Department for Education

State of the Nation 2019: Children and Young People's Wellbeing

Research report

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Acknowledgements

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Introduction

All children and young people (CYP) deserve to have good wellbeing, and grow up equipped with the tools they need to understand and support their mental wellbeing as they move into adulthood. Whilst there is growing awareness of the importance of wellbeing and the majority of children are happy with their lives, it remains the case that many are not.

Robust evidence is the cornerstone of understanding children and young people's wellbeing, and particularly identifying the drivers of low wellbeing and the children and young people most in need of support. In October 2018 the Prime Minister Theresa May committed to publishing a *State of the Nation* report to integrate the available evidence on the state of children and young people's wellbeing, and to provide an accessible narrative on current evidence to guide discourse and action. This report seeks to build on the strength of work happening across children's organisations, charities, and academia to understand the current state of children's satisfaction with their lives and the range of experiences they face.

Interest in the national wellbeing of children and young people is not new. The Office for National Statistics (ONS) has collated measures on the life satisfaction, feelings of worth and general happiness of children and young people since 2012. This was predated by the ONS's 'Measuring National Wellbeing' programme which compiled measures of wellbeing in adults, after a public consultation on what mattered to their lives. Subsequent interest in understanding children and young people's wellbeing was motivated in part by the recognition that it was possible to measure their *subjective wellbeing* – their own, self-reported sense of satisfaction and happiness with their lives – in a consistent and reliable way. Children and young people's own reports of their subjective wellbeing forms the backbone of wellbeing measurement, with their satisfaction across specific domains of their lives helping us understand what experiences underpin their sense of wellbeing.

Current evidence on children and young people's wellbeing presents a complex picture: the influences on children's wellbeing are multifaceted, and becoming increasingly varied as children grow into young people with different pressures on their lives. A growing body of evidence indicates that their peer and family relationships, alongside their wider school and neighbourhood environment, have the strongest links to children and young people's wellbeing. Experiences of being bullied, parent relationships, feeling unsafe in their neighbourhood, and perceived economic inequality are key risk factors for poor wellbeing, whilst positive peer relationships and school engagement promote positive wellbeing[1,2]. However, these protective and risk factors overlap in different ways in different groups of children; and they cut across many areas of their lives, experiences, and wider environment. The challenge this poses is understanding what affects whom,

and *when* in their lives, to guide how we best equip children with the skills they need to support their own wellbeing for the range of experiences they face growing up.

The scope of this report is therefore threefold. First, it reports new statistics on wellbeing in children and young people in England, and examines variation in wellbeing for different subgroups of children and young people. Existing evidence of inequalities in how wellbeing is distributed across different groups of children and young people shows the importance of *moving beyond the average* in understanding wellbeing. Females, older children, children with special educational needs, children from more deprived backgrounds, children reporting being attracted to children of the same or both genders, and children in need have been reported as more likely to experience low wellbeing and emotional difficulties than their peers[3,4]. To address this need we examine wellbeing by age, gender, ethnicity, and for pupils in receipt of Free School Meals (FSM) and with Special Educational Needs (SEN)[i].

The report next draws on a wider set of indicators on children and young people's lives. These indicators capture children and young people's relationships, their self-reported health and feelings about their appearance, and their experiences of bullying and school. They are compiled both from new analysis and a collation of existing data. These indicators have been chosen based on existing evidence for their relationship to wellbeing, but we recognise they do not present a comprehensive picture of children and young people's lives. We intend to update this indicator set for subsequent reports based on current work the ONS are doing to review their children's indicator set in order to reflect the current challenges children and young people face, with children's own views guiding what to measure and compile.

Finally, we report a new, in-depth analysis on psychological wellbeing in teenage girls. The issue of teenage girls being especially at risk of poor wellbeing is a pressing and timely issue. It has been highlighted in the recent publication of NHS Digital's Mental Health Prevalence survey, which found that almost a quarter (22.4%) of 17-19 year old women had an emotional disorder[5]. This was in contrast to 7.9% of young men the same age, and an increase from prevalence rates in younger women where only 10.9% of 11-16 years olds experienced a problem. This evidence sharpened the need to understand whether certain aspects of teenage girls' experiences drove this increase in emotional problems with age, and whether they were amenable to change[ii]. Here we capitalise on

[i] These breakdowns were dictated to a degree by data availability, and we recognise they do not capture all groups of vulnerable children (for example, children with experiences of social care, or those with a long-term illness or disability).

[ii] It is important to emphasise this does not negate the importance of boys' and young men's wellbeing: NHS evidence has shown that rates of emotional problems have similarly increased for both boys *and* girls since 2004, although rates for girls remain higher overall. In the wider context should also be recognised

the rich data in a longitudinal study of adolescents in England to assess the experiences which are tied to adolescent girls' psychological wellbeing as they move from mid to late adolescence.

The focus of this report is primarily on England. However, we recognise that a number of the important factors and concerns in children and young people's lives will be common across the four nations, and we make reference to UK/GB-wide data to contextualise or enrich our findings when appropriate. The geographical coverage of each section is clearly noted in the figures and text.

The goal of this report is not to be the final collation of evidence of children and young people's wellbeing, but rather to provide a window into children and young people's lives, and to prompt questions and further routes for investigation and action.

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that *overall* prevalence rates for having *any* mental health disorder are the same for boys (12.6%) and girls (12.9%) aged 5 to 19 years. It is for emotional disorders specifically that rates for girls are higher, rather than mental health disorders overall. These figures are from the NHS Digital Mental Health Prevalence survey, cited in the references.

Executive Summary

Wellbeing in children and young people in England

- **The majority of children and young people report being relatively happy with their lives, but many are not.** 84.9% of children (10-15 years) report being relatively happy with their lives, but 5% report being relatively unhappy. Similarly for young people (16-24 years), 82.9% report high or very high satisfaction with their lives, but 3% report low life satisfaction[iii].
- **Wellbeing declines as children and young people get older.** This highlights the need to equip children and young people with the skills to support their wellbeing as they move into the world. This analysis replicates other sources showing a drop in wellbeing over adolescence and into early adulthood. Importantly, in examining children's wellbeing over age we also observed that a slight decrease in children's wellbeing *overall* since 2009 may be driven by older (13-15 year old), rather than younger (10-12 year old), children. This has implications for understanding the experiences of older children in particular and how these are tied to their wellbeing.
- **There were few consistent differences in wellbeing by gender in children, but young females were more likely to report recently feeling anxious than males.** Examining children's wellbeing over time since 2009 showed that girls were slightly more likely than boys to report low wellbeing, but this gender difference was not consistent over time.
- There were no discernible differences in children's wellbeing based on their ethnicity. However, in young people there was a trend towards lower anxiety, but also lower life satisfaction, in individuals from a Black/African/Carribbean/Black British background compared to individuals from a White background. It is notable that the small number of individuals in ethnicity breakdowns means there is less certainty in these estimates, and these differences require further corroboration.
- **There is some evidence that FSM pupils' wellbeing is lower than their non-FSM peers, but both FSM and SEN status are not consistent indicators of poor wellbeing.** These findings, in corroboration with others in this report, suggest that children's underlying characteristics and experiences may be more

[iii] 'Relatively happy' for children was defined as children scoring 1-3 on a 7-point scale, where '1' corresponded to feeling "completely happy" and '7' corresponded to feeling "completely unhappy" about their life as a whole. Young people with 'high or very high' life satisfaction were those responding with a score between 7-10 on a 0-10 scale, where '10' corresponded to feeling very satisfied with their life and '0' corresponded to not feeling satisfied with their life.

important determinants of their wellbeing, which are not neatly captured by FSM or SEN status.

- **Findings for children and young people's wellbeing overall suggest the need to understand wellbeing across different groups of children and young people, and to use a range of measures to understand their experiences.** Additionally, whilst older age clearly demarcated lower wellbeing, the less stark wellbeing distinctions across gender, ethnicity and FSM and SEN status suggest that these demographic breakdowns may not in and of themselves map clearly onto the experiences which drive variation in wellbeing across children and young people.

Wider indicators on children and young people's lives

- **Wider evidence indicates that children's overall sense of wellbeing is underpinned by their experience in different domains of their lives**. To understand the current state of aspects of children's lives important for their wellbeing, we assessed a range of wider indicators encompassing:
    - Children's happiness with their **family** and **friends**, **health** and **appearance**, and **school**;
    - Children's experiences of **bullying**, and their **attendance** and **attainment**;
    - Young people's happiness with **family**, **health**, and their **leisure time.**
- **Children were happiest with their family, friends, and health,** followed by their **school** and **appearance**. Wider UK/GB-wide data from the Children's Society on changes in these indicators over time suggests children's happiness with family has been stable over time, whilst happiness with friends has decreased.
- Reported rates of bullying across 10-15 year old children in England from the Crime Survey for England and Wales showed that **17% of children overall reported being bullied in 2017-18, and these rates were similar to previous years. However, there were important variations in the rate of bullying by children's characteristics**: prevalence of bullying decreased as children got older, but was higher for children who were of a White ethnic background (compared to all non-White pupils), had a long-term illness or disability, and received extra help at school.
- **Young people similarly reported high levels of support from their family and happiness with their health, but less satisfaction with their leisure time.** Happiness with health and leisure time was lower both in young people aged 20-24 compared to 16-19 year olds, and UK-wide data suggests happiness with health decreased between 2009-10 and 2013-14.

In focus: Psychological health in teenage girls

- Wellbeing and mental health in teenage girls is a pressing issue given reports of increasing incidence of emotional problems as they move through adolescence. This has motivated a need to understand if certain experiences in their lives are tied to these difficulties. We explored how the experiences, behaviours, and outlook were associated with co-occuring psychological health in teenage girls aged 14-15 and 17-18 years, using the rich data available in the Longitudinal Study of Young People in England 2 (LSYPE2).
- **Psychological health was poorer for girls than boys of the same age, but declined over adolescence for *both* boys and girls.** This emphasises the importance of understanding teenage girls' experiences, but also points to the need to **recognise that boys face a similar decline in their psychological health through mid to late adolescence.**
- **Experiences of being bullied, including online bullying, was the risk factor most strongly associated with psychological health throughout mid to late adolescence.** However, bullying was less important when girls were older. Combined with other evidence, this suggests that bullying is unlikely to be the sole driver of teenage girls' poorer psychological health in later adolescence.
- **Seeing friends and getting enough sleep were consistent *protective* factors for positive psychological health across adolescence.** Feeling safe in their neighbourhood was also important in younger girls. Other significant protective factors, whilst having a smaller effect, included a positive attitude towards school, feeling a high locus of control and, in younger girls, physical exercise.
- **Social media use did not have a strong association with teenage girls' psychological health, after accounting for the range of factors we examined.** One possible explanation is that the link between social media use and psychological health is through factors such as experiences of online bullying, and once these are accounted for the unique, the direct association of social media with girls' psychological health is relatively small.
- With the possible exception of bullying, including online bullying, **a range of factors in combination are likely to be important for teenage girls' psychological health, rather than one or two factors in isolation.** Further research to explain the interplay of risk and protective factors is likely to better help us understand teenage girls' decline in psychological health over adolescence than focusing on single factors in isolation.

Chapter 1: Wellbeing in children in England

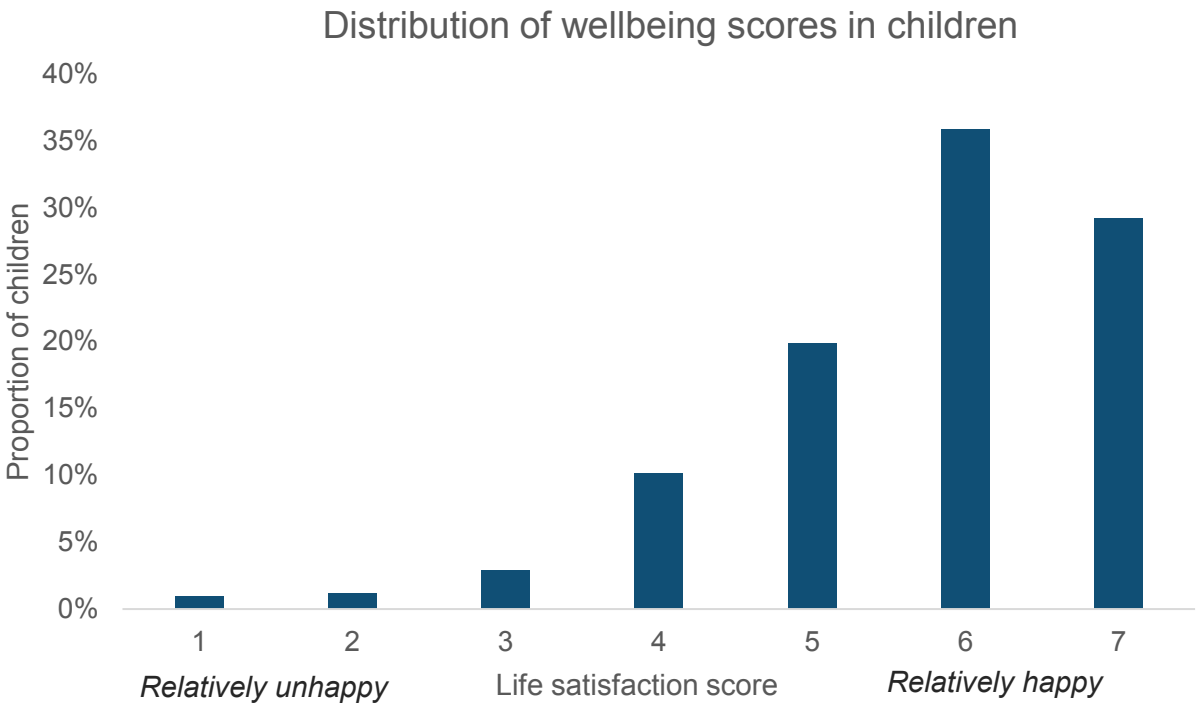
Headline summary

- **The majority of children in England are happy with their lives:** 84.9% of 10-15 year olds say they are relatively happy with their lives overall, and 5% say they are relatively unhappy with their lives.
- **A similar pattern was present when looking at time trends in children's wellbeing from 2009 to the most recent figures in 2016-17:** wellbeing has remained relatively high, with the majority of children reporting they are happy or very happy with their lives. However, it has dropped slightly since 2009, with a concurrent small increase in the proportion of children reporting feeling relatively unhappy with their lives.
- **When looking at variation in wellbeing by children's characteristics, the most marked difference in wellbeing was by age,** with older children reporting poorer wellbeing. 13-15 year olds reported lower life satisfaction than younger children aged 10-12 years, and this difference was consistent over time.
- **There were small differences in children's wellbeing gender, with a trend towards girls reporting lower wellbeing than boys, but this varied over time.** There were no marked differences in wellbeing by ethnicity.
- An examination of wellbeing in **FSM** and **SEN** pupils aged 15 showed **slightly lower wellbeing in FSM pupils, although this effect was small.** In SEN pupils, there were no consistent differences in wellbeing compared to their non-SEN peers.

Wellbeing in children aged 10 to 15 years: overall and by age, gender and ethnicity

Current state of children's wellbeing

Figure 1. Distribution of children's wellbeing scores



Coverage: England. These data are from Wave 8 of the Understanding Society Household Survey, collected in 2016-17. They cover children aged 10-15 years old in England. The Understanding Society scale uses scores of 1 as corresponding to being the most happy, and scores of 7 corresponding to being the least happy. The scale has been reversed here for ease of interpretation, with higher scores corresponding to higher happiness.

We examined wellbeing in 10-15 year old children in England using data from the UK Household Longitudinal Study (UKHLS) *Understanding Society* household survey[iv]. Here we report children's reponse to the question on how happy they feel with their life as a whole, measured on a 1-7 scale[v]. The data reported here are from Wave 8 of the survey, collected in 2016-17.

[iv] Further detail on how these data were analysed is available in Annex 2.

[v] The core measure used in this section is the question in Understanding Society's youth questionnaire covering children aged 10-15 years, asking how happy children feel about their life as a whole. This is measured on a 1-7 scale, with scores of 1 corresponding to "very happy" and scores of 7 corresponding to "very unhappy." For the purposes of comparing average wellbeing scores with ONS wellbeing measures

The majority of children in England report being happy with their lives, with 84.9% reporting they are relatively happy with their lives overall (as indicated by a life satisfaction score of 5 or more in Figure 1 above) and 5.0% reporting being relatively unhappy with their lives (as indicated by a score of 3 or below in Figure 1 above). This estimate aligns with recent reports by the Children's Society of children's happiness in the UK as a whole, where they estimated 4.8% of children reported low satisfaction with life as a whole in in 2016-17[6]. Whilst this presents a positive picture overall, it is important to recognise this proportion of children who are unhappy with their lives.

Breaking down average wellbeing by the characteristics of age, gender, and ethnicity, wellbeing only significantly[vi] differed by age, where older children (aged 13-15) reported lower happiness with their lives than younger children (aged 10-12), shown in Figure 2. There were no discernable differences in wellbeing by gender or by ethnicity; however, the small sample sizes for the ethnicity subgroups may obscure differences which would be detectable with larger samples.

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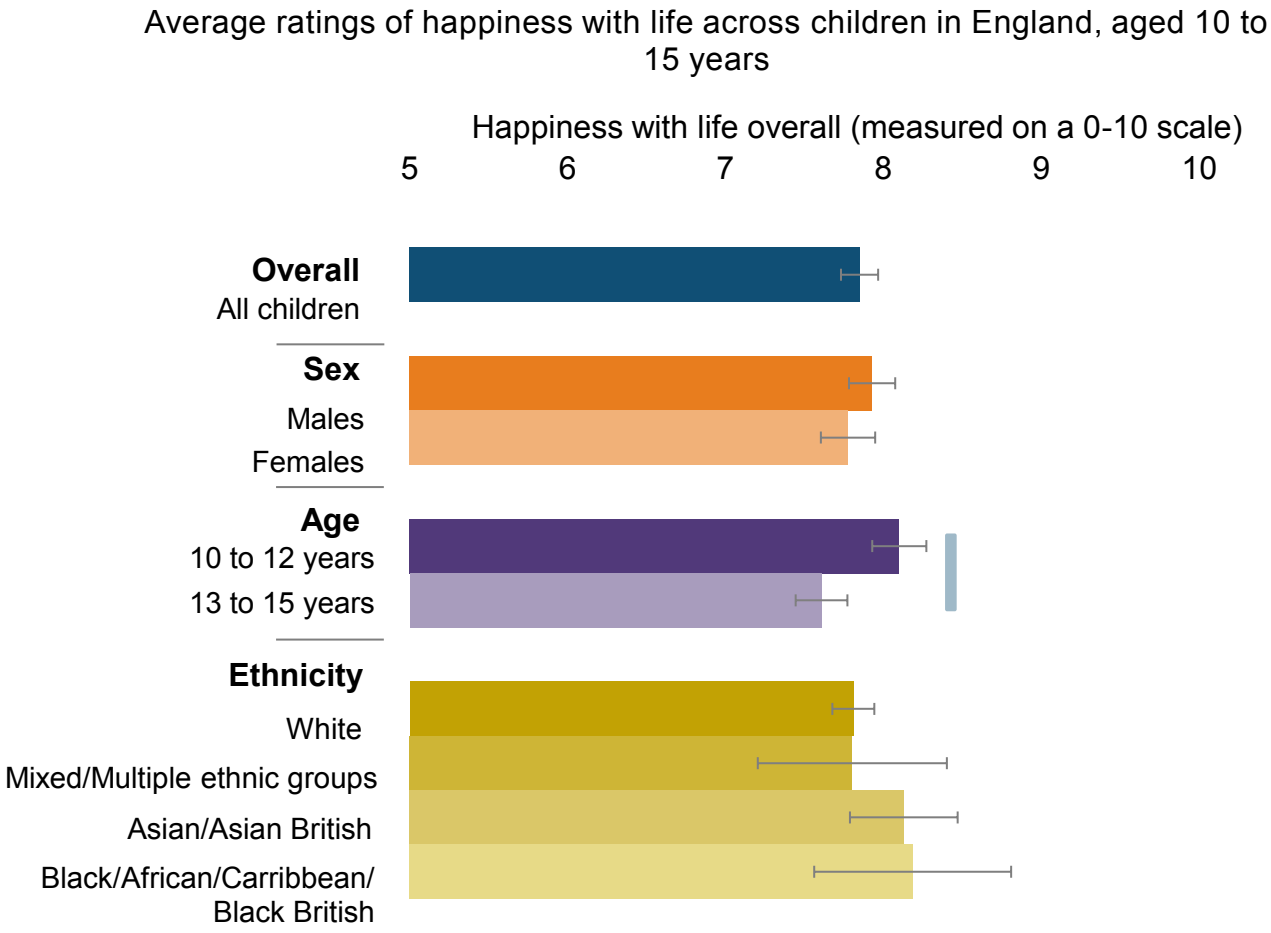
we have transformed this score onto a 1-10 scale, where higher scores correspond to higher wellbeing. When reporting the proportion of children falling into categories of *relatively happy* and *relatively unhappy*, we retain the original 1-7 scale with scores of 1-3 corresponding to *relatively happy* and 5-7 corresponding to *relatively unhappy,* with a score of 4 as neutral.

[vi] The use of significantly in this report is used to denote a *statistically* significant difference between groups. When we comment on trends which show a clear pattern but are not statistically significant, this is noted in the text.

Figure 2. Children's average wellbeing, overall and by characteristics



Note. These data are from Wave 8 of the Understanding Society Household Survey, collected in 2016-17. They cover children aged 10-15 years old in England. The average scores shown here have been transformed onto a 0-10 scale for comparability with other wellbeing measures. The bars show the 95% confidence interval around each estimate, and the grey line shows where there is a statistically significant difference between two groups. To note, the ethnicity group 'Other' estimate is suppressed here due to a very small sample size.

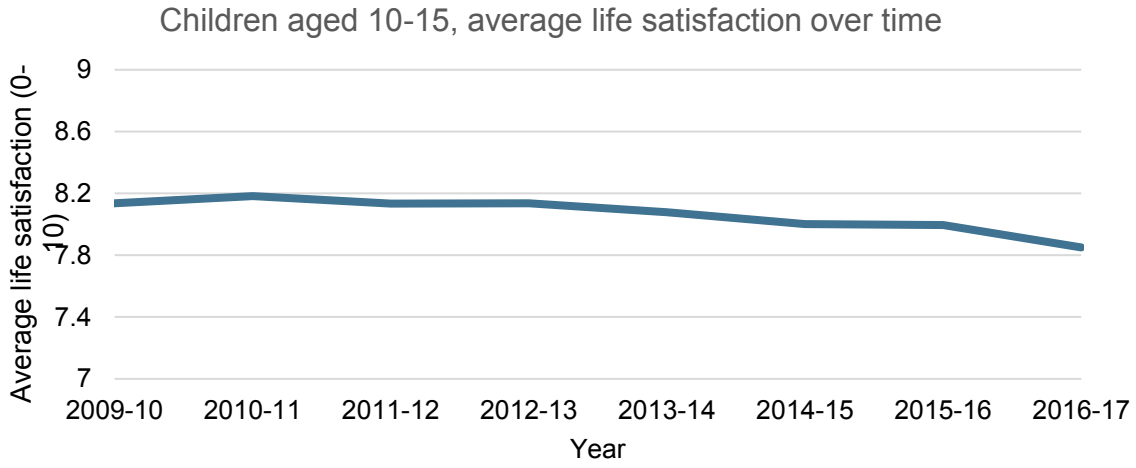
Children's wellbeing in England over time

An examination of changes in children's wellbeing since 2009 shows that although the majority of children have reported high ratings of happiness with their lives, average ratings of wellbeing have slightly decreased overall since 2009. Notably, children's happiness with their lives on this measure has been broadly stable since 2014-15, but the longer-term decrease highlights the need to continue monitoring this trend. This can be seen in Figure 3, which also presents the disaggregation of children's life satisfaction over time by age and gender.

When we assess these time trends in wellbeing by gender and age since 2009[vii], a clear pattern emerges: older children aged 13-15 years consistently report lower wellbeing than younger children aged 10-12 years. These data also show a trend towards the gap in wellbeing between these older and younger children widening since 2009-10. The decrease in life satisfaction with age is consistent with existing evidence on the drop in wellbeing from early adolecence[7], and suggests that the persistently lower wellbeing of older children may in part be due to a combination of their wider experiences and biological changes as they move into adolescence.

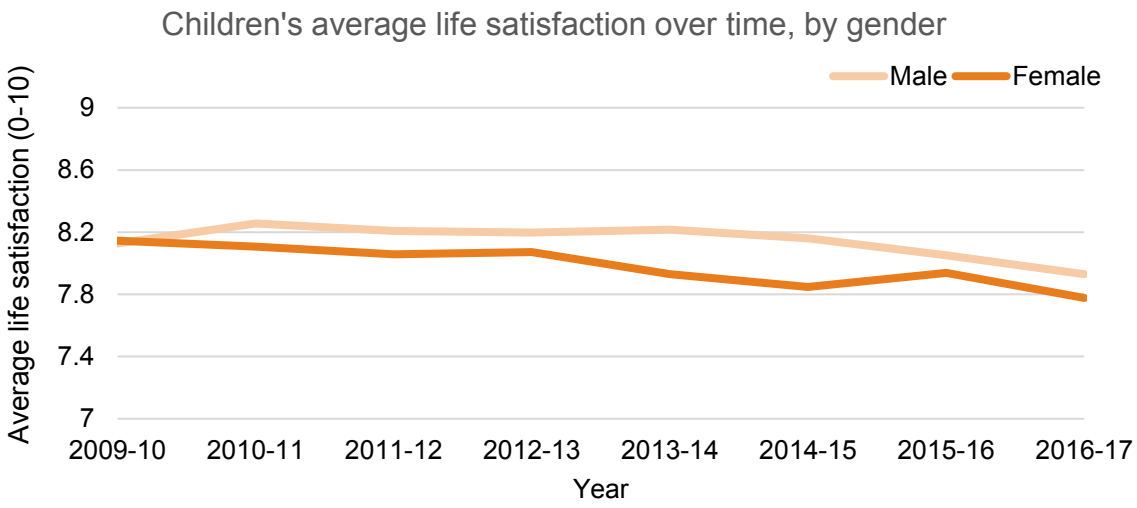
An examination of wellbeing trends in girls and boys shows a trend for girls to report lower happiness with their lives, but this difference was only statistically significant between 2013 and 2015. This suggests that gender differences in children's wellbeing fluctuate more over time than age differences in wellbeing, and may be driven by more variable factors and experiences than those associated with age differences in wellbeing.

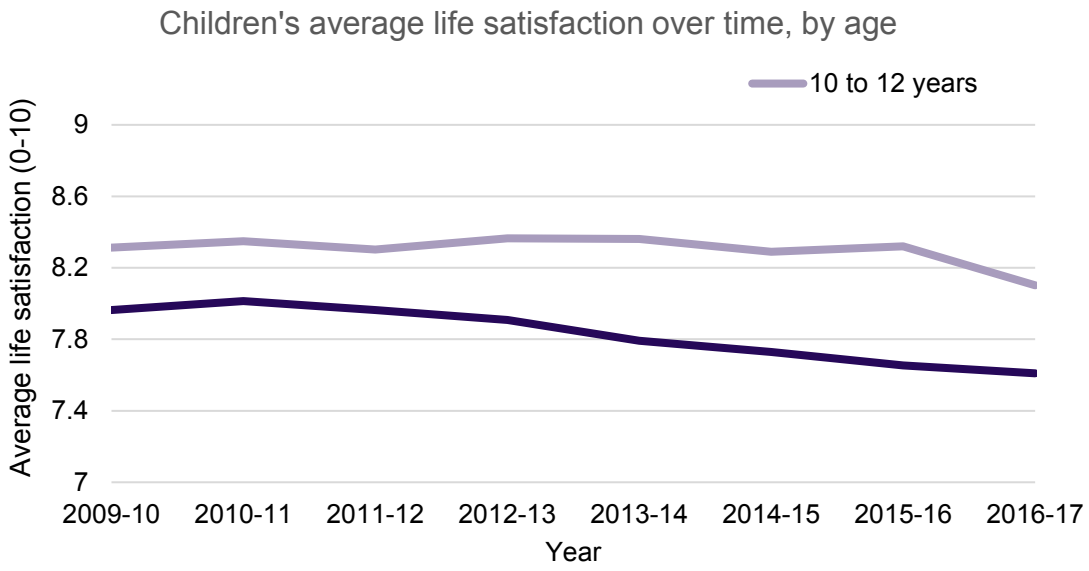
Figure 3. Children's average wellbeing over time, and proportion of children reporting being relatively happy: overall and by age and gender

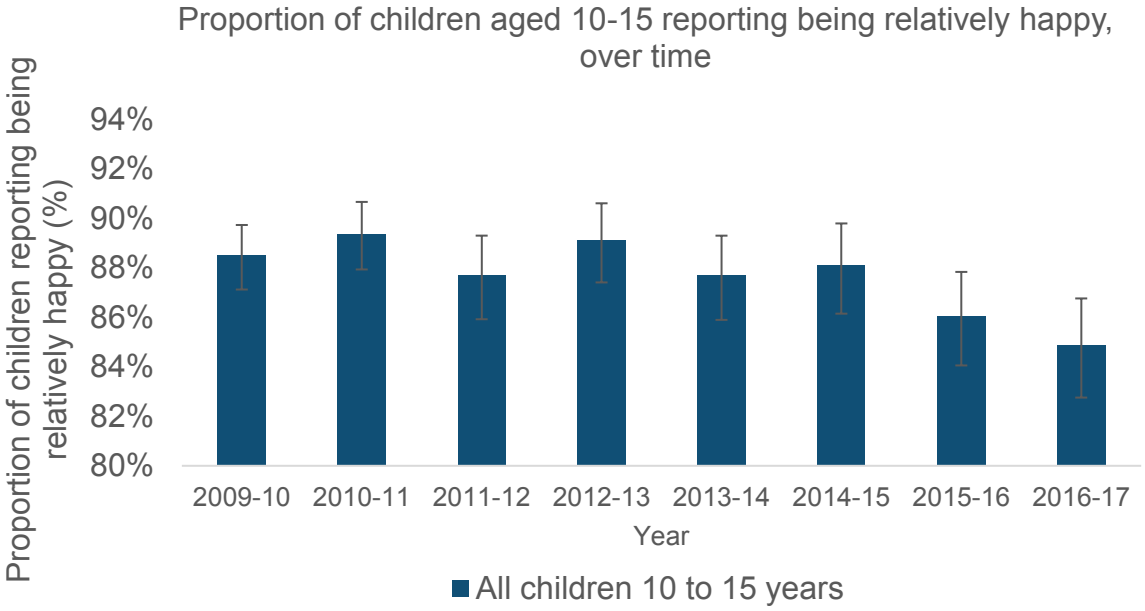


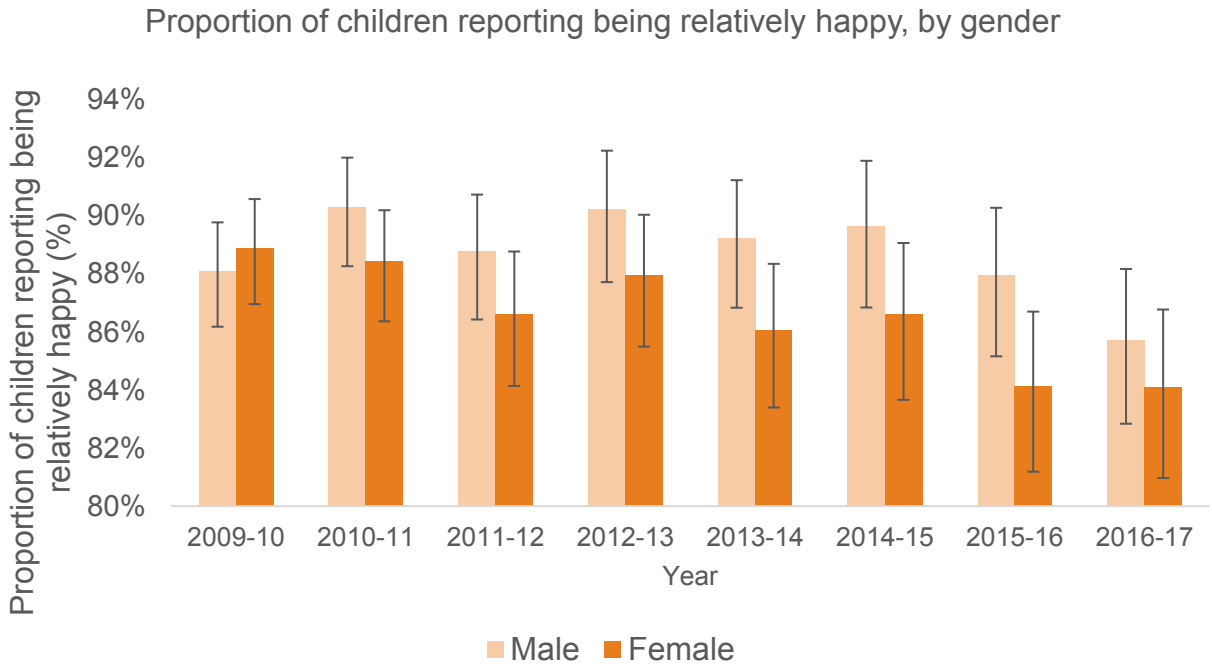
Coverage: England. These data are from Wave 1-Wave 8 of the Understanding Society Household Survey, covering children aged 10-15 years old in England. The years correspond to the data collection period for each wave. The average plots show the average scores transformed onto a 0-10 scale, where 10 corresponds to higher happiness with life overall. The proportion plots show the proportion of children reporting relatively high happiness with their life, as described at the start of Chapter 1. On the proportion plots, the bars show 95% confidence intervals.

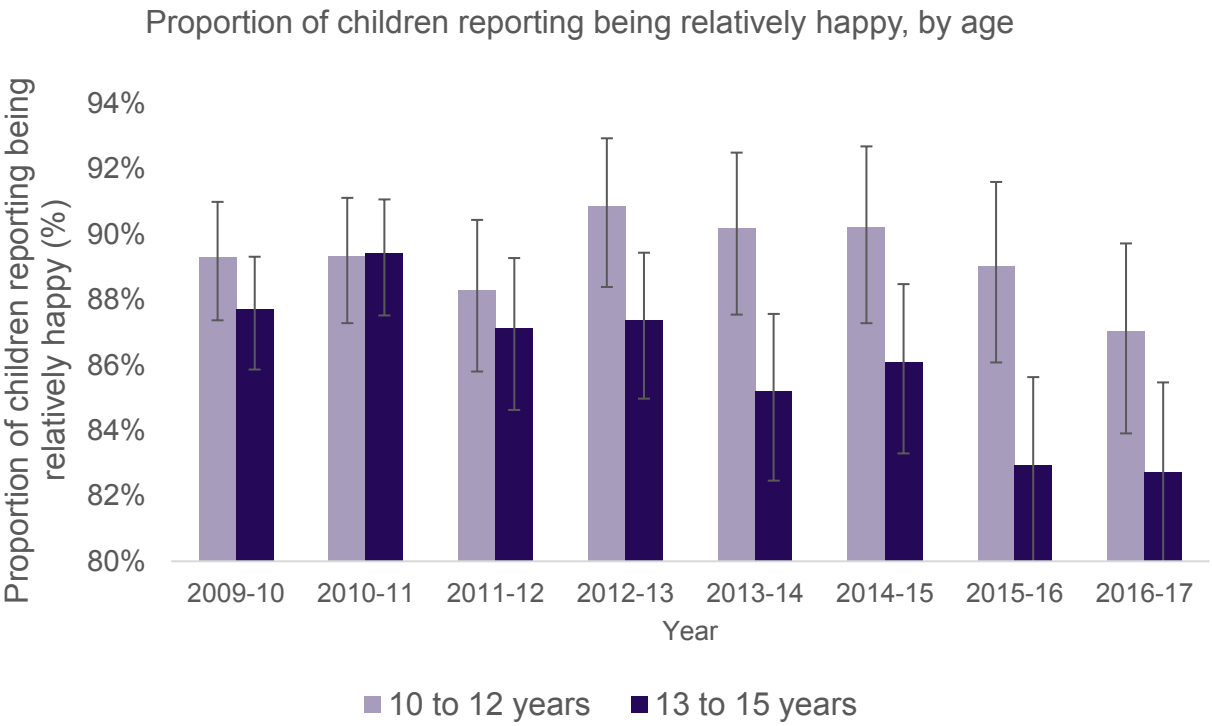
[vii] We do not report ime trends in wellbeing broken down by ethnicity for children in England here, due to small sample sizes in these groups making it challenging to accurately estimate changes over time. A discussion on wider evidence on the distribution of wellbeing scores by ethnicity is included later in this chapter.


Children's average life satisfaction over time, by gender
Male
Female
Average life satisfaction (0-10)
9
8.6
8.2
7.8
7.4
7
2009-10
2010-11
2011-12
2012-13
2013-14
2014-15
2015-16
2016-17
Year


Children's average life satisfaction over time, by age
10 to 12 years
Average life satisfaction (0-10)
9
8.6
8.2
7.8
7.4
7
2009-10
2010-11
2011-12
2012-13
2013-14
2014-15
2015-16
2016-17
Year


Proportion of children aged 10-15 reporting being relatively happy, over time
Proportion of children reporting being relatively happy (%)
94%
92%
90%
88%
86%
84%
82%
80%
2009-10
2010-11
2011-12
2012-13
2013-14
2014-15
2015-16
2016-17
Year
All children 10 to 15 years





Coverage: England. *Following from previous page:* These data are from Wave 1-Wave 8 of the Understanding Society Household Survey, covering children aged 10-15 years old in England. The years correspond to the data collection period for each wave. The proportion plots here show the proportion of children reporting relatively high happiness with their life, as described at the start of Chapter 1, and the bars show 95% confidence intervals.

Children reporting being relatively unhappy

To complement the time trends in *average* wellbeing, we also assessed the proportion of children who reported being relatively unhappy with their lives since 2009[viii]. This is important because looking at average wellbeing alone can mask changes in how many people experience difference levels of wellbeing, particularly in the smaller proportion of those who experience poor wellbeing.

The proportion of children reporting being relatively unhappy overall increased between 2009-10 and 2015-16. However, the most recent data from 2016-17 showed no statistically significant difference from 2009-10, although there is a trend for more children reporting feeling relatively unhappy since then. This is shown in the first panel of Figure 4, with the dark blue line showing the average proportion of children reporting being relatively unhappy with their lives over time.

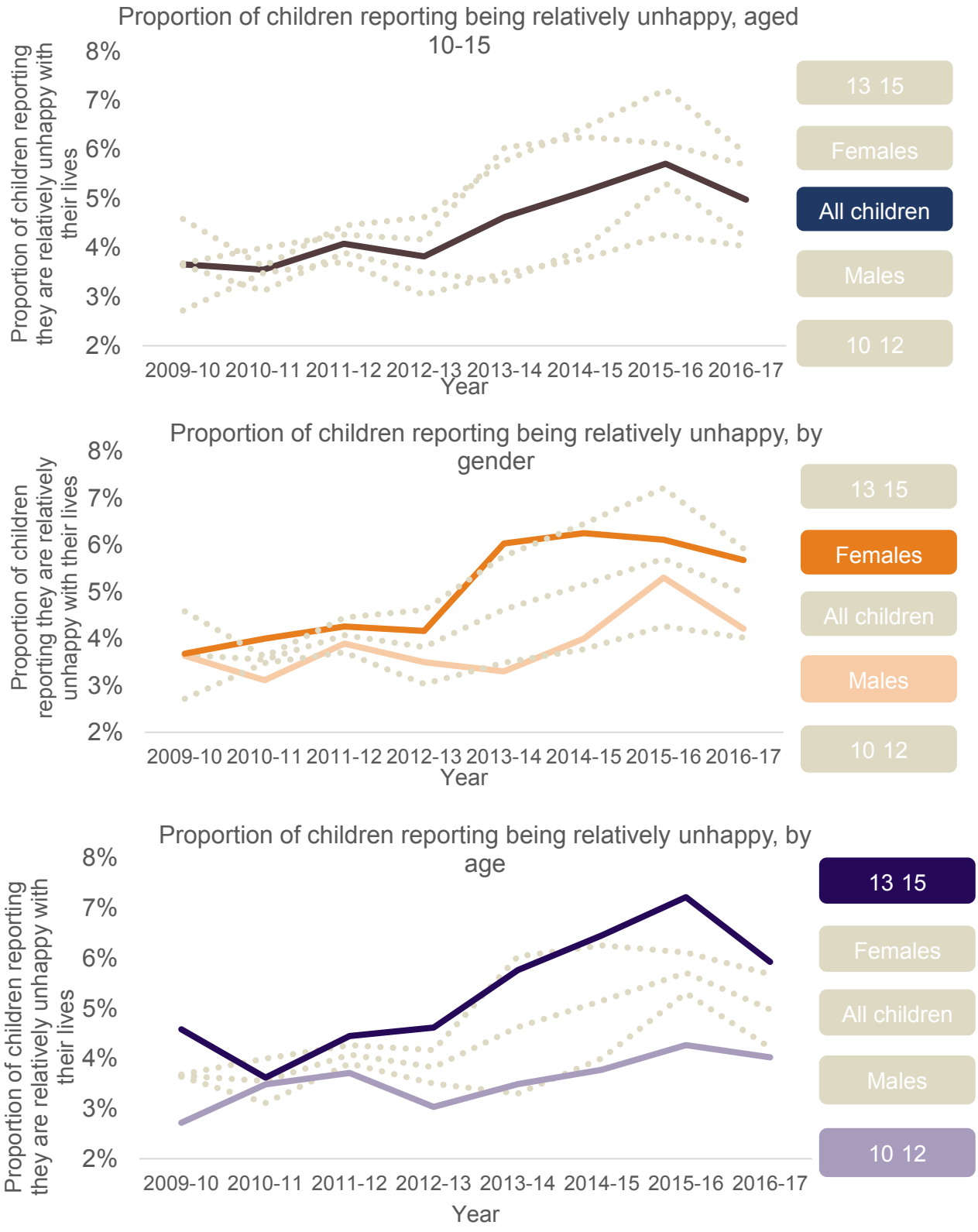
When breaking down this time trend by age and gender we see that the steepest increase in children feeling unhappy is in older children aged 13-15 years (Figure 4, bottom panel). This increased from 3.6% in 2010-11 to 7.2% in 2015-16, but the most recent 2016-17 data again showed minimal difference in the proportion of 13-15 year olds reporting they felt unhappy relative to 2009. Importantly, there was no significant change in the proportion of 10-12 year olds reporting being unhappy over this time period. This implies that the overall trend of a small decline in wellbeing seen across 10-15 year old children is largely driven by the older children in this group.

By gender, a similar proportion of both girls and boys reported feeling relatively unhappy in 2009-10 (Figure 4, middle panel). The proportion of both boys and girls in this group increased over time, but this increase was steeper for girls: the proportion of girls feeling unhappy increased from 3.7% in 2009-10 to a peak of 6.3% in 2014-15, before dropping down again to 5.7% in the most recent figures. The increase in the proportion of boys feeling relatively unhappy was smaller, where this rose to 5.3% in 2015-16 before decreasing to 4.2% in the most recent figures.

However, these increases were not statistically significant – both the time trends within boys and girls, and the difference between the proportion of boys and girls reporting being relatively unhappy at these time points. These figures nonetheless highlighted an overall trend of girls reporting relatively lower wellbeing than boys overall, but crucially

[viii] As noted previously, it is important to remember the proportion of children reporting they are relatively unhappy is based on those rating their life satisfaction between 5-7 on a 7-point scale, where higher scores correspond to being more unhappy with their lives. This cut-off reflects our estimate of an appropriate threshold beyond which a child can be said to be experiencing relatively low wellbeing.

Figure 4. Proportion of children reporting being relatively unhappy over time, by age and gender



Coverage: England. These data are from Wave 1-Wave 8 of the Understanding Society Household Survey, covering children aged 10-15 years old in England. The proportions are those in the thresholded category of being 'relatively unhappy', with scores of 5-7 on a 7-point scale, where 7 corresponds to 'completely unhappy' with life overall.

with less consistency and more fluctuation over time than the decline in wellbeing observed in children age 13-15 years overall.

Discussion

The majority of children are happy with their lives, but age is clearly associated with wellbeing where children's wellbeing declines as they get older

Overall, these findings present an interesting picture: the current state of wellbeing in children in England is that the majority are happy with their lives overall, but a small and important proportion are not.

Of the characteristics we examined across age, gender, and ethnicity, the clearest breakdown associated with wellbeing was age: wellbeing was consistently lower in older children entering early adolescence (13-15 years) than their younger counterparts (10-12 years). This was also evident when examining the proportion of children reporting being unhappy over time, where there was an increase in the proportion of older children reporting being relatively unhappy over time, but this remained unchanged in younger 10-12 year olds. Strikingly, this implies that the small decline in 10-15 year old children's overall wellbeing since 2009 was driven primarily by a decrease in wellbeing of *older* children, a difference which is masked when looking across the 10-15 year old children as a whole. Taken together, these findings highlight the value of 'moving beyond the average' and examining wellbeing across different groups of children.

Whilst there is a trend for girls to report lower wellbeing than boys, gender is a less consistent determinant of children's wellbeing than age

In contrast to the wellbeing differences over age, gender differences in wellbeing were more variable: there was trend of lower average wellbeing over time in females than males since 2009, alongside a higher proportion of females reporting feeling relatively unhappy, but this was not statistically significant year-on-year. This suggests that gender differences in wellbeing in childhood may be variable and fluctuate more than the age differences in wellbeing.

However, it is important to note that existing evidence has frequently highlighted being female as a risk factor for lower wellbeing: why would it then be the case that we did not identify larger differences in wellbeing between boys and girls here? One possibility is because of the measure of wellbeing we used. Here we report children's self-reported happiness with their lives overall, but lower wellbeing in females has more frequently been observed on measures which incorporate some aspect of negative affect (such as

distress, anxiety, or emotional difficulties). It may be the case that a single measure of happiness with life overall here masks these potential gender differences.

But it is also plausible that age is again a factor: the UK-wide Millennium Cohort Study, a representative cohort study of children born at the start of the millennium, found no gender differences in wellbeing at age 11 but significantly lower wellbeing in 14-year-old girls relative to boys[8ix]. This suggests that substantive gender differences in wellbeing may emerge only as children get older.

Wellbeing in FSM and SEN pupils

The attainment and wider outcomes of pupils on Free School Meals (FSM) and with Special Educational Needs (SEN) is of ongoing interest, but there is a gap in understanding about the level of wellbeing in these groups. These administrative groupings are used to indicate children likely to be in need of additional in-school support: eligibility for free school meals is used as an indicator of low household income, and children identified with special educational needs are those identified as having a learning difficulty or disability which requires special educational provision.

To address this question we examined wellbeing in FSM and SEN pupils aged 15-16 in England in the 2014-15 academic year, using the Longitudinal Study of Young People in England 2. Wellbeing was measured using four questions set by the ONS to capture individuals' wellbeing: *How satisfied are you with your life overall? How much do you feel life is worthwhile? How happy did you feel yesterday? How anxious did you feel yesterday?* These questions capture three aspects of an individuals' sense of overall wellbeing: an evaluation of their satisfaction with their life overall (*life satisfaction*), their feeling of meaning and purpose in their life (*worthwhile*) and their recent emotions (*happiness yesterday, anxiety yesterday*).

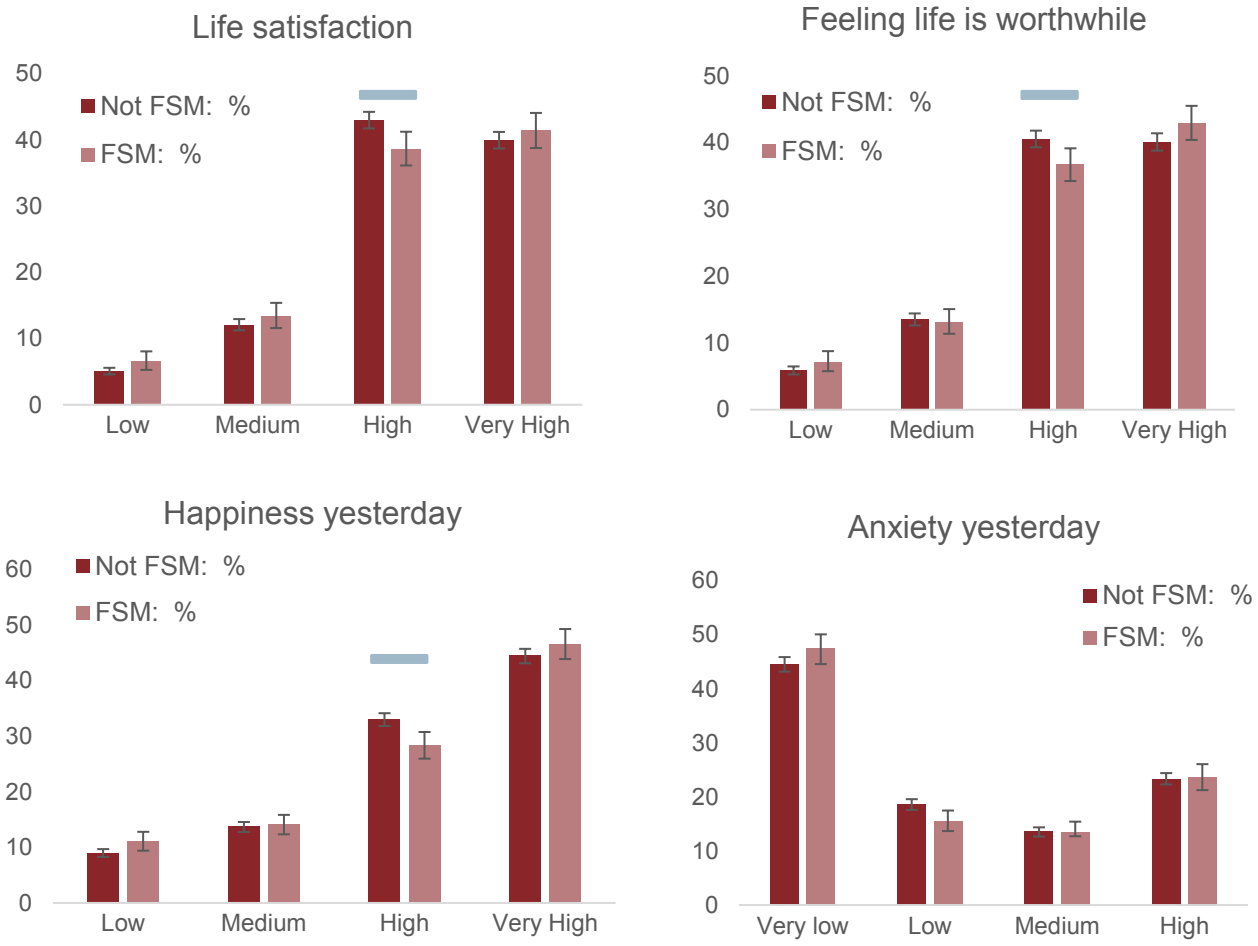
For each of these measures we report average ratings on a 0-10 scale, where 10 corresponds to better scores for *life satisfaction, worthwhile* and *happiness*, whilst 0 corresponds to better scores for *anxiety* (of lower anxiety yesterday). Alongside these average score we report the proportion of young people with scores corresponding to 'low', 'medium', 'high', and 'very high' categories, to also capture the distribution of wellbeing scores on each of the four measures.

[ix] The same pattern was true for mental ill-health, with gender differences only emerging at age 14, showing higher rates in girls.

Wellbeing in FSM pupils

In average ratings of wellbeing across the four questions, there was no discernible difference between FSM pupils and their non-FSM peers: their average scores across *life satisfaction, worthwhile, happiness* and *anxiety* did not significantly differ. However, when looking at the proportion of pupils responding with scores corresponding to 'low', 'medium', 'high' and 'very high' wellbeing, a lower proportion of FSM pupils responded that they had 'high' life satisfaction, a feeling of life being worthwhile, and a feeling of happiness yesterday. These results indicate a pattern of lower wellbeing in FSM pupils, but these differences were relatively small (Figure 5). Notably, whilst there was a trend of more FSM pupils also reporting they were 'very high' on these measures, these differences were not statistically significant.

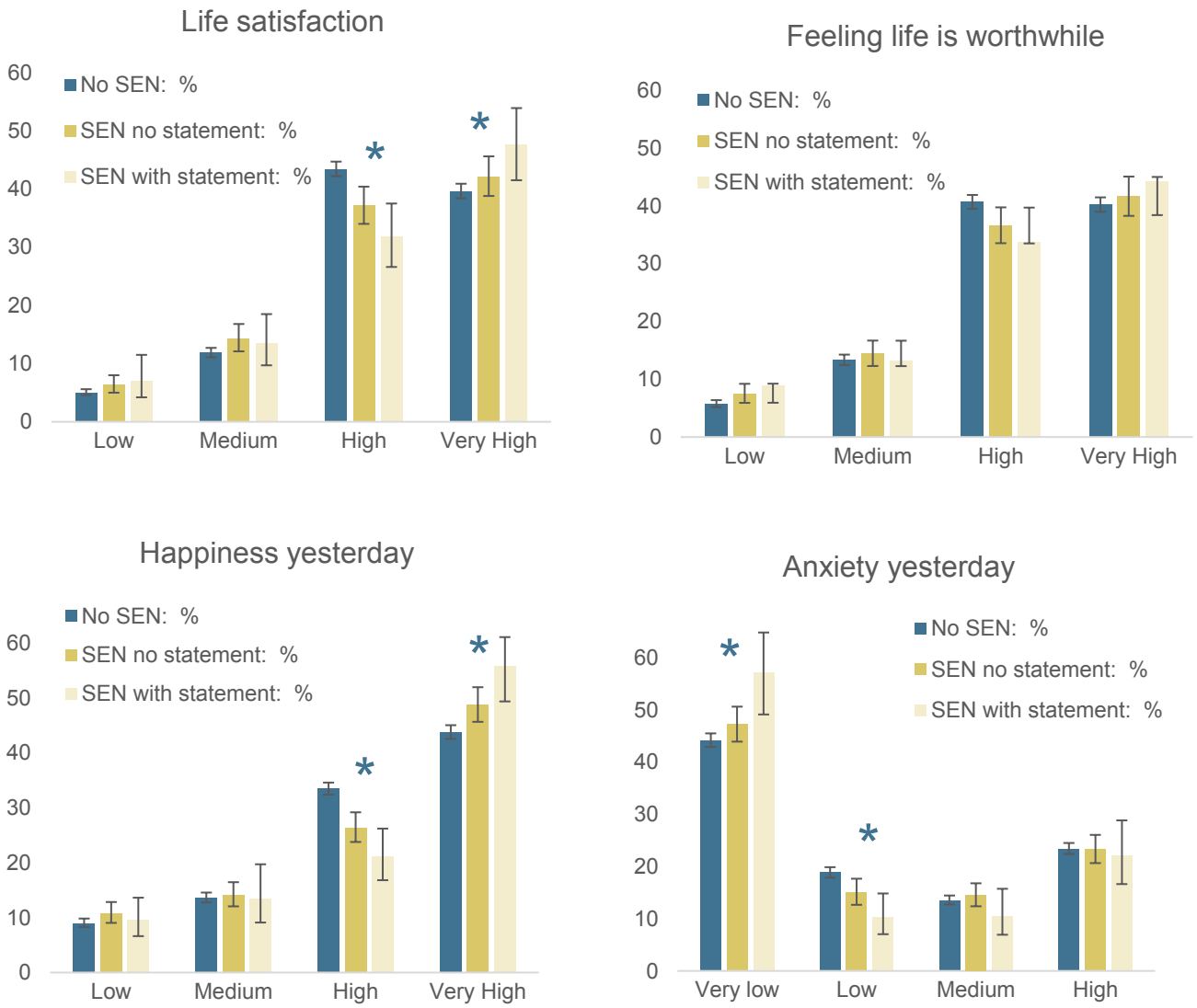
Figure 5. Wellbeing in FSM pupils



Coverage: England. These data are from Wave 3 of LSYPE2, for FSM pupils aged 15-16 in England in the 2014-15 academic year. The measures are the ONS4 questions of life satisfaction, feeling worthwhile, happiness yesterday and anxiety yesterday. The grey horizontal bars show measures where the groups were statistically significantly different, and the bars on each plot show 95% confidence intervals.

Wellbeing in SEN pupils

Figure 6. Wellbeing in SEN pupils



Coverage: England. These data are from Wave 3 of LSYPE2, for SEN pupils aged 15-16 in England in the 2014-15 academic year. The measures are the ONS4 questions of life satisfaction, feeling worthwhile, happiness yesterday and anxiety yesterday. The asterisks show measures where either SEN group differed from the non-SEN group, detailed in the text. The bars on each plot show 95% confidence intervals.

In pupils with Special Educational Needs (SEN), we examined wellbeing separately for those with a Educational, Health and Care (EHC) plan (*statemented SEN*) and without a EHC plan (*non-statemented SEN*). There was again little variation in average wellbeing between either of the SEN categories and their non-SEN peers: there was no difference across the life satisfaction, worthwhile or anxiety measures. On average happiness yesterday, statemented SEN pupils scored significantly higher than the non-SEN group;

however, a follow-up analysis suggested this may have been driven by a higher proportion of males in this group, rather than SEN status itself[x].

When examining the proportion in each group reporting 'low' through to 'very high' wellbeing, there was no overall difference in the proportion of SEN pupils reporting 'high' or 'very high' wellbeing. Fewer SEN pupils reported 'high' life satisfaction, feeling that life is worthwhile, or a feeling of happiness, but more SEN pupils reported they had 'very high' life satisfaction and happiness than those without SEN. These findings suggested no consistent difference between SEN and non-SEN pupils' wellbeing when balanced across 'high' and 'very high' ratings as a whole (Figure 6).

Discussion

There is some evidence that FSM children's wellbeing is lower than their peers, but both FSM and SEN status are not consistent markers of poor wellbeing

Overall, we found lower wellbeing in FSM pupils, but this effect was small; and in SEN pupils, they were similarly likely to be in high or very high categories for life satisfaction, feeling life was worthwhile and happiness compared to non-SEN pupils. It is important to note that we examined a particular cohort of children, at a specific time in their development, and on a specific set of wellbeing measures; as such, these findings are only one part of a more complex picture.

Previous investigations in FSM and SEN pupils have found lower wellbeing these groups, but findings have varied depending on the wellbeing measure used. For instance, in the HeadStart sample of 30,000 11-14 year olds from specific regions across England, FSM and SEN pupils were more likely than non-FSM and non-SEN pupils to report emotional difficulties[9xi]. In addition, a previous investigation on wellbeing in SEN pupils in England found that 10-15 year old children with SEN were more likely to report being unhappy

[x] The analysis on SEN pupils was also re-run controlling for the gender of the pupils. This is because SEN status varied by gender, with a higher proportion of males than females in the SEN group. Because there are reported gender differences in wellbeing, where males often report higher wellbeing than females, higher happiness in the SEN group could have been driven by the higher proportion of males in this group, rather than by SEN status per se. When controlling for the effect of gender on wellbeing, average scores across the four *life satisfaction, worthwhile, happy,* and *anxious* measures did not differ based on SEN status. This suggests that higher happiness in statemented SEN pupils here may have been an artefact of a higher proportion of males in this group, rather than SEN status.

[xi] The children in the HeadStart sample are also slightly more deprived than the national average, which may have compounded the experience of emotional difficulties in children with FSM and SEN.

with their school, school work, and friends than their non-SEN peers, but they did not differ in their happiness with life as a whole[10].

There are a number of possibilities why we did not detect marked differences in wellbeing here, which overall indicates that the relationship between FSM and SEN status and wellbeing is not clear cut[xii]. Differences between FSM and SEN pupils and their peers have been found in their experience of emotional difficulties, but it may be that their *overall* sense of wellbeing with their lives is less affected by FSM and SEN status. This is consistent with growing evidence that the factors underpinning mental health and wellbeing are different[11], suggesting that the factors important for wellbeing may be less strongly associated with FSM and SEN status than those associated with mental health.

In addition, age may be a factor: here we examined 15-16 year olds, but differences in wellbeing have generally been found in younger children. FSM and SEN status may be a weaker predictor of wellbeing as children move through adolesence, and experience a broader range of circumstances which impact on their wellbeing. FSM and SEN also reflect highly heterogeneous groups of children who vary in their experiences, which in themselves will impact on their wellbeing in different ways. For example, SEN pupils have reported higher levels of satisfaction with social support compared non-SEN pupils[12], suggesting this may facilitate better wellbeing.

Whilst the wellbeing of children who experience disadvantage is crucial, balanced with the wider literature our findings suggest that FSM and SEN status in and of itself is not a consistent indicator of poor wellbeing. We found slightly lower wellbeing in 15-16 year old FSM pupils, but no marked difference between SEN pupils and their peers. It may instead be important to understand the underlying experiences of these groups of children and how they map onto poor wellbeing, a point which we return to in the following chapters.

[xii] It is beyond the scope of this report to discuss this in detail here, but for SEN pupils it is also possible that the wellbeing measures were not best-placed to detect differences in wellbeing between these groups, due to pupils potentially not engaging with the full scale. This should be considered when interpreting the results.

Chapter 2: Wellbeing in young people in England

Headline summary

- **The majority of young people aged 16-24 report being satisfied with their lives overall.** 82.9% report high or very high satisfaction with their lives, but 3% report low life satisfaction.
- **Being older was associated with lower wellbeing:** young people aged 20-24 reported lower average life satisfaction and happiness than those aged 16-19.
- **The largest gender difference was in experiences of anxiety, where young women reported higher recent anxiety than young men.** Young women also had slightly higher ratings of feeling life was worthwhile than men, but there were no discernible gender differences in life satisfaction and happiness.
- **There was a trend towards lower anxiety, but also lower life satisfaction, in young people from a Black/African/Carribbean/Black British background compared to young people from a White background.** However, the small proportion of individuals in these ethnicity breakdowns means we should interpret these findings with caution.

Wellbeing in young people aged 16 to 24 years: Overall and by age, gender, and ethnicity

We report wellbeing in young people from the Annual Population Survey, which uses the ONS4 wellbeing questions to assess individuals' evaluation of their satisfaction with their life, how worthwhile they feel their life is, and their happiness and anxiety yesterday. The data reported cover the period from October 2017 to September 2018, and are published as an ONS release[xiii].

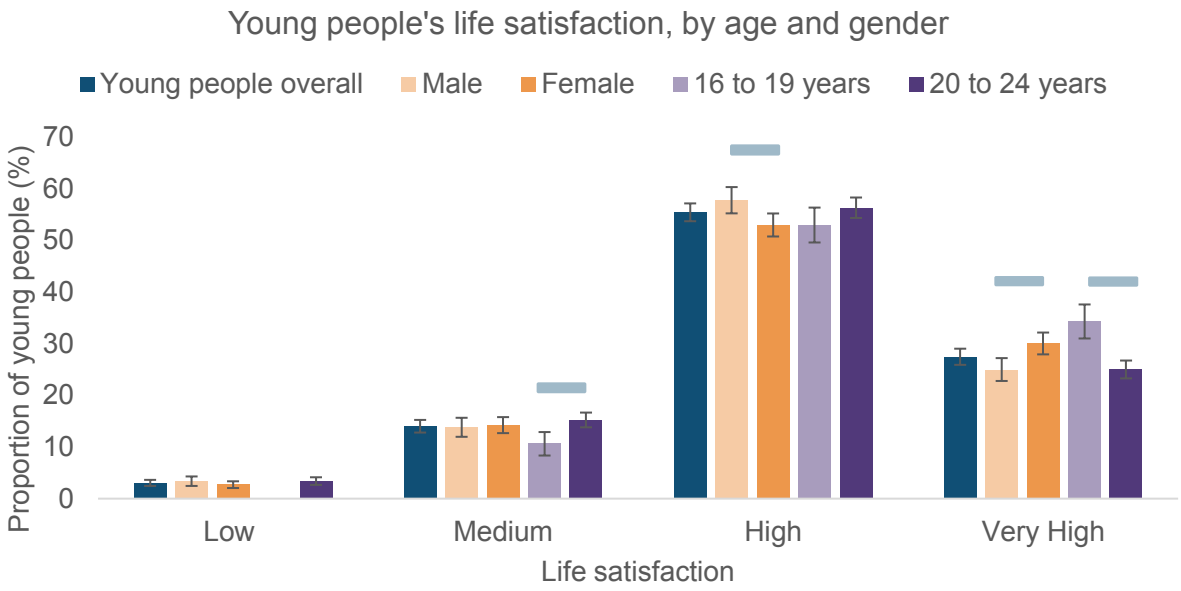
The majority of young people reported being happy with their lives, with 82.9% reporting high or very high life satisfaction and 3% reporting low life satisfaction. A similarly high proportion said their feeling of life being worthwhile was high or very high at 80.3%, and 74% said their happiness yesterday was high or very high. Ratings of young people's

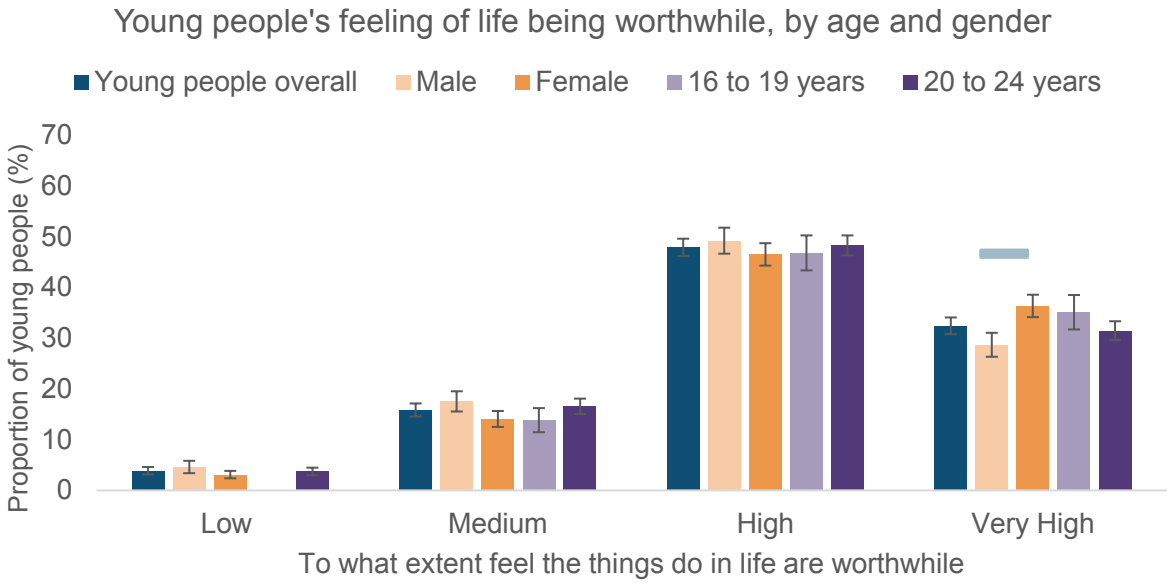
[xiii] ONS release on young people's personal well-being in England: https://www.ons.gov.uk/peoplepopulationandcommunity/wellbeing/adhocs/10410youngpeoplespersonalwellbeing

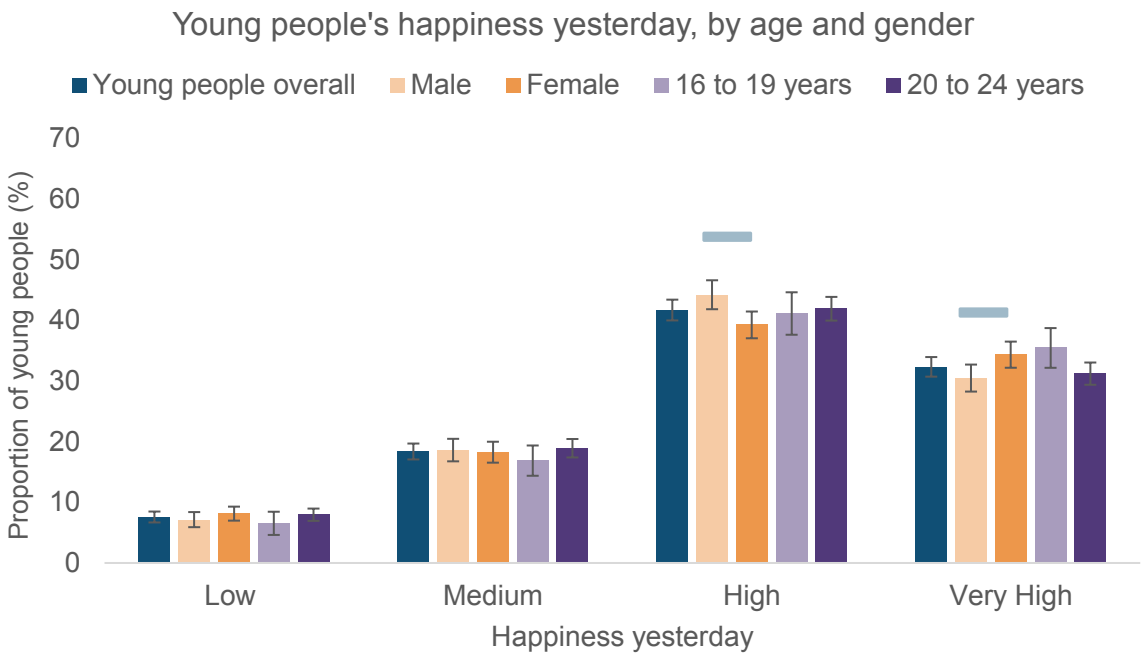
wellbeing is shown overall and by age and gender in Figure 7, and by ethnicity in Figure 8.

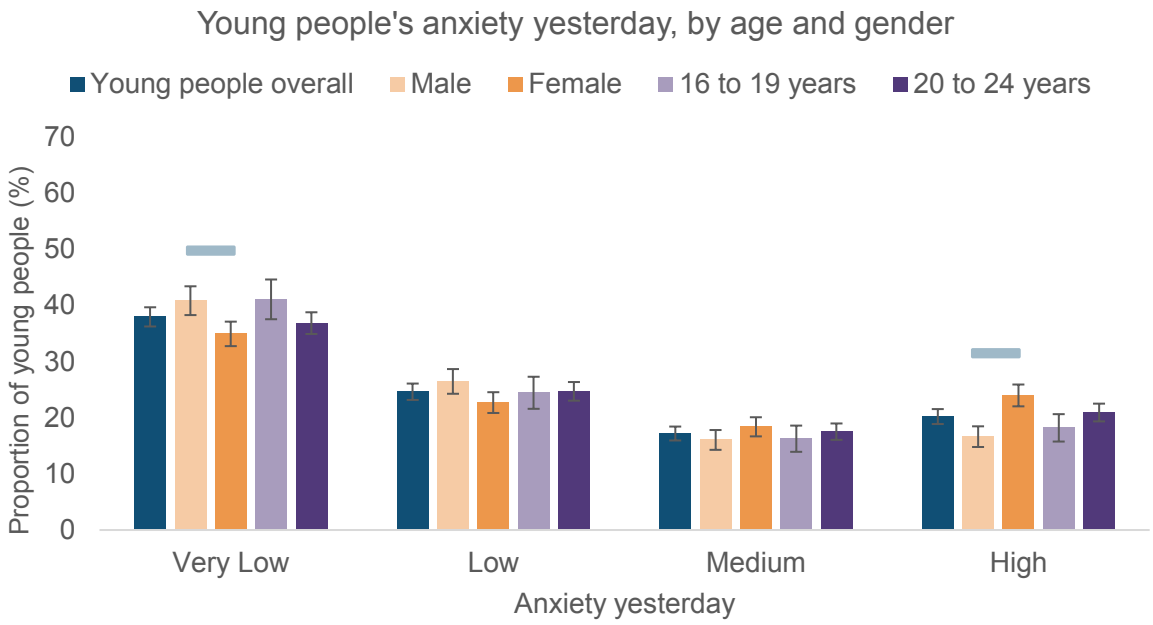
However, despite this overall positive picture one-fifth of young people reported experiencing high levels of recent anxiety, with 20.2% rating their anxiety yesterday as 'high'. Similarly, reports of experiencing low or very low anxiety were slightly lower than the other wellbeing measures at 62.6%. This suggested that young people overall experienced high levels of positive wellbeing, but a marked proportion still experience high levels of anxiety.

Figure 7: Ratings of young people's life satisfaction, life being worthwhile, happiness and anxiety, overall and by age and gender



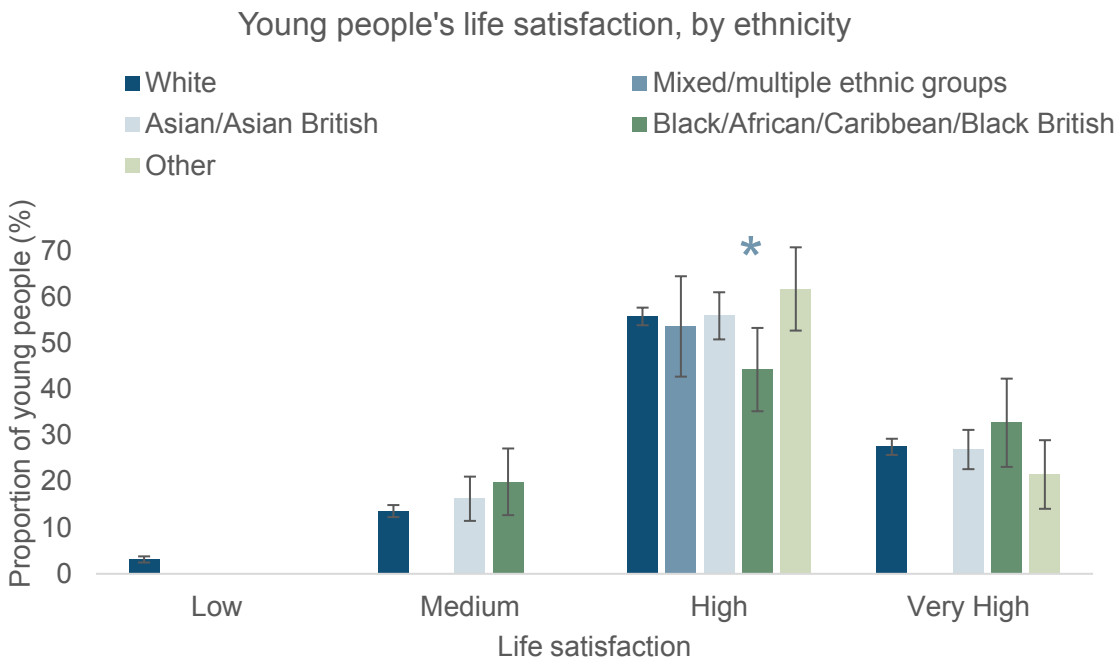


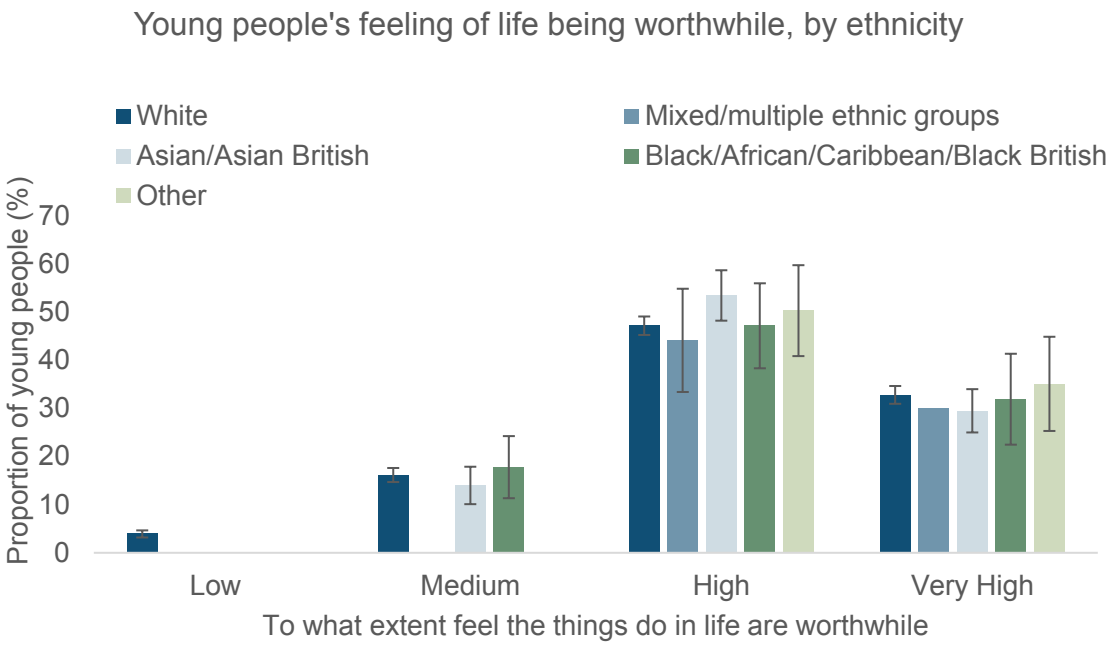


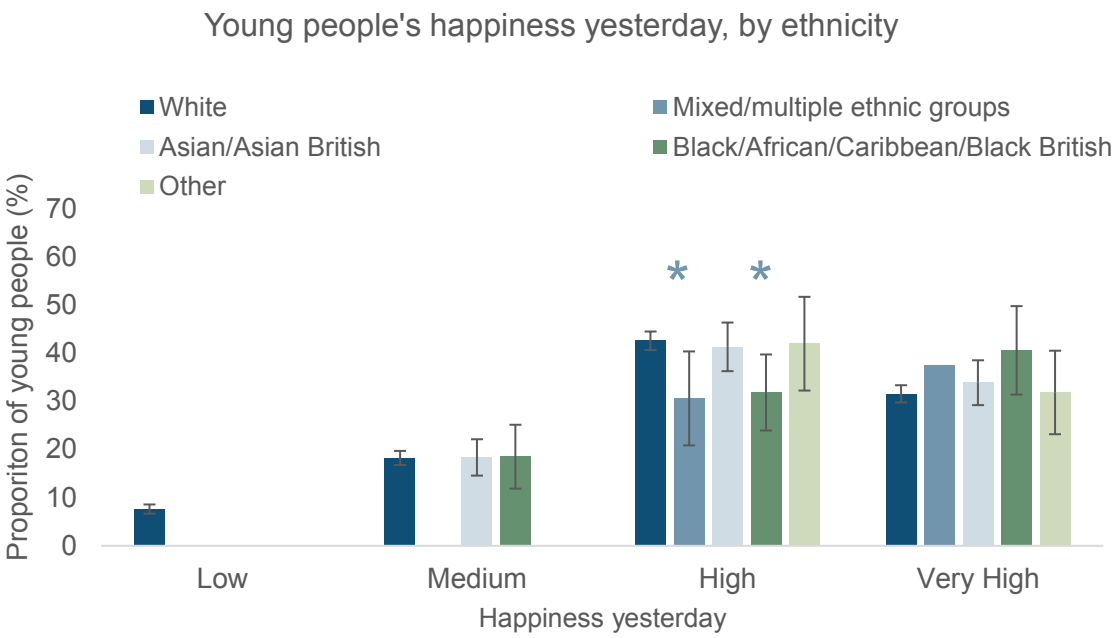


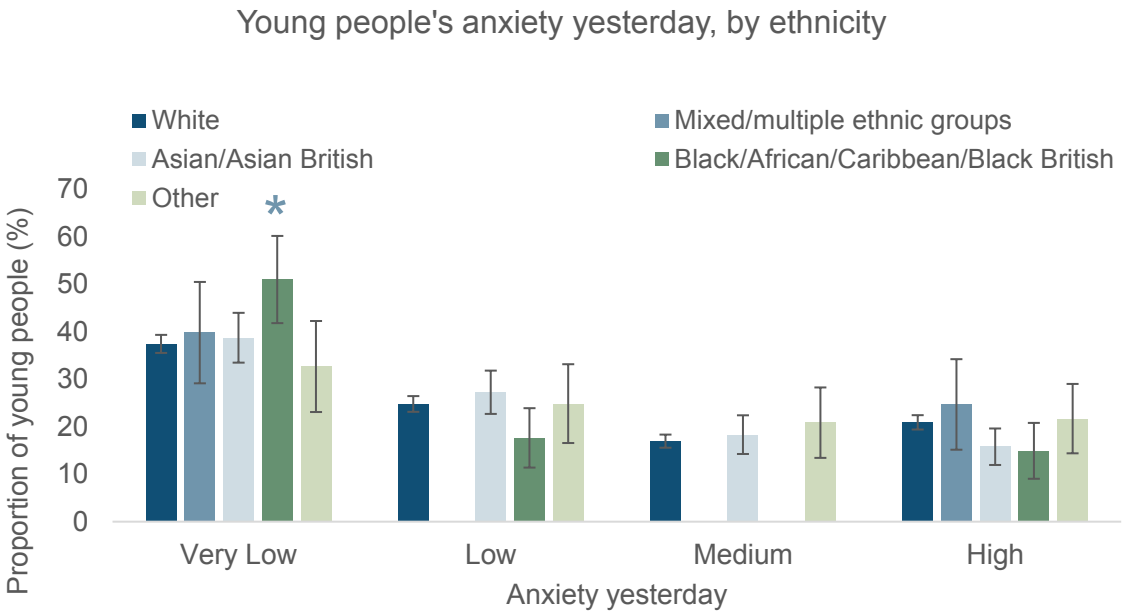
Coverage: England. These data are from the Annual Population Survey, covering October 2017 to September 2018 for young people aged 16-24 years. Each plot shows the proportion of respondents in each thresholded category on the ONS4 questions. The horiztonal grey bars show within-group age and gender comparisons which are significantly different, and the bars on each plot show 95% confidence intervals around each estimate. To note, missing estimates here are those which are suppressed due to the estimate being too uncertain.

Figure 8: Ratings of young people's life satisfaction, life being worthwhile, happiness and anxiety by ethnicity









Coverage: England. These data are from the Annual Population Survey, covering October 2017 to September 2018 for young people aged 16-24 years. Each plot shows the proportion of respondents in each thresholded category on the ONS4 questions. Asterisks show ethnicity groupings which significantly differ from the White group. The bars on each plot show 95% confidence intervals around each estimate. To note, missing estimates here are those which are suppressed due to the estimate being too uncertain.

When examining wellbeing by age, being older was associated with lower wellbeing: young people aged 20-24 reported both lower average life satisfaction and happiness,

shown in Figure 9. In addition, a lower proportion of 20-24 year olds reported high life satisfaction, and lower average happiness, compared to 16-19 year olds. This echos the pattern found in children and is consistent with reports in the literature of a drop in wellbeing from early adolescence into the mid to late 20s[13]. There were no differences in anxiety, or feeling that life was worthwhile, by these age groups.

When examining gender effects on wellbeing, the largest gender difference was in experiences of anxiety. A higher proportion of females reported a very high level of anxiety yesterday, and fewer reported very low anxiety, than males. Average ratings of anxiety were also higher in females than males. In contrast to this, females reported average higher ratings of life being worthwhile than males. Interestingly, this aligns with evidence in adults suggesting that females are more likely to experience both higher symptoms of mental health difficulties but also greater sense of wellbeing[xiv].

There were few consistent gender differences across the measures of overall life satisfaction and happiness: a lower proportion of women reported 'high' life satisfaction and happiness than men, but a higher proportion of women also responded 'very high', which overall suggested there were no marked gender differences.

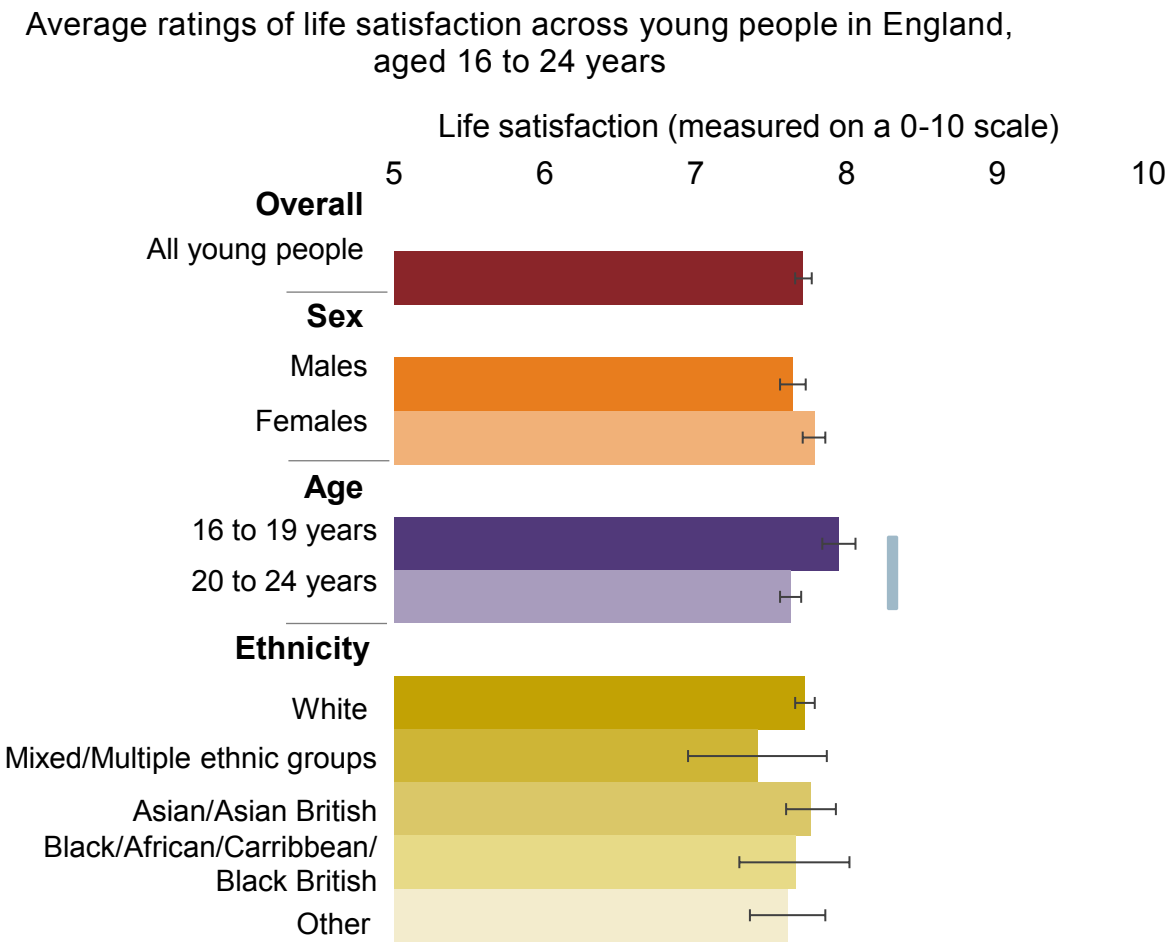
Variations in wellbeing by ethnicity showed a trend towards lower life satisfaction, but also lower anxiety, in young people form a Black/African/Carribbean/Black British background compared to young people from a White background[xv]. A lower proportion of individuals with a Black/African/Carribbean/Black British background reported high life satisfaction and happiness, but a higher proportion also reported very low anxiety compared to individuals from a White background.

In addition, a lower proportion of young people from mixed/multiple ethnic backgrounds reported high happiness than those from a White background. We should interpret these findings with caution due to the small proportion of individuals in these ethnicity groupings making our estimates less reliable.

[xiv] An important question for future investigations is whether these two dimensions of wellbeing are experienced by the same women – in other words, whether the same young women commonly experience *both* higher anxiety and a feeling of life being worthwhile than men – or whether different groups of women, with different experiences and characteristics, separately report high anxiety and a high feeling of life being worthwhile.

[xv] Notably, a higher proportion of young people from a Black/African/Carribbean/Black British background also reported 'very high' life satisfaction than young people from a White background (32.73% to 27.51% respectively) but this difference did not reach statistical significance.

Figure 9: Average life satisfaction in young people aged 16-24 in England, overall and by characteristics



Coverage: England. These data are from the Annual Population Survey, covering October 2017 to September 2018 for young people aged 16-24 years. These figures show the average scores on the ONS4 'life satisfaction' measure, on a scale of 0-10 where higher scores correspond to higher life satisfaction. The grey vertical bar shows a significant between-group difference, and bars on each figure correspond to 95% confidence intervals.

Discussion

The most consistent difference in wellbeing is by age, with poorer wellbeing as young people get older

Overall, the current state of young people's wellbeing highlighted several key points. First, similarly to the findings for children, the majority of young people are happy with

their lives, but a fifth reported experiencing high recent anxiety. This suggested that, although the majority reported high life satisfaction, experiences of anxiety are an important aspect of wellbeing to understand in young people.

Echoing the pattern found in children, age was the most marked indicator of wellbeing with wellbeing declining as young people moved from late adolescence into their early 20s. Reports of poorer wellbeing in young people as they get older are not new, and the findings in this report echo a body of existing work on a U-shaped curve in wellbeing over the life course.

Why would wellbeing decline as young people get older? Existing evidence has identified a number of factors tied to wellbeing in adulthood including stability of employment, health, family experiences and the quality of their friendships. Decreases in wellbeing as young people move into adulthood may be higher if they experience difficulties in several of these domains[14]. An important question for future work is the extent to which declines in wellbeing over age are part of maturational (biological) processes, with the transition through puberty and into early adulthood, and the extent to which this decline is related to social and environmental structural factors which may be amenable to change.

However, there are important variations in young people's wellbeing by gender and ethnicity, which require further exploration of the underlying causes

Although being older clearly demarcated lower wellbeing, there were also important variations in wellbeing by gender and ethnicity. The most marked gender difference was in anxiety, with females reporting higher recent experiences of anxiety than males. However, females also had higher ratings of life being worthwhile, which mirrors existing evidence in adults of higher mental ill-health but also higher feelings of life being worthwhile in women[xvi]. Whilst the measure of feeling anxious used here does not capture mental ill-health, these results suggest that the pattern of a higher feeling of anxiety but also a higher feeling of life being worthwhile may emerge as young women move into older adolescence.

Less is known on variations in wellbeing by ethnicity, where there have been relatively few investigations due to the small proportion of some ethnic groupings in previous

[xvi] These differences in wellbeing by gender were detected only when we examined the *distribution* of wellbeing – that is, the proportion of young people who fell in the groupings of experiencing *low, medium, high* and *very high* wellbeing – rather than looking at average scores across these groups. This points to the value of taking these complementary approaches to understand the wellbeing of individuals, rather than examining average scores in isolation which may mask these differences.

studies. Here we observed lower anxiety, but also lower ratings of life satisfaction, in young people from a Black/African/Carribbean/Black British background than those from a White background. Existing evidence on the link between ethnicity and wellbeing is mixed, with some reports of slightly higher levels of psychological distress in young people from a White background[15] relative to other ethnicity groupings, but less known about overall life satisfaction.

The balance of evidence seems to suggest ethnicity is more strongly associated with mental ill-health, with a less marked association with wellbeing[16]. Notably, the lack of stark wellbeing differences both here and across other studies suggest it should not be assumed that young people from minority ethnic groups experience lower wellbeing on the whole, but important differences in their experiences do exist[xvii].

[xvii] It is notable we detected this variation in wellbeing by ethnicity for young people but not for children. There is limited evidence to ascertain how the relationship between ethnicity and wellbeing may change over age. However, our detection of ethnicity differences in young people may also be due to the wellbeing measures here (the ONS4 questions) capturing both the cognitive and emotional aspects of wellbeing, which allowed more sensitive detection of more between-group differences, rather than the single life satisfaction measure we reported for children.

Chapter 3: Wider indicators on the wellbeing of children and young people

Headline summary

- **Children's overall sense of wellbeing is underpinned by their experience across different domains of their lives.** To understand the current state of aspects of children's lives important for their wellbeing, we assessed a range of wider indicators of children and young people's lives and experiences encompassing:
    - Children's happiness with their **family** and **friends**, **health** and **appearance**, and **school**;
    - Children's experiences of **bullying**, and their **attendance** and **attainment**;
    - Young people's happiness with **family**, **health**, and their **leisure time**.
- **Children were happiest with their family, friends, and health, followed by their school and appearance**. Wider UK-wide data on changes in these indicators over time suggests children's happiness with family has been stable over time, whilst happiness with friends has decreased.
- **Young people similarly reported high levels of support from their family and happiness with their health, but less satisfaction with their leisure time.** UK-wide data suggests happiness with family has similarly stayed largely stable, but happiness with health decreased between 2009-10 and 2013-14.
- Reported rates of **bullying** across 10-15 year old children in England showed that **17% of children overall reported being bullied in 2017-18, but there were important variations in the rate of bullying by children's characteristics.** Prevalence of bullying decreased as children got older, but was higher for children who were of a White ethnic background (compared to all non-White pupils), had a long-term illness or disability, and received extra help at school.

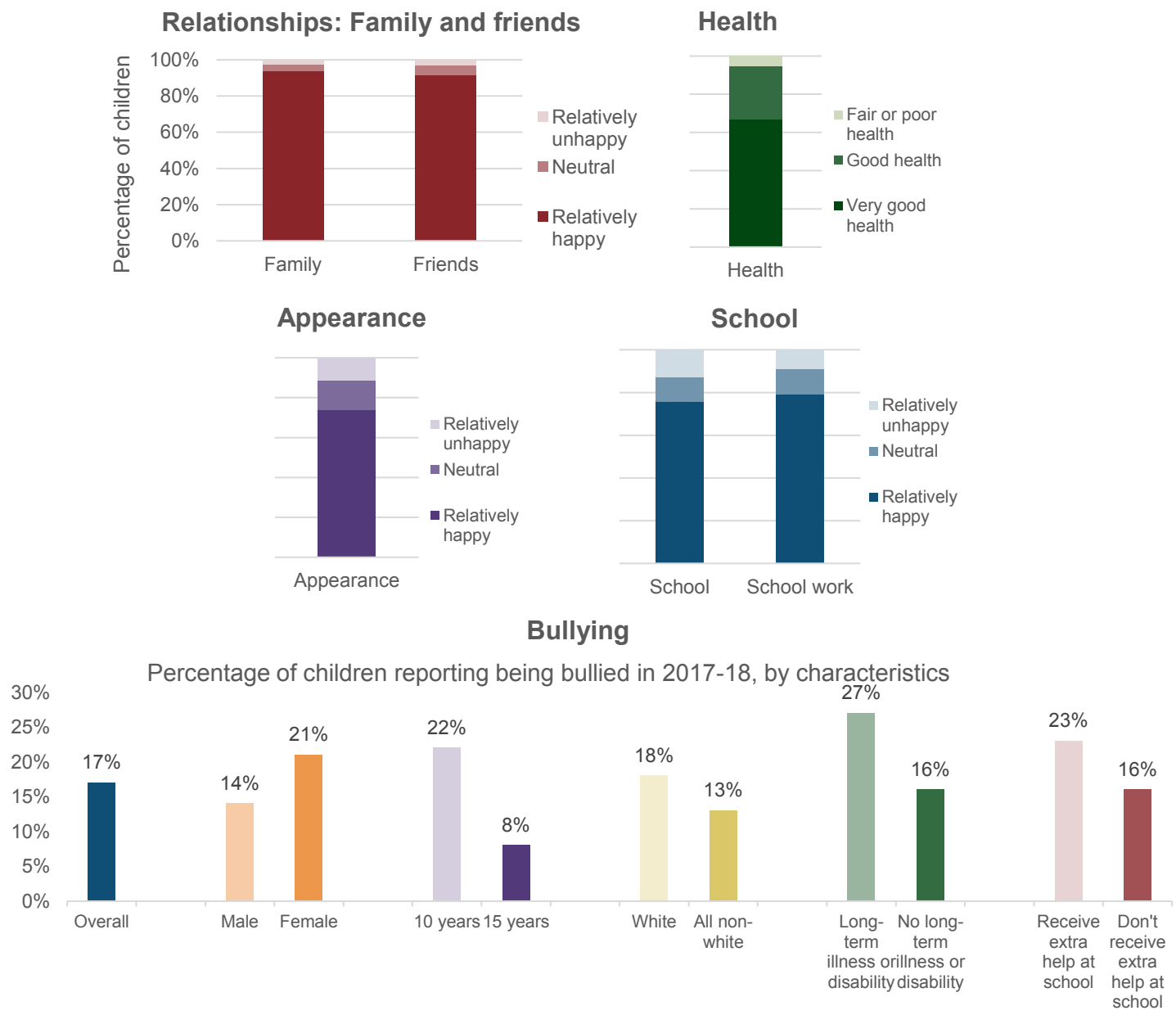
There are a wide range of factors which intersect to influence children and young people's wellbeing. In understanding the current state of children and young people's wellbeing it is also important to consider patterns and trends in their lives and experiences which could impact on, or be indicators of, their quality of life.

This chapter reports indicators on children's relationships, their self-reported health and feelings about their appearance, and their experiences of bullying and school; and young

people's feelings about their family, health, and leisure time. These are compiled both from new analysis and a collation of existing data, with the data sources noted in the text. These domains are not comprehensive and, crucially, we cannot infer that they are *causally* related to wellbeing. Instead they provide a temperature check across aspects of children and young people's live to provide a broader picture of their experiences.

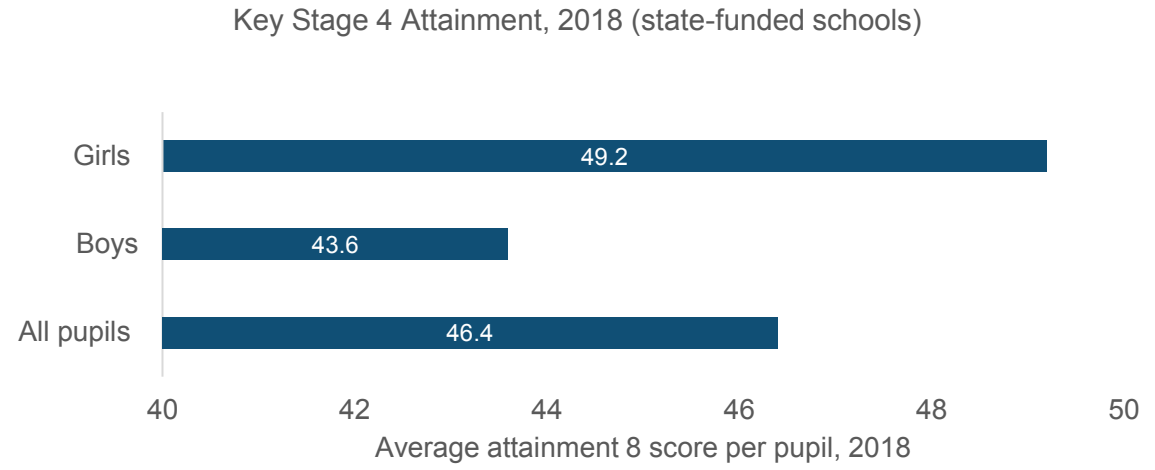
Children: Their relationships, health, happiness with appearance, and school

Figure 10: Dashboard of wider indicators on children's lives

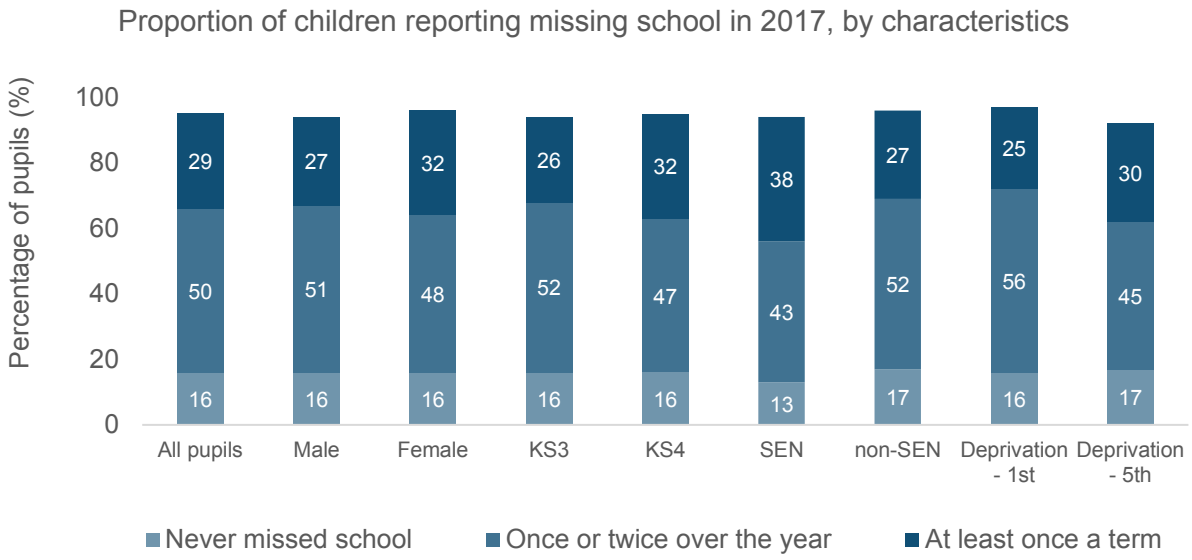


Coverage: England. The indicators on relationships, health, appearance and school are from UKHLS Wave 8, covering children aged 10-15 years old in England in 2016-17. Each plot shows the proportion of children responding in each category. The bullying indicators are published data from the Crime Survey for England and Wales, reported in the *Department for Education (2018) – Bullying in England, April 2013-March 2018* report.

Attainment



Attendance



Coverage: England. The attainment data is from published data *GCSE and equivalent results: 2017 to 2018 provisional statistical release.* The attendance data are from published data from Wave 5 (2017) of the Pupils, Parents and Carers Survey, and shows pupil-reported figures. It should be noted that attendance figures from different sources may differ as they reflect different kinds of reporting.

Here we again used the the UK Household Longitudinal Survey (UKHLS)[xviii] to look at 10-15 year old children's self-reported happiness with their family, friends, health, and their appearance, in England. As in Chapter 1, the reported figures are from Wave 8, collected in 2016-17. To provide additional context on how happiness with these domains of

[xviii] Reported figures are from UKHLS (Understanding Society) Wave 8, collected in 2016-17.

children's lives has changed over time we also briefly report time trends in UK-wide data from the Children's Society Good Childhood Reports[17]. These annual reports have used the UKHLS to explore children's happiness with these aspects of their lives, along with the Children's Society Good Childhood Index which assess children's self-reported happiness overall and across multiple domains of their lives.

Relationships with family and friends

Children report high levels of happiness with their family and friends overall, with 94.0% reporting feeling relatively happy with their family and 91.6% feeling relatively happy with their friends. These overall ratings are shown on the dashboard in Figure 10. However, as we saw with overall wellbeing in Chapter 1, happiness with family and friends declined as children got older, with lower ratings of average happiness with family and friends in children aged 13-15 years compared to younger 10-12 year olds. However, this difference was relatively small. There was a trend towards girls reporting slightly lower happiness with their friends than boys, but this difference was not statistically significant. There were no gender differences in happiness with family.

UK-wide data[18] shows children's happiness with family has been unchanged since 2009, but happiness with friends has decreased slightly. Aligning with the current estimates for England, there are no gender differences in happiness with family over time or consistent differences in happiness with friends. There is a trend for girls to report slightly lower happiness with their friends than boys, but this was only statistically significant in 2013-14.

Self-reported satisfaction with health, and happiness with appearance

Children were also similarly happy with their health, with 94.5% saying they felt they had good or very good health. However, this also dropped as children got older, with a lower proportion of 13-15 year olds feeling they had good or very good health (92.7%) compared to younger children aged 10-12 (96.4%), but this difference was again small.

Children's appearance was the aspect of their lives they were least happy with of those we examined: 73.8% were relatively happy with their appearance. Girls reported substantially lower happiness with appearance, with 70.1% reporting they were relatively happy with their appearance compared to 77.8% of boys. Happiness with appearance also declined over age, with 79.9% of 10-12 year olds being relatively happy with their appearance compared to 67.8% of 13-15 year olds.

In UK-wide data[19] children's happiness with appearance has been stable since 2009, but there has been a consistent gap between girls and boys with girls reporting significantly lower happiness with their appearance across years.

Experiences at school: happiness with school, schoolwork, and attendance and attainment

Children's subjective reports of their happiness with their school and their school work showed that 75.8% of children were relatively happy with their school, and 79.04% were relatively happy with their school work. Happiness with school decreased over age, where 81.0% of 10-12 year olds were happy with their school overall compared to 70.7% of 13-15 year olds. However, happiness with school work remained stable over age. This implies that a drop in happiness with school overall as children move into early adolescence may be related to wider factors (such as their peer relationships, for example) rather than by children being less happy with their school work itself. There were no significant gender differences in happiness with school or school work; there was a trend towards girls being happier with their school work than boys, but this was only marginally significant.

Time trends in UK-wide data[20] shows that happiness with school and school work has been largely stable since 2009, although with some year-on-year variations[xix]. There have been no consistent gender differences in happiness with school over time, but boys have consistently reported being less happy with their school work than girls since 2009. In addition, England-wide data in adolescents suggests attitudes to school have become more positive since 2005[21]. When balanced with the small decline in children's wellbeing since 2009 we observed in Chapter 1, this suggests that more work is needed to understand the relationship between children's feelings about school and their overall wellbeing.

Finally, the attendance and attainment figures shown in Figure 10 provide an overview of pupils' reported attendance rates from Wave 5 of the Pupil, Parents and Carers Survey (2017), and attainment from the 2017-18 provisional statistical release for GCSE and equivalent results. There is ongoing research into the relationship between these indicators and children's subjective wellbeing: evidence suggests that higher levels of emotional difficulties are linked to both increased absences from school and lower attainment[22], and that better wellbeing may be linked to slightly higher concurrent attainment[23]. However, the processes linking wellbeing to differing levels of attendance and attainment are unclear and further work is needed to understand this relationship.

[xix] To note happiness with school dropped between 2015-16 and 2016-17 (Good Childhood Report, 2019).

Overall, the majority of children report feeling happy with their family, friends, and health, but happiness across these domains may decrease as children get older.

These data present a picture of the majority of children being broadly happy with the wider aspects of their lives that we examined. Compared to their happiness with their family and friends children reported lower levels of happiness with their school and their appearance, although the majority still reported being relatively happy across these domains.

When looking at changes in these indicators over time we see that average happiness in relationships with family, appearance, school and school work have been broadly stable since 2009-10 across 10-15 year old children, but with a small decrease in happiness with friends.

As we saw in Chapter 1 children's wellbeing declines as they get older, with the same pattern repeated here of lower satisfaction across each area of their lives in older children. However, from this evidence we cannot ascertain whether changes in these life domains cause lower wellbeing in older children, or whether lower wellbeing (driven by other factors we have not measured here) causes children to report feeling less happy across these aspects of their lives.

Children: Their experiences of bullying

Being bullied has been consistently identified as one of the key risk factors for poor wellbeing and mental ill-health across multiple studies[24]. Understanding the prevalence of bullying in different groups is important, but it should be recognised that different studies can often report different rates of bullying for some groups of children[xx]. As such, we recognise the figures we report here may not match all estimates reported in other studies. Here we report published data from the Crime Survey for England and Wales (CSEW)[25] as a nationally-representative survey which includes questions on children's experiences of bullying.

As the second panel of Figure 10 shows, the data from the CSEW indicate that in 2018 17% of children reported being bullied, and these incidences were broadly similar over time from 2013-18. However, there are important differences in rates of bullying across

[xx] While this variation can in part be attributed to different survey methodologies and research questions, it also reflects variation in individual perceptions of what constitutes bullying.

different groups of children. Groups who were more likely to report having been bullied were younger children, those of a white ethnic origin, those with a long-term illness or disability, those who received extra help at school, and those from more deprived areas[xxi].

In light of the patterns of wellbeing identified in Chapter 1, of lower wellbeing in older children and a trend towards lower wellbeing in girls compared to boys, the prevalence rates of bulling present an interesting picture. First, rates of bullying *decline* as children get older: in 2018 22% of 10 year olds said they had been bullied in the previous 12 months compared to 8% of 15 year olds, and this pattern was similar across previous years. This implies that the drop in wellbeing over adolescence may not be driven solely, on average, by increased prevalence of bullying as children get older.

Second, rates of bullying were higher in females than males in 2018, but this gender difference was not present in 2015-16 and 2016-17. It is also notable that the frequency of bullying did not markedly differ by gender[26]. Cyber-bullying, however, showed stark gender differences: females reported higher rates of cyberbulling (9%) than males (5%) in 2018, and this difference has persisted since 2013-14. This pattern of prevalence data suggests that whilst higher rates of bullying in girls may be a contributing factor to lower wellbeing they may not be the whole story, but cyberbullying may be particularly important.

Third, several groups reporting markedly higher rates of bullying do not consistently report lower wellbeing: children from the most deprived areas, those who receive extra help at school, and White pupils relative to other ethnicities. This implies that although bullying is one of the strongest predictors of wellbeing it is not a sole driver of wellbeing: existing evidence suggests wellbeing is affected by a combination of risk and protective factors[27], and the presence of certain protective factors (such as high-quality friendships and family relationships[28]) may mitigate the negative impact of bullying on wellbeing.

Young people: Their family, health, and time use

We examined young people's wider lives across measures of their family relationships, health, and happiness with leisure time. The majority of young people reported being relatively happy with their family, with 72.0% saying they felt supported by their family in

[xxi] We are only covering select groups in this report for brevity. A full description of bullying breakdowns by subgroups of children and time trends can be view in the Department for Education published report on *Bullying in England, April 2013-March 2018.*

most or all things. This did not differ by age or gender. Notably, whilst this estimate is slightly lower than for children we cannot directly compare these measures.

In terms of their subjective rating of their health**,** 75.5% reported feeling satisfied or very satisfied with their health[xxii]. Importantly, females reported lower levels of satisfaction with their health than males, where 8.3% of women reported being dissatisfied with their health against 5.4% of men[xxiii]. This pattern is also observed in UK-wide data[29], and time-trends in young people's satisfaction with health also show that women have reported lower satisfaction with their health than men since 2009-10, although this gap has decreased over time.

Young people were slightly less content with their amount of leisure time, with 67.3% reporting feeling relatively satisfied. However, this declined as they got older: 71.2% of 16-19 year olds were satisfied with their leisure time compared to 64.1% of 20-24 year olds. Women also reported lower satisfaction with their leisure time than men, where 62.3% of women were satisfied with their leisure time compared to 71.9% of men.

These data for young people suggest they are broadly content with their family and health, and less so with their leisure time.

However, variations by age and gender hinted at trends which could be tied to the differences observed in young people's wellbeing: happiness with health and leisure time was lower both in young people aged 20-24 compated to their younger peers, and in females.

It is important to recognise we are limited in making inferences about the link between these wider domains and wellbeing without analyses which specifically test this, whilst adjusting for the effects of other factors which change over young people's lives during this time.

[xxii] This is the combined responses across the categories 'mostly or completely satisfied' and 'somewhat satisfied'.

[xxiii] To note this was a clear descriptive difference, but it did not reach statistical significance. Comparing the proportion of women and men who reported they were mostly or completely satisfied with their health did show a statistically significant difference, with 55.0% of women reporting they felt mostly or completely satisfied with their health compared to 62.1% of men.

Chapter 4: In focus: Psychological health in teenage girls

Headline summary

- **We examined the factors associated with psychological health in teenage girls at 14-15 and 17-18 years.** We used the rich data available in the Longitudinal Study of Young People in England 2 (LSYPE2) to examine factors encompassing their experiences, behaviours and outlook, whilst controlling for sociodemographic characteristics.
- **Psychological health was poorer for girls than boys of the same age, but declined over adolescence for *both* boys and girls.** This emphasises the importance of understanding teenage girls' experiences, but also points to the need to recognise that boys face a similar decline in their psychological health through mid to late adolescence.
- **Experiences of being bullied, including online bullying, was the factor most strongly associated with girls' psychological health at both ages.** However, bullying was less important when girls were older. Combined with other evidence, this suggests that bullying is unlikely to be the sole driver of teenage girls' poorer psychological health in later adolescence.
- **Seeing friends and getting enough sleep were consistent protective factors for positive psychological health across adolescence.** Feeling safe in their neighbourhood was also important in younger girls. Other significant factors with smaller associations with better psychological health included a positive attitude towards school and feeling a high locus of control.
- **Social media did not have a strong association with teenage girls' psychological health, after accounting for the range of factors we examined.** One possible explanation is that the link between social media use and psychological health is through factors such as experiences of online bullying and sleep, and once these are accounted for the unique, the direct association of social media with girls' psychological health is relatively small.
- With the possible exception of bullying, including online bullying, **a range of factors in combination are likely to be important for teenage girls' psychological health, rather than one or two factors in isolation.** Explaining the interplay of risk and protective factors is likely to better help us understand teenage girls' decline in psychological health over adolescence than focusing on single factors in isolation.

In this chapter we report an in-depth analysis on the psychological health of teenage girls. Because this analysis examines the factors associated with girls' psychological health in detail, we first briefly set out the background and methods used in this chapter before reporting the findings.

Background

There has been a growing focus on the wellbeing and mental health of teenage girls, motivated by several lines of evidence suggesting that poor mental health disproportionately affects teenage girls relative to boys of the same age. A prevalence survey of the mental health of children and young people in England reported that 22.4% of 17-19 year old women experienced an emotional disorder, compared to 7.9% of boys of the same age, and this was almost double the prevalence in younger girls aged 11-16 years[30]. Similarly, evidence from the Millennium Cohort Study, a UK-representative cohort study, has shown that this gender difference is not present at age 11 but emerges at age 14, with girls reporting poorer wellbeing and mental health. This evidence points to both a need to understand whether certain aspects of teenage girls' lives are tied to higher rates of these emotional difficulties over adolescence, and what developmental changes over adolescence may underpin this increase in poor wellbeing in girls relative to boys of the same age.

We sought to explore this issue by undertaking an in-depth analysis on the psychological health of teenage girls from mid-to-late adolescence, at ages 14-15 and 17-18, and how the importance of certain factors for psychological health changed between these ages. This age range importantly captures a later period in adolescence than has been examined in existing analyses of large survey data. Our focus on this period was motivated in part by the evidence of an increase in emotional problems during this time, and seeking to understand the factors in teenage girls' lives important for their psychological health over this transitional period of mid to late adolescence.

Methods

We examined the association between girls' different experiences, behaviours and outlook with variation in their psychological health by capitalising on the rich information in the Longitudinal Study of Young People in England 2 (LSYPE2)[xxiv]. LSYPE2 is a longitudinal study following young people from the age of 13-14 and collects rich data on

[xxiv] LSYPE2 is funded by the Department for Education, following a sample of approximately 13,000 young people from age 13-14 and through their final years of compulsory education into other forms of education and careers. It captures important changes in young people's lives during this time, and collects rich data on a range of relevant themes including their experiences, behaviours, attitudes, and health. This is the same dataset that was used to report wellbeing in FSM and SEN pupils aged 15-16 in Chapter 1.

a range of topics including their experiences, behaviours, attitudes, and health. The ages we examined here used LSYPE2 Wave 2 data (for ages 14-15) and Wave 5 data (for ages 17-18).

The measure of psychological health we used was the 12-item General Health Questionnaire (GHQ-12). Whilst partly capturing overall wellbeing like the measures used earlier in this report, it measures broader psychological wellbeing including whether individuals feel they are under strain, whether they can concentrate and make decisions, and whether they can overcome difficulties and enjoy their day-to-day activities. When balancing the findings in this chapter against previous chapters it is therefore important to recognise that psychological health represents a different measure of psychological wellbeing than subjective wellbeing/life satisfaction alone**.** Lower scores on the GHQ-12 correspond to better psychological health.

We did a series of analyses[xxv] examining a range of explanatory factors potentially linked to girls' psychological health across three broad categories: *relationships and experiences* (bullying, friendships, arguing with parents, feeling safe in neighbourhood, and caring responsibilities), *behaviours* (social media use, exercise, sleep, risky behaviours, and school exclusion/suspension) and *attitudes/outlook* (attitude to school, time spent on homework, equating hard work with success, and locus of control).

We estimated the association between each factor of interest and psychological health *when accounting for the effects of all the other factors*. In other words, when estimating the effect of social media use, for instance, this means we are asking: what is the association between social media use and psychological health when all other factors are held constant? This means that the reported effects are the unique association between each factor and variation in girls' psychological health, when accounting for all the other factors we examined.

To control for demographic characteristics potentially relevant for psychological health, we included measures of ethnicity, special educational needs (SEN) status, socioeconomic background (FSM status and neighbourhood child poverty for younger girls, and socioeconomic classification of parents and and neighbourhood child poverty for older girls), alongside self-rated health.

Reporting

We first report the overall level of psychological health in boys and girls in England, at ages 14-15 and 17-18. These data were collected in 2014 and 2017, respectively. We

[xxv] This analysis method was linear regression. Full details are provided in Annex 3.

then report the results of the analysis on the factors associated with psychological health in girls specifically at each age.

We first analysed each age group separately, to examine the combination of factors which best explained variation in psychological health. We then examined both ages together to statistically test how the importance of a reduced set of factors[xxvi] for psychological health changed between these ages. In the following section we report the results for the separate age 14-15 and 17-18 analysis, followed by an interpretion of how the association between certain factors and psychological health changed over age. To avoid the text becoming cumbersome, we interpret differences in the factors associated with psychological wellbeing at the two ages by both comparing across these two analyses, and by reference to our third analysis which statistically tested the difference in factors' associations at each age, together in the text. The full results tables in Annex 3 should be referred to for further detail on these results.

There are several important points to note when interpreting these results:

- **We cannot infer that a factor is causally related to psychological health at either age.** We examined the association between factors in teenage girls' lives and their psychological health at each age, and have not sought to estimate causal relationships. An observed relationship can therefore be due to a given factor causing a certain level of psychological health, vice versa, or a third unmeasured factor associated with both the explanatory factor of interest and psychological health.
- We could not control for previous psychological health in our analysis, in part because the earliest wave of data did not collect this measure. This is important because it means we could not adjust for differences in the explanatory factors of interest themselves being driven by lower psychological health. Risky behaviours is one example of an activity which may in itself be partly an *outcome* of lower psychological health, rather than a cause in and of itself. We should therefore be cautious in interpreting the direction of associations we observe here.
- Because the analysis method estimates the association between each factor and psychological health whilst adjusting for the effect of every other factor, the size of the association between any given factor and psychological health is partly a product of the variables we have chosen to include in the model. Whilst we have been careful to adjust for a range of relevant factors, is important to remember that

[xxvi] We used a reduced set of factors in the analysis statistically comparing the strength of association of the different factors at each age because only a limited number of variables were available at both ages. We therefore sought to build the best-fitting model which explained variation in psychological health at each age separately (recognising different factors are likely to impact on teenage girls' lives at different ages)

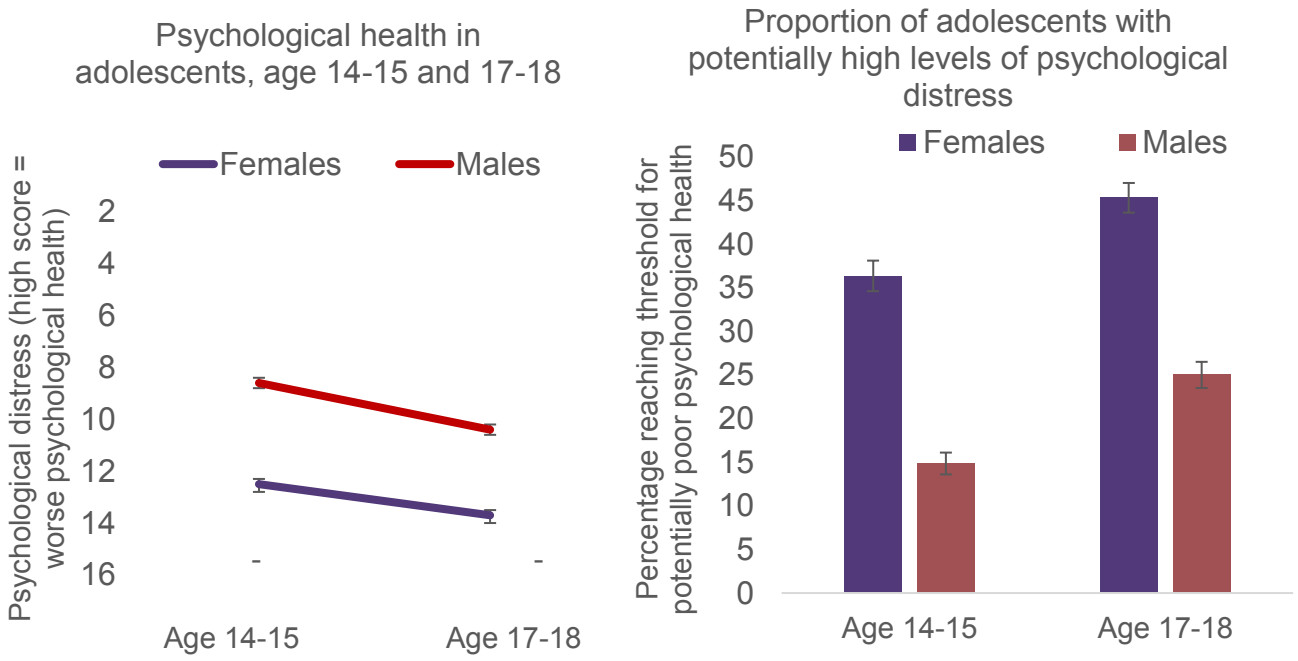
our observed effects are a product of the full range of factors we have examined and these estimates may alter in analyses including a different set of factors.

- When comparing changes in the strength of association of specific factors with psychological health at age 14-15 and at 17-18, it is important to recognise that what each factor captures in a 'real' sense may differ at each of these points, as adolescents are going through significant changes during this time. For example, having a "high locus of control" might mean something quite different to a 14 year old compared to a 17 year old. This does not preclude interpretating differences in the factors associated with psychological health at each age, but we should bear this limitation in mind.

Psychological health in girls and boys, from 14-15 to 17-18 years

Girls report poorer psychological health across adolescence, but psychological health worsens over adolescence for *both* girls and boys

Figure 11. Psychological health in adolescents, aged 14-15 to 17-18



Coverage: England. Data from LSYPE2, reporting GHQ-12 for both males and females at age 14-15 and 17-18. To note, mode differences between waves means the change over age should be interpreted with caution. Error bars show 95% confidence intervals.

Figure 11 shows that psychological health of teenage girls is significantly worse than boys' at both ages, and that psychological health worsens for *both* girls and boys over adolescence[xxvii]. This adds to previous findings reporting higher rates of emotional disorders and lower wellbeing (although less consistently) in teenage girls. Notably, however, the rate of decrease in psychological wellbeing between mid-to-late adolescence here is comparable for both boys and girls. Despite poorer psychological health overall in girls, this indicates that boys also face a clear drop in later adolescence.

Factors associated with psychological health in teenage girls, at 14-15 and 17-18 years, and their change over age

We next turn to our two analyses to identify the factors which best explained variation in psychological health in teenage girls aged 14-15 and 17-18 years separately. The factors included in the model for girls aged 14-15 explained 37% of the overall variation in psychological health, and the model for girls aged 17-18 explained 27% of the variation in psychological health[xxviii].

In younger girls aged 14-15, the factors most strongly associated with their psychological health included whether they were bullied, how often they saw friends, feeling safe in their neighbourhood, getting enough sleep, and whether they had engaged in three or more risky behaviours[xxix].

Additional, but less important, factors associated with psychological health were having a positive attitude to school, where a more positive attitude to school was associated with better psychological health, and having a higher perceived locus of control. Doing physical exercise most days, compared to only once a week or more, was also associated with better psychological health but this effect was relatively small. Girls who reported doing 6 hours or more of homework per week also reported poorer psychological health. It should be recognised here that characteristics we did not measure in this analysis (unobservable characteristics) may mediate some of these relationships. For example, it may be the characteristics of girls who do higher amounts of homework that is associated with psychological health (for example, by potentially

[xxvii] An important caveat here is that different methods (modes) were used to collect responses between the two LSYPE2 waves, which makes it challenging to accurately estimate of the true change in psychological health between ages.
[xxviii] This is comparable to existing large regression analyses on wellbeing and mental health from survey data.
[xxix] Risky behaviours were here measured as a composite of the number of risky behaviours respondents reported engaging in from the following eight topics: alcohol, smoking, drugs, vandalism, fighting and carrying a weapon, shoplifting, truancy, and gang membership.

feeling more pressure to succeed), rather than there being a direct relationship between homework time and psychological health.

Social media use was significantly related to psychological health, but the size of this effect was very small: 14-15 year olds who used social media regularly throughout the day had marginally worse psychological health than those who used it only daily or 2-3 times a day. However, social media use had one of the smallest effects of all the factors we examined: getting enough sleep and seeing friends were about three times larger. Being bullied, including online bullying, had an association with psychological health about eight times larger than social media use. This suggested that when accounting for other factors such as the effect of bullying, physical health and sleep, and the frequency of seeing friends, social media use had only a minimal unique association with psychological health. One possible explanation is that the link between social media use and psychological health is through factors such as experiences of online bullying and sleep, and once these are accounted for the unique, the direct association of social media with girls' psychological health is relatively small. This is returned to in more detail later in this chapter.

When girls were aged 17-18 years, there was a strikingly similar picture of what was important to their psychological health: whether they were bullied, saw friends often and got enough sleep remained some of the most important factors. However, there were some important contrasts to when they were younger. Bullying, including online bullying, whilst still the most important factor was less important than when they were younger: the association between bullying and psychological health was approximately half the size in 17-18 year olds compared to 14-15 year olds. The frequency of physical exercise was also not significantly linked to wellbeing in older girls.

In contrast, the frequency of social media use was more strongly associated with psychological health in older girls, but this effect remained relatively small[xxx]. Having a long-standing physical illness was also associated with poorer psychological health in older girls, but this was not significantly related to their psychological health when they were younger. In addition, whilst we only included measures of economic disadvantage as control variables, it is worth noting that more economically disadvantaged girls reported *better* psychological health, at both ages. This relationship is returned to in more detail in the Discussion of this chapter.

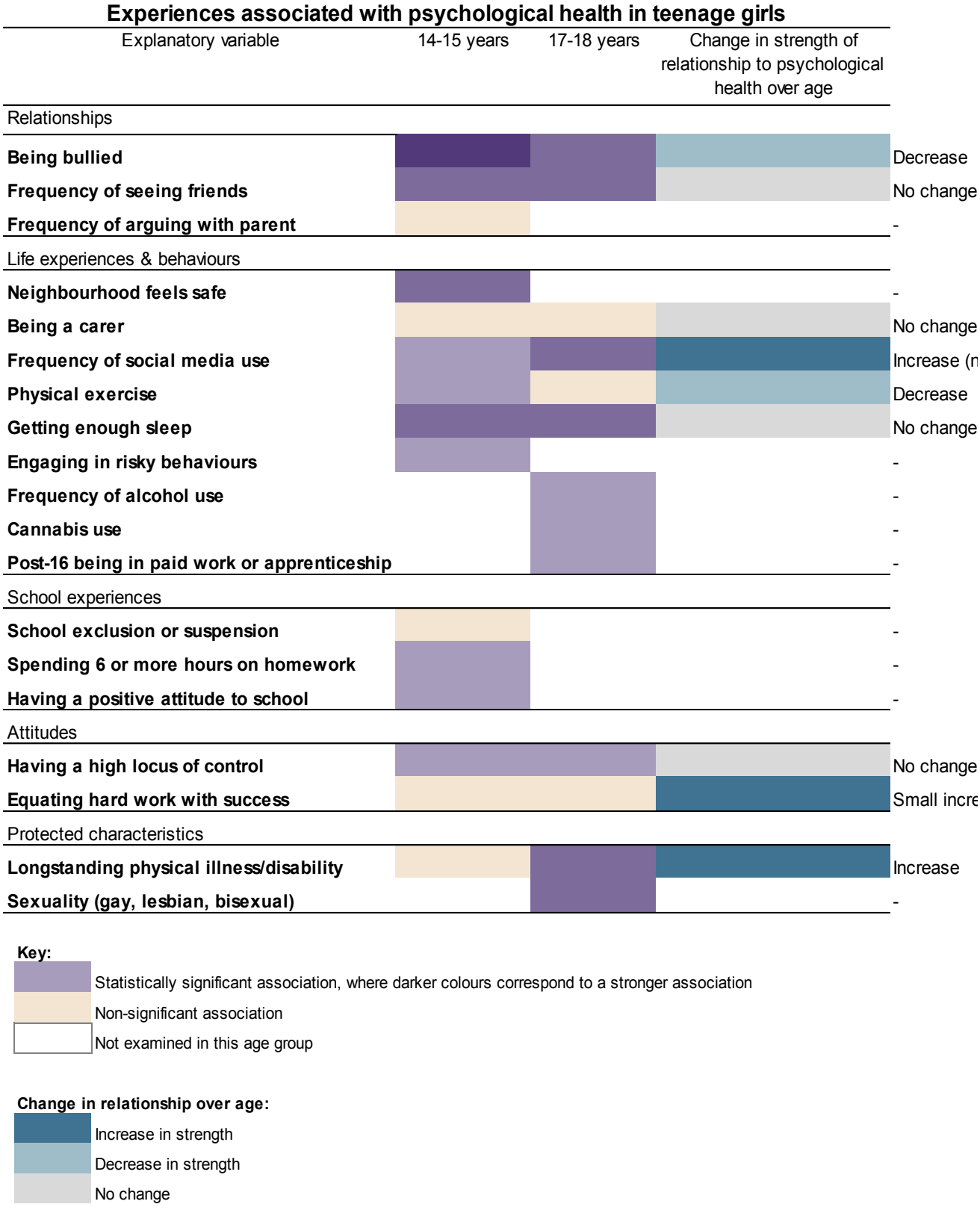
[xxx] The stronger association between psychological health and social media use at age 17-18 was evident when comparing the significance of the co-efficients in this model compared to the model for younger girls age 14-15. However, this difference was not statistically significant in our final model comparing the size of the coefficients at each age.

Finally, elements of teenage girls' lives which were only assessed when they were 17-18 also had important links to their psychological health at this age: girls who reported being lesbian, gay or bisexual had lower psychological health than those who reported being heterosexual. The main activity girls engaged in was also important, where girls who were in paid work or apprenticeships reported better psychological health than those who were at school or college. As with the association between homework time and psychological health in 14-15 year old girls, this relationship may reflect unobserved characteristics of girls who choose to stay in education rather than being linked to school or college directly.

Figures 12 and 13 present these findings. Figure 12 presents a schematic of which factors were significantly tied to psychological health at each age, and, if compared over age, whether there was a significant change in the strength of their association with psychological health. Figure 13 then presents the *size* of the association between each factor and psychological health. These are grouped by 'risk' factors (those which are associated with poorer psychological health, such as bullying and risky behaviours) and 'protective' factors (those associated with better psychological health, such as seeing friends and getting enough sleep).

There are two important messages to take away from Figure 13: first, that the relative size of the association of both risk and protective factors with psychological health are broadly similar. This is with the exception of bullying (including online bullying), which was the largest risk factor identified this analysis. Second, with the exception of bullying there are no factors which overwhelmingly explain variation in teenage girls' psychological health at either age; the majority of risk and protective factors have relatively small effects, but in *combination* these explain variation in psychological health.

Figure 12: Overview of factors associated with psychological health in teenage girls



Note. Schematic of factors associated with girls' psychological health at age 14-15 and 17-18, and their change over age. To note, the full tables in Annex 3 should be referred to for interpreting these findings.

Figure 13: Protective and risk factors for girls' psychological health at age 14-15 and 17-18

Note. Association between GHQ-12 and each statistically significant factor, where coefficient size is presented in terms of standardised GHQ-12 scores. To note, the full tables in Annex 3 should be referred to for interpreting these findings.

Discussion

Bullying, seeing friends and getting enough sleep are consistently important for teenage girls' psychological health over adolescence

A number of factors were consistently important for teenage girls' psychological health over adolescence: being bullied, particularly online bullying, were risk factors for poor psychological health at both age 14-15 and 17-18. In older girls, although bullying was less important than when they were younger it remained the most important factor for their psychological health[xxxi]. Importantly, however, this was only for bullying *including* online bullying; the effect of bullying *not* including online bullying was much smaller in 17-18 year olds than when they were younger. The primary role of being bullied aligns with multiple existing sources of evidence on the negative impacts of bullying on mental health[31].

The frequency of seeing friends and getting enough sleep were also consistent protective factors at both ages. The quality of peer relationships in particular has been identified as linked to positive wellbeing in previous studies[32]. Our finding adds to this evidence that friendships remain consistently one of the most important factors for psychological health across mid to late adolescence. More broadly, the consistency of these factors suggest they may not underpin the marked decrease in psychological health in teenage girls across this time period.

Social media use is not strongly linked to psychological health, when accounting for a range of other factors

Social media use has been at the forefront of the public narrative on children and young people's wellbeing, but growing evidence suggests the relationship between social media use and wellbeing is a more complex story. There is an association between very high frequency of social media use and poorer wellbeing and mental health[33]; however, recent evidence suggests that the effect of social media use on wellbeing overall is very small, may be in part due to certain analysis approaches, and is dwarfed relative to the impact of other factors such as relationships and experiences of bullying[34].

[xxxi] Importantly, there could be multiple reasons for bullying becoming less important as girls get older, which we cannot disentangle here. One possible reason is the lower prevalence of bullying throughout adolescence, as we saw in Chapter 4. It could also be that protective factors, such as peer relationships, better mitigate the effects of bullying as girls get older.

The recent UK Chief Medical Officers' report[35] on screen-based activities also noted that there was little *causal* evidence for the association between screen time and wellbeing. It further suggested that any detrimental effects of screen time[xxxii] may be indirectly through it displacing other positive activities, such as exercise and sleep, rather than through direct impacts on wellbeing.

The sum of existing evidence suggests that a) social media use has a relatively small association with wellbeing across children and young people overall, b) there may be larger effects of social media use in *specific* groups, such as teenage girls[36], but c) these effects may be more strongly tied to mental ill-health than poor wellbeing, and d) there is limited causal evidence for social media use impacting wellbeing and mental health, although there are multiple pathways through which it could exert an influence[xxxiii].

Our findings bear this interpretation out: social media was not strongly linked to psychological health, when accounting for the range of other factors we examined[xxxiv]. A question this raises is the extent to which any negative impact of social media use on teenage girls' wellbeing is through processes such as cyberbullying, or displacing protective factors such as seeing friends, sleep, and physical activity. A novel and interesting finding from our analysis was that social media use was *more* strongly associated with psychological health in older teenagers, although the size of this association remained small. It is notable that we could not account for factors such as self esteem and body image in our analysis, which may have partly accounted for the association with social media use in older girls.

The relationship between economic disadvantage, psychological health and wellbeing is not clear-cut

We included measures of economic disadvantage in the analyses both for 14-15 and 17-18 year old girls to adjust for the association between deprivation and psychological health. At both ages, girls from more disadvantaged background reported *better* psychological health. We did not examine economic disadvantage as an explanatory factor of interest but rather as a control measure; however, this observation is worth noting briefly in the context of the wider literature.

[xxxii] Note this suggestion referred to screen time *in general*, rather than social media use specifically.
[xxxiii] There may also be important confounding factors to unpick in future work: for example, the Children's Society 2017 Good Childhood Report identified that young people with less family support were more likely to be high social media users.
[xxxiv] Although social media had one of the smallest associations of all the effects we examined, this should not neglect that it may have a substantial impact on the wellbeing and mental health of a minority of girls, which is not reflected when capturing average effects across the population as a whole.

This balance of evidence suggests that poorer mental health is associated with more deprived socioeconomic backgrounds[37,38] , but the relationship for wellbeing, and related measures such as psychological health, is less clear. Previous analysis of the LSYPE2 data also found that being from a more deprived background was associated with better psychological health[39]. In addition, in a representative UK cohort of 11-year-olds there is evidence of a link between being in a higher-income group and reporting lower wellbeing, and having a higher perceived socioeconomic status than peers and lower wellbeing[40]. Other studies have reported a link between economic advantage and poorer wellbeing, but the range of measures used make interpreting this relationship complex.

Taken together this evidence suggests there is a less clear socioeconomic gradient for wellbeing than for mental health, but there is some evidence of poorer wellbeing in those from better-off backgrounds. Importantly, rather than socioeconomic status driving this relationship this is likely to be due to other factors associated with it. For example, some risk factors for poor wellbeing may be more prominent in high-income backgrounds, such as pressure to succeed or fear of not fitting in with peers, which is especially marked in adolescence[41]. This poses multiple questions for future research to understand the nature of the relationship between economic disadvantage and wellbeing, and the underlying causes.

A number of factors, each with a relatively small effect, may combine to influence psychological health rather than it being determed by a few factors in isolation

Finally, an overarching point from both our findings and existing work is that a breadth of factors are tied to psychological health and wellbeing. There is no single factor which 'solves' psychological health. It is also important to contextualise that the majority of variation in girls' psychological health remains unexplained; our analyses here only explained 37% and 27% of the variation in psychological health at ages 14-15 and 17-18 respectively. This is very similar to analyses on other cohort data such as the Millennium Cohort Study[42], and whilst this is a good amount of variance to explain in a complex outcome variable such as psychological health it indicates that much of the variation between individuals is not captured by the factors we examine.

In understanding how to best support teenage girls' psychological health across this spectrum of factors, a key question is how interactions between these risk and protective factors play out to shape wellbeing over adolescence. For example, do girls with *multiple* risk factors, or *particular* combinations of risk factors, experience poorer psychological health? To what extent can the presence of protective factors such as peer relationships and sleep minimise the impact of large risk factors such as bullying? This analysis provides an initial exploration of the range of experiences tied to girls psychological

health in mid to late adolescence, which prompts questions for future work to disengtangle the factors driving lower psychological health over adolescence.

Chapter 5: Conclusions

Headline messages from this report

- **The majority of children and young people are happy with their lives, but it remains the case that many are not.**
- **Age is consistently associated with decreasing wellbeing in children and young people as they get older.** This points to the central role of equipping children and young people with the skills they need to support their own wellbeing, which will stay with them as they grow up.
- **Looking at only average wellbeing may mask important differences in the experiences of different groups of children and young people, at different times in their lives.** There are important variations in wellbeing by age and gender, small variations by FSM status in children, and potentially by ethnicity in young people. However, we also observe that these group breakdowns do not always identify clear differences in wellbeing across measures. This highlights the importance of understanding how children and young people's experiences and characteristics influence their quality of life, and that these may not map clearly onto these demographic groupings.
- **In our focus on psychological health in teenage girls we found that bullying, including online bullying, had the strongest association with their psychological health.** Friendships, feeling safe in their neighbourhood and getting enough sleep were important protective factors associated with better wellbeing. With the possible exception of bullying, it is likely that a constellation of factors influences teenage girls' psychological health and there is much to gain from understanding the interplay between these risk and protective factors.

We set out to collate existing data and add to our understanding of the current state of children and young people's wellbeing. We have presented variation in wellbeing in different groups of children, and focused on the issue of teenage girls' experiences to understand the pressing issue of their decline in wellbeing over adolescence.

These findings present a complex picture: wellbeing declines as children and young people get older, with slightly lower wellbeing in girls and FSM pupils, and some variation by ethnicity in young people. In teenage girls, bullying is one of the strongest factors associated with their psychological health across adolescence but we also observe that a range of factors, including their friendships and sleep, are important.

There is no simple answer as to what impacts children and young people's wellbeing. Whilst we have sought to contribute to the evidence base here, our findings highlight the

challenge of the further questions this presents, in particular around identifying how the underlying experiences which drive poor wellbeing map onto different groups of children. The impact of bullying is a clear example of this. Although Chapter 4 showed that bullying, including online bullying, had by far the strongest association with teenage girls' psychological health, the bullying rates reported in Chapter 3 showed that a relatively small number of girls had reported experiences of bullying. This suggests that despite the marked and traumatic effect bullying may have on the individuals affected, it may not be the driving experience for poor psychological health and wellbeing across all teenage girls. This highlights the key importance of balancing data on trends and indicators with the wider context of children and young people's lives to understand their wellbeing.

There are multiple questions for future work to address. One of these is characteristing how children and young people's experiences which influence their wellbeing change over their development, and whether children from different groups view the same elements as important for their wellbeing. We observed that whilst there are important variations in wellbeing by demographic groupings, individuals' experiences and characteristics are the key drivers of wellbeing and these may not be well understood by demographic breakdowns alone.

In addition, there are multiple important factors which we did not address in this report. For example, these include children and young people's experience of loneliness, and transitions through school and into post-16 destinations, which may have substantial impacts on some children's wellbeing. Capturing these issues *alongside* patterns and trends in wellbeing is key to understand the underlying causes, and provide evidence to support children who need it.

Annex 1: Measuring wellbeing, and data sources used in this report

Measuring wellbeing

In this report we have focused on children and young people's *subjective wellbeing* as our headline measure – that is, their own sense of their quality of life and how well they feel their lives are going. Whilst definitions of wellbeing can vary, individuals' own assessment of their quality of life is generally accepted as a key component of measuring wellbeing[43].

It is important to recognise that there are alternative approaches to assessing wellbeing to the measures we have reported here. One alternative is to report collections of indicators across different domains of individuals' lives, sometimes including objective indicators (for example, levels of child poverty or objective health indicators such as levels of child obesity), which *together* form a picture of their wellbeing. Here we have treated children's subjective wellbeing as our core measure of interest, but recognise the term 'wellbeing' is also used more broadly to capture progress in multiple domains of individuals' lives[44].

It is also important to recognise that wellbeing measures do not correspond to mental health. Previous work has found that measures of wellbeing and mental health are only weakly related, and the factors associated with mental health only partly overlap with those associated with wellbeing in children[45]. This suggests that whilst related, mental health and wellbeing are distinct.

Data sources used in this report

The report collated multiple data sources to both report new statistics on wellbeing in children and young people in England (Chapters 1 and 2), draw across existing evidence to capture the wider experiences in their lives which may impact, or be indicators of, their wellbeing (Chapter 3) and present a new in-depth analysis on psychological health in teenage girls (Chapter 4). The below summarises the data sources used.

Chapter 1: Children's wellbeing in England

- UK Longitudinal Household Survey (UKHLS, known as *Understanding Society*) – used for new statistics on children's (10-15 years) wellbeing in England.
- Longitudinal Study of Young People in England 2 (LSYPE2) – dataset linked with the National Pupil Database, and used for new statistics on wellbeing in FSM and SEN pupils aged 15-16.

Chapter 2: Young people's wellbeing in England

- Annual Population Survey – used for new statistics on young people's (16-24 years) wellbeing in England, produced as a new release by ONS.

Chapter 3: Wider indicators on children and young people

- UK Longitudinal Household Survey (UKHLS, known as *Understanding Society*) – used for new figures on happiness with friends, family, school, schoolwork, appearance, and self-reported health in children (aged 10-15) in England.
- Crime Survey for England and Wales – Report published figures on bullying, from a 2018 report from the Department for Education.
- Pupil, Parents and Carers Omnibus Survey – Report published figures on pupils' self-reported attendance.
- Children's Society Good Childhood Reports – Report the Children's Society's published UK-wide data from UKHLS on time trends in children's happiness with different domains of their lives.

Chapter 4: Psychological health in teenage girls

- Longitudinal Study of Young People in England 2 (LSYPE2) – used to report a new analysis on the psychological health of teenage girls in England.

Annex 2: Core statistics – methodology

This annex presents the methods used for the generation of the new, unpublished statistics included in this report.

Chapter 1: Wellbeing in children in England, aged 10-15, with disaggregations by age, gender, and ethnicity

To produce these statistics we used the **UK Household Longitudinal Study (UKHLS)**, known as Understanding Society (https://www.understandingsociety.ac.uk/). The UKHLS is a longitudinal survey following approximately 40,000 households in the UK. Here we reported data from the Youth Questionnaire which covered children aged 10-15 years, with an unweighted sample size of approximately 2,300 children.

The core life satisfaction measure we report is children's response to the question on how happy they felt about their life as a whole. In the UKHLS data is this scored on a 1-7 scale, where 1 corresponds to *completely happy* and 7 corresponds to *completely unhappy*. When reporting the proportion of children feeling relatively happy, neutral, and relatively unhappy with their lives we used the thesholded groupings of a score of 1-3 for 'relatively happy', a score of 4 for 'neutral', and a score of 5-7 for 'relatively unhappy'. Differences between the proportions of children in each of these thresholded groupings for the subgroup breakdowns of age, gender, and ethnicity were by comparing non-overlapping 95% confidence intervals.

When reporting the average scores on this questions, we reversed and transformed the 1-7 scale to a 0-10 scale, where 0 corresponded to *completely unhappy* and 10 corresponded to *completely happy*. This was in order to give our average scores comparability with those reported from the Children's Society in their analysis of UK-wide UKHLS data in the Good Childhood Reports, and to the ONS4 measures which are reported on a 0-10 scale. It is important to emphasise that because of the transformation of the UKHLS question and the fact it is a differently worded question, it does not have direct comparability with the ONS4 measures.

Data were weighted using the cross-sectional weight at each wave to account for differential probabilities of non-response among respondents, and analysis was done in Stata with the svyset function to account for the complex survey design, and to select for England only in our analyses. The ethnicity categories were created using the ONS harmonised five-way ethnicity categories.

The statistics for the current state of children in England were from Wave 8 of the UKHLS, for which data were collected in 2016-17. The timeseries data additionally reported Waves 1-7 of the UKHLS, with the same analysis as described above done on each wave.

Chapter 1: Wellbeing in FSM and SEN children aged 15 years

FSM and SEN pupils' wellbeing was analysed from Wave 3 data of LSYPE2 (the 2nd Longitudinal Study of Young People in England) when participants were in year 11 and aged 15-16 years old. It was conducted in 2015 (2014-15 academic year). The data from LSYPE2 were joined with the National Pupil Database where consent was obtained, indicating the special educational needs (SEN) status and the free school meal (FSM) status of the young person. Further information on LSYPE2 is included in Annex 3.

The wellbeing questions analysed were the ONS4. On each question we reported the average score on a 0-10 scale, where 10 corresponded to higher ratings of wellbeing. The thresholds used for group breakdowns to report the proportion of children with low, medium, high, and very high life satisfaction, a feeling of life being worthwhile, and happiness yesterday were: 0-4 = low, 5-6 = medium, 7-8 = high, 9-10 = very high. For anxiety yesterday, the response categories were: 0-1 = very low, 2-3 = low, 4-5 = medium, and 6-10 = high.

The sample size for each analysis varies a small amount due to item-missing data. The largest sample size was 8,361 young people (weighted), with all analyses having a sample of over 8,000.

The analyses again accounted for the complex survey design in analysis using Stata's svyset command, incorporating weights and the stratification and primary sampling unit variables.

Missing data occurs from four sources in this analysis. First where the young person does not respond to the request for interview. Second where the young person responds to the survey but does not complete at particular question used in an analysis. Third where consent is not given to link survey data to admin data. Fourth where an matching NPD record was not available.

Chapter 3: Children's happiness with family, friends, school, schoolwork, appearance, and self-reported health

Children's happiness with family, friends, school, schoolwork, and appearance were from Wave 8 of the UKHLS youth questionnaire, and were part of the same set of questions as the question on happiness with life overall reported in Chapter 1. They were analysed with an identical method to the wellbeing figures reported in Chapter 1.

Children's self-reported health was from Wave 8 of UKHLS youth questionnaire. Children responded to the question, "In general, would you say your health is…". Children had categorical response options which were aggregated into the response categories of *very good health*, *good health*, or *fair or poor health*.

As described for Chapter 1, all data were analysed using Stata's svyset command to account for the survey design.

Chapter 3: Young people's feeling supported by family, and satisfaction with health and leisure time

Wave 8 of the UKHLS main (adult) questionnaire was used to report these indicators for young people. The family measure was from the question "Do you feel supported by your family, that is those that live with you…" with three categorical response options of feeling supported in most or all things, feeling supported in some things, and not feeling supported. The proportion of respondents in each category was used as the reported measure.

The satisfaction with health and leisure time measures were from the questions asking young people about their satisfaction with these two aspects of their lives. They responded on a 1-7 scale with 1 corresponding to being completely dissatisfied, and 7 corresponding to being completely satisfied (to note, this is reverse scoring to the children's measures).

These indicators were again all analysed using svyset to account for the survey design.

Annex 3: Regression analysis on psychological health of teenage girls – Technical appendix

For enquiries regarding this analysis, please contact the lead statistician David Bayliss at: David.Bayliss@education.gov.uk.

The Second Longitudinal Study of Young People in England (LSYPE2)

The Department for Education (DfE) commissioned the Second Longitudinal Study of Young People in England (LSYPE2) at the beginning of 2013. LSYPE2 is one of the largest and most challenging studies of young people ever commissioned and aims to build upon the Next Steps study (LSYPE1), which began in 2004, following young people from the age of 13/14 onwards.

The purposes of LSYPE2 are:

- To follow a sample of young people through the final years of compulsory education; through their transition from compulsory education to other forms of education, training employment, and other activities
- To collect information about their career paths and about the factors affecting them; and
- To provide a strategic evidence base about the lives and experiences of young people

The study tracks a sample of over 13,000 young people from the age of 13/14 annually through to their mid-20s and covers a range of important themes about their lives.

In addition to data from LSYPE 2, data on free-school meal eligibility and special educational need status of pupils was linked from the school census where consent was provided.

Data limitations in LSYPE2

LSYPE2 is a sample survey and as such findings are subject to sampling variability. Standard errors and/or confidence intervals are presented where appropriate to express the size of uncertainty for any given estimate.

The study was designed to be representative of the population of English young people in the cohort (i.e. children aged year 9 at the first wave of the study). Despite this, sample attrition present in all longitudinal panel studies means that the sample will become less representative over time. Weighting adjustments are made for each wave of data to improve representativeness.

Missing data occurs for a variety reasons and occurs in most datasets. Missing data occurs in longitudinal surveys, such as LSYPE2, when respondents do not give an interview at a given wave (thereby having no data for that wave), or when respondents do provide an interview but choose not to answer specific questions. Techniques such as multiple imputation exist which can minimise the effect of missing data, however, time limitations prohibited such approaches.

An analysis of the characteristics of those with item-missing data at wave 2 was undertaken to provide some insight into the potential implications. Overall respondents who dropped out of the analysis due to item-missing data were more likely to live in neighbourhoods with higher child poverty, not feel safe in the area they live (23% versus 16%) and be eligible for free school meals (19% versus 10%). They were also more likely to have negative attitudes towards school, have special educational needs (18% versus 9%), be more likely to report bullying (41% versus 36%), and more likely to report risky behaviours (30% versus 23%). These particular factors are controlled for in the analysis as they are part of the models, however, the differences show that study participants with missing data are different to those who participated and we cannot rule out differences in characteristics which have not been modelled. Further to this, it is possible, indeed likely, that young people with particularly poor psychological health may be less likely to complete the survey at all. Average estimates of psychological health are therefore likely to be 'better' than in the population.

Sample data

At the time of planning this analysis data from waves 1 to 5 was available for analysis. The outcome measure used in this analysis (GHQ-12 measure of psychological health) is not asked in every wave of LSYPE2, having been omitted in waves 1 and 3. The analysis primarily uses data from wave 2 and wave 5 when the young people were aged 14/15 and 17/18 years old respectively. Data from other waves of the study was used where necessary (e.g. where a variable of interest was asked in the first wave of the study).

Wave 2 of LSYPE2 obtained a response rate of 86% of the issued sample, containing 5,474 girls. After accounting for item-missing data across all variables used in the model, the sample size was reduced to 2,190 girls (weighted N=2,172). Wave 5 of LSYPE2 obtained a response rate of 89% of the issued sample, containing 4,106 girls. After accounting for item-missing data across all variables used in the model, the sample size was reduced to 3,345 girls (weighted N=3,090).

Analysis strategy

The aim of analysis was to look at factors that are associated with psychological health in teenage girls. By 'associated' we mean factors that co-occur with better or worse psychological health, irrespective of whether there is a causal relationship. We recognise

that identifying causes of psychological health may be preferable, however, time restraints meant that a more straightforward approach had to be taken. By focussing on associations, we provide insight into groups of the population who may be at increased risk of poor psychological health. Such associations may then be further investigated if required, using techniques more suited to establishing causal pathways.

The first stage of the analysis was to build separate models for girls aged 14/15 (wave 2) and girls aged 17/18 (wave 5), using a set of wave- and age-specific factors to build the best model at each wave. These models should be used to look at age-specific associations with psychological health. Informal comparisons between these models may be insightful in some instances, but readers should remember that the models are not comparable as they contain different explanatory variables.

The second stage of analysis aimed to test whether factors associated with psychological health in teenage girls had changed between ages 14/15 and 17/18. One limitation of this approach is that the variables available differ across waves, partly in response to young people's lives changing between age 14/15 and 17/18. The second stage of analysis therefore used a reduced set of variables based on those available in both wave 2 and 5. This model allows direct comparisons between waves to be made but misses some of the wave- and age-specific factors.

Variables

The outcome variable used in the regression models, referred to in this report as psychological health, is based on the 12-item General Health Questionnaire. We use the classical scoring method to first create a variable with a 0-36 point scale (based on 12 items each scored 0-3). We then standardise the variable to aid interpretation. The questionnaire is designed to measure psychological morbidity and so high scores are indicative of poor psychological health.

A range explanatory variables based on the literature and data available were selected. The variables comprise of a set of 'control variables' made up demographic and socio-economic factors which have been shown to influence psychological health and/or wellbeing. The main analytical interest focussed on a set of variables recording life experiences, relationships, attitudes and behaviours.

Most of the variables are categorical, with categories clearly labelled. A few of the variables are from continuous measures. These have been standardised to allow for easier comparison of effect sizes, as the original scales are not easily interpreted.

Some of the variables require further explanation as they are not understood from the variable name and categories alone, these are explained below.

Locus of control

This is a composite variable based on the following three questions:

- People like me don't have much of a chance in life
- How well you get on in this world is mostly a matter of luck
- Even if I do well at school I'll have a hard time getting the right kind of job

The original question responses are given on a four-point scale from strongly agree to strongly disagree, and are aggregated to form a 0-9 point scale. For this report, the variable was then standardised to improve comparability. The variable was developed for a previous report using factor analytic techniques. Details can be found in the report here:
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/599871/LSYPE2_w2-research_report.pdf

Equates hard work with success

This is a composite variable based on the following three questions:

- Working hard at school now will help me get on later on in life
- Doing well at school means a lot to me
- If you work hard at something you'll usually succeed

As above, the original question responses are given on a four-point scale from strongly agree to strongly disagree, and are aggregated to form a 0-9 point scale. For this report, the variable was reversed so that a higher score was aligned with more strongly equating hard work with success then standardised to improve comparability. The variable was developed for a previous report using factor analytic techniques. Details can be found in the report here:
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/599871/LSYPE2_w2-research_report.pdf

Attitude to school

This is a composite measure based on the following eight questions:

- School is a waste for me
- School work is worth doing
- Most of the time I don't want to go to school
- On the whole I like being at school
- I work as hard as I can at school
- I am bored in lessons

- The work I do in lessons is a waste of time
- The work I do in lessons is interesting to me

The original question responses are given on a four-point scale from strongly agree to strongly disagree, and are aggregated to form a 0-24 point scale. For this report, the variable was then standardised to improve comparability.

Count of risky behaviours

This variable is a count of the number of risky behaviours that young people report (as part of the self-complete questionnaire module). The variable is coded from 0 to 8 depending on the number of topics reported. The range of behaviours cover the following eight topics:

- Alcohol
- Smoking
- Drugs
- Vandalism
- Fighting and carrying a weapon
- Shoplifting
- Truancy
- Gang membership

Frequency sees friends

This variable is based on a combination of two questions: the first asks about the frequency of seeing friends at home, the second about the frequency of going out with friends. A variable was created which uses the answer to the question in which the young person reports seeing their friends most frequently.

Analysis method

Linear regression models were used to investigate the conditional association (conditional upon other factors in the model) between a range of potentially explanatory factors and psychological health. The explanatory factors were chosen based on previous literature in this area and data availability.

LSYPE2 utilises a complex survey design to maximise efficiency and value of the data collected. The complex survey design was accounted for in analysis by using Stata's survey module 'svyset', setting the primary sampling unit, stratum and weights. Details of study sampling strategy and weighting can be found in the wave one technical report

available at the UK Data Service (http://doc.ukdataservice.ac.uk/doc/7810/mrdoc/pdf/lsype_wave_1_technical_report.pdf). Due to missing data, in some analyses a stratum contained only a single case which would prohibited robust standard error estimation. In these cases, respondents were assigned to the next closest strata to enable robust estimation (this was a minor issue, occurring for a maximum of three cases in a single analysis).

To run the model comparing wave 2 and wave 5 explanatory factors the data were converted to 'long' format, with each young person having two records (one for each wave) where both waves were observed. Explanatory variables in the model were then interacted with a dummy 'wave' variable. The coefficients for the interaction terms indicate if the explanatory variables have a different association to the outcome variable in wave 5 than in wave 2, allowing a direct comparison of change between waves.

Diagnostic checks were undertaken to determine whether the model assumptions were adequately met. No issues arose during these checks.

Results

The tables below present the results of the three regression models. Coefficients with a p value below or equal to .05 indicate statistically significant findings.

The model R-squared values are presented in the table footnotes. The R-squared is a measure of goodness of fit, indicating how well the linear regression fits the data (more specifically it represents the proportion of residual variance explained by the model, from 0 to 1). The R-squared values for these models range between 0.27 and 0.37. Although a large proportion of variation remains unexplained by the models, this is to be expected given the complex interactions between the social and environmental factors at play and the highly individual-specific nature of psychological health.

The first analysis is a linear regression model for psychological morbidity (standardised version of the GHQ-12 0-36 point scale) for girls aged 14/15 (the wave 2 survey, undertaken in 2014). The results are presented in Table 1 below.

The GHQ-12 is a measure of psychological morbidity with higher values (and therefore positive coefficients) representing worse outcomes for young people. As the outcome measure is standardised, the coefficients are standard deviations. For example, a coefficient of 0.5 represents an increase of half a standard deviation across the distribution for a one-unit increase in the explanatory variable (i.e. the difference between the reference category and comparator category in categorical variables).

Explanatory variables measured on a continuous scale have also been standardised to aid comparison of effect sizes.

Table 1. Results of the regression model for psychological morbidity (GHQ-12a) in girls aged 14/15 (wave 2, 2014)

Variable	Coefficient	SE	95% conf. interval: lower	95% conf. interval: upper	*p* value
Constant	0.30	0.17	-0.03	0.64	0.076
Longstanding illness/disability/infirmity (excluding mental ill-health) [ref: No]	Reference group				
Yes	-0.09	0.06	-0.21	0.04	0.184
Ethnicity [ref: White Eng/Welsh/Scot/NI/British]	Reference group				
White other	-0.17	0.10	-0.36	0.03	0.091
Mixed	0.05	0.10	-0.14	0.24	0.605
Indian	-0.17	0.09	-0.36	0.01	0.066
Pakistani	-0.27	0.12	-0.50	-0.04	0.022
Bangladeshi	-0.08	0.15	-0.37	0.21	0.605
African	-0.21	0.11	-0.42	0.00	0.049
Caribbean	-0.16	0.12	-0.39	0.07	0.169
Other	-0.07	0.10	-0.27	0.13	0.474
SEN status (wave 1, 2013) [ref: Not SEN]	Reference group				
SEN – no statement	-0.26	0.07	-0.39	-0.12	0.000
SEN – statement	-0.25	0.23	-0.71	0.20	0.279
Free school meal eligibility (wave 1, 2013)	-0.15	0.06	-0.26	-0.03	0.013
Neighbourhood child poverty (IDACI) (wave 1, 2013) [ref: 0-20%]	Reference group				
20-40% of children living in poverty	-0.08	0.05	-0.18	0.02	0.105
40-60% of children living in poverty	-0.15	0.07	-0.29	-0.01	0.032
60-100% of children living in poverty	-0.32	0.10	-0.51	-0.13	0.001

Bullying (in last 12 months) [ref: Not bullied]	Reference group				
Bullied, not online	0.44	0.05	0.34	0.54	0.000
Bullied, including online	0.83	0.07	0.68	0.97	0.000
Frequency see friends (last week) [ref: None]	Reference group				
Once or twice	-0.09	0.05	-0.19	0.01	0.067
3 -5 times or	-0.25	0.06	-0.38	-0.13	0.000
6 or more times	-0.35	0.09	-0.52	-0.18	0.000
Frequency parent argues with child [ref: Never/hardly ever]	Reference group				
Less than once a week	0.02	0.05	-0.07	0.11	0.703
More than once a week	0.06	0.06	-0.05	0.17	0.302
Most days	0.00	0.08	-0.15	0.16	0.962
Neighbourhood feels safe [ref: Strongly agree/agree]	Reference group				
Neither agree nor disagree	0.28	0.07	0.15	0.41	0.000
Disagree/strongly disagree	0.43	0.12	0.20	0.66	0.000
Carer [ref: Not a carer]	Reference group				
A carer for someone in household	0.11	0.12	-0.11	0.34	0.322
Social media use [ref: Regularly throughout the day]	Reference group				
Daily/2-3 times a day	-0.10	0.05	-0.19	-0.01	0.036
Every couple of days or less	0.05	0.09	-0.12	0.22	0.567
No social media use	-0.15	0.08	-0.31	0.02	0.076
Physical exercise [ref: Most days]	Reference group				
Once a week or more	0.09	0.05	0.00	0.19	0.046
Less than once a week	0.03	0.09	-0.14	0.21	0.708

Hardly ever/never	0.13	0.07	0.00	0.26	0.058
Amount of sleep (last month) [ref: Too little (<8 hours)]	Reference group				
Optimal (>=8 to <10 hours)	-0.32	0.05	-0.41	-0.23	0.000
Too much (>=10 hours)	-0.23	0.18	-0.59	0.14	0.223
Count of risky behaviours (mostly in last 12 months) [ref: None]	Reference group				
1 or 2 risky behaviours	0.18	0.06	0.07	0.30	0.002
3+ risky behaviours	0.46	0.11	0.25	0.66	0.000
Exclusion or suspension [ref: None]	Reference group				
Excluded since start of the academic year	-0.27	0.14	-0.55	0.01	0.060
Time spent on homework (typical) [ref: None]	Reference group				
Less than 1 hour	0.00	0.15	-0.30	0.30	0.989
1-5 hours	0.14	0.15	-0.15	0.43	0.350
6 or more hours	0.33	0.16	0.03	0.64	0.033
Attitude to school [b] (high score is positive attitude)	-0.27	0.03	-0.33	-0.21	0.000
Locus of control [b] (high score=high locus of control)	-0.14	0.03	-0.19	-0.09	0.000
Equates hard work with success [b] (high score=more strongly equates hard work with success)	-0.01	0.02	-0.05	0.04	0.835

Statistically significant coefficients are those with a p value less than or equal to .05 in the final column of the table.

[a] This is a standardised version of the General Health Questionnaire 12-item instrument (with an original scale of 0-36). A coefficient of 0.5 represents an increase of half a standard deviation across the distribution for a one-unit increase in the explanatory variable.

[b] These continuous variables are standardised, therefore the coefficients represent the effect of moving up the distribution by one standard deviation.

Where the question is asked of a specific time period this is noted in parentheses.

Where the question is asked at a different survey year to the outcome measure this is noted in parentheses.

The reference category, in brackets for categorical variables, is the group other categories are compared to.

The analysis uses weights and is adjusted to account for the complex survey design.

Weighted N=2,172. R-squared=0.37

The second analysis is a linear regression model for psychological morbidity (standardised version of the GHQ-12 0-36 point scale) for girls aged 17/18 (the wave 5 survey, undertaken in 2017). The results are presented in Table 2 below.

Table 2. Results of the regression model for psychological morbidity (GHQ-12[a]) in women aged 17/18 (wave 5, 2017)

Variable	Coefficient	SE	95% conf. interval lower	95% conf. interval upper	*p* value
Constant	1.11	0.07	0.97	1.26	0.000
Longstanding illness/disability/infirmity (excluding mental ill-health) [ref: No]	Reference group				
Yes	0.33	0.05	0.23	0.44	0.000
Ethnicity [ref: White Eng/Welsh/Scot/NI/British]	Reference group				
White other	0.06	0.08	-0.09	0.20	0.465
Mixed	0.10	0.08	-0.05	0.25	0.180
Indian	0.09	0.10	-0.10	0.29	0.348
Pakistani	-0.02	0.08	-0.17	0.14	0.846
Bangladeshi	0.18	0.09	-0.01	0.36	0.057
African	-0.02	0.07	-0.16	0.11	0.729
Caribbean	0.04	0.09	-0.14	0.21	0.686

Other	0.23	0.09	0.05	0.40	0.012
Sexuality [ref: Heterosexual/straight]	Reference group				
Gay/lesbian, bisexual or other	0.21	0.05	0.12	0.31	0.000
SEN status (wave 3, 2015) [ref: Not SEN]	Reference group				
SEN – no statement	-0.22	0.05	-0.31	-0.12	0.000
SEN – statement	-0.43	0.17	-0.77	-0.09	0.013
Highest socioeconomic classification of parents (wave 1, 2013) [ref: Higher managerial/ administrative/ professional]	Reference group				
Lower managerial/administrative/professional, & Intermediate	-0.08	0.04	-0.16	0.00	0.049
Small employers/own account workers, & Lower supervisory/technical	-0.12	0.05	-0.22	-0.03	0.013
Semi-routine & Routine	-0.15	0.05	-0.24	-0.06	0.002
Never worked and long-term unemployed	-0.11	0.09	-0.28	0.06	0.211
Neighbourhood child poverty (IDACI) (wave 3, 2015) [ref: 0-20%]	Reference group				
20-40% of children living in poverty	-0.09	0.04	-0.17	-0.02	0.010
40-60% of children living in poverty	-0.11	0.05	-0.21	-0.01	0.025
60-100% of children living in poverty	-0.12	0.08	-0.27	0.03	0.104
Main activity [ref: Education at school/college]	Reference group				
Paid work	-0.17	0.06	-0.29	-0.05	0.005
Work and education	-0.12	0.13	-0.37	0.13	0.342
Apprenticeship	-0.27	0.07	-0.40	-0.13	0.000
Training course/scheme/traineeship	-0.10	0.17	-0.43	0.24	0.567
NEET including ill/disabled & unable to work	0.02	0.07	-0.11	0.15	0.726
Bullying (in last 12 months) [ref: Not bullied]	Reference group				

Bullied, not online	0.19	0.09	0.01	0.37	0.039
Bullied, including online	0.48	0.04	0.40	0.57	0.000
Frequency see friends (last week) [ref: None]	Reference group				
Once or twice	-0.14	0.05	-0.23	-0.05	0.003
3 -5 times or	-0.25	0.05	-0.35	-0.15	0.000
6 or more times	-0.29	0.07	-0.43	-0.16	0.000
Carer [ref: Not a carer]	Reference group				
A carer for ill, disabled or elderly relative/friend	0.11	0.06	-0.01	0.24	0.082
Social media use [ref: Multiple times an hour]	Reference group				
Multiple times day	-0.10	0.03	-0.16	-0.04	0.002
Daily/2-3 times a day	-0.11	0.04	-0.19	-0.03	0.005
Every couple of days or less	-0.14	0.10	-0.34	0.07	0.184
No social media use	-0.42	0.14	-0.69	-0.15	0.003
Physical exercise (wave 4, 2016) [ref: Most days]	Reference group				
Once a week or more	-0.03	0.03	-0.10	0.03	0.340
Less than once a week	0.01	0.05	-0.09	0.12	0.810
Hardly ever/never	-0.04	0.05	-0.13	0.05	0.385
Amount of sleep (last month) [ref: Too little (<8 hours)]	Reference group				
Optimal (>=8 to <10 hours)	-0.21	0.03	-0.26	-0.15	0.000
Too much (>=10 hours)	-0.21	0.06	-0.33	-0.09	0.001
Alcohol use (last 12 months) [ref: Never had/never usually has a proper alcoholic drink]	Reference group				
Once a month or less	0.04	0.04	-0.03	0.12	0.279

2-3 times a month	0.03	0.05	-0.06	0.13	0.472
2-3 times a week or more	0.03	0.08	-0.14	0.19	0.723
Cannabis use (wave 4, 2016) [ref: Never tried cannabis]	Reference group				
Tried, but never use it now	0.13	0.04	0.05	0.22	0.002
Use cannabis (any frequency)	0.20	0.06	0.08	0.32	0.001
Carried a weapon (last 12 months, wave 4, 2016) [ref: No]	Reference group				
Yes, carried a weapon	0.21	0.21	-0.20	0.62	0.308
Locus of control [b] (high score=high locus of control)	-0.25	0.02	-0.29	-0.22	0.000
Equates hard work with success [b] (high score=more strongly equates hard work with success)	-0.02	0.02	-0.05	0.01	0.201

Statistically significant coefficients are those with a p value less than or equal to .05 in the final column of the table.

[a] This is a standardised version of the General Health Questionnaire 12-item instrument (with an original scale of 0-36). A coefficient of 0.5 represents an increase of half a standard deviation across the distribution for a one-unit increase in the explanatory variable.

[b] These continuous variables are standardised, therefore the coefficients represent the effect of moving up the distribution by one standard deviation.

Where the question is asked of a specific time period this is noted in parentheses.

Where the question is asked at a different survey year to the outcome measure this is noted in parentheses.

The reference category, in brackets for categorical variables, is the group other categories are compared to.

The analysis uses weights and is adjusted to account for the complex survey design.

Weighted N=3,090. R-squared=0.27.

The third analysis is a linear regression model for psychological morbidity (standardised version of the GHQ-12 0-36 point scale) for girls, comparing coefficients at age aged 14/15 and 17/18. The results are presented in Table 3 below.

This model is presented because interaction terms in the model directly address the question of whether factors associated with psychological health changed between ages 14/15 and 17/18. However, readers should note that overall, from a statistical modelling perspective there was little benefit of estimating wave specific coefficients, indicating minimal change between waves.

The model presented was compared to a simpler version which include a dummy variable indicating the wave but had no interaction terms (i.e. an estimate of the association between the wave and psychological health was estimated, but no wave specific coefficients for each explanatory variable). Comparisons were made between the two nested models using two measures of model fit (AIC and BIC). The model with interactions presented here performed better using the AIC but worse using the BIC. The BIC penalises model complexity more than the AIC. What this means is that the increase in model fit provided by the interaction terms is outweighed by the substantial additional complexity. This is reflected in the few significant interaction terms relative to the many extra coefficients that had to be estimated.

In Table 3 the latter part of the table ('Interactions with wave 5 dummy variable') presents the interactions of each variable with the wave 5 dummy variable. The coefficients for interactions are estimates of the unique effect of each indicator in wave 5 in addition to the main effect of that indicator. Evidence that an indicator has a different association with psychological morbidity in wave 2 than in wave 5 is shown by a statistically significant result for the interaction effect (i.e. where the *p* value is <=0.05).

When interpreted without the interaction terms, the coefficients in the first part of the table are the estimates of each variable on psychological morbidity in wave 2. To calculate a wave 5 coefficient for a given indicator which is comparable to the wave 2 coefficient, you would need to add together the wave 2 coefficient, the 'Wave 5' coefficient and the interaction effect.

Table 3. Results of the regression model for psychological morbidity (GHQ-12a) in girls aged 14/15 and aged 17/18 (waves 2 and 5)

Variable	Coefficient	SE	95% conf. interval: lower	95% conf. interval: upper	*p* value
Constant	0.49	0.10	0.30	0.68	0.000
Longstanding illness/disability/infirmity (excluding mental ill-health) [ref: No]	Reference group				
Yes	-0.09	0.07	-0.23	0.05	0.223
Ethnicity [ref: White Eng/Welsh/Scot/NI/British]	Reference group				
White other	-0.15	0.12	-0.39	0.08	0.193
Mixed	0.08	0.11	-0.13	0.29	0.451
Indian	-0.26	0.12	-0.50	-0.02	0.033
Pakistani	-0.23	0.13	-0.49	0.03	0.078
Bangladeshi	0.07	0.15	-0.22	0.36	0.645
African	-0.16	0.10	-0.36	0.04	0.116
Caribbean	-0.08	0.14	-0.37	0.20	0.557
Other	-0.03	0.13	-0.29	0.23	0.822
SEN status [ref: Not SEN]	Reference group				
SEN – no statement	-0.37	0.08	-0.52	-0.22	0.000
SEN – statement	-0.55	0.18	-0.91	-0.19	0.003
Free school meal eligibility	-0.10	0.07	-0.24	0.05	0.191
Highest socioeconomic classification of parents [ref: Higher managerial/administrative/ professional]	Reference group				
Lower managerial/administrative/professional, & Intermediate	-0.09	0.06	-0.22	0.04	0.163

Small employers/own acc't workers, & Lower superv'y/technical	-0.19	0.07	-0.34	-0.05	0.010
Semi-routine & Routine	-0.19	0.08	-0.35	-0.04	0.016
Never worked and long-term unemployed	-0.06	0.16	-0.37	0.26	0.729
Neighbourhood child poverty (IDACI) (wave 1, 2013) [ref: 0-20%]	Reference group				
20-40% of children living in poverty	0.00	0.06	-0.12	0.12	0.972
40-60% of children living in poverty	-0.05	0.09	-0.22	0.12	0.542
60-100% of children living in poverty	-0.09	0.11	-0.31	0.13	0.421
Bullying (in last 12 months) [ref: Not bullied]	Reference group				
Bullied, not online	0.53	0.06	0.42	0.65	0.000
Bullied, including online	0.97	0.09	0.79	1.15	0.000
Frequency see friends (last week) [ref: None]	Reference group				
Once or twice	-0.09	0.05	-0.20	0.01	0.088
3 -5 times or	-0.19	0.07	-0.33	-0.05	0.008
6 or more times	-0.18	0.12	-0.41	0.05	0.120
Carer [ref: Not a carer]	Reference group				
A carer for ill, disabled or elderly relative/friend	0.07	0.14	-0.20	0.34	0.619
Social media use [ref: Regularly throughout the day]	Reference group				
Daily/2-3 times a day	-0.13	0.05	-0.23	-0.03	0.012
Every couple of days or less	0.02	0.09	-0.16	0.21	0.801
No social media use	-0.12	0.09	-0.30	0.06	0.199
Physical exercise [ref: Most days]	Reference group				
Once a week or more	0.15	0.06	0.04	0.26	0.009
Less than once a week	0.21	0.10	0.02	0.41	0.035

Hardly ever/never	0.17	0.07	0.02	0.31	0.024
Amount of sleep (last month) [ref: Too little (<8 hours)]	Reference group				
Optimal (>=8 to <10 hours)	-0.33	0.05	-0.43	-0.23	0.000
Too much (>=10 hours)	-0.28	0.13	-0.54	-0.03	0.030
Alcohol use (last 12 months) [ref: Never had/never usually has a proper alcoholic drink]	Reference group				
Once a month or less	0.08	0.05	-0.03	0.18	0.162
2-3 times a month	0.27	0.10	0.08	0.47	0.007
2-3 times a week or more	0.77	0.31	0.17	1.37	0.013
Cannabis use [ref: Never tried cannabis]	Reference group				
Tried, but never use it now	0.05	0.13	-0.21	0.31	0.690
Use cannabis (any frequency)	0.26	0.16	-0.05	0.58	0.102
Carried a weapon (last 12 months) [ref: No]	Reference group				
Yes, carried a weapon	0.63	0.29	0.07	1.20	0.027
Locus of control [b] (high score=high locus of control)	-0.25	0.03	-0.31	-0.20	0.000
Equates hard work with success [b] (high score=more strongly equates hard work with success)	-0.12	0.03	-0.17	-0.06	0.000
Wave 5 (age/period effect indicator)	0.60	0.12	0.35	0.84	0.000
Interactions with wave 5 dummy variable [c]					
Longstanding illness/disability/infirmity (excluding mental ill-health) [ref: No]	Reference group				
Yes	0.45	0.10	0.26	0.64	0.000
Ethnicity [ref: White Eng/Welsh/Scot/NI/British]	Reference group				
White other	0.21	0.12	-0.03	0.46	0.086

Mixed	-0.03	0.13	-0.29	0.23	0.826
Indian	0.37	0.15	0.07	0.66	0.015
Pakistani	0.28	0.14	0.00	0.56	0.054
Bangladeshi	0.14	0.15	-0.16	0.44	0.351
African	0.11	0.12	-0.13	0.34	0.382
Caribbean	0.13	0.17	-0.21	0.47	0.462
Other	0.26	0.15	-0.02	0.55	0.073
SEN status [ref: Not SEN]	Reference group				
SEN – no statement	0.12	0.09	-0.06	0.29	0.201
SEN – statement	0.02	0.24	-0.45	0.50	0.924
Free school meal eligibility	0.08	0.08	-0.08	0.25	0.316
Highest socioeconomic classification of parents [ref: Higher managerial/administrative/ professional]	Reference group				
Lower managerial/administrative/professional, & Intermediate	0.04	0.07	-0.10	0.17	0.591
Small employers/own acc't workers, & Lower superv'y/technical	0.08	0.08	-0.09	0.24	0.372
Semi-routine & Routine	0.07	0.08	-0.09	0.24	0.380
Never worked and long-term unemployed	-0.09	0.17	-0.43	0.24	0.585
Neighbourhood child poverty (IDACI) (wave 1, 2013) [ref: 0-20%]	Reference group				
20-40% of children living in poverty	-0.06	0.07	-0.19	0.07	0.356
40-60% of children living in poverty	-0.04	0.09	-0.21	0.13	0.645
60-100% of children living in poverty	-0.16	0.12	-0.41	0.08	0.189
Bullying (in last 12 months) [ref: Not bullied]	Reference group				
Bullied, not online	-0.43	0.12	-0.66	-0.20	0.000
Bullied, including online	-0.50	0.10	-0.70	-0.31	0.000

Frequency see friends (last week) [ref: None]	Reference group				
Once or twice	-0.08	0.08	-0.23	0.07	0.295
3 -5 times or	-0.13	0.10	-0.31	0.06	0.182
6 or more times	-0.03	0.14	-0.30	0.25	0.857
Carer [ref: Not a carer]	Reference group				
A carer for ill, disabled or elderly relative/friend	0.08	0.16	-0.23	0.39	0.619
Social media use [ref: Regularly throughout the day]	Reference group				
Daily/2-3 times a day	0.10	0.06	-0.03	0.22	0.139
Every couple of days or less	-0.15	0.14	-0.43	0.13	0.301
No social media use	-0.20	0.24	-0.67	0.26	0.393
Physical exercise [ref: Most days]	Reference group				
Once a week or more	-0.18	0.07	-0.31	-0.05	0.005
Less than once a week	-0.19	0.11	-0.41	0.04	0.101
Hardly ever/never	-0.17	0.09	-0.34	0.01	0.059
Amount of sleep (last month) [ref: Too little (<8 hours)]	Reference group				
Optimal (>=8 to <10 hours)	0.09	0.06	-0.03	0.21	0.124
Too much (>=10 hours)	0.12	0.16	-0.19	0.43	0.442
Alcohol use (last 12 months) [ref: Never had/never usually has a proper alcoholic drink]	Reference group				
Once a month or less	0.01	0.07	-0.12	0.15	0.863
2-3 times a month	-0.22	0.12	-0.44	0.01	0.060
2-3 times a week or more	-0.67	0.33	-1.33	-0.02	0.043
Cannabis use [ref: Never tried cannabis]	Reference group				
Tried, but never use it now	0.06	0.14	-0.21	0.33	0.645

Use cannabis (any frequency)	-0.08	0.17	-0.42	0.27	0.668
Carried a weapon (last 12 months) [ref: No]	Reference group				
Yes, carried a weapon	-0.02	0.35	-0.70	0.67	0.959
Locus of control [b] (high score=high locus of control)	-0.02	0.03	-0.08	0.05	0.623
Equates hard work with success [b] (high score=more strongly equates hard work with success)	0.11	0.03	0.05	0.18	0.001

Statistically significant coefficients are those with a p value less than or equal to .05 in the final column of the table.

[a] This is a standardised version of the General Health Questionnaire 12-item instrument (with an original scale of 0-36). A coefficient of 0.5 represents an increase of half a standard deviation across the distribution for a one-unit increase in the explanatory variable

[b] These continuous variables are standardised, therefore the coefficients represent the effect of moving up the distribution by one standard deviation.

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Where the question is asked of a specific time period this is noted in parentheses.

Where the question is asked at a different survey year to the outcome measure this is noted in parentheses.

The reference category, in brackets for categorical variables, is the group other categories are compared to.

The analysis uses weights and is adjusted to account for the complex survey design.

Weighted N= 3,870 observations from 2,467 respondents. R-squared=0.35.

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