

# Exploring the reported worsening of mental wellbeing among adolescent girls in Scotland

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**This report summarises findings from a rapid literature review exploring recent trends in adolescent mental wellbeing in Scotland, with a focus on teenage girls. It also explores possible factors contributing to these trends.**

## Main Findings

- There is some evidence that adolescents' mental wellbeing in Scotland has worsened in recent years. This is especially marked amongst adolescent girls, who report poorer mental wellbeing than boys of a similar age across a range of indicators.
- This review highlights several interrelated drivers that may contribute to these trends: social media use, disrupted sleep, body image concerns and school-related pressures.
- Evidence on the impact of social media on young people's mental health and wellbeing is contradictory, with an absence of robust causal research. However, a number of studies point towards an association between extreme use of social media and harmful effects on young people's wellbeing.
- Adolescent girls in Scotland report higher levels of social media use than boys.
- Sleep is crucial to health and wellbeing. Use of mobile phones and social media at night time may disrupt adolescents' sleep.
- Many young people in Scotland, particularly girls, are unsatisfied with their physical appearance. Body image concerns are associated with social media use and poor mental wellbeing outcomes.
- Increasing numbers of young people in Scotland, particularly teenage girls, report experiencing school-related pressures. This increasing stress can be detrimental to mental wellbeing.

# 1. Background

**Child and adolescent mental health is a priority for the Scottish Government.** The Scottish Government's Mental Health Strategy 2017-2027, published in March 2017, outlines its vision for mental health service provision in Scotland (Scottish Government, 2017a). This includes actions to improve prevention and early interventions, as well as access to treatment. A Taskforce on Children and Young People's Mental Health, to make recommendations for service improvements, was established in June 2018.

**Recent trends in mental wellbeing among adolescents in Scotland give cause for concern.** Data from Scottish population surveys indicate a decline in the mental wellbeing of adolescents across a number of indicators, particularly among teenage girls (Scottish Government, 2017b; Cosma et al., 2016). This report presents findings from a rapid literature review undertaken in summer 2018 to explore these trends and possible contributing factors. Further information on the study aims, methodology and scope are given in the Appendix.

## 2. Adolescent Mental Wellbeing: Patterns and Trends

**Adolescent girls in Scotland report lower levels of wellbeing than boys and this appears to have been worsening in recent years, particularly around the mid-teens.** This has been found across surveys and using different indicators of wellbeing.

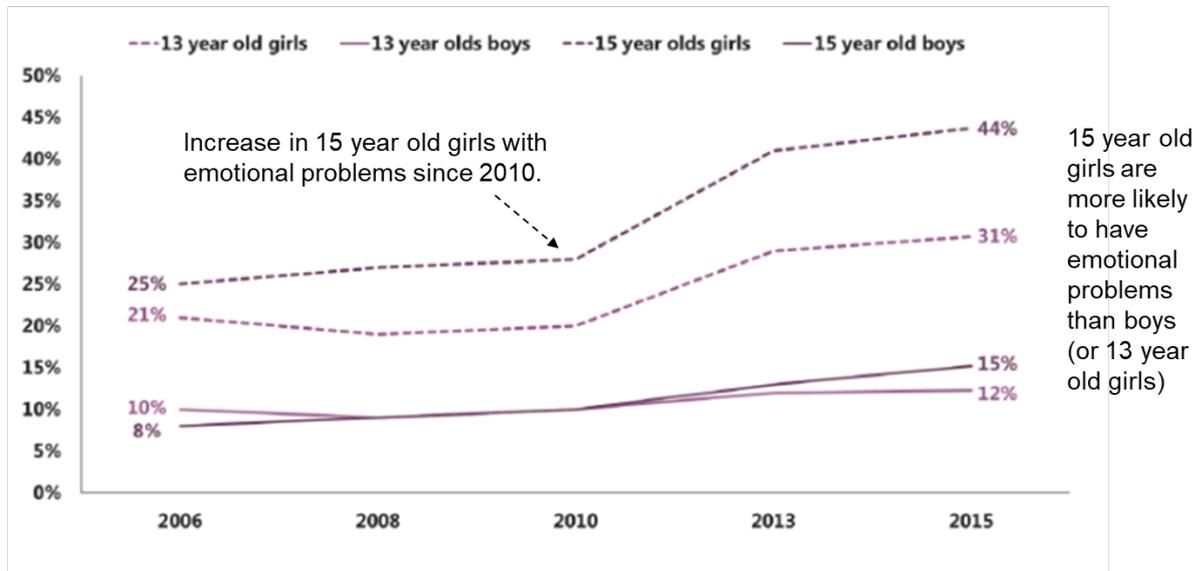
For example, the Scottish Adolescent Lifestyle and Substance Use Survey (SALSUS) found an increase in the proportion of 15 year old girls reporting high levels of emotional and behavioural difficulties in the last decade, especially since 2010 (Scottish Government, 2017b). In 2015, nearly 4 out of 10 (39%) of 15 year old girls had a borderline or abnormal total difficulties score<sup>1</sup>, compared to 31% in 2006. Among 15 year old boys, 22% had a borderline or abnormal total difficulties score in 2006, compared to 28% in 2015.

The total difficulties score covers four different issues: emotional problems, conduct problems, hyperactivity and peer problems. When these scales are analysed individually, there appears to have been an increase in emotional problems (e.g. feeling worried, fearful or unhappy, lacking confidence) amongst adolescents in recent years, and this trend is especially marked amongst teenage girls (Scottish Government, 2017b). Girls aged 15 are considerably more likely to have a borderline or abnormal emotional problems score than boys or 13 year old girls (Figure 1).

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<sup>1</sup> Measured by the Strengths and Difficulties Questionnaire (SDQ) <https://sdqinfo.org>. The terminology used to describe SDQ scores (normal, borderline, abnormal) is borrowed from the original questionnaire, designed by Robert Goodman.

**Figure 1: Trends in emotions SDQ scores by gender and age (% borderline or abnormal score)**



Source: Scottish Schools Adolescent Lifestyles and Behaviours Survey (Scottish Government, 2017b)

Using a different measure<sup>2</sup>, SALSUS also found a reduction in 15 year old girls' average levels of mental wellbeing between 2010 and 2015, and to a lesser extent among 13 year old girls (Scottish Government, 2017b). No such changes were observed in either 13 or 15 year old boys in this time period.

The Health Behaviours in School-Aged Children (HBSC) survey found that nearly a quarter of Scottish adolescents (23%) experienced two or more psychological complaints<sup>3</sup> within the past week, with difficulty sleeping being particularly common (Cosma et al., 2016). Girls (30%) reported more frequent psychological health complaints than boys (17%), with the gender difference widening with age. The proportion of 13 year olds and particularly 15 year old girls reporting psychological health complaints has increased substantially since 2006.

Although the Scottish Health Survey has not reported on changes over time, data from 2012-2015 found that girls aged 13-15 had worse mental wellbeing<sup>2</sup> than boys of the same age (Scottish Government, 2016). It also found that wellbeing decreased between age 13 and 15 for all children.

Similar gender inequalities and trends in mental wellbeing outcomes have been reported across several UK wide surveys, indicating that these findings are not exclusive to Scotland.

<sup>2</sup> Measured by the Warwick-Edinburgh Mental Wellbeing Scale (WEMWBS): <http://www.healthscotland.scot/tools-and-resources/wemwb-scale-and-mental-health-indicators/wemwbs>

<sup>3</sup> Psychological health complaints included feeling low, irritability, nervousness, difficulty sleeping, and feeling dizzy.

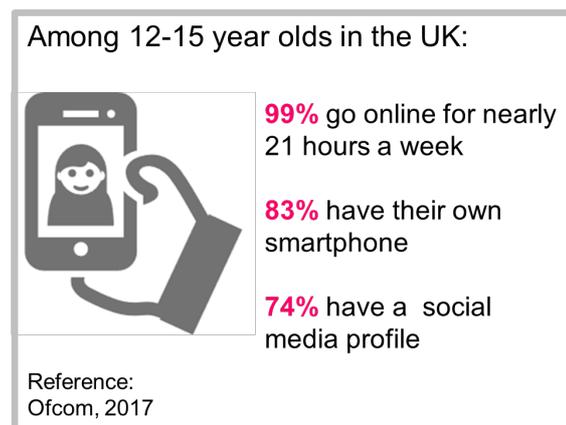
For instance, the 2017 Good Childhood Report – which collates a range of sources to report annually on children’s subjective wellbeing in the UK – reported a decrease in children and young people’s happiness with life as a whole between 2009 and 2015. Girls are significantly less happy than boys with their lives as a whole. This gender gap has opened since 2009, when there was no significant difference in happiness between girls and boys (The Children’s Society, 2017).

The longitudinal Millennium Cohort Study also highlights gender inequalities in adolescents’ mental wellbeing in the UK. The percentage of girls with parent-reported emotional problems increased from 12% to 18% between age 11 and 14; while the percentage of boys with parent-reported emotional problems remained at approximately 12% between these ages (Office for National Statistics, 2015). At age 14, nearly a quarter (24%) of girls in this study self-reported depressive symptoms compared to only 9% of boys.

## Possible Drivers of Declining Adolescent Wellbeing

### 3.1 Mobile Technology and Social Media

**The use of online technologies has increased at an unprecedented rate over the past decade.** People now reaching adolescence are the first generation to have grown up in such a mobile technology dominated world. Use of smartphones and social media are a constant feature of the social lives of young people. This is a notable change compared to previous generations.



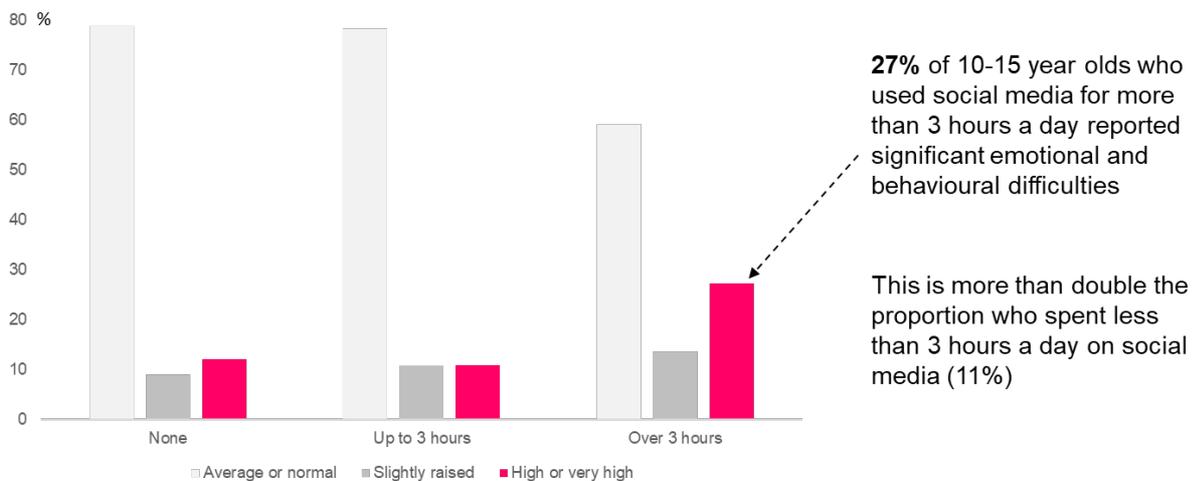
**Girls report higher levels of social media use than boys.** In 2012-2013, girls in the UK aged 10-15 were twice as likely than boys to report spending more than 3 hours on social networking sites on a normal school day (11% of girls compared to 5% of boys; Office for National Statistics, 2015).

**Evidence on the impact of social media on young people’s mental health and wellbeing is contradictory, with an absence of robust causal research** (Best, Mankelov and Taylor, 2014)<sup>4</sup>. There is some evidence of beneficial impacts of social media on mental wellbeing, by promoting social connectedness and self-expression, and for providing emotional support and access to expert advice (Frith, 2017; Royal Society for Public Health, 2017). On the other hand, social media can be a source of cyber bullying, isolation and unfavourable social comparisons, which can have a detrimental effect on wellbeing.

<sup>4</sup> Note that new research has been published since this review was undertaken: see Addendum.

**A number of studies point towards an association between the amount of time spent on social media and harmful effects on young people’s wellbeing** (Frith, 2017). For example, the Understanding Society survey found that 10-15 year olds in the UK who used social media for more than three hours per day were more likely to report emotional and behavioral difficulties than those who spent less time on social networking sites (Office for National Statistics, 2015; Figure 2). Longitudinal analysis of the same survey found that high levels of social media use at age 10 was associated with poorer mental health and wellbeing at age 15 for girls, but not for boys (Office for National Statistics, 2015).

**Figure 2: Total difficulties SDQ score category, by time spent on social media**



Source: Understanding Society, 2011 to 2012 (Office for National Statistics, 2015)

In a survey of 10,930 young people aged 14-17 across six European countries, heavier use of social networking sites (defined as more than two hours per day) was associated with increased internalising problems, such as anxiety, depression, withdrawal and somatic complaints (Tsitsika et al., 2014). Similar results were found amongst a sample of Canadian adolescents, where daily use of social media for more than two hours was associated with poor self-rated emotional health and greater experiences of suicidal thoughts (Sampasa-Kanyinga and Lewis, 2015).

**The type of social media content accessed may also have different impacts on mental wellbeing**, although it is difficult to establish causal links. For instance, a recent survey of 14-24 year olds in the UK asked how they felt five platforms – Facebook, Instagram, Snapchat, Twitter and YouTube – impacted on different factors relating to their health and wellbeing (Royal Society for Public Health, 2017). YouTube was the only one with a net positive impact, with the other four making feelings of anxiety and depression worse. Instagram was found to have the most negative impact.

**Associations have been made with mobile screen use at night and loss of sleep.** In a study of Scottish adolescents aged 11-17, night time social media use was significantly associated with poorer sleep quality (Woods and Scott, 2016). This research found that emotional investment in social media sites made it difficult to disengage at night due to fear of missing new messages or feeling disconnected. Research from a sample of young people in Sweden aged 15-17 found associations between night time texting, insufficient sleep and tiredness at school (Garmy and Ward, 2018).

The potential impact of mobile usage on sleep is relevant as a lack of sleep can affect our mental health and wellbeing. Sustained periods of sleep deprivation can affect both physical mental and physical health (Mental Health Foundation, 2011). Evidence from Portugal and Spain (using the HBSC questionnaire) indicates that insufficient or poor quality sleep might impact negatively on young people's perceived quality of life, and their physical and mental health (Paiva, Gaspar and Matos, 2015; Segura-Jiménez et al., 2015).

### 3.2 Body Image

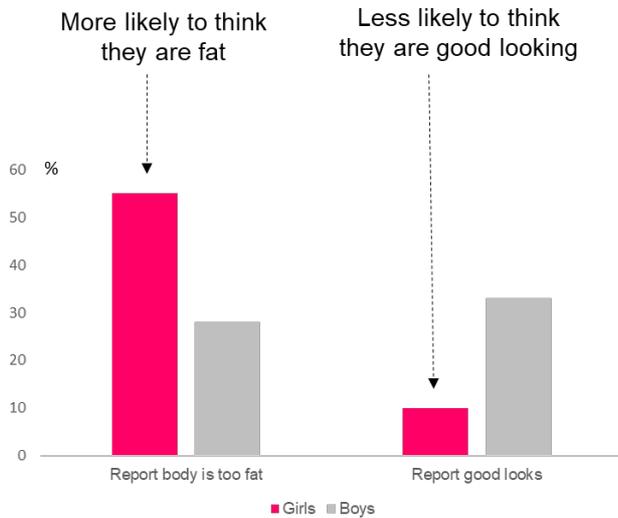
**Concerns with body image are associated with poorer mental health and wellbeing amongst children and adolescents,** although the direction of the association is unclear. Across the UK, young people who describe themselves as being 'relatively unhappy' with their appearance report higher levels of behavioural and emotional difficulties than those who are 'relatively happy' with their appearance (Office of National Statistics, 2015). Similarly, adolescents who describe themselves as being 'too fat' report lower mental wellbeing than those who describe themselves as being 'about the right size' (Public Health England, 2018).

**Adolescent girls in Scotland tend to have a poorer perception of how they look than boys, and the gap is widening.** The 2014 HBSC survey found that at all ages, girls were more likely than boys to report that they are too fat and less likely to think they are good looking (Currie et al., 2015). At age 15, over half (55%) of girls described themselves as too fat compared to 28% of boys of the same age (Figure 3). Boys aged 15 were around three times more likely than girls to report that they were good looking (33% of boys compared to 10% of girls). The gender gap in perceived looks is now at its widest since 1990.

Longitudinal data (from Understanding Society and the British Household Panel Survey) have found a similarly long-standing and growing gender difference in young people's feelings about their appearance in the UK (The Children's Society, 2017).

### Figure 3: Self-perceived body image and body size, by gender at age 15

Compared to boys of the same age, 15 year old girls are:



Source: Health Behaviours in School-aged Children survey (Currie et al., 2015)

**In Scotland there has been a worsening of several mental health outcomes among young people who report being ‘too fat’ since the 1990s**, even though there has been little change in the proportion of who perceive themselves to be overweight (Whitehead et al., 2018). Analysis of HBSC survey data from 1990-2014 highlight a steeper decline over this period in the confidence of young people who report being ‘too fat’ compared to those who describe themselves as being ‘about the right size’. Similarly, psychological health complaints in all girls and 15 year old boys have increased disproportionately among those who perceive themselves as overweight compared to those who report being ‘about the right size’.

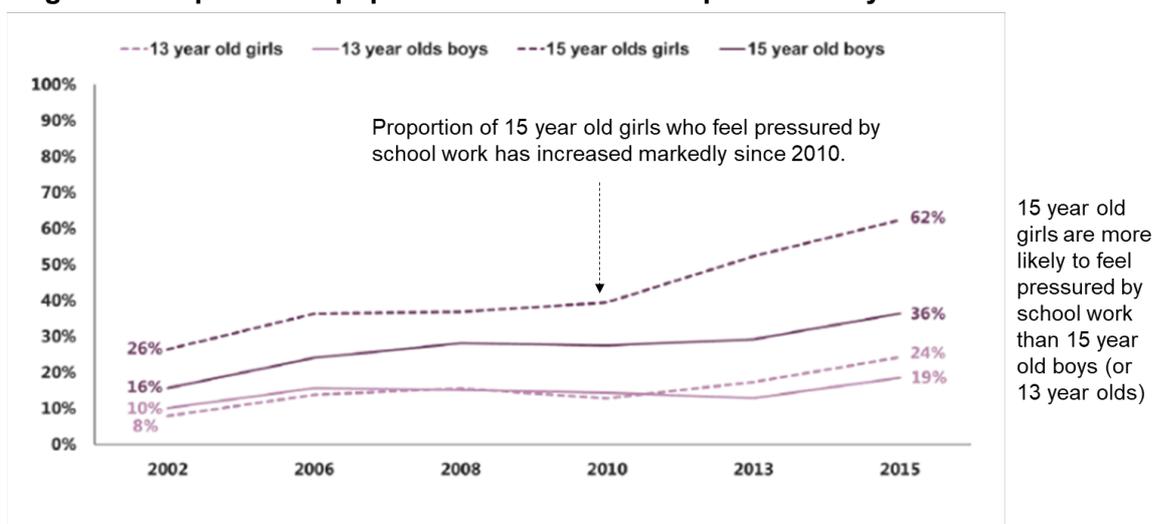
**Some studies have associated intensive use of social media and use of particular forms of social media with poorer body image.** High intensity social media use among 10-15 year olds in the UK has been found to be related to lower satisfaction with appearance (The Children’s Society, 2017). Another study, involving 14-24 year olds in the UK, found that all five of the main social media platforms (YouTube, Snapchat, Facebook, Instagram and Twitter) had a negative net result on body image, with Instagram ranking the worst (Royal Society for Public Health, 2017).

A study of 14-15 year olds in Italian schools also found a relationship between use of high visual social media (such as Instagram and Snapchat), body image concerns and internalising problems (Marengo et al., 2018). This relationship was not found when considering use of Facebook, a less image-driven platform. This study also found that high frequency use (two or more hours per day) of high visual social media predicted higher levels of body image concerns and internalising problems, while moderate social media did not.

### 3.3 School and Exam Pressure, and worries about the future

**Feeling strained or pressured by school work is now at a record high, particularly among 15 year old girls.** In SALSUS, the percentage of 15 year old girls who report feeling strained or pressured by school a lot of the time increased from 26% in 2002 to 62% in 2015, compared to an increase from 16% to 36% for 15 year old boys during the same period (Scottish Government, 2017c; Figure 4). Findings from the 2014 HBSC survey are similar, with 80% of 15 year old girls feeling pressured by school work 'some' or 'a lot' of the time, compared with 60% of boys, and with the proportion of young people feeling pressured by school work rising over the last 20 years (Currie et al., 2015).

**Figure 4: Proportion of pupils who feel strained or pressured by schoolwork a lot of the time**



Source: Scottish Schools Adolescent Lifestyles and Behaviours Survey (Scottish Government, 2017c)

The 2015/16 Childline Annual Report (NSPCC, 2016) highlighted mental health and exam stress as issues that have seen significant year-on-year increases. It reported an increase of 11% in counselling calls from young people in the UK about exam worries compared to 2014/15, with a 23% increase reported amongst 16-18 year olds specifically. Exam pressures manifested in feelings of depression and anxiety, self-harm and suicidal thoughts.

**There are also some indications that many young people are concerned about their education and future job prospects.** The 2018 Prince's Trust Youth Index found that 44% of young people in the UK reported a feeling of having less opportunities for work than for previous generations, and 59% described how the unpredictable political climate makes them anxious for the future (The Princes' Trust, 2018).

## 4. Conclusions and Recommendations

A number of studies indicate that there has been a worsening in adolescent girls' wellbeing in Scotland and the UK in recent years, particularly compared to boys and in the mid-teenage years. The influences on mental wellbeing are complex and multifaceted. However, this review has identified some factors that may be associated with this trend, including increased social media use, poor sleep, worsening body image and increased pressure from school work.

It is important to note that association is not the same as causation. Much of this evidence is based on cross-sectional research, which makes it difficult to establish whether these factors cause poor mental health. For example, it is possible that excessive use of social media is contributing to poor mental health outcomes among adolescents, but it is also possible that adolescents with poor mental health are more likely to spend excessive amounts of time on social media. Longitudinal research that assesses these relationships over time is needed to fully test whether and how factors such as social media use shape adolescent mental health and wellbeing.

This review has highlighted areas for improvement in data collected on some of the potential drivers of adolescent mental wellbeing. In particular, our understanding of young people's social media use could be improved by gathering more nuanced data on the duration of time spent on social media; the types of social media most frequently used; whether social media is used actively or passively; and what social media is used for (e.g. to maintain contact with peers, information seeking, or to follow celebrities). There is also scope to gather more comprehensive data on the quality and length of the sleep regularly achieved by children and adolescents; and whether sleep is disrupted by night time screen use. Additional research would also be helpful to better understand how social media use may be related to adolescents' perceptions of their bodies, and the underlying causes of increased schoolwork pressures.

Finally, it is important to take into account new evidence, particularly systematic reviews, that have been published since this rapid review was undertaken (see Addendum to References).

### Limitations

The literature search results indicate possible factors associated with the decline in adolescent girls' wellbeing, but cannot be regarded as comprehensive. Only selected bibliographic databases and resources freely available on the internet were included, and the project did not use systematic review methodologies. Within the project timescales it was not possible to cover all factors that impact on young people's wellbeing. Factors such as family structure, relationship with parents, friendships, bullying (including cyberbullying), socio-economic deprivation, a young person's physical health, sedentary behavior, adverse childhood experiences and multiple disadvantage are not included in this report.

# Appendix – Aims, Scope and Methods

## Aims

The aims of this project were to:

- Investigate results from national surveys to explore whether the reported worsening of mental wellbeing in adolescent girls in Scotland reflects a genuine trend.
- Explore whether a similar trend is seen in the UK and beyond.
- Review literature on the potential factors contributing to the worsening of mental wellbeing of adolescent girls in Scotland.
- Make recommendations for future survey questions.

## Scope and Methods

This project was undertaken between May and July 2018, by a Scottish Government Intern.

The research investigated results from three population surveys that collect data on adolescent mental health and wellbeing in Scotland: the Scottish Adolescent Lifestyle and Substance Use Survey (SALSUS), Health Behaviours In School-aged Children (HBSC) and the Scottish Health Survey (SHeS). The table below provides further information on these surveys:

### Main National Surveys with data on young people’s wellbeing in Scotland

Title	Frequency	Sample	Measures Used
<b>SALSUS</b> Scottish Adolescent Lifestyle and Substance Use Survey	Every 2 years  Latest Wave 2015	S2 and S4 Pupils at Scottish High Schools	<ul style="list-style-type: none"> <li>• SDQ</li> <li>• WEMWBS</li> </ul>
<b>HBSC</b> Health Behaviours in School-aged Children	Every 4 years  Latest Wave 2014	P7, S2 and S4 pupils in Scottish schools.	<ul style="list-style-type: none"> <li>• Catrill Ladder</li> <li>• Kidscreen Quality of Life Scale</li> <li>• Perceived Stress Scale</li> <li>• Other standardised questions.</li> </ul>
<b>SHeS</b> Scottish Health Survey	Annually  Latest Wave 2016	Representative sample of Scottish households, (includes children aged 0-15)	<ul style="list-style-type: none"> <li>• SDQ (ages 4-12, parent completion)</li> <li>• WEMWBS (ages 13-15, self-completion)</li> </ul>

The research also involved a rapid review of published literature to explore possible factors contributing to recent trends in adolescent mental wellbeing. The databases searched were: IDOX, The Knowledge Network, The British Library, Knowledge and Evidence, ProQuest, Google Advanced and Google Scholar.

Search terms included “mental health”, “mental wellbeing”, “young people”, “teenagers”, “school-aged children”, “stress”, “anxiety”, “depression”, “adolescents”, “Scotland” and “United Kingdom”. Searches were limited to the English language

and the previous five years (2013-2018). The researcher also reviewed references from key reports for further relevant evidence and asked stakeholders if they were aware of relevant literature or data sources.

Within the project timescales it was not possible to review all factors relating to the apparent decline in young people's wellbeing. After an initial scoping stage, it was decided to focus on a select number of factors (mobile technologies, social media use and sleep; body image; and school pressure), where there was good quality data available at Scotland level, clear gender differences and indications of change in recent years. The contribution of body image to poor mental wellbeing was also included as there was a commitment in Scotland's Diet and Healthy Weight Delivery plan to undertake research in this area (Scottish Government, 2018).

All reports included in the review were assessed and considered to be of good quality, based on the methodology, sample size and measures used. This was not, however, a systematic review of the data and only select bibliographic databases were included. The results cannot, therefore, be regarded as comprehensive.

The draft project report was reviewed by Scottish Government analysts and key findings are presented in this summary document.

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## ADDENDUM

**Since this report was prepared, further evidence and UK advice on screen time has been published, which were not included in this review but are relevant to the topic and warrant further consideration:**

Dickson K, Richardson 1, Kwan I, MacDowall W, Burchett H, Stansfield C, Brunton G, Sutcliffe K, Thomas J (2019) Screen-based activities and children and young people's mental health: A Systematic Map of Reviews, London: EPPI-Centre, Social Science Research Unit, UCL Institute of Education, University College London.

House of Commons Science and Technology Committee (2019) [Impact of social media and screen-use on young people's health](#), Fourteenth Report of Session 2017-19

Stiglic N and Viner RM (2019) The effects of screentime on the health and wellbeing of children and adolescents: a systematic review of reviews. *BMJ Open* 2019.

Royal College of Paediatrics and Child Health (2019) The health impacts of screen time: a guide for clinicians and parents

United Kingdom Chief Medical Officers' commentary on 'Screen-based activities and children and young people's mental health and psychosocial wellbeing: a systematic map of reviews' (2019)

### How to access background or source data

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