Public Health England

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Proportion of children living with at least one parent reporting emotional distress

Details, methodology and supporting information

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Background

Purpose

The purpose of this document is to support and provide background information to the accompanying statistical publication, including discussions of methodology and the terminology used. The results of the statistical publication are not included in this document.

General Health Questionnaire (GHQ-12)

The Understanding Society survey uses the self-completed 12-item General Health Questionnaire (GHQ-12).The GHQ-12 is the most extensively used screening instrument for common mental disorders, in addition to being a more general measure of emotional distress. It focuses on how the respondent is feeling relative to normal (that is breaks in normal functioning rather than life-long traits), and therefore covers disorders or patterns of adjustment associated with distress. The GHQ-12 is a condensed (12 question) version of the GHQ, which is commonly used in social research and features in many household surveys. The GHQ-12 asks questions regarding the way an individual has been feeling over the last few weeks, including sleep, selfconfidence, worry, and concentration.

There are 4 possible answers: 2 are negative (where the respondent is feeling worse than usual), and 2 are positive (the same or better than usual). A score of 1 is given for a negative response and a score of 0 for a positive repsonse. These 12 scores are added together so that each individual has a score which ranges from 0 to 12. A score of 4 or more has been shown to indicate that the individual has symptoms of minor psychiatric morbidity.The types of mental health problems that might be indicated by a high score on this scale do not necessarily include severe mental disorders characterised by deterioration of normal social functioning, but of common mental health problems such as anxiety and depression. Common mental health problems, such as anxiety and depression, frequently interrelate with the other disadvantages we address in this document, such as parental worklessness.

The common use of GHQ-12 in research also enables further comparison and analysis. For these purposes, using a self-reported scale (the GHQ-12) is better than using questions that focus on whether a respondent has been diagnosed with depression or anxiety, since these are likely to underrepresent the level of poor mental health in the population (due to under-diagnosis and under-reporting).

Poor parental mental health

Estimates suggest that between 2014 and 2015, around one in six adults aged 16 to 64 years in England had a common mental health disorder, such as anxiety or depression (McManus et al, 2016). The prevalence of other mental disorders is less common; for example, psychotic disorders such as schizophrenia and affective psychosis each affected about one in a hundred adults, whilst bipolar disorder affected one in fifty adults (McManus et al, 2016). This indicator is focused on more common mental disorders.

Common mental health problems are more likely to occur in women than men, and since 2000, the prevalence of common mental health disorders in women has increased, while for men it remained stable (McManus and others, 2016). Evidence suggests that most mental disorders have their onset in childhood, adolescence or young adult life.

There are differing estimates of the prevalence of poor parental mental health (depending on the severity of the definition applied). A 2008 literature review suggested that among parents around 10% of women and 6% of men had mental health problems at any given time (cited by Mental Health Foundation, 2015). More recently, Public Health England (PHE) analysis of data from the Understanding Society survey indicated that in 2016 to 2017, 22% of mothers and 12% of fathers reported symptoms of emotional distress which would be indicative of mental health problemss.

Association with worklessness

Employed adults are less likely to have a common mental health problem than those who are economically inactive or unemployed. Figures from the Adult Psychiatric Morbidity Survey show that while around 14% of adults in full-time employment had a common mental health problem, rates were higher among people who were out of work (at 29% for those who were unemployed and 33% for the economically inactive) (Mental Health Foundation, 2016).

Employment can positively affect mental health by providing greater financial security, social status, identity, and social interaction, but a poor working environment and stress within the workplace can also be detrimental to mental health (McDaid and others, 2008).

There is strong evidence of a causal relationship between employment status and psychological wellbeing. Longitudinal analysis indicates that:

- moving from employment to worklessness is predictive of lower psychological wellbeing, even after taking account of other factors (Flint et al, 2013)

- the positive effects of moving into employment from unemployment were not as large as the negative effects of job loss on psychological wellbeing
- moving from either employment, or seeking work, into permanent sickness was also significantly associated with decreased psychological wellbeing, over and above the negative effect of current permanent sickness on its own (Flint et al, 2013)

A 2004 survey of the mental health of children and young people in Great Britain similarly showed that the prevalence of mental disorders was greater among children in families with neither parent working compared with those in which both parents worked (Green et al, 2004).

The association with child outcomes

Parental depression has been found to be associated with an increased risk of subsequent behavioural and emotional difficulties in children (Marryat and Martin, 2010; Ramchandani and others, 2008).

Longitudinal research has found that children with mothers who had repeated mental health problems were almost twice as likely to have poorer relations with peers at age 3 compared with those whose mothers remained mentally well throughout the 4 years of the survey, or compared to those who had only brief episodes of poor mental health. However, cognitive development at age 3 was not statistically associated with mother's mental wellbeing, once social and economic factors were taken into account (Marryat and Martin, 2010).

Similarly, children whose fathers had persistent depression (in both the antenatal and postnatal periods) had higher risks of subsequent emotional and behavioural problems at age three-and-a-half even when controlling for other factors such as maternal depression and paternal education level. However, by age 7, the associations between fathers' mental health and child behavioural outcomes were no longer statistically significant (Ramchandani and others, 2008).

Prolonged (that is repeated occurrence of mental health problems over several years) compared to brief exposure of mental health problems also affects children differently. Brief exposure to a mother with poor mental health (that is where mental health problems were only reported once during the 4 years of the survey) was associated with adverse emotional and cognitive outcomes for the child, but long-term experience may additionally be associated with adverse behavioural outcomes (Lyons-Ruth and others, 1993 and Chang and others, 2007 cited by Marryat and Martin, 2010).

Research also indicates that maternal mental health during pregnancy affects outcomes in middle childhood. Children whose mothers experienced high levels of anxiety in late pregnancy had higher rates of behavioural and/or emotional problems at age 7 for both

boys and girls, even after taking other factors into account. There was also an additional effect of postnatal anxiety on behavioural and/or emotional problems at age 7 (O'Connor and others, 2003).

Other longitudinal research has investigated how parental mental health relates to adolescent child happiness (Webb and others, 2016). The results showed that maternal and paternal mental distress predicts unhappiness in girls but not boys (Webb and others, 2016).

Potential transmission mechanisms

There remains some uncertainty as to the mechanisms involved in the transmission of mental health problems to poorer outcomes in children (Ramchandani and others, 2008). Although children of parents with mental health problems are at increased risk in terms of their cognitive, emotional and social development, many children will not suffer adverse effects, and research highlights the role of child resilience and protective factors in determining their vulnerability to poorer outcomes in later life (Smith, 2004). There may also be different impacts depending on the age of the child (Smith, 2004; Ramchandani and Psychogiou, 2009). There is mixed evidence as to whether boys and girls are affected in different ways, according to whether the father or mother has mental health difficulties (Ramchandani and Psychogiou, 2009).

A number of biological dispositions, sociocultural contexts and psychological processes are likely to interact and can act as protective factors or risk factors for both parents' and children's mental health (Mental Health Foundation, 2016). In summary, some of the possible mechanisms by which parental mental health may impact on children, include:

- direct exposure to symptoms, for example, experience of unpredictable or irrational behaviour, or neglect
- the influence of mediating factors, such as disrupted parental/couple relationship (see the parental conflict indicator section for a detailed discussion of the evidence in this area) or inter-partner violence
- disruptions to parenting
- parental genetic factors
- the interaction of genetic and environmental influences (Smith, 2004)

Child development may be affected by the emotional environment within the home, including the quality of relationships between parents, the support available to the family and the health and wellbeing of the parents (Marryat and Martin, 2010). Associated with this, research has found that children's behavioural problems are strongly associated with the quality of their parents' relationship, with a poorer-quality relationship predicting greater behavioural problems, especially among children in lower-income families

(Mental Health Foundation, 2016). For parents themselves, social support and relationships are also important; being happily married or in a stable relationship has been found to be linked to physical and mental health benefits (Mental Health Foundation, 2016).

In terms of parenting, there is consistent evidence that depressed mothers may be less responsive to their infants' attempts to engage with them and this in turn affects the strength of the child's attachment (Murray and others, 1996, cited by Marryat and Martin, 2010). The development of attachment behaviours and bonding are particularly important to babies and young children, and their wellbeing and development (Smith, 2004). Poor attachment is related to impaired cognitive functioning at 18 months (Murray and others, 1996, cited by Marryat and Martin, 2010).

There is limited research on how paternal mental health specifically affects children. However, some studies have shown that fathers with depression spend less time with their children and undertake fewer activities, so the quality of time is also reduced (Ramchandani and Psychogiou, 2009). Studies have also found that selfreported paternal depression has a small but significant negative effect on parenting, with decreased positive and increased negative parenting behaviours (Wilson and Durbin 2010, cited by Sethna and others, 2015).

Older children may have a greater ability to understand some aspects of a parent's mental health problems and be more tolerant of some disruptions to their relationship with the parent, but they may also find their parent's unpredictable behaviour, or ineffective limit setting difficult to cope with, and others may also take on a caretaking role (Smith, 2004).

Data sources

The Understanding Society survey

Overview of the survey

Understanding Society is a nationwide household survey, following 41,000 households across the UK from 2009 to 2010 onwards. It captures important information about people's social and economic circumstances, attitudes, behaviours and their health. The study provides a rich range of information on families and their circumstances over time, enabling a longitudinal picture to be built on disadvantage and worklessness. Household members aged 16 or older are interviewed and the same individuals are re-interviewed in successive years to see how things have changed. Individuals become eligible for a full interview once they reach the age of 16. A subset of 10 to 15 year old children are also interviewed in the 'youth survey'. However, questions differ from the main survey. Full questionnaires of surveys currently being implemented can be found online.

The Understanding Society fieldwork is conducted over a two-calendar-year period, with each individual being interviewed on a yearly basis. It is important to note that the periods of waves overlap, and that individual respondents are interviewed around the same time each year on an annual basis.

Sample sizes and attrition

As with most longitudinal surveys, attrition reduces the Understanding Society sample size over time.

Wave 1 (2009 to 2010) income information

There are known issues with the income information in the first Understanding Society survey wave covering 2009 to 2010. See Dr Paul Fisher's paper Does repeated measurement improve income data quality? (ISER Working Paper Series, 2016 to 2011) for details of why income data on the first wave of Understanding Society are not comparable with subsequent waves and are likely to be of lower quality. We have therefore excluded the first wave from the analysis presented in this publication – with the exception of parental separations between the first and second wave, as we needed to increase our underlying sample size, and felt that the first wave of data could be trusted in this regard.

Waves 2 to 8 (2010 to 2017) retrospective changes

The Understanding Society Wave 9 data release (November 2019) included some minor changes to data from previous waves. All historic indicator values in this publication have been re-calculated using the new source data. Although there are minimal changes to the indicator values from 2010 to 2017, there are some differences to the previously published figures but considered to be neglible.

Wave 8 (2016 to 2017) methodological changes

From 2016 to 2017 wave onwards, a mixed mode interview approach was used where a larger proportion of interviews were administered through online interviews in comparison to previous years. The change in interview administration may have affected how parents responded to the General Health Questionnaire, as some individuals may be more or less likely to answer honestly depending on the setting. The extent of this is likely to vary between individuals and it is not thought that this change will have had a significant impact on these indicators. Still, it may have contributed in part to the observed changes between 2016 to 2017 values and those in previous years.

Definitions and terminology within the statistics

Understanding Society survey definitions

The following table explains how PHE defined parental disadvantages and characteristics as presented in the statistical commentary and data tables.

Variable	Description
Poor parental mental health	Measures the proportion of children living with at least one parent reporting symptoms of emotional distress.
Emotional distress	Where a person has scored 4 or more on GHQ-12. This measure is a snapshot that indicates minor psychiatric morbidity, such as anxiety and/or depression.
Workless family	Where no adult (neither parent or guardian) in the family was in paid employment
Lone parent family	Where only one parent is living in the household with the child/children

Underlying sample population

For the poor parental mental health measure, children were included in our sample if they were present in any of the 4 most recent waves (2010 to 2011 and 2017 to 2018). The analysis includes any child where at least 1 parent has responded fully to the 12-item General Health Questionnaire on which the measure is based. For specific sub-sections of this indicator, this analysis only includes those children who have parents that make up the cut, For example only those children with fathers within the household are included when calculating the proportion of fathers with emotional distress.

The analysis could either construct this indicator from the perspective of the parents – 'the proportion of parents reporting symptoms of emotional distress' – or the perspective of the child – 'the proportion of children living with at least 1 parent reporting symptoms of emotional distress'. The latter was chosen, because the analysis is primarily interested in how many children are affected by poor parental mental health, whereas a parents-based indicator would count every parent, even if the same child was affected twice. Still, trends are very similar for both measures.

For over 1 in 5 children in study sample, information is missing for 1 of the parents. This analysis could either include children where both parents provide responses to GHQ-12, or include children where at least 1 parent responds. Both options come with a bias, excluding any children with at least 1 unknown parent biases the sample towards lone-parents (since it is easier to be included if you only require the response of 1 parent). Lone parents are more likely to report symptoms of emotional distress, and so this construction would overestimate overall rates of poor parental mental health. Alternatively, including all children where at least 1 parent is known is likely to underreport rates, since PHE are assuming that the 'unknown' parent does not have poor parental mental health (when we would expect around 1 in 5 to be affected).

The analysis found there to be around 4 percentage points difference between the 2 measures, although trends are very similar for both. In conclusion, it was decided to base the total parental distress measure on where at least 1 parent is known. For the more granular breakdowns, PHE have based the measure on whether the relevant parents are known (mothers, fathers, and both parents). For these measures, children were excluded if the relevant parent was missing. The change in methodology is designed to reduce the bias in the more granular breakdowns and give a more refined representation of emotional distress and poor parental mental health.

Weights used and attrition

As this analysis was conducted to construct an indicator, and therefore to monitor changes in the prevalence of this issue, we used cross-sectional weights designed to make the results as representative of the UK population as possible. There are self-

completion weights available that adjust for non-response to selfcompletion questions (the GHQ-12 is part of the self-completion questionnaire in Understanding Society survey). However, since this indicator is constructed from the perspective of the child, the analysis could not use these weights. When the analysis tried constructing the indicator from the perspective of the parent (see above) there was no significant difference between results weighted using either the cross-sectional or self-completion weights.

General limitation of this analysis

Overview

This section outlines some of the limitations to this analysis. These are issues common to most survey-based longitudinal analysis. The main purpose of this longitudinal analysis is to explore and outline differences between various disadvantaged groups, and we are confident that the findings are robust to any of the issues outlined here.

Specific issues

Standard limitations of using survey data

Surveys gather information from a sample rather than from the whole population. The sample is designed carefully to be as representative of the general population as possible, given practical limitations such as time and cost constraints. However, results from sample surveys are always estimates, not precise figures. This means that they are subject to a margin of error (sampling error) which can affect how changes in the numbers should be interpreted, especially in the short-term. Year-on-year movements should be treated with caution.

Surveys are also at risk from a systematic bias due to non-response, when households that had been selected for interview do not respond to the survey. Individuals within households may also be non-responders even if the rest of the household does respond. In an attempt to correct for these biases, the results are generally weighted to adjust for non-response, and we have made clear where we believe results may be biased. Non-response can also occur where a respondent has given a full interview but has refused or given a ‘don’t know’ answer to a particular question, which consequently leads to a missing value for that item. The analysis excludes results for children where at least 1 parent gives an unknown value. This may slightly bias lone-parent families, as it is easier for those families to give full responses. The only exception is for the Poor Parental Mental Health Indicator, for reasons explained in the corresponding section of this document.

In addition to sampling errors, consideration should also be given to non-sampling errors. Non-sampling errors arise from the introduction of some systematic bias in the sample as compared to the population it is supposed to represent. As well as response bias, such biases include inappropriate definition of the population, misleading questions, data input errors or data handling problems – in fact any factor that might lead to the survey results systematically misrepresenting the population. There is no simple control or measurement for such non-sampling errors, although the risk has

been minimised through careful application of the appropriate survey techniques from the questionnaire and sample design stages through to analysis of results. Unlike other forms of error or non-response outline, it is likely this would be random, and less likely to be related to some underlying characteristics of the individuals interviewed.

Definition of a family in longitudinal analysis

In this longitudinal analysis, the changes in children's lives are followed/analysed from wave to wave. This is because the analysis is interested in children's experiences and outcomes and following families would be too complex, because they regularly form or dissolve over time.

Therefore, the definition of family is actually based around the adults (parents) that are living with the child in each wave. This means it is technically possible that a child could be living with completely different parents from one wave to the next. So, for example, a child that lives in a family that became workless could possibly have been living with working parents/guardians, and then moved to live with a different set of workless guardians/parents. Denoting this precisely would be confusing and potentially misleading and, more importantly, will not apply to the overwhelming majority of children in the survey.

Definition of worklessness

The definition of a workless family is based on whether a child is living in a family where no adult is in paid employment. This is a purely binary indicator, and the analysis has not removed families where, for instance, both parents are retired, or students. Removing these families reduced the proportion of dependent children in workless families by around half a percent and did not affect the nature of our findings.

Transitions between waves

Survey respondents are interviewed annually. Whilst there is some information on changes in characteristics between waves – for instance, employment transitions, and relationship changes – PHE chose not to use this. They found that, while adding further uncertainty/complexity to the analysis (for instance, the number of unknowns), it did not substantively change results or the nature of the findings.

Rounding and suppression

Figures are reported as percentages and are rounded to 1 decimal point independently and as a result differences may not sum exactly due to rounding. Any proportions based on a sample population of 100 or less are suppressed.

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