shows that low mood was most common amongst P5 pupils and improved with age.

Figure 11: Prevalence of low mood

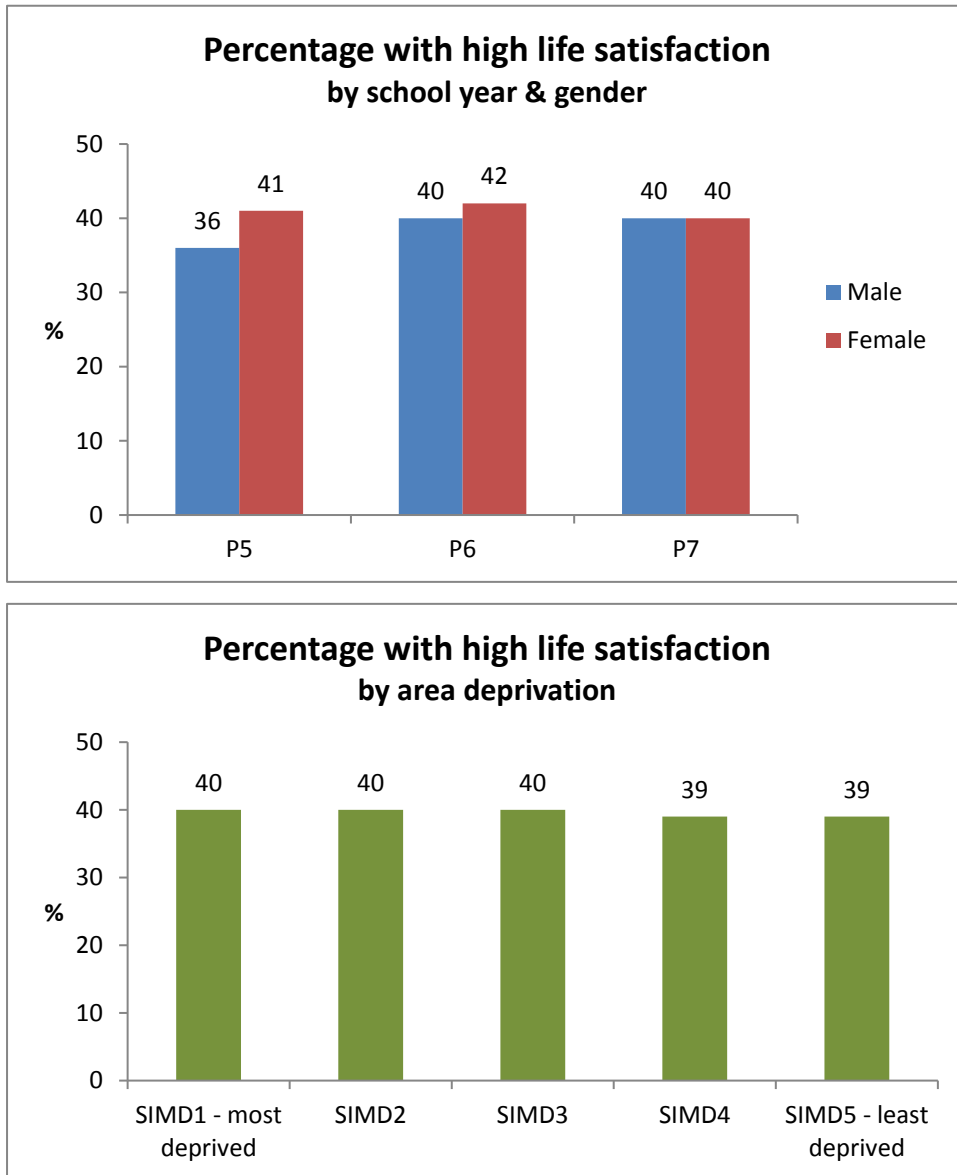


There was no significant gender difference in low mood. Pupils in the most deprived areas were more likely to have low mood than those in the less deprived areas.

4.1.2 Prevalence of high life satisfaction

Overall, 40% of P5-P7 pupils were classed as having higher than average life satisfaction. Figure 12 presents the percentage of pupils with high life satisfaction by school year, gender and deprivation. It shows that pupils were equally likely to have above average life satisfaction regardless of age or area deprivation.

Figure 12: Prevalence of high life satisfaction



There was a statistically significant but small gender difference: overall, slightly more girls reported high life satisfaction than boys.

Summary: Gender differences in primary school pupils' mental health and wellbeing are small or non-existent. Low mood is more prevalent among more deprived pupils, but high life satisfaction does not differ.

4.2 Prevalence of risk and protective factors

Table 5 presents the prevalence of each potential risk factor. The least common risk factor was child-rated poor general health (2%). The most common risk factor was worrying about doing well on schoolwork (36%).

Several risk factors were more common amongst pupils from more deprived areas and younger children (Table 7 in Section 4.3 illustrates some examples). Some risk factors were common amongst boys (e.g. family conflict, poor relationships with parents and teachers, and being a bully victim or perpetrator). Others were more common amongst girls (worrying about schoolwork and poor peer relationships).

Table 6: Prevalence of individual risk factors in each domain

Domain	Risk factor	% of children
Family	Family rarely or never shares meals	19%
	Family members shout a lot	16%
	Poor quality parent-child relationship (<i>lower than average</i>)	25%
	Child does not enjoy spending time with family	5%
School	Poor teacher-child relationship (<i>lower than average</i>)	31%
	Child worries about schoolwork	36%
Peer	High experience of bullying (<i>higher than average</i>)	28%
	Child bullies others	6%
	Friends are rarely nice to child	16%
	Child has few or no friends	15%
Area	Child does not like area	12%
	No outdoor space to play in area	3%
Health	Child rates own health as 'bad' or 'very bad'	2%
	Child is rarely or never physically active	4%

4.2.1 Note on protective factors

As with the secondary school analysis, the primary school analysis examined whether these negative experiences were '*risk factors*' associated with low mood, and whether the opposite (positive) experiences were '*protective factors*' associated with high life satisfaction. For example 31% of pupils were classed as having a poor (below average) teacher-child relationship: a potential '*risk factor*'. This also means, however, that 69% were classed as having a good (average or above average) teacher-child relationship: a potential '*protective factor*'.

Summary: Most primary school pupils have generally positive experiences with their family, school, peers, area and health. However, a common risk factor was worrying about schoolwork.

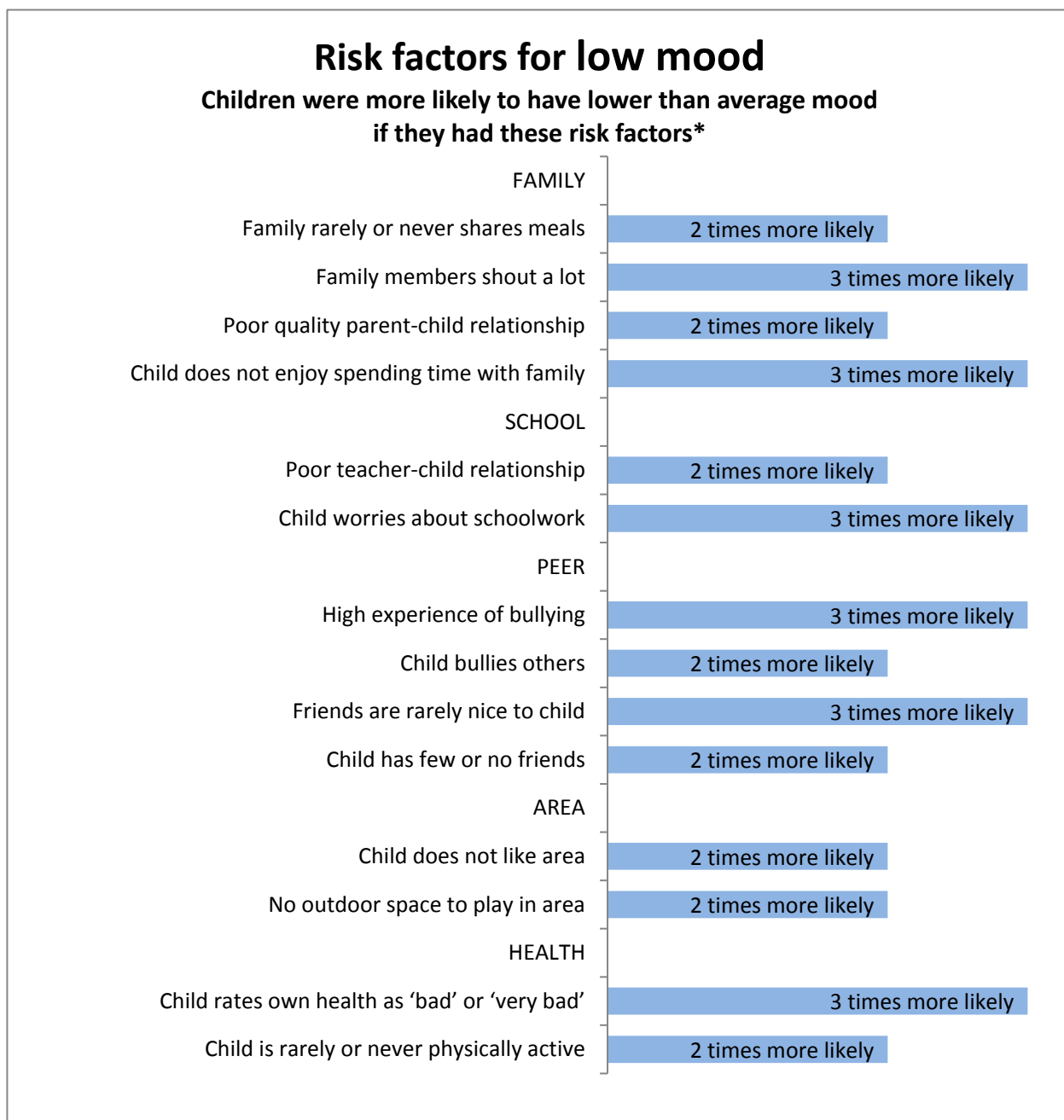
4.3 Mental health associations of risk and protective factors

4.3.1 Low mood

Individual risk factors for low mood

Pupils were more likely to have low mood if they had the risk factors summarised in Figure 13. Numerous factors shows strong associations with mood. For example, pupils who worried about schoolwork were 3 times more likely to have lower than average mood than similar pupils who did not feel worried by schoolwork.

Figure 13: Individual risk factors for low mood³⁴



Risk factors for low mood accounting for other influences

When examining these factors together³⁵, all risk factors remained significantly associated with low mood after accounting for the combined influence of other factors – except for having no outdoor spaces to play nearby, which was no longer

³⁴ Figure 13 illustrates adjusted relative risks (based on odds ratios) from separate binomial logistic regression models for each individual risk factor, predicting the odds of having low mood, controlling for child characteristics listed in Section 2.4.1. Adjusted relative risk values have been rounded for illustrative purposes.

³⁵ ‘Examining factors together’ refers to one binomial logistic regression model for low mood with all risk factors as predictors, controlling for child characteristics listed in Section 2.4.1.

significant. The strongest indicators were negative experiences with family (conflict and not enjoying family time), school (worrying about schoolwork), peers (experiencing bullying), as well as poor general health.

Together these factors explained the deprivation gap in low mood. After accounting for whether or not pupils had each of these risk factors, those from more deprived areas were no longer more likely to have low mood. This indicates that the deprivation gap in low mood can be explained by the fact that pupils from more deprived areas are more likely to have these risk factors. To illustrate this, Table 7 takes the risk factors most strongly associated with low mood (see Figure 13) and presents the percentage of pupils in the most and least deprived areas with each risk factor.

Table 7: Exposure to top risk factors for low mood in the most vs. least deprived areas

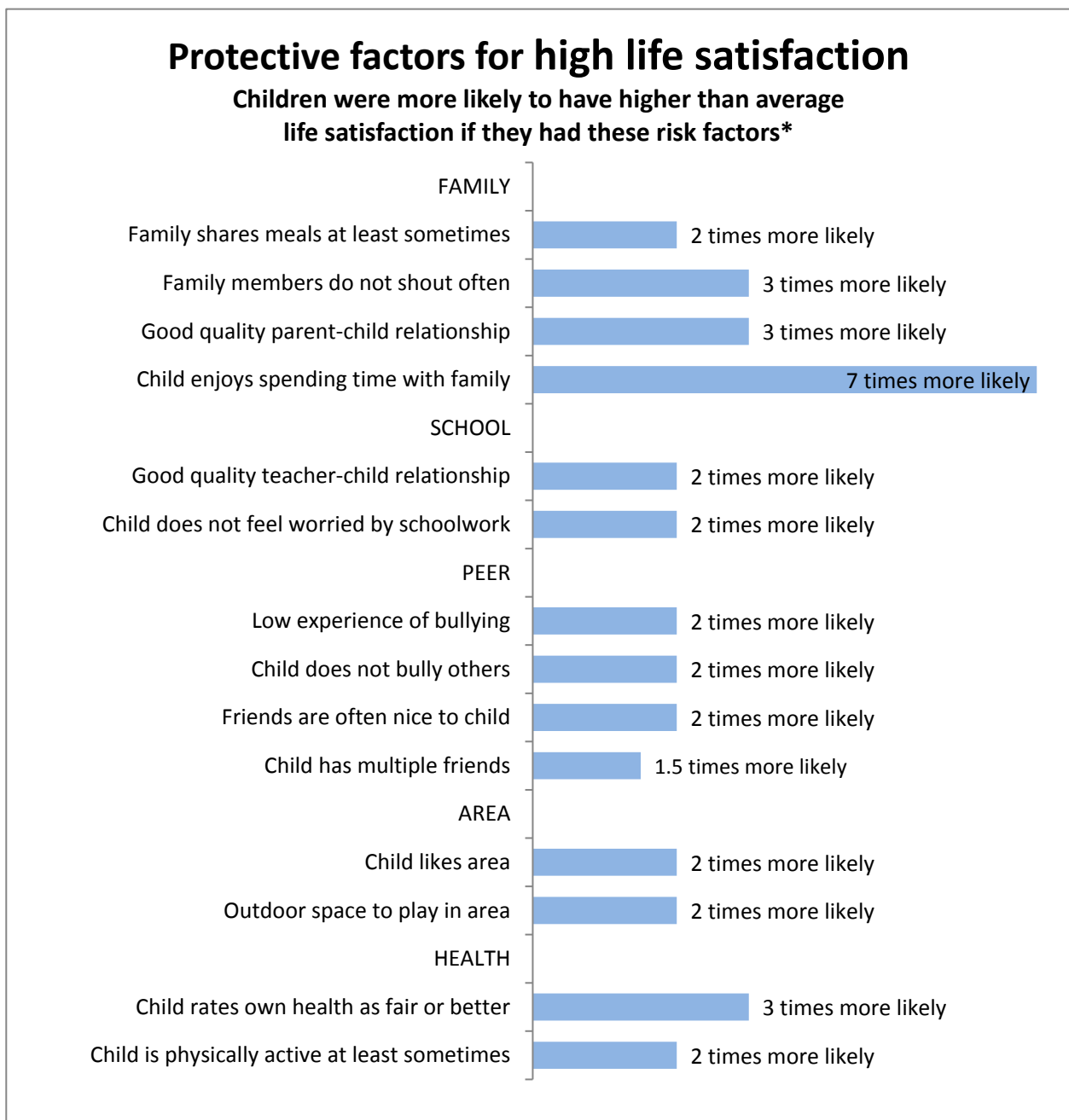
Risk factor for low mood	% of pupils with risk factor	
	SIMD1 – most deprived	SIMD5 – least deprived
Family members shout a lot	17.5	15.9
Child does not enjoy spending time with family	6.1	4.9
Child worries about schoolwork	41.0	33.0
High experience of bullying	32.2	25.3
Friends are rarely nice to child	18.3	13.4
Child rates own health as bad or very bad	2.9	1.7

4.3.2 Life satisfaction

Individual protective factors for high life satisfaction

Pupils were more likely to have higher than average life satisfaction if they had the protective factors summarised in Figure 14.

Figure 14: Individual protective factors for high life satisfaction³⁶



Enjoying time with family was by far the strongest predictor of high life satisfaction. Other positive aspects of the family environment were also important, such as low family conflict and good relationships between parents and children.

³⁶ Figure 14 illustrates adjusted relative risks (based on odds ratios) from separate binomial logistic regression models for each individual protective factor, predicting the odds of having high life satisfaction, controlling for child characteristics listed in Section 2.4.1. Adjusted relative risk values have been rounded for illustrative purposes.

Protective factors for life satisfaction accounting for other influences

Looking at associations between life satisfaction and these protective factors simultaneously³⁷, most associations remained significant (except for bullying other children and having no outdoor space to play). The strongest predictor was enjoying time with family, followed by good parent-child relationships and low family conflict.

Pupils from the most and least deprived areas reported the same rates of high life satisfaction. However, when comparing pupils with similar protective factors, those from more deprived areas were slightly *more likely* to have high life satisfaction than those from less deprived areas who had similar experiences. This difference in effect can be explained by the fact that deprived pupils in general were less likely to have various protective factors. For example, fewer deprived pupils reported low family conflict (82% in most deprived quintile vs. 84% in least deprived quintile). After accounting for whether or not pupils had low family conflict (and other protective factors), more deprived pupils were slightly *more likely* to have high life satisfaction than less deprived pupils with similar experiences. This effect was small and may be due to chance. Alternatively, it might reflect increased resilience amongst more deprived pupils, and this possibility merits further investigation.

More girls than boys reported high life satisfaction. However, when comparing girls and boys with similar protective factors, girls were *less likely* to have high life satisfaction than boys with similar experiences. This difference in effect can be explained by the fact that boys in general were less likely to have various protective factors. For example, fewer boys report low family conflict (82% of boys vs. 86% of girls). After accounting for whether or not pupils have low family conflict (and other protective factors), girls were *less likely* to have high life satisfaction than boys with similar experiences.

Summary: Various factors across different domains of life contribute to primary school pupils' mood and life satisfaction. Positive family relationships are particularly important for life satisfaction.

³⁷ Examining associations 'simultaneously' refers to one binomial logistic regression model for high life satisfaction with all risk factors as predictors, controlling for child characteristics listed in Section 2.4.1.

5 Conclusions and recommendations

This analysis used survey data from a large sample of Scottish primary and secondary school pupils, to explore risk and protective factors for children and young people's mental health and wellbeing. It examined the prevalence of mental health outcomes and related risk and protective factors across five domains of children's lives: Family, School, Peer, Area and Health. It explored how strongly each of these risk or protective factors was associated with mental health problems and positive mental wellbeing: (a) individually, and (b) after accounting for the influence of other factors.

This chapter presents conclusions and recommendations based on the current research. It first gives an overview of the report's conclusions, highlighting key findings. It then outlines recommendations, both for future research and for policy and practice.

5.1 Conclusions

Numerous factors across different domains of children and young people's lives contribute to mental health and wellbeing. School experiences and interactions with family members and peers are consistently important for good mental health and wellbeing. Good general health and physical activity are also key. In addition, perceptions of the local area are linked to certain mental health outcomes, but less strongly than other factors. Experiences and relationships across these domains are stronger predictors of mental health and wellbeing than socio-demographic factors, such as area deprivation or family structure. In particular, children and young people with clusters of multiple risk factors are especially vulnerable to mental health problems.

Different mental health and wellbeing outcomes showed stronger associations with different factors. For example, emotional problems were most strongly linked with negative peer experiences, whereas conduct problems were most strongly linked with negative family experiences. However, the same factors were consistently relevant for both poor mental health and positive mental wellbeing. This suggests that focusing on these same experiences (particularly the quality of interactions in family, peer and school settings) may be useful to both tackle mental health problems and also support children to positively thrive.

Despite an overall trend for poorer mental health and wellbeing in more deprived areas, the effect of area deprivation tended to be small or non-existent after accounting for the influence of other factors. This suggests that this deprivation gap in children and young people's mental health and wellbeing can be explained by underlying inequalities in exposure to risk factors in family, school, peer and neighbourhood environments. Area deprivation therefore seems to be a marker of exposure to multiple risk factors for poor mental health and wellbeing, rather than a driver of wellbeing itself.

Gender differences in mental health and wellbeing were small or non-existent in primary school, but more pronounced in secondary school. Outcomes tended to be worse for boys in terms of conduct, and worse for girls in terms of mental wellbeing and especially emotional problems. The gender gap in emotional problems was particularly notable (consistent with existing evidence³⁸) and was still evident after accounting for the fact that girls tended to have poorer peer and school experiences.

Summary: Experiences across various domains of children and young people's lives contribute to mental health and wellbeing. Positive interactions in family, peer and school settings seem particularly important. Deprivation is a marker of vulnerability to risk factors rather than a driver of poor mental health itself. Gender differences in emotional wellbeing are still evident when comparing boys and girls with similar experiences in these domains.

5.2 Recommendations

5.2.1 Future research

This report presents *associations* between relevant factors and mental wellbeing, but does not provide evidence of what causes these associations. By accounting for child characteristics and the influence of multiple factors at once, this analysis can support evidence of *direct links* between risk/protective factors and mental health outcomes. However, this does not mean that exposure to the risk factor definitely *causes* mental health outcomes or vice versa. For example, family conflict may increase children's risk of mental health problems, but the challenges of child mental health problems may also create family conflict. Longitudinal surveys that follow children over time are particularly useful to better understand the temporality and directionality of these relationships. For example, the Growing Up in Scotland study collects data on around 14,000 of children and their families (as part of different cohorts) and follows them from birth, through childhood to adolescence and beyond. This type of research can provide deeper insight into how experiencing the risk and protective factors identified in this report may influence mental health and wellbeing in children and young people over time.

Since the risk factors examined in the current report could not explain the gender gap in emotional problems, future research should explore other potentially relevant factors to understand why girls have much poorer emotional wellbeing. For example, during the last decade as emotional problems have been increasing amongst girls (especially older girls)³⁹, social media use has also rapidly increased. It is possible that the widening inequality in emotional wellbeing is partly influenced by differences in how adolescent boys and girls tend to engage with social media.

³⁸ Scottish Government, Scottish Schools Adolescent Lifestyle and Substance Use Survey (SALSUS) 2015: Mental Wellbeing Report. 2017: Edinburgh.

³⁹ Scottish Government, Scottish Schools Adolescent Lifestyle and Substance Use Survey (SALSUS) 2015: Mental Wellbeing Report. 2017: Edinburgh.

For example, girls tend to prefer photo-based platforms and compare themselves more to others they see on social media⁴⁰.

As well as working to directly target the risk factors identified in this report (e.g. tackling bullying or reducing family conflict), we can also develop a better understanding of what individual child factors may promote resilience for children who are experiencing these risk factors. For example, as well as implementing interventions aimed at improving children's family environments, it is also valuable to explore what may reduce the impact of a negative family environment on a child's mental health and wellbeing. This could include children's sense of control, autonomy or self-esteem, all of which may help make some children more resilient to negative experiences. Future surveys can include established questionnaire measures that capture these aspects of children's psychological functioning, alongside the types of subjective experiences and perceptions included in the current dataset.

Summary: Future research can make use of longitudinal studies, such as the Growing Up in Scotland study to supplement these findings from RCS. Topics to explore further include the gender gap in young people's emotional wellbeing and what factors may promote resilience for those exposed to risk factors.

5.2.2 Policy and practice

The findings presented support the need for a holistic understanding of children's mental health and wellbeing, since multiple factors combine to influence outcomes. This is core to the GIRFEC approach, and reflected in the broad coverage of the SHANARRI wellbeing domains. For example, the results presented here are consistent with the importance of children and young people being "Nurtured" and "Included" (with positive family and peer interactions) to support good mental health and wellbeing.

As noted above, future research (including use of longitudinal datasets) can help to identify what *causes* these associations. However, the current findings do suggest that mental health and wellbeing in children and young people could be supported by interventions in family and school settings that target multiple factors, with a focus on positive relationships. For example, interventions in family settings can aim to promote positive interactions, open communication and quality time together. Interventions in school settings can tackle bullying, promote good relationships between peers and between pupils and school staff and equip pupils to manage the demands of schoolwork. Given the wide range of important factors identified here, CPPs can explore how different organisations can work together to target these domains within a holistic approach to supporting mental health and wellbeing.

⁴⁰ Salomon, I. and C.S. Brown, *The Selfie Generation: Examining the Relationship Between Social Media Use and Early Adolescent Body Image*. The Journal of Early Adolescence. 0(0): p. 0272431618770809.

These findings can help practitioners to identify children and young people that are at increased risk of mental health problems. Numerous factors contribute to children and young people's mental health and wellbeing. Therefore, each individual situation is unique, and various different combinations of these risk factors could lead to problems for different children. However, practitioners can broadly look out for children who are socially isolated or excluded (with experiences of bullying or prejudice, and few friends); children who feel negatively towards school (in terms of both workload and relationships with teachers and pupils); and children who lack positive family relationships and interactions (with family conflict and no trusted adult to confide in). Crucially, rather than focusing overly on any single factor, it is important to remember that those children and young people who have *multiple* risk factors are most vulnerable to mental health problems.

Summary: These findings support a holistic approach to children and young people's mental health and wellbeing. Identifying children and young people with clusters of multiple risk factors can target the most vulnerable groups for poor mental health. Interventions in school and family settings that aim to promote good quality relationships with parents, peers and teachers may be effective.

6 APPENDIX: Survey questions

Note: Questions were split into binary responses to identify more positive versus more negative experiences for that measure. For example, pupils who answered the family meals question with “hardly ever or never” were identified as having a potential *risk factor* of rarely sharing family meals. Pupils who gave any other answer (either “every day”, “4-6 days a week”, “2-3 days a week” or “once a week”) were identified as having the opposite potential *protective factor* of sharing family meals at least once a week. For the purposes of this analysis, these cut-offs allow for the comparison of outcomes for pupils with relatively more negative versus relatively more positive experiences.

6.1 Secondary school survey questions

i. Family

Survey question	Response options	Potential “risk factor” or “protective factor”
On how many days a week would you usually sit down to eat a main meal (at lunchtime or in the evening) with one or both of your parents or carers?	Every day	Protective factor Family shares meals at least once a week
	4-6 days a week	
	2-3 days a week	
	Once a week	
	Hardly ever or never	Risk factor Family rarely or never shares meals
Members of my family shout at each other a lot	Strongly disagree	Protective factor Low family conflict
	Tend to disagree	
	Neither agree nor disagree	
	Tend to agree	Risk factor High family conflict
	Strongly agree	
If you were really worried about something, how likely would you be to talk to a family member about it?	Very likely	Protective factor Child would speak to family member if worried
	Fairly likely	
	Not very likely	Risk factor Child would not speak to family member if worried
	Not at all likely	
I enjoy spending time with my family	Strongly agree	Protective factor Child enjoys spending time with family
	Tend to agree	
	Neither agree nor disagree	Risk factor

	Tend to disagree Strongly disagree	Child does not enjoy spending time with family
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ii. School

Survey question	Response options	Potential “risk factor” or “protective factor”
How often do you feel strained or pressured by the schoolwork you have to do?	Never	Protective factor Child does not feel strained by schoolwork
	Sometimes	
	A lot of the time	Risk factor Child feels strained by schoolwork a lot
How much do you like school at the moment?	I like it a lot	Protective factor Child likes school
	I like it a bit	
	I don't like it very much	Risk factor Child does not like school
	I don't like it at all	
My teachers care about me as a person	Strongly agree	Protective factor Child feels that teachers care about them
	Tend to agree	
	Neither agree nor disagree	
	Tend to disagree	Risk factor Child feels that teachers do not care about them
	Strongly disagree	
The pupils in my class(es) treat each other with respect	Strongly agree	Protective factor Pupils respect each other
	Tend to agree	
	Neither agree nor disagree	
	Tend to disagree	Risk factor Pupils do not respect each other
	Strongly disagree	

iii. Peer

Survey question	Response options	Potential “risk factor” or “protective factor”
Other pupils accept me as I am	Strongly agree	Protective factor Other pupils accept child
	Tend to agree	
	Neither agree nor disagree	Risk factor Other pupils do not accept child
	Tend to disagree	
	Strongly disagree	
In the last month, have other children or young people, either online/by phone or offline, done any of the following things...? <i>[see bottom of table*]</i>	No – not at all	Protective factor Child does not experience bullying
	Yes – online/by phone (at least one option selected)	Risk factor Child experiences bullying
	Yes – offline (at least one option selected)	
Have you felt that someone has treated you badly because of any of the following things about you? <i>[see bottom of table**]</i>	None of these	Protective factor Child does not experience prejudice
	Other children and young people have treated me badly because of... (at least one option selected)	Risk factor Child experiences prejudice
	Adults have treated me badly because of... (at least one option selected)	
How many close friends would you say you have?	Three or more	Protective factor Child has multiple friends
	Two	
	One	Risk factor Child has few or no friends
	None	

* Bullying options: Hit, kicked or punched you, taken your belongings or hurt or threatened you physically in some other way; Teased you in a mean way or called you hurtful names; Spread mean rumours or told lies about you, deliberately ignored you or excluded you from a group.

** Prejudice options: My accent; my gender; my age; my sexual orientation; a disability; my skin colour; the clothes I wear/the way I look; the language I speak at home; my family background; my nationality; my religion/fait h/belief; other.

iv. Area

Survey question	Response options	Potential “risk factor” or “protective factor”
I feel safe being outside with my friends in this area	Strongly agree	Protective factor Child feels safe in area
	Tend to agree	
	Neither agree nor disagree	
	Tend to disagree	Risk factor Child does not feel safe in area
	Strongly disagree	
I could ask for help or a favour from neighbours	Strongly agree	Protective factor High social support (could ask neighbours for help)
	Tend to agree	
	Neither agree nor disagree	
	Tend to disagree	Risk factor Low social support (could not ask neighbours for help)
	Strongly disagree	
People say ‘hello’ and often stop to talk to each other in the street	Strongly agree	Protective factor High social cohesion (people say ‘hello’ in the street)
	Tend to agree	
	Neither agree nor disagree	
	Tend to disagree	Risk factor Low social cohesion (people do not say ‘hello’ in the street)
	Strongly disagree	
There is nothing for young people to do in this area	Strongly disagree	Protective factor Things to do for young people in area
	Tend to disagree	
	Neither agree nor disagree	
	Tend to agree	Risk factor Nothing to do for young people in area
	Strongly agree	

v. Health

Survey question	Response options	Potential “risk factor” or “protective factor”
How is your health in general?	Very good	Protective factor Family shares meals at least once a week
	Good	
Would you say it was...?	Fair	Risk factor Family rarely or never shares meals
	Bad	
	Very bad	
Over the past 7 days, on how many days were you physically active for a total of at least 60 minutes per day?	7 days	Protective factor Child is physically active at least once a week
	6 days	
	5 days	
	4 days	
	3 days	
	2 days	
	1 day	
	0 day	Risk factor Child is rarely or never physically active

6.2 Primary school survey questions

i. Family

Survey question	Response options	Potential “risk factor” or “protective factor”
How often do you sit down at a table to eat a main meal with one or both of your parents?	Every day	Protective factor Family shares meals at least sometimes
	Most days	
	Some days	Risk factor Family rarely or never shares meals
	Rarely	
	Never	
How often are there are a lot of bad arguments or fights at home?	Never	Protective factor Low family conflict
	Sometimes	
	Often	Risk factor High family conflict
	Always	
How often do you enjoy being with your family?	Always	Protective factor Child enjoys spending time with family
	Often	
	Sometimes	Risk factor Child does not enjoy spending time with family
	Never	
Parent-child relationship: Total score on four items from ‘People in My Life’ scale [see bottom of table*]	Higher than average score	Protective factor Good quality parent-child relationship
	Roughly average score	
	Lower than average score	Risk factor Poor quality parent-child relationship

*Four items from People in My Life scale for parent-child relationship:

- My parents can tell when I’m upset about something
- I talk to my parents when I am having a problem
- If my parents know that something is bothering me, they ask me about it
- I share my thoughts and feelings with my parents

Each answered with:

- (1) Never true
- (2) Sometimes true
- (3) Often true
- (4) Always true

Total score of 4-16, where higher score indicates better quality parent-child relationship.

ii. School

Survey question	Response options	Potential “risk factor” or “protective factor”
How much do you worry about not doing well at school?	A lot	Protective factor Child worried about schoolwork
	Quite a lot	
	Not very much	Risk factor Child is not worried by schoolwork
	Not at all	
Teacher-child relationship: Total score on three items <i>[see bottom of table*]</i>	Higher than average score	Protective factor Good quality teacher-child relationship
	Roughly average score	
	Lower than average score	Risk factor Poor quality teacher-child relationship

*Three items for teacher-child relationship:

- How often does your teacher help you when you need help?
- How often do you get along well with your teacher?
- How often do you get into trouble with the teachers at school?

Each answered with:

- (1) Never
- (2) Sometimes
- (3) Often
- (4) Always

Total score of 3-12, where higher score indicates better quality teacher-child relationship.

iii. Peer

Survey question	Response options	Potential “risk factor” or “protective factor”
Experience of bullying: Total score on four items <i>[see bottom of table*]</i>	Lower than average score	Protective factor Low experience of bullying
	Roughly average score	
	Higher than average score	Risk factor High experience of bullying
How often do you hit, kick or punch other children at you school? How often are you mean to other children at school or call them hurtful names?	Never	Protective factor Child does not bully others (regularly)
	Every few months	
	About once a month	
	About once a week (to either)	Risk factor Child bullies others (regularly)
	Most days (to either)	
How often are your friends nice to you?	Always	Protective factor Friends are often nice to child
	Often	
	Sometimes	Risk factor Friends are rarely nice to child
	Never	
How many close friends would you say you have?	Three or more	Protective factor Child has multiple friends
	Two	
	One	Risk factor Child has few or no friends
	None	

*Four items for experience of bullying:

How often do other children pick on you by...

- ... calling names or making fun of you in a way you don't like?
- ... leaving you out of games and chats?
- ... shoving, pushing, hitting or picking a fight with you?
- Sending emails, text messages or posting something online?

Each answered with:

- (1) Never
- (2) Every few months
- (3) About once a month
- (4) About once a week
- (5) Most days

Total score of 4-20, where higher score indicates higher experience of bullying.

iv. Area

Survey question	Response options	Potential “risk factor” or “protective factor”
How much do you like the area you live in?	A lot	Protective factor Child likes area
	Quite a lot	
	A little	Risk factor Child does not like area
	Not at all	
Are there other* places near where you live where you can play outdoors?	Yes – lots	Protective factor Some outdoor space to play in area
	Yes – some	
	*other than a garden	No

v. Health

Survey question	Response options	Potential “risk factor” or “protective factor”
How is your health in general?	Very good	Protective factor Family shares meals at least once a week
	Good	
Would you say it was...?	Fair	Risk factor Family rarely or never shares meals
	Bad	
	Very bad	
How often do you spend time being active?	Every day	Protective factor Child is physically active at least sometimes
	Most days	
	Some days	
	Rarely	Risk factor Child is rarely or never physically active
	Never	



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