Well-being

5

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Summary

- This chapter examines subjective well-being as measured by the Warwick-Edinburgh Mental Well-being Scale (WEMWBS), and the relationships between this and a range of health and health-related lifestyle factors in the adult population of England.
- WEMWBS scores range from 14-70; the mean score was 52.5 for men and 52.2 for women.
- There was a U-shaped relationship between age and well-being, with well-being for both men and women lower in middle age and peaking in those aged 65-74. Well-being scores remained relatively high in those aged 75-84 before falling in those aged 85 and over.
- Those living in lower income households had lower well-being scores, on average, than those living in higher income households. Men in the lowest quintile of equivalised household income had an average well-being score of 48.9, compared with 54.5 for those men living in the highest quintile. The same pattern was found for women (48.7 and 54.6 respectively).
- Men and women living in more deprived areas had lower well-being scores, on average, than those living in less deprived areas. Those living in the most deprived areas had average well-being scores of 51.1 for men and 50.2 for women, compared with 53.4 and 52.9 respectively among those living in the least deprived areas.
- Those with poorer self-reported health had lower well-being scores, on average, than those with better self-reported health. Men and women who said their health in general was 'very bad' had average well-being scores of 40.6 and 38.0 respectively, compared with scores of 55.8 for men and 55.7 for women who rated their health as 'very good'.
- Participants with a limiting longstanding illness had lower well-being scores, on average, than those without such an illness. Well-being scores were 46.8 for men and 47.0 for women with a limiting longstanding illness, and 53.8 for both sexes with no illness.
- Men and women who had a normal BMI had higher well-being scores on average than those who were overweight or obese. Men who were normal weight had an average well-being score of 53.1, compared with 52.7 for overweight and 52.0 for obese men. The same pattern was found for women.
- Men and women who thought they were 'about the right weight' had higher well-being scores, on average, than those who thought they were too heavy or too light.
- Participants who met government guidelines for the recommended levels of physical activity had higher well-being scores, on average, than others. Average well-being scores for those who met the government guidelines were 53.6 for men and 53.5 for women, compared with an average score of 50.0 and 49.1 respectively for those who were inactive.
- Men and women with a high GHQ-12 score, indicative of probable mental ill health, had lower average well-being scores than those with lower GHQ-12 scores. Average

well-being scores for those who scored at least 4 on the GHQ-12 were 43.2 for men and 44.5 for women, compared with 55.1 for men and 55.3 for women with a score of 0.

- Looking at participants who usually provided informal social care, those who had provided the most informal social care in the last week had the lowest well-being scores. Men and women who had spent 10 or more hours caring in the last week had average well-being scores of 48.8 and 49.4 respectively, compared with 51.9 and 52.7 respectively among those who had spent no time caring in the last week.
- A logistic regression analysis showed that, after controlling for other factors, a low well-being score was most strongly associated with probable mental ill health (GHQ-12 score), anxiety and depression, and self-reported general health. Other factors that were significantly associated with a low well-being score were educational qualifications and marital status; there were also associations among women only for area deprivation, and for men only for the number of hours of informal care they provided.

5.1 Introduction

Well-being is an important element of people's overall health. Mental well-being is not just the absence of mental ill health; it includes the way that people feel about themselves and their lives. While there is no one definition of mental well-being, it is generally thought to be made up of things like positive affect (experience of positive emotions), people's perceptions that the things they do in their lives are meaningful and worthwhile, and life satisfaction.

Well-being is an area of focus for the government and in developed countries stands alongside more traditional measures such as gross domestic product (GDP) in telling the story of how well a nation is doing. The white paper *Healthy Lives, Healthy People: our strategy for public health in England*[1] sets out the government's strategy to improve the health and well-being of the nation in the coming years. Part of this strategy involves a 'radical new approach' to the challenge of inequalities in health and well-being, by shifting power and responsibility for public health to a local level. The emergence of new statutory health and well-being boards will bring key leaders in health and social care together to discuss how to work together to improve the health and well-being of the local population and reduce inequalities.[2]

Positive mental well-being is predictive of quality of life, improved life expectancy and greater life satisfaction. It is also linked to people's physical health and recovery from both physical and mental ill health.[3] Many factors may affect a person's subjective well-being, including personality, social and economic circumstances. Many studies have shown that well-being varies across the life course. Research suggests that there is a U-shape in the relationship between adult age and well-being.[4,5,6] That is, well-being is higher among young adults and then declines in mid life, after which age it rises again. However, there is also evidence to suggest that well-being falls again in the very oldest group.[6] There is a wide range of other personal and social factors which are related to well-being including social relationships, physical and mental health and physical activity.[5,6,7] Alongside these there are economic factors like employment status, job quality and income and then environmental factors such as the quality and condition of housing and the area in which people live.[5,6] All of these factors have been found to be related to a person's subjective well-being. The range and diversity of these correlates suggests that subjective well-being is very complex, and can change across the life course as these correlates change.

This chapter looks at the relationships found between subjective mental well-being and a range of health and health-related lifestyle factors in the adult population of England.

5.2 Methods and definitions

5.2.1 Well-being

The Warwick-Edinburgh Mental Well-being Scale (WEMWBS)[8] was developed to capture a broad concept of positive mental well-being and incorporates both eudaimonic and hedonic perspectives on well-being.[9] A eudaimonic perspective on well-being relates to people's functioning, social relationships, and perceptions of whether the things they do in life are meaningful or worthwhile. A hedonic perspective on well-being focuses on affect, and relates to experience of pleasure, happiness and the avoidance of pain. WEMWBS has 14 statements which cover psychological functioning, cognitive-evaluative dimensions and affective-emotional aspects of well-being. For each statement participants are asked to tick the box that best describes their experience over the previous two weeks. They can answer on a 5-point scale: 'None of the time', 'Rarely', 'Some of the time', 'Often', or 'All of the time'. The statements are all expressed positively – for example, 'I've been feeling optimistic about the future'. The responses, numbered 1 to 5, are aggregated to form the Well-being Index, which can range from 14 (those who answer 'Rarely' on every statement) to 70 (those who answer 'All of the time' to all statements).

In the survey, the WEMWBS was administered by self completion questionnaire during the nurse visit. The questionnaire was completed by the participant during the visit and returned to the nurse.

5.2.2 Psychosocial health – the GHQ-12

The 12-item General Health Questionnaire (GHQ-12) was used as a measure of psychosocial health; this is widely used and validated.[10] It was originally intended for use in general practice settings as a screening instrument for psychiatric morbidity but cannot be used to diagnose specific psychiatric problems. The GHQ-12 was administered via a self-completion booklet given to all participants aged 13 and over in the original interview. Analysis in this chapter includes adults aged 16 and over.

The questionnaire concentrates on the broader components of psychological morbidity and consists of twelve items measuring general levels of happiness; depression and anxiety; sleep disturbance; and ability to cope over the last few weeks. Each item is rated on a four-point scale, where a score of 0 is given to responses such as that the symptom is present 'not at all' or 'no more than usual' and a score of 1 is given to responses such as 'rather more than usual' or 'much more than usual'. Consistent with previous HSE surveys, a GHQ-12 score of 4 or more is referred to as a 'high GHQ-12 score', indicating probable psychological disturbance or mental ill health.

5.2.3 Longstanding illness

During the face to face interview, participants were asked to report whether they had any longstanding illnesses. Longstanding illness is defined as any physical or mental health condition or illness lasting or expected to last 12 months or more.[11] If a longstanding illness reduces participants' ability to carry out day-to-day activities, either a little or a lot, it is considered a limiting longstanding illness.

5.2.4 Personal care plans

Following the 2006 white paper *'Our health, our care, our say'*[12] personal care plans were introduced, with a target to offer them to everybody with a longstanding illness by the end of 2010. A personal care plan is a written agreement between a patient and their health professional about the care and support required to manage a long term condition.[13] Participants who reported having a longstanding illness were asked questions about whether they had discussed or agreed a personal care plan with a health professional. If they had not discussed one, they were asked whether they would be interested in doing so.

5.2.5 Body mass index (BMI)

BMI is a calculation which considers an individual's weight in relation to their height (kg/m^2). For each participant with a valid height and weight measurement, their BMI status was calculated. For a more detailed discussion of BMI, see Chapter 10.

5.2.6 Physical activity

As part of the face to face interview, participants were asked detailed questions about types and amounts of physical activity they had done in the last four weeks. From this data levels of physical activity were calculated in relation to government recommendations. For a more detailed discussion of physical activity levels, see Chapter 2. The activity groups used in analysis were as follows:

- **Meets aerobic guidelines:** At least 150 minutes moderately intensive physical activity or 75 minutes vigorous activity per week or an equivalent combination of these
- **Some activity:** 60-149 minutes moderate activity or 30-74 minutes vigorous activity per week or an equivalent combination of these
- **Low activity:** 30-59 minutes moderate activity or 15-29 minutes vigorous activity per week or an equivalent combination of these
- **Inactive:** Less than 30 minutes moderate activity or less than 15 minutes vigorous activity per week or an equivalent combination of these.

5.3 Associations with well-being scores

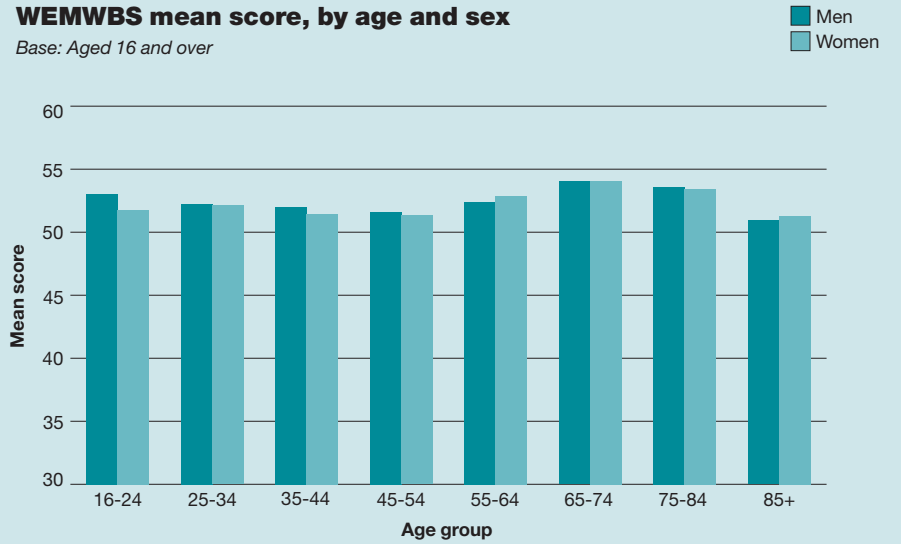
5.3.1 Well-being scores by age and sex

Mean well-being scores were 52.5 for men and 52.2 for women. Scores varied by age group, as shown in Figure 5A. There was a U-shaped relationship between age and well-being, with mean scores lower in middle age and peaking in the 65-74 year age group (54.0 for men and 54.1 for women). Well-being scores remained relatively high in the 75-84 year age group (53.6 and 53.4 respectively), before falling for those aged 85 and over (50.9 for men and 51.3 for women). **Table 5.1, Figure 5A**

Figure 5A

WEMWBS mean score, by age and sex

Base: Aged 16 and over



5.3.2 Well-being scores by area, equivalised household income and deprivation

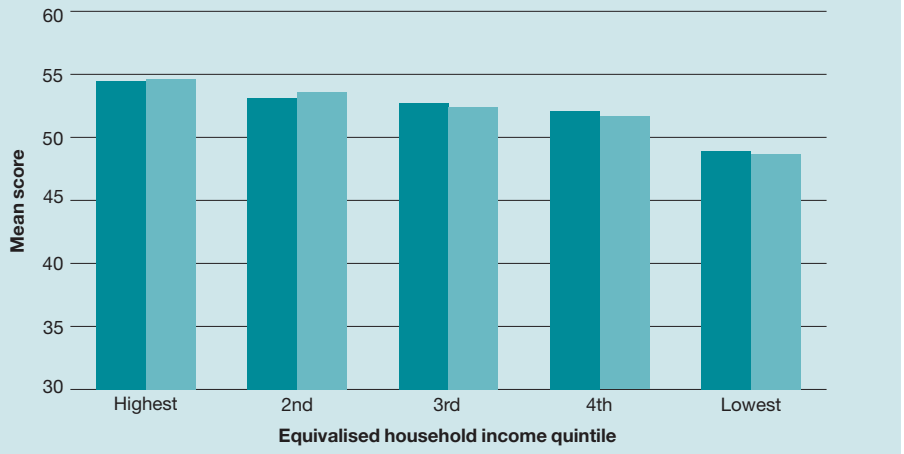
There was no variation in mean well-being scores by regions in England.

Figure 5B shows the association between average well-being scores and equivalised household income. Men and women living in households with the lowest household income had the lowest well-being scores on average (48.9 and 48.7, respectively). Average well-being scores then increased as household income increased, with those in the highest income households having well-being scores of 54.5 for men and 54.6 for women on average. **Tables 5.2-5.4, Figure 5B**

Figure 5B

WEMWBS mean score (age-standardised), by equivalised household income and sex

Base: Aged 16 and over

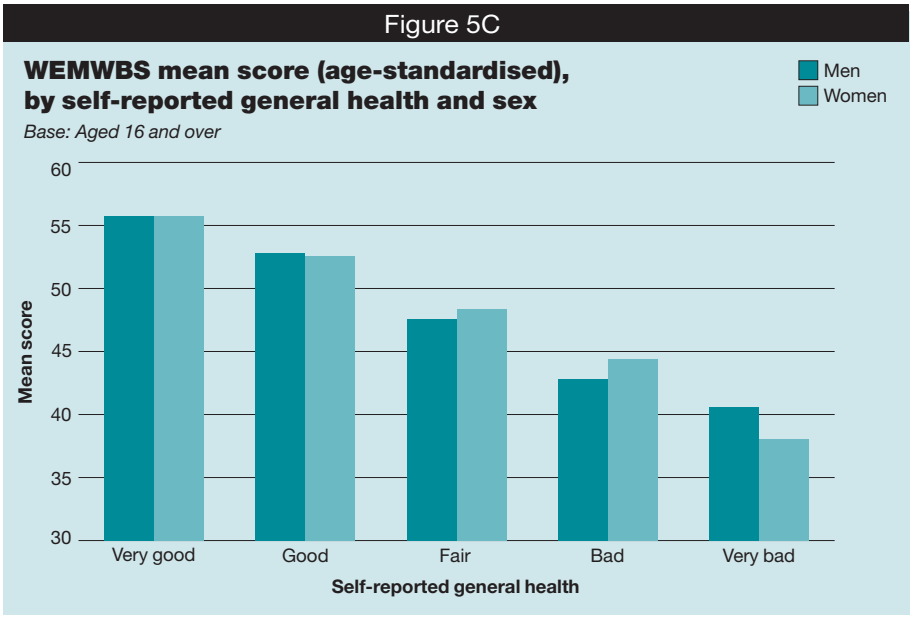


There was a similar pattern for area deprivation, as measured by the Index of Multiple Deprivation (IMD). Participants living in more deprived areas had lower well-being scores, on average, than those living in less deprived areas. Average scores for participants living in the most deprived areas were 51.1 for men and 50.2 for women, compared with 53.4 for men and 52.9 for women living in the least deprived areas.

5.3.3 Well-being scores by health and illness

Participants were asked to rate their health in general on a scale ranging from 'very good' to 'very bad'. Self-reported general health has been found to correlate well with objective measures of health.[3] As shown in Figure 5C, participants who rated their health as 'very good' had the highest well-being scores on average. The average well-being scores among those who rated their health as 'very good' were 55.8 for men and 55.7 for women. Average well-being scores declined steadily as self-reported general health declined. The average well-being score of men who reported that their general health was 'very bad' was 40.6 for men, and 38.0 for women. That represents a reduction in the average well-being score of 15.2 points for men and 17.7 points for women between the best and worst categories of self-reported general health.

Figure 5C



Participants were also asked whether they had a longstanding illness and if so, whether this limited their day to day activities (see Section 5.2.3 for more information). There was an association between having a longstanding illness and average wellbeing scores, for both men and women. However, this was only the case if it was a limiting longstanding illness – there was no difference between the average well-being scores for those who had a non limiting longstanding illness and those who reported having no longstanding illness. Well-being scores were 46.8 for men and 47.0 for women with a limiting longstanding illness, and 53.8 for both sexes with no such illness.

The number of longstanding illnesses reported was also associated with well-being scores. On average, well-being scores were higher among those who had one longstanding illness (51.5 for men and 51.1 for women), compared with those who reported having more than one longstanding illness (46.9 and 48.2 respectively).

Participants who reported having a longstanding illness were asked about whether they had discussed or agreed a personal care plan with a health care professional (see Section 5.2.4 for more information). The average well-being scores of both men and women differed by whether or not they were interested in or had agreed a personal care plan. Those who had agreed a personal care plan had higher well-being scores on average (49.5 for men and 48.6 for women) than those who had not been offered a personal care plan but would like to discuss one with a health professional (48.0 and 46.9 respectively). Those who had not

been offered a personal care plan and did not want to discuss one had the highest well-being scores on average (51.4 for both men and women).

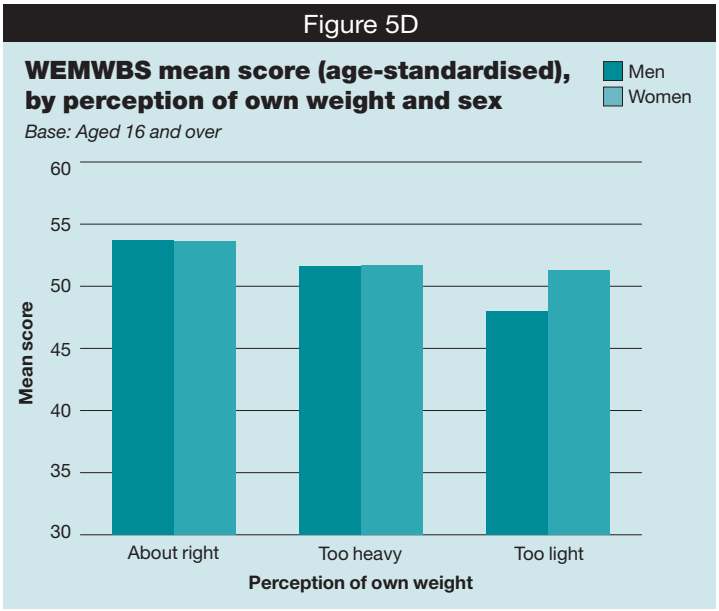
Average well-being scores were analysed by hypertension categories for men and women. While there was variation in the average scores for men and women dependent on their hypertension status, this variation was not statistically significant. **Tables 5.5-5.8, Figure 5C**

5.3.4 Well-being scores by body mass index and physical activity

Men and women of different BMI status had different well-being scores on average. Men and women of normal weight had the highest well-being scores (53.1 for both sexes). Overweight men and women had average scores of 52.7 and 52.3 respectively, and obese men and women had lower scores (52.0 and 51.1 respectively).

As well as being measured, participants were asked to rate their weight, given their height, and say whether they thought they were 'about the right weight', 'too heavy' or 'too light'. As shown in Figure 5D, there was also variation in average well-being scores according to participants' perceptions of their weight. Those who thought they were about the right weight had the highest average well-being scores (53.7 for men, 53.6 for women). Those who thought they were too heavy had well-being scores of 51.6 and 51.7 respectively. Those who thought they were too light had even lower well-being scores, with scores for men in this group lower than women (48.0 for men compared with 51.3 for women).

Figure 5D



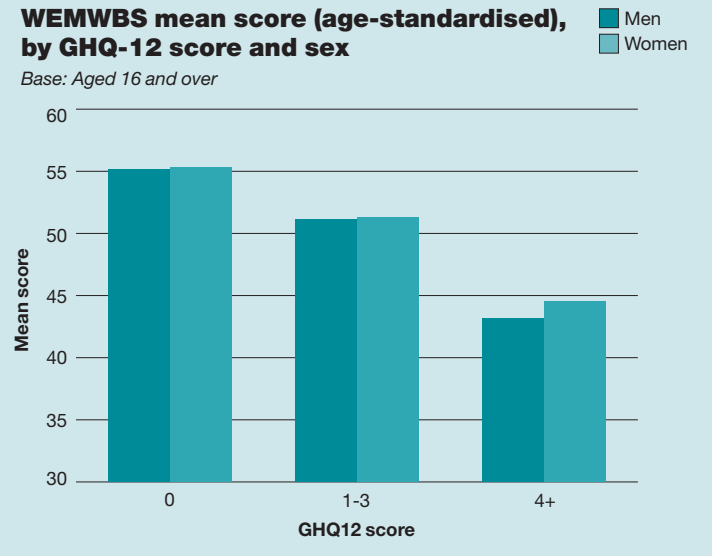
Average well-being scores also varied according to the levels of physical activity participants reported. Those who reported physical activity levels that met current government guidelines had the highest well-being scores (53.6 for men and 53.5 for women), while those who were inactive had the lowest scores (50.0 and 49.1 respectively). Scores for the intermediate groups had well-being scores between these. Interestingly, those in the 'low activity' group, who did half an hour to an hour of moderate activity or equivalent per week, had higher average well-being scores than those doing 'some activity', between an hour and an hour and a half moderate activity or equivalent per week (52.9 for men and women with low activity, and 51.3 for men and 51.8 for women with some activity).

Tables 5.9-5.11, Figure 5D

5.3.5 Well-being scores and mental health

As shown in Figure 5E, there was significant variation in average well-being scores according to GHQ-12 score. A high GHQ-12 score indicates probable psychological disturbance or mental ill health. Both men and women with high GHQ-12 scores had, on average, lower well-being scores than those with a score of 0 (43.2 for men and 44.5 for women with a high GHQ-12 score compared with 55.1 men and 55.3 for women with a score of 0). **Tables 5.12, Figure 5E**

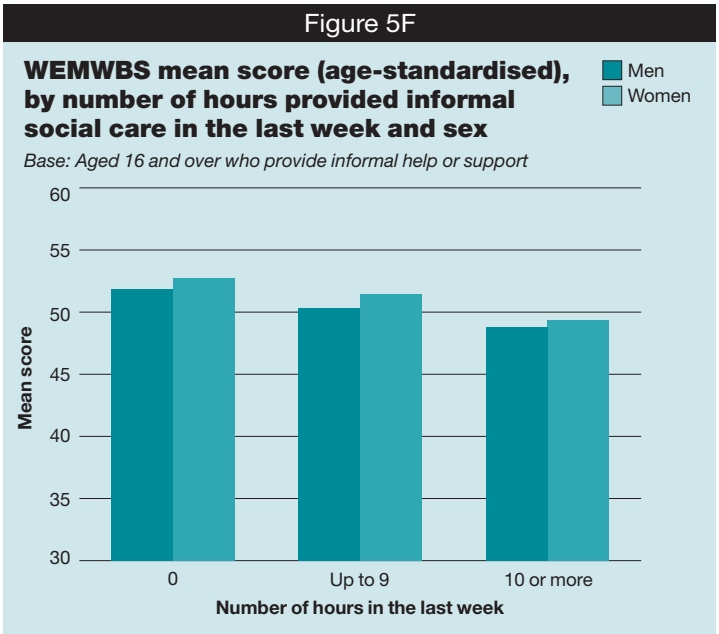
Figure 5E



5.3.6 Well-being scores and providing care for others

Participants were asked whether they had provided informal help or support to anyone because of long term physical or mental ill health, disability or problems relating to old age. 15% of men and 18% of women said that they provided this type of help or support,[14] and they were asked how much time they had spent providing this care in the last week. Well-being scores reduced as the number of hours help or support provided increased, as shown in Figure 5F. Among participants who said they provided help and support, those who had spent no time providing care during the last week had the highest average well-being scores (51.9 for men and 52.7 for women), while those who had spent 10 or more hours providing care had the lowest (48.8 and 49.4 respectively). **Tables 5.13, Figure 5F**

Figure 5F



5.3.7 Factors associated with a low well-being score

This section presents the results of a logistic regression among adults aged 16 and over that examined the association between, having a low well-being score (the outcome variable), and a number of potential risk factors (independent variables). Having a low well-being score was defined as having a WEMWBS score in the lowest 10% of all scores. The analysis indicates the contribution of each risk factor once other variables have been taken into account.

A forward stepwise selection procedure was carried out to identify variables that contributed significantly to the regression model. The factors considered are shown in Table 5A below. Provision of informal social care was a significant risk factor only among men, and area deprivation was a significant factor only among women. In the stepwise selection procedure, economic activity status, equivalised household income and age were significant factors. However, they were not found to be significant in the final model. These variables remained in the model as control variables, and so their effects are taken into account in the final model. Table 5.14 presents the results of the logistic regression including all risk factors significant for either men or women.

Table 5A

Significant risk factors	**Risk factors considered but not significant in either sex**
Marital status	Household tenure
Education status	Longstanding illness
IMD quintile	Self care status
GHQ-12 score	Mobility status
Self-reported general health	Pain status
Anxiety or depression status	Usual activities status
Provision of informal social care	Body mass index status
	Perception of weight
	Physical activity
	Gambling behaviour
	Cigarette smoking status
	Alcohol consumption frequency
	Religion

The risk factors indicate associations, not causes. Variations in risk are expressed as odds ratios (ORs), the degree to which the probability of the key outcome increases or decreases relative to a reference category which is given a value of 1. Odds ratios greater than 1 indicate higher odds of having a low well-being score, while odds ratios below 1 indicate lower odds. The 95% confidence intervals are shown; if the confidence interval for a category does not include1.0, it is significantly different from the reference category for the given variable.

The effect of marital status was different for men and women. The odds of having a well-being score in the lowest 10% were 54% lower among men who were married or cohabiting and 62% lower among those men who were divorced or separated, relative to men who were single (OR 0.46 and OR 0.38, respectively). Among women, no particular marital status group were more or less likely to have a low well-being score, relative to single women.

Education status was a significant predictor of having a low well-being score for both men and women. Among women, as levels of educational qualifications decreased, the odds of having a low well-being score increased. Women with no qualifications were more than twice as likely to have a low well-being score, compared with women with a degree level qualification (OR 2.19). Among men, those who had GCSE level and equivalent qualifications were more than twice as likely to have low well-being scores (OR 2.33), compared with men with a degree level qualification.

Even after controlling for the effects of equivalised household income, area deprivation remained a significant predictor of low well-being scores among women. Women living in the most deprived areas were twice as likely to have a low well-being score (OR 2.03), relative to women living in the least deprived areas. There was no difference in the odds of having a low well-being score for men according to area deprivation.

Relative to those with a GHQ-12 score of 0, men and women with higher scores had greater odds of having a low well-being score. Men and women with a high GHQ-12 score (4 or more, indicating probable mental ill health), had the greatest odds of having a low well-being score: men in this group were almost 7.5 times more likely, and women more than 6.5

times more likely to have a low well-being score, compared to those with a GHQ-12 score of 0 (OR 7.49 and 6.64, respectively).

Men and women with the poorest self-reported general health had the greatest odds of having a low well-being score. The magnitude of the effect was similar among men and women, with those who rated their health as 'bad' or 'very bad' being around 3 times more likely to have a low well-being score than those who said it was 'good' or 'very good' (OR 3.02 and OR 2.94, respectively).

Those who reported feeling either moderately or extremely anxious or depressed on the day of the interview were more likely to have a low well-being score than those who were not anxious or depressed. Both men and women were around 3 times more likely to have a low well-being score if they were anxious or depressed, relative to those who were not (OR 3.35 and OR 2.93 respectively).

Provision of informal social care or support significantly predicted low well-being scores among men. Men who provided informal social care or support to others were 75% more likely than those who did not to have a low well-being score (OR 1.75). For women, providing informal social care or support did not contribute significantly to the odds of having a low well-being score. **Table 5.14**

5.4 Discussion

It is clear from the analysis of the data that well-being is a complex construct that is related to many different things in people's lives. In line with previous findings on this topic, factors which are related to people's perception of their own well-being span personal, social and environmental issues. As can be seen with so many health-related outcomes, inequalities in income and environment are reflected in unequal mental well-being. Lower mean well-being scores were found in those living in the poorest households and those living in the most deprived areas. The restructure of public health organisations in England means that health and well-being are now the responsibility of local areas to manage and change. This includes the huge challenge of addressing inequalities and making sure that those who need support in improving their health and well-being receive it.

In line with other research, well-being differed across the life course. There was a U shaped relationship with age, with a tail off of average well-being scores in the oldest age group. However, age group was not a significant factor in the regression analysis when considered against the other variables included. This suggests that it is not age per se that is related to well-being, rather the changes in life and health that are common to certain age groups.

The most significant predictors of low well-being in the regression model were health related factors. Poor self-reported general health was predictive of low well-being, along with factors relating to mental health. Well-being has been described as being more than just the absence of mental ill health. However, it is important to remember that the presence of mental ill health is strongly related to having poorer mental well-being. The regression model found that those with probable psychological disturbance or mental ill health, and those who were anxious or depressed were many times more likely to have low well-being. While it is important to realise that positive mental well-being is not only about the absence of mental ill health, it must also be remembered that the two concepts are very much related.

Even after controlling for these health factors, other social demographic factors were also important. Living in a deprived area was predictive of low well-being for women, and being single was a significant predictor for men. Educational status was important for both men and women. And providing social care significantly predicted low well-being scores among men, but not for women. This goes some way to demonstrate the complexity of well-being and many factors in people's lives that affect it. Interestingly, the factors that are related to well-being differ between men and women, suggesting that it is important to think about these groups separately when considering how the government will meet its challenge of improving the health and well-being of everyone.

References and notes

1 *Department of Health. Healthy Lives, Healthy People: our strategy for public health in England*. DH, London, 2010. www.gov.uk/government/publications/healthy-lives-healthy-people-our-strategy-for-public-health-in-england

2 More information about health and wellbeing boards can be found at http://healthandcare.dh.gov.uk/hwb-guide/

3 *Wellbeing and Health*. Department of Health, 2013 www.gov.uk/government/publications/wellbeing-and-health

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5 Green F, Bryson A, Bridges S et al. *Wellbeing and work*. Chapter 7 in Craig R, Mindell J (eds.) Health *Survey for England 2010*. Health and Social Care Information Centre, Leeds, 2011. www.hscic.gov.uk/pubs/hse10report

6 Chanfreau J, Lloyd C, Byron C et al. *Predicting wellbeing*. Department of Health, London, 2013. www.natcen.ac.uk/our-research/research/predictors-of-wellbeing/

7 Fox KR. *The influence of physical activity on mental well-being*. Public Health Nutrition 1999;2:411-418

8 The Warwick-Edinburgh Mental Well-being Scale was funded by the Scottish Government National Programme for Improving Mental Health and Well-being, commissioned by NHS Health Scotland, developed by the University of Warwick and the University of Edinburgh, and is jointly owned by NHS Health Scotland, the University of Warwick and the University of Edinburgh.

9 Tennant R, Hiller L, Fishwick R, Platt S, Joseph S et al. *The Warwick-Edinburgh mental well-being scale (WEMWBS): development and UK validation*. Health and Quality of Life Outcomes 2007;**5**:1-13.

10 Goldberg D, Williams PA. *User Guide to the General Health Questionnaire*. NFER-Nelson, Windsor, 1998.

11 The questions on longstanding illness changed in HSE 2012, from the wording used in the previous years 'long-standing illness, disability or infirmity' to 'any physical or mental health conditions or illnesses'. The reference to a time period was also changed from 'anything that has troubled you over a period of time, or that is likely to affect you over a period of time' to 'lasting or expected to last 12 months or more'.

12 Department of Health. *Our health, our care, our say: a new direction for community services*. HMSO, London, 2006.

13 More information about personal care plans can be found at www.nhs.uk/Planners/Yourhealth/Pages/Careplan.aspx

14 See Chapter 9, Table 9.1.

Tables

Notes on the tables

1. The group on which the figures in the table are based is stated at the upper left corner of the table.
2. The data in most tables have been weighted. See Volume 2, Chapter 7 of this report for more detail. Both unweighted and weighted sample sizes are shown at the foot of each table.
3. Apart from tables showing age breakdowns, data have been age-standardised to allow comparisons between groups after adjusting for the effects of any differences in their age distributions. See Volume 2, Chapter 8.4, of this report for more detail.
4. The following conventions have been used in tables:
   - no observations (zero value)
   0 non-zero values of less than 0.5% and thus rounded to zero
   [ ] used to warn of small sample bases, if the unweighted base is less than 50. If a group's unweighted base is less than 30, data are normally not shown for that group.
5. Because of rounding, row or column percentages may not add exactly to 100%.
6. 'Missing values' occur for several reasons, including refusal or inability to answer a particular question; refusal to co-operate in an entire section of the survey (such as the nurse visit or a self-completion questionnaire); and cases where the question is not applicable to the participant. In general, missing values have been omitted from all tables and analyses.

Table 5.1

WEMWBS[a] mean scores, by age and sex

Aged 16 and over *2012*

Mean score	Age group								Total
	16-24	25-34	35-44	45-54	55-64	65-74	75-84	85+	
Men									
Mean	53.1	52.3	52.0	51.6	52.4	54.0	53.6	[50.9]	52.5
Standard error of the mean	0.62	0.56	0.52	0.53	0.52	0.44	0.63	[1.49]	0.22
Median	53.8	53.0	53.0	52.0	53.3	54.0	54.0	[50.9]	53.0
90th percentile[b]	62.0	62.0	63.0	63.0	64.0	65.0	65.3	[66.0]	63.0
10th percentile	43.0	42.0	41.0	38.0	41.0	43.0	42.8	[37.9]	42.0
Women									
Mean	51.7	52.1	51.4	51.3	52.9	54.1	53.4	51.3	52.2
Standard error of the mean	0.59	0.47	0.47	0.38	0.47	0.48	0.62	1.11	0.20
Median	53.0	53.9	52.0	52.0	54.0	54.0	54.0	51.0	53.0
90th percentile[b]	62.0	61.3	63.0	62.0	64.0	66.0	65.5	63.7	63.0
10th percentile	39.0	41.0	39.0	40.0	42.0	43.7	42.0	40.2	41.0
All adults									
Mean	52.4	52.2	51.7	51.5	52.6	54.0	53.5	51.1	52.3
Standard error of the mean	0.42	0.38	0.37	0.35	0.36	0.34	0.45	0.90	0.16
Median	53.0	53.0	53.0	52.0	54.0	54.0	54.0	51.0	53.0
90th percentile[b]	62.0	62.0	63.0	63.0	64.0	65.2	65.0	63.5	63.0
10th percentile	41.9	42.0	40.0	39.0	42.0	43.0	42.0	39.7	41.0
Bases (unweighted)									
Men	*189*	*234*	*327*	*372*	*413*	*402*	*183*	*41*	*2161*
Women	*255*	*381*	*450*	*538*	*451*	*400*	*213*	*59*	*2747*
Bases (weighted)									
Men	*367*	*400*	*429*	*415*	*359*	*250*	*139*	*30*	*2390*
Women	*353*	*414*	*438*	*439*	*353*	*258*	*168*	*46*	*2469*

[a] The Warwick-Edinburgh Mental Well-being Scale is designed to measure mental well-being of adults in the UK. The scale has 14 items, each scored from 1 to 5 on a Likert scale, and a total score between 14 and 70 is calculated.

[b] Centiles are values of a distribution that divide it into 100 equal parts. For example, the 10th centile is the value of a distribution where 10% of the cases have values at or below the 10th centile and 90% have values above it. The 50th centile is the **median**.

[ ] Results in brackets should be treated with caution because of the small base size.

Table 5.2

WEMWBS[a] mean scores (observed and age-standardised), by region[b] and sex

Aged 16 and over *2012*

Mean score	Region								
	North East	North West	Yorkshire & the Humber	East Midlands	West Midlands	East of England	London	South East	South West
Men									
Observed									
Mean	52.8	51.9	51.5	53.1	52.7	51.7	52.9	53.4	52.2
Standard error of the mean	0.67	0.72	0.87	0.79	0.73	0.65	0.67	0.38	0.49
Standardised									
Mean	53.1	52.0	51.4	53.1	52.8	51.8	52.9	53.5	52.3
Standard error of the mean	0.69	0.73	0.90	0.79	0.72	0.64	0.61	0.39	0.47
Women									
Observed									
Mean	51.3	52.1	53.2	51.2	51.8	51.4	52.1	53.1	52.4
Standard error of the mean	0.67	0.61	0.61	0.74	0.67	0.55	0.58	0.40	0.53
Standardised									
Mean	51.5	52.2	53.1	51.3	51.7	51.5	52.0	53.1	52.4
Standard error of the mean	0.65	0.59	0.61	0.72	0.68	0.56	0.53	0.41	0.57
Bases (unweighted)									
Men	*193*	*294*	*194*	*210*	*233*	*243*	*215*	*330*	*249*
Women	*239*	*358*	*252*	*250*	*277*	*303*	*302*	*462*	*304*
Bases (weighted)									
Men	*123*	*316*	*237*	*213*	*262*	*263*	*345*	*369*	*263*
Women	*124*	*320*	*245*	*216*	*250*	*278*	*369*	*420*	*247*

[a] The Warwick-Edinburgh Mental Well-being Scale is designed to measure mental well-being of adults in the UK. The scale has 14 items, each scored from 1 to 5 on a Likert scale, and a total score between 14 and 70 is calculated.

[b] Regions defined as the former Government Office Regions.

Table 5.3

WEMWBS[a] mean scores (age-standardised), by equivalised household income and sex

Aged 16 and over *2012*

Mean score	Equivalised household income quintile				
	Highest	2nd	3rd	4th	Lowest
Men					
Mean	54.5	53.1	52.8	52.1	48.9
Standard error of the mean	0.47	0.42	0.43	0.59	0.80
Women					
Mean	54.6	53.6	52.4	51.7	48.7
Standard error of the mean	0.42	0.46	0.36	0.47	0.59
Bases (unweighted)					
Men	*386*	*474*	*401*	*301*	*282*
Women	*454*	*502*	*490*	*444*	*413*
Bases (weighted)					
Men	*423*	*511*	*418*	*324*	*334*
Women	*407*	*439*	*423*	*386*	*382*

[a] The Warwick-Edinburgh Mental Well-being Scale is designed to measure mental well-being of adults in the UK. The scale has 14 items, each scored from 1 to 5 on a Likert scale, and a total score between 14 and 70 is calculated.

Table 5.4

WEMWBS[a] mean scores (age-standardised), by Index of Multiple Deprivation (IMD)[b] and sex

Aged 16 and over — *2012*

Mean score	IMD quintile				
	Least deprived	2nd	3rd	4th	Most deprived
Men					
Mean	53.4	52.4	52.4	52.6	51.1
Standard error of the mean	0.43	0.40	0.46	0.52	0.64
Women					
Mean	52.9	53.2	52.9	51.3	50.2
Standard error of the mean	0.40	0.40	0.40	0.40	0.62
Bases (unweighted)					
Men	*508*	*494*	*447*	*389*	*323*
Women	*633*	*616*	*563*	*500*	*435*
Bases (weighted)					
Men	*503*	*530*	*503*	*444*	*410*
Women	*541*	*543*	*513*	*460*	*411*

[a] The Warwick-Edinburgh Mental Well-being Scale is designed to measure mental well-being of adults in the UK. The scale has 14 items, each scored from 1 to 5 on a Likert scale, and a total score between 14 and 70 is calculated.

[b] The Index of Multiple Deprivation 2010 combines a number of indicators, chosen to cover a range of economic, social and housing issues, into a single deprivation score at the small area level in England.

Table 5.5

WEMWBS[a] mean scores, by self-reported general health and sex

Aged 16 and over — *2012*

Mean score	Self-reported general health				
	Very good	Good	Fair	Bad	Very bad
Men					
Mean	55.8	52.8	47.6	42.8	[40.6]
Standard error of the mean	0.30	0.28	0.82	3.17	[1.95]
Women					
Mean	55.7	52.5	48.4	44.4	[38.0]
Standard error of the mean	0.29	0.26	0.50	1.15	[2.09]
Bases (unweighted)					
Men	*737*	*897*	*379*	*104*	*44*
Women	*909*	*1136*	*522*	*136*	*44*
Bases (weighted)					
Men	*893*	*1003*	*361*	*91*	*43*
Women	*827*	*1045*	*436*	*121*	*40*

[a] The Warwick-Edinburgh Mental Well-being Scale is designed to measure mental well-being of adults in the UK. The scale has 14 items, each scored from 1 to 5 on a Likert scale, and a total score between 14 and 70 is calculated.

[ ] Results in brackets should be treated with caution because of the small base size.

Table 5.6

WEMWBS[a] mean scores (age-standardised), by longstanding illness[b] and sex

Aged 16 and over *2012*

Mean score	Longstanding illness			Number of longstanding illnesses	
	Limiting longstanding illness	Non-limiting limiting illness[c]	No longstanding illness	One	More than one
Men					
Mean	46.8	53.5	53.8	51.5	46.9
Standard error of the mean	0.85	0.60	0.26	0.59	1.21
Women					
Mean	47.0	53.5	53.8	51.1	48.2
Standard error of the mean	0.66	0.43	0.23	0.50	0.78
Bases (unweighted)					
Men	*490*	*437*	*1232*	*481*	*446*
Women	*674*	*540*	*1531*	*663*	*551*
Bases (weighted)					
Men	*450*	*418*	*1520*	*490*	*378*
Women	*563*	*445*	*1460*	*570*	*438*

[a] The Warwick-Edinburgh Mental Well-being Scale is designed to measure mental well-being of adults in the UK. The scale has 14 items, each scored from 1 to 5 on a Likert scale, and a total score between 14 and 70 is calculated.

[b] The questions about longstanding illness were changed in 2012; the main changes were to specify that illnesses and conditions should be included if they had lasted, or were expected to last 12 months; and to have separate questions about illnesses/conditions, and infirmity/disability (the impact of an illness). There was no change to the question about what the specific illness/condition was. More details are provided in Volume 2 of this report, Methods and documentation.

[c] This includes those participants who reported having a longstanding illness but didn't know whether this reduced their ability to carry out day to day activities.

Table 5.7

WEMWBS[a] mean scores (age-standardised), by provision of personal care plan and sex

Aged 16 and over with a longstanding illness *2012*

Mean score	Personal care plan		
	Agreed[b]	Not offered, but would like to discuss one	Not offered, don't want one[c]
Men			
Mean	49.5	48.0	51.4
Standard error of the mean	1.48	1.20	0.62
Women			
Mean	48.6	46.9	51.4
Standard error of the mean	0.87	0.91	0.53
Bases (unweighted)[d]			
Men	*120*	*173*	*614*
Women	*154*	*220*	*815*
Bases (weighted)[d]			
Men	*113*	*170*	*566*
Women	*129*	*189*	*669*

[a] The Warwick-Edinburgh Mental Well-being Scale is designed to measure mental well-being of adults in the UK. The scale has 14 items, each scored from 1 to 5 on a Likert scale, and a total score between 14 and 70 is calculated.

[b] Includes those who agreed a personal care plan within the last year and those who agreed one more than one year ago.

[c] Includes those who were not offered a personal care plan and don't know whether they would like one.

[d] A small number of participants were discussing a personal care plan which had yet to be agreed, or had been offered a personal care plan and did not want one. These are not included in the table.

Table 5.8

WEMWBS[a] mean scores (age-standardised), by hypertension categories and sex

Aged 16 and over with three valid blood pressure measurements *2012*

Mean score	Hypertension categories[b]				Hypertensive untreated (160/100)[c]
	Normotensive	Hypertensive controlled	Hypertensive uncontrolled	Hypertensive untreated	
Men					
Mean	52.8	54.4	56.2	52.7	54.2
Standard error of the mean	0.27	1.17	1.52	0.59	0.98
Women					
Mean	52.4	55.0	49.3	51.2	51.7
Standard error of the mean	0.25	2.07	4.03	0.98	1.15
Bases (unweighted)					
Men	*1118*	*212*	*127*	*325*	*65*
Women	*1610*	*239*	*149*	*284*	*65*
Bases (weighted)					
Men	*1358*	*173*	*93*	*308*	*65*
Women	*1508*	*182*	*113*	*218*	*50*

[a] The Warwick Edinburgh Mental Well-being Scale is designed to measure mental well-being of adults in the UK. The scale has 14 items, each scored from 1 to 5 on a Likert scale, and a total score between 14 and 70 is calculated.

[b] **Normotensive** untreated: Systolic blood pressure (SBP) less than 140mmHg and diastolic blood pressure (DBP) less than 90mmHg and **not** taking medication prescribed for high blood pressure
Hypertensive controlled: SBP less than 140mmHg and DBP less than 90mmHg and taking medication prescribed for high blood pressure
Hypertensive uncontrolled: SBP at least 140mmHg or DBP at least 90mmHg and taking medication prescribed for high blood pressure
Hypertensive untreated: SBP at least 140mmHg or DBP at least 90mmHg and **not** taking medication prescribed for high blood pressure
Hypertensive untreated (160/100): SBP at least 160mmHg or DBP at least 100mmHg and **not** taking medication prescribed for high blood pressure. If this level of BP is sustained, it always warrants treatment, according to current guidelines.

[c] Note that this category is a subset of 'Hypertensive untreated'.

Table 5.9

WEMWBS[a] mean scores (age-standardised), by BMI status and sex

Aged 16 and over with a valid BMI measurement *2012*

Mean score	BMI status[b]		
	Normal	Overweight	Obese
Men			
Mean	53.1	52.7	52.0
Standard error of the mean	0.45	0.29	0.46
Women			
Mean	53.1	52.3	51.1
Standard error of the mean	0.28	0.38	0.54
Bases (unweighted)			
Men	*550*	*900*	*525*
Women	*987*	*809*	*616*
Bases (weighted)			
Men	*727*	*940*	*541*
Women	*923*	*699*	*545*

[a] The Warwick-Edinburgh Mental Well-being Scale is designed to measure mental well-being of adults in the UK. The scale has 14 items, each scored from 1 to 5 on a Likert scale, and a total score between 14 and 70 is calculated.

[b]

Description	BMI (kg/m^2)
Normal	18.5 to less than 25
Overweight	25 to less than 30
Obese	30 or more

Participants with a BMI of less than 18.5 have been excluded from this analysis due to small bases.

Table 5.10

WEMWBS[a] mean scores (age-standardised), by perception of own weight and sex

Aged 16 and over *2012*

Mean score	Perception of own weight		
	About right weight	Too heavy	Too light
Men			
Mean	53.7	51.6	48.0
Standard error of the mean	0.33	0.36	1.19
Women			
Mean	53.6	51.7	51.3
Standard error of the mean	0.25	0.31	1.20
Bases (unweighted)			
Men	*923*	*895*	*100*
Women	*1041*	*1276*	*75*
Bases (weighted)			
Men	*1054*	*933*	*136*
Women	*948*	*1119*	*75*

[a] The Warwick-Edinburgh Mental Well-being Scale is designed to measure mental well-being of adults in the UK. The scale has 14 items, each scored from 1 to 5 on a Likert scale, and a total score between 14 and 70 is calculated.

Table 5.11

WEMWBS[a] mean scores (age-standardised), by levels of physical activity and sex

Aged 16 and over — *2012*

Mean score	Level of physical activity[b]			
	Meets guidelines	Some activity	Low activity	Inactive
Men				
Mean	53.6	51.3	52.9	50.0
Standard error of the mean	0.23	0.82	1.83	0.72
Women				
Mean	53.5	51.8	52.9	49.1
Standard error of the mean	0.24	0.44	0.72	0.53
Bases (unweighted)				
Men	*1399*	*228*	*74*	*430*
Women	*1541*	*372*	*170*	*625*
Bases (weighted)				
Men	*1650*	*226*	*73*	*410*
Women	*1393*	*328*	*151*	*558*

[a] The Warwick-Edinburgh Mental Well-being Scale is designed to measure mental well-being of adults in the UK. The scale has 14 items, each scored from 1 to 5 on a Likert scale, and a total score between 14 and 70 is calculated.

[b] **Meets guidelines:** At least 150 minutes moderately intensive physical activity (MPA) or 75 minutes vigorous activity (VPA) per week (pw) or an equivalent combination of these.
Some activity: 60-149 minutes MPA pw or 30-74 minutes VPA pw or an equivalent combination of these.
Low activity: 30-59 minutes MPA pw or 15-29 minutes VPA pw or an equivalent combination of these.
Inactive: Less than 30 minutes MPA pw or less than 15 minutes VPA pw or an equivalent combination of these.

Table 5.12

WEMWBS[a] mean scores (age-standardised), by GHQ-12 score[b] and sex

Aged 16 and over — *2012*

Mean score	GHQ-12 score		
	Score 0	Score 1-3	Score 4+
Men			
Mean	55.1	51.1	43.2
Standard error of the mean	0.25	0.38	0.70
Women			
Mean	55.3	51.3	44.5
Standard error of the mean	0.21	0.31	0.50
Bases (unweighted)			
Men	*1294*	*451*	*254*
Women	*1450*	*656*	*433*
Bases (weighted)			
Men	*1393*	*522*	*294*
Women	*1274*	*594*	*410*

[a] The Warwick-Edinburgh Mental Well-being Scale is designed to measure mental well-being of adults in the UK. The scale has 14 items, each scored from 1 to 5 on a Likert scale, and a total score between 14 and 70 is calculated.

[b] A score of 4 or more is referred to as a 'high GHQ-12 score', indicating probable psychological disturbance or mental ill health.

Table 5.13

WEMWBS[a] mean scores (age-standardised), by number of hours provided informal social care[b] in the last week and sex

Aged 16 and over who provide informal help or support — *2012*

Mean score	Number of hours in last week		
	No time	Up to nine hours	10 or more hours
Men			
Mean	51.9	50.3	48.8
Standard error of the mean	0.82	0.93	2.11
Women			
Mean	52.7	51.4	49.4
Standard error of the mean	0.88	0.53	0.96
Bases (unweighted)			
Men	*60*	*232*	*83*
Womenv	*77*	*328*	*144*
Bases (weighted)			
Men	*76*	*223*	*79*
Women	*69*	*272*	*119*

[a] The Warwick-Edinburgh Mental Well-being Scale is designed to measure mental well-being of adults in the UK. The scale has 14 items, each scored from 1 to 5 on a Likert scale, and a total score between 14 and 70 is calculated.

[b] Informal social care is help or support the participant provided to someone because of long-term physical or mental ill-health, disability or problems relating to old age. It does not include help provided in a professional capacity. In cases where informal care is provided for more than one person, this table shows the hours of help for the person receiving the most hours of help in the last week.

Table 5.14

Association of a low WEMWBS[a] mean score with risk factors and sex

Aged 16 and over *2012*

Independent variable	N	Odds ratio	95 C.I.[b]	
Men *Base (weighted)*	2390		Lower	Upper
Age (p=0.453)				
16-24[c]	367	1		
25-34	400	2.00	0.73	5.50
35-44	429	2.03	0.81	5.11
45-54	415	2.85	1.13	7.15
55-64	359	2.20	0.83	5.85
65-74	250	2.20	0.70	6.87
75+	169	2.04	0.55	7.58
Marital status (p=0.014)				
Single[c]	633	1		
Married, civil partnership, cohabiting	1522	0.46	0.25	0.82
Divorced or separated	177	0.38	0.17	0.81
Widowed	57	1.09	0.42	2.80
Education status (p=0.018)				
Degree or equivalent[c]	651	1		
A level or higher education	776	1.60	0.93	2.77
GCSE level and other qualifications	564	2.33	1.38	3.92
No qualifications	398	1.61	0.89	2.90
IMD quintile (p=0.300)				
Least deprived[c]	503	1		
2nd	530	0.94	0.55	1.60
3rd	503	1.07	0.61	1.90
4th	444	0.71	0.40	1.25
Most deprived	410	1.43	0.80	2.55
GHQ-12 score (p<0.001)				
0[c]	1393	1		
1-3	522	1.85	1.06	3.21
4 or more	294	7.49	4.33	12.96
Not stated	181	4.15	1.44	11.96
Self-reported general health (p=0.001)				
Very good/good[c]	1896	1		
Fair	361	2.08	1.36	3.19
Bad/very bad	133	3.02	1.68	5.45
Anxiety or depression (p<0.001)				
Not anxious or depressed[c]	1861	1		
Moderately/extremely anxious or depressed	391	3.35	2.06	5.46
Not stated	137	0.91	0.28	2.99
Provision of informal social care (p=0.014)				
Yes	379	1.75	1.12	2.74
No[c]	2011	1		

Independent variable	N	Odds ratio	95 C.I.[b]	
Women *Base (weighted)*	2469		Lower	Upper
Age (p=0.120)				
16-24[c]	353	1		
25-34	414	1.41	0.76	2.63
35-44	438	2.05	1.01	4.18
45-54	439	1.55	0.81	2.97
55-64	353	0.82	0.35	1.92
65-74	258	0.91	0.32	2.55
75+	214	0.74	0.20	2.84
Marital status (p=0.047)				
Single[c]	519	1		
Married, civil partnership, cohabiting	1526	0.77	0.47	1.28
Divorced or separated	240	1.03	0.57	1.85
Widowed	183	2.06	0.92	4.63
Education status (p=0.033)				
Degree or equivalent[c]	647	1		
A level or higher education	672	1.63	1.01	2.61
GCSE level and other qualifications	654	1.74	1.08	2.81
No qualifications	496	2.19	1.28	3.76
IMD quintile (p=0.007)				
Least deprived[c]	541	1		
2nd	543	1.23	0.74	2.03
3rd	513	1.37	0.84	2.22
4th	460	0.89	0.53	1.51
Most deprived	411	2.03	1.19	3.46
GHQ-12 score (p<0.001)				
0[c]	1274	1		
1-3	594	1.76	1.15	2.69
4 or more	410	6.64	4.20	10.48
Not stated	191	2.21	1.03	4.72
Self-reported general health (p<0.001)				
Very good/good[c]	1872	1		
Fair	436	2.41	1.62	3.57
Bad/very bad	161	2.94	1.78	4.86
Anxiety or depression (p<0.001)				
Not anxious or depressed[c]	1776	1		
Moderately/extremely anxious or depressed	529	2.93	1.96	4.38
Not stated	164	1.59	0.73	3.48
Provision of informal social care (p=0.981)				
Yes	460	1.00	0.68	1.48
No[c]	2009	1		

[a] The Warwick-Edinburgh Mental Well-being Scale is designed to measure mental well-being of adults in the UK. The scale has 14 items, each scored from 1 to 5 on a Likert scale, and a total score between 14 and 70 is calculated. A low score is defined here as a score in the bottom 10% of scores.

[b] Confidence interval.

[c] Reference category.