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ORIGINAL ARTICLE

# Ageing, social class and common mental disorders: longitudinal evidence from three cohorts in the West of Scotland

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**Background.** Understanding how common mental disorders such as anxiety and depression vary with socio-economic circumstances as people age can help to identify key intervention points. However, much research treats these conditions as a single disorder when they differ significantly in terms of their disease burden. This paper examines the socio-economic pattern of anxiety and depression separately and longitudinally to develop a better understanding of their disease burden for key social groups at different ages.

**Method.** The Twenty-07 Study has followed 4510 respondents from three cohorts in the West of Scotland for 20 years and 3846 respondents had valid data for these analyses. Hierarchical repeated-measures models were used to investigate the relationship between age, social class and the prevalence of anxiety and depression over time measured as scores of 8 or more out of 21 on the relevant subscale of the Hospital Anxiety and Depression Scale (HADS).

**Results.** Social class differences in anxiety and depression widened with age. For anxiety there was a nonlinear decrease in prevalence with age, decreasing more slowly for those from manual classes compared to non-manual, whereas for depression there was a non-linear increase in prevalence with age, increasing more quickly for those from manual classes compared to non-manual. This relationship is robust to cohort, period and attrition effects.

**Conclusions.** The more burdensome disorder of depression occurs more frequently at ages where socio-economic inequalities in mental health are greatest, representing a 'double jeopardy' for older people from a manual class.

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**Key words**: Age, anxiety, depression, longitudinal, socio-economic inequalities.

## Introduction

Common mental disorders such as anxiety and depression have been estimated to account for substantial proportions of the burden of disease in developed countries, and the estimated burden of these conditions varies between age groups (Murray & Lopez, 1996; Mathers *et al*. 2006). Understanding the demographic patterning of disease burden is important for strategic health planning (Lopez *et al*. 2006), and as tackling socio-economic inequalities in health is a stated policy goal, both in the UK and internationally (Marmot *et al*. 2008; DOH, 2009), differences in disease burden between socio-economic groups are of particular interest. Although research often demonstrates associations between socio-economic disadvantage and psychological distress, it is not always clear how these vary with age. However, improving understanding of this age patterning would be valuable in assessing the needs of an ageing population, especially as the Royal College of Psychiatrists has recently suggested that the UK currently provides fewer mental health services for those over 65 than for younger people (Royal College of Psychiatrists, 2009). An additional issue with current evidence is that measures of distress often group anxiety and depression together. However, these disorders differ in terms of their disease burden, so it is important to understand the potential differences in patterning between them.

Longitudinal research has shown relationships between better mental health and higher occupational classes (Marmot *et al*. 2001; Power *et al*. 2002; Sacker & Wiggins, 2002; Stansfeld *et al*. 2003; Singh-Manoux *et al*. 2004; Chandola *et al*. 2007), higher levels of income or education (Kim & Durden, 2007; Beard *et al*.

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2008), and advantages in childhood socio-economic position (Gilman *et al*. 2002; Power *et al*. 2002; Singh-Manoux *et al*. 2004; Tiffin *et al*. 2005; Wiles *et al*. 2005; Mensah & Hobcraft, 2008). Cross-sectional evidence also suggests that relationships between socio-economic variables and psychological disorder can vary, or even strengthen, as people age (Miech & Shanahan, 2000; Fryers *et al*. 2003). However, the age dependency of this relationship has rarely been made explicit in longitudinal research, with a tendency either to simply adjust for age (Marmot *et al*. 2001; Stansfeld *et al*. 2003; Singh-Manoux *et al*. 2004; Wiggins *et al*. 2004) or to only consider psychological distress as an outcome at one time point for participants of equivalent age (Tiffin *et al*. 2005; Wiles *et al*. 2005; Mensah & Hobcraft, 2008). Insofar as variation by age has been addressed explicitly in the literature, the results have been inconsistent: some show inequalities widening with age and others show them narrowing (Sacker & Wiggins, 2002; Chandola *et al*. 2007; Kim & Durden, 2007).

In addition to the ambiguity over age patterning, the outcome measures often used to show relationships between common mental disorders and socio-economic circumstances do not discriminate between anxiety and depression. Such measures confound the prevalence of the two disorders, making it more difficult to discern where the burden of disease is greatest, and may not be offering a clear picture of the inequalities between groups. For example, depression has been shown to be more disabling and more consistently associated with mortality than anxiety (Murphy *et al*. 1987; Andrews *et al*. 2000; Eaton *et al*. 2008), so a difference between groups in the prevalence of depression will mean more in terms of disease burden than a similar difference between groups for anxiety. There is some evidence that age and socio-economic effects can differ by disorder (for examples see Stansfeld *et al*. 1998; Beekman *et al*. 2000; Vink *et al*. 2008) and improved understanding of such differences would help to clarify the social patterning of disease burden. The aim of this paper was therefore to extend previous work by using longitudinal data from three cohorts to examine the relationship between age, socio-economic status and the prevalence of anxiety and depression.

## Method

### *Design and setting*

Data for this paper were taken from the Twenty-07 Study (for full details see Benzeval *et al*. 2009), which was established as a two-stage stratified random sample of 4510 people from three age cohorts (born around 1932, 1952 and 1972) living in the Central Clydeside Conurbation in the West of Scotland. The baseline interviews were carried out in 1987/88 when respondents were aged approximately 15, 35 and 55 years, and there were four repeat visits in 1990/2, 1995/7, 2000/4 and 2007/8, providing 20 years of follow-up for each cohort and covering 60 years of the lifespan. Baseline respondents have been shown to be representative of the general population of the sampled area (Der, 1998). The Twenty-07 Study is particularly well placed to address the questions under consideration as it includes the Hospital Anxiety and Depression Scale (HADS), which was designed to discriminate between disorders (Zigmond & Snaith, 1983).

### *Measures*

The HADS was administered at each of the four follow-up visits. It has been used in clinical and general population settings, and correlates well with interview-based measures and other screening questionnaires that identify psychiatric distress (for a review see Bjelland *et al*. 2002). The HADS has two subscales, one for anxiety and one for depression, and each has seven items scored on a four-point scale between 0 and 3, creating a maximum score of 21 on each subscale. For this analysis, if only one or two items on a subscale were missing, the score was calculated as the mean of valid responses multiplied by seven (Roness *et al*. 2005). Total scores of 8 or more on either subscale have been shown to have sensitivity and specificity of approximately 80% for finding clinical cases. Although this validation was mostly within clinical settings, a community survey also showed similar values (Bjelland *et al*. 2002) and so this threshold was used to define cases.

Table 1 shows prevalence rates for disorder at each wave. The categories shown are not mutually exclusive, that is anxiety cases and depression cases were defined without regard to co-morbidity. Anxiety cases were more prevalent than depression cases, and comparing the rates for each disorder with those for combined anxiety and depression shows that depression was mostly only present in combination with anxiety but that the reverse was not true of anxiety. Cross-sectional normative data for the HADS in the UK has shown similar prevalence rates (Crawford *et al*. 2001); in the normative data 33% had scores of 8 or more on the anxiety subscale and 11.4% had scores of 8 or more for depression, whereas in the fourth wave of Twenty-07 (the closest time point for comparison), the respective figures were 35.7% and 13.2%.

Socio-economic disadvantage was measured by baseline occupational class, coded according to the

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**Table 1.** *Distribution of common mental disorders and baseline characteristics across the study waves*

| | Baseline ($n=4510$) | Wave 2: 1990/2 ($n=3820$) | Wave 3: 1995/7 ($n=2972$) | Wave 4: 2000/4 ($n=2661$) | Wave 5: 2007/8 ($n=2603$) | Modelled data from waves 2–5 ($n=10629$ person-years)[b] |
|---|---|---|---|---|---|---|
| **Prevalence of anxiety and depression in each wave** | | | | | | |
| Cases for either anxiety or depression | N.A. | 43.1 | 32.6 | 37.6 | 37.0 | 41.4 |
| Missing | | 1.3 | 29.1[a] | 4.1 | 1.8 | N.A. |
| Anxiety cases | N.A. | 41.3 | 31.3 | 35.7 | 34.8 | 39.4 |
| Missing | | 0.9 | 29.0[a] | 3.8 | 1.8 | N.A. |
| Depression cases | N.A. | 11.7 | 9.5 | 13.2 | 12.0 | 12.5 |
| Missing | | 1.3 | 29.1[a] | 4.0 | 1.8 | N.A. |
| Combined cases of anxiety and depression | N.A. | 9.8 | 8.1 | 11.1 | 9.7 | 10.4 |
| Missing | | 1.3 | 29.1[a] | 4.1 | 1.8 | N.A. |
| **Percentage of respondents at each wave with key baseline characteristics** | | | | | | |
| Cohort | | | | | | |
| 1970s | 33.6 | 35.2 | 30.8 | 31.7 | 36.2 | 34.4 |
| 1950s | 32.0 | 31.9 | 34.5 | 36.8 | 38.4 | 33.6 |
| 1930s | 34.4 | 33.0 | 34.7 | 31.5 | 25.5 | 32.0 |
| Female | 53.5 | 53.9 | 55.4 | 55.0 | 55.4 | 53.9 |
| Manual class at baseline | 54.0 | 52.9 | 50.6 | 48.6 | 47.6 | 52.1 |
| Missing | 4.0 | 3.5 | 3.1 | 3.5 | 3.9 | N.A. |

N.A., Not applicable.

[a] Missingness is high in wave 3 because a portion of the sample only received a postal questionnaire that did not include the Hospital Anxiety and Depression Scale (HADS) instrument.

[b] As this column represents only the modelled data and person-years with missing data were not included in the models, there are no missing values here.

Registrar General's 1980 classification (Office of Population Censuses and Surveys, 1980) for head of household's current or previous occupation. In multiple person households, the head was defined as the husband (or father for the 1970s cohort), and if they did not have an occupation then the wife/mother's was used. Social class has been split into a dichotomous variable comparing manual (III manual, IV and V) to non-manual classes (I, II and III non-manual). To keep estimates for the other parameters neutral (e.g. Sacker *et al*. 2005), gender was coded −0.5 for men and 0.5 for women, and age, measured as a continuous variable, was centred on its mean (46.3 years). Dummy variables for cohort (reference: 1950s cohort) and study wave (reference: wave 2) were used to investigate cohort and period effects. A variable representing the number of missed waves ranging from 0 to 3 was also created to examine the effects of sample attrition.

The distribution of respondents at each wave according to these basic characteristics is displayed in the lower part of Table 1. This shows that the modelled data (final column) were reasonably representative of the baseline sample in terms of gender, cohort and occupational class.

### *Statistical methods*

Hierarchical repeated-measures models were used; these take account of the clustered nature of the data and also adjust for non-response if the data are missing at random (Clarke & Hardy, 2007). Data were included in the analysis for each wave in which respondents participated and had a valid score on both HADS subscales. Logistic models were constructed in MLwiN version 2.02 (Rasbash *et al*. 2005) with three levels: measurement points (level 1, $n=10629$), nested within individuals (level 2, $n=3846$), nested within primary sampling units (level 3, $n=62$). Initially, the coefficients for age were allowed to vary at the individual level (a random slope model), but there was no evidence of complex variation at this level and so the more parsimonious random intercept models were used. Models were also initially attempted with second-order penalized quasi-likelihood (PQL) estimation, but given the low numbers of depression cases

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some models would not converge and therefore, for consistency, all models were estimated using first-order marginal quasi-likelihood estimation (MQL). Lowering the threshold for depression caseness gave enough cases for second-order PQL estimation but did not materially change the findings; therefore, as the threshold for depression caseness was thought to be appropriate, the first-order MQL models were used (details available from the authors on request).

Three main sets of models were constructed. First, for comparison with other literature, caseness for either anxiety or depression, that is a non-discriminatory measure of disorder, was modelled against age, sex and baseline social class, and all possible interactions between age, class and sex were tested. Non-linear age terms were used to examine how the shape of the trajectory varied as people age. Second, similar models were constructed separately for anxiety and depression (although with co-morbid cases included in both instances). Third, sensitivity analyses were conducted to explore whether the observed trajectories were robust to period, cohort and attrition effects.

Three other modelling variations were also tested but are not presented. First, models were repeated using a time-varying social class variable; that is, rather than using baseline class, the class measurement from the previous wave was used at each measurement point (or the most recent wave prior to that if it was missing). Second, the models were repeated using the HADS subscale scores as continuous outcome measures. The results were very similar to the main models in both cases and so, for brevity, only the logistic models using baseline class are shown. Third, all models were also repeated for combined anxiety and depression but, as depression rarely occurred without concurrent anxiety (see Table 1), the results were almost identical to those for depression and are not shown (details available from the authors on request).

## Results

Figure 1 shows the predicted probabilities (from the fixed part of the model) and 95% confidence intervals for overall mental distress, that is caseness on either the anxiety or the depression subscale. The age trajectories were nonlinear, with quadratic terms offering significant improvement over the linear model. For those from non-manual classes, the probability of disorder declined with age, with the rate of decline increasing steadily from approximately age 35, whereas for those from manual classes the trajectory for disorder was more of an inverse U-shape with a peak probability of disorder in the late 40s. The difference in mental disorder prevalence between those from non-manual and manual classes increased significantly as respondents aged. Females were more likely to experience disorder across all ages, but no gender interactions with age or social class were evident.

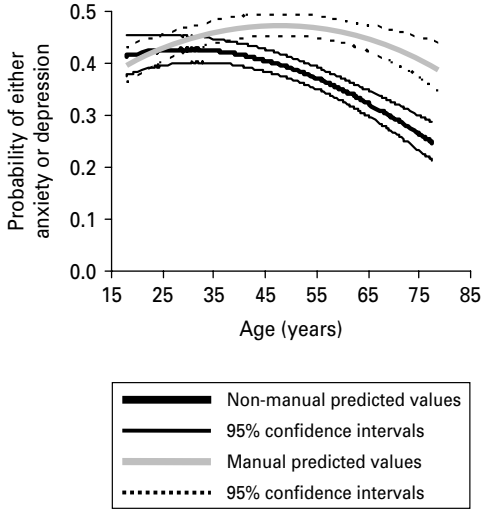


**Fig. 1.** Age trajectories in common mental disorders by baseline social class and adjusted for gender.

The results from comparable models for each disorder examined separately are displayed in Fig. 2, and the odds ratios for the various parameters in these models can be found in Table 2. Again, age trajectories were non-linear for each disorder, with quadratic terms offering significant model improvement over a linear relationship. The probability of anxiety (Fig. 2*a*) was fairly stable with no significant class difference until approximately age 45, at which point the prevalence began to decline, but the decline, representing psychological improvement, was steeper for those in non-manual classes than for those in manual classes. The probability of depression, however (Fig. 2*b*), increased steadily from a relatively low prevalence in adolescence, before levelling out somewhat in older age. The prevalence for depression increased more quickly with age for those in manual classes than for those in non-manual classes, with the difference becoming significant around the age of 30. In all models the peak probability of disorder was lower, and at younger ages, for those in non-manual classes than for those in manual classes.

Women were more likely than men to experience anxiety and depression, irrespective of age or social class, but there was also a gender interaction with baseline class for anxiety (see odds ratios in Table 2). This resulted in a wider class difference for women covering a greater portion of the lifecourse (i.e. the confidence intervals separate at earlier ages, around 35 years), whereas class differences in anxiety for men only became significant at older ages (around

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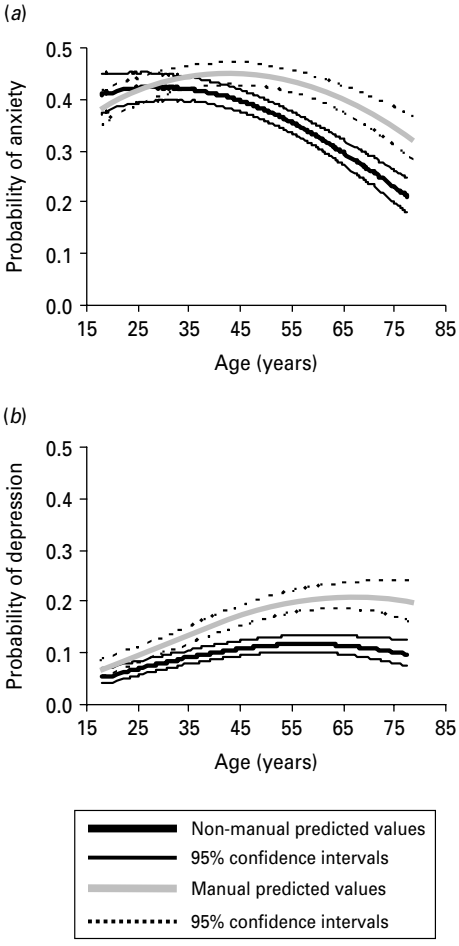


**Fig. 2.** Disorder-specific age trajectories by social class and adjusted for gender.

60 years). Modelling anxiety for men and women separately offered similar results (not shown). There were no gender interactions evident for depression.

Sensitivity analyses were conducted to ascertain the robustness of the models portrayed in Fig. 2; the results are shown in Table 2. The first column for each disorder contains the odds ratios for the models in Fig. 2, and the next two columns show separate models adjusting for cohort and period effects respectively. Separate models were constructed here because age, cohort and period effects cannot all simultaneously be adjusted for in the same model (Glenn, 2005). In general, including either period or cohort dummies had little impact on the age coefficients, which supports their interpretation as genuine age effects (Hoeymans *et al*. 1997; Sacker & Wiggins, 2002). In addition, significant main effects of cohort and period were observed for anxiety. Other things being equal, anxiety was more likely in the 1930s cohort and less likely in the 1970s cohort than in the 1950s, and was less likely in the fourth and fifth wave of the study than in the second wave. There were no significant cohort or period effects evident for depression.

The final column for each disorder in Table 2 shows adjustment for the number of missed waves to assess the effect of drop-out on the observed associations (Sacker & Wiggins, 2002). Adding a variable for drop-out had little influence on the other parameters. However, there were significant main effects, indicating that those who missed waves were more likely to be cases for either disorder when they did participate and there was an interaction with age for anxiety, but no interactions with class or gender. This implies that attrition may have caused some underestimation of disorder prevalence, some overestimation of the age gradient in anxiety, but that attrition is unlikely to have had any effect upon the observed class differences.

## Discussion

Distinguishing between anxiety and depression in this paper demonstrates that the age trajectories for these disorders follow opposite directions; the probability of anxiety decreases with age whereas depression becomes more probable. This is in accordance with some previous findings (Beekman *et al*. 2000; Vink *et al*. 2008), although usually an age trend has been found for one disorder and not the other. Social class differences increased with age and indicate, for those in manual classes compared to those in non-manual, slower improvement with age for anxiety and more rapid decrement with age for depression. Trajectories for combined anxiety and depression were also modelled and were found to be almost identical to those for depression, and hence for simplicity are not presented here. Overall, these results show that the difference between manual and non-manual classes is not significant at younger ages but emerges, becoming significant, as it increases in magnitude with age. This supports previous work indicating the potential age-dependency of socio-economic effects on mental health (Miech & Shanahan, 2000; Fryers *et al*. 2003), and the findings of Chandola *et al*. (2007) that class differences in mental health increased with age. Sacker & Wiggins (2002) observed a contradictory pattern, where the socio-economic inequality narrowed with age, but only when modelling for age and cohort, not when comparing age and period effects, so the difference may be attributable to a secular trend.

The different age trajectories observed for anxiety and depression give a clearer understanding of the patterning of disease burden than has been shown previously. First, those who are older were found to be at an increased risk of depression, which has a greater disease burden than anxiety with respect to impairment or mortality. The greater burden associated with

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**Table 2.** *Odds ratios and 95% confidence intervals for common mental disorders: sensitivity analyses*

| | Anxiety | | | | Depression | | | |
|---|---|---|---|---|---|---|---|---|
| Variables[a] | Basic final models (from Fig. 2) | Adding cohort effects | Adding period effects | Adding attrition effects | Basic final models (from Fig. 2) | Adding cohort effects | Adding period effects | Adding attrition effects |
| Age | 0.99 (0.98–0.99) | 0.98 (0.97–0.98) | 0.99 (0.98–0.99) | 0.98 (0.98–0.99) | 1.01 (1.01–1.02) | 1.01 (1.01–1.02) | 1.01 (1.01–1.02) | 1.01 (1.01–1.02) |
| Age-squared[b] | 0.96 (0.94–0.97) | 0.96 (0.94–0.97) | 0.96 (0.94–0.97) | 0.96 (0.95–0.98) | 0.95 (0.93–0.97) | 0.95 (0.93–0.97) | 0.95 (0.93–0.97) | 0.94 (0.92–0.97) |
| Sex | 1.48 (1.27–1.73) | 1.48 (1.27–1.73) | 1.48 (1.27–1.72) | 1.50 (1.28–1.75) | 1.16 (1.01–1.34) | 1.16 (1.01–1.34) | 1.16 (1.01–1.34) | 1.19 (1.03–1.37) |
| Manual | 1.25 (1.13–1.39) | 1.25 (1.12–1.39) | 1.25 (1.12–1.39) | 1.22 (1.10–1.36) | 1.71 (1.46–2.00) | 1.71 (1.46–2.00) | 1.71 (1.46–2.00) | 1.65 (1.41–1.92) |
| Manual by age | 1.01 (1.01–1.02) | 1.01 (1.01–1.02) | 1.01 (1.01–1.02) | 1.01 (1.01–1.02) | 1.01 (1.00–1.02) | 1.01 (1.00–1.02) | 1.01 (1.00–1.02) | 1.01 (1.00–1.02) |
| Manual by sex | 1.26 (1.02–1.56) | 1.28 (1.03–1.58) | 1.27 (1.03–1.57) | 1.26 (1.02–1.56) | N.S. | | | |
| 1970s cohort | | 0.75 (0.62–0.91) | | | | N.S. | | |
| 1930s cohort | | 1.29 (1.07–1.55) | | | | N.S. | | |
| 95–97 wave | | | 1.09 (0.97–1.22) | | | | N.S. | |
| 00–04 wave | | | 0.84 (0.75–0.94) | | | | N.S. | |
| 07–08 wave | | | 0.83 (0.74–0.94) | | | | N.S. | |
| Missed waves | | | | 1.12 (1.06–1.18) | | | | 1.28 (1.19–1.38) |
| Missed waves by age | | | | 1.01 (1.00–1.01) | | | | N.S. |

N.S., The variable did not significantly improve the model and was left out.

[a] Variables are defined as follows: age is centred on the mean value of 46.3 years; sex is centred on 0 (0.5 = female, −0.5 = male); for manual, non-manual is the reference category; for the 1970s and 1930s cohorts it is the 1950s cohort; for the 95–97, 00–04 and 07–08 waves it is the 90–92 wave; and missed waves is the number of waves missed ranging from 0 to 3.

[b] To make odds ratios easier to interpret, age squared was divided by 100 before being entered into the models.

this rise in the likelihood of depression at older age is exacerbated by the fact that depression was, in most cases, combined with anxiety. Combined anxiety and depression has been found to show greater risks for both impairment and suicide than for cases of either disorder alone (Wittchen *et al*. 2003). Second, those who are older and from a manual class experience a 'double jeopardy'; not only are they at a greater risk of a more burdensome disorder (i.e. depression) than younger people but they are also more likely than those of a similar age from non-manual classes to experience either anxiety or depression. These findings are especially important in the UK, where provision of mental health services for those aged 65 and over is less comprehensive than for younger people, and 84.1% of those with depression in this older age group are receiving no treatment (Royal College of Psychiatrists, 2009). This suggests that the provision is lowest, or at least lacking, where there are both the greatest needs and the greatest socio-economic inequalities. Knowledge of these patterns could help to address this imbalance by informing resource allocation for treatment in mental health services and by identifying the people who are disadvantaged and older as a key target group for interventions to prevent mental disorder.

The finding that socio-economic differences in mental disorder widen as people age for both anxiety and depression can be interpreted in the context of stress theory (Thoits, 1999), which suggests that groups with high levels of stressors and low levels of coping resources, such as those of disadvantaged socio-economic status, may be more at risk for mental disorders. For example, social support has been found to be less prevalent among more disadvantaged groups (Turner & Marino, 1994; Huurre *et al*. 2007), and variations in stress have been shown to explain some of the socio-economic variation in depression (Turner *et al*. 1995). The divergent age trajectories observed here may be caused by the accumulation of coping resources among those with more advantaged socio-economic status as people age (Ross & Wu, 1996; Kim & Durden, 2007), by the accumulation of stressful exposure among disadvantaged groups as people get older (Aldwin & Stokols, 1988), or by some combination of the two. A limitation of stress theory is that it is not specific to particular disorders (Thoits, 1999), but these findings suggest that this may be justified: the socio-economic difference widens with age for both disorders. This could be because a common factor, varying with age and socio-economic status, is associated with both anxiety and depression, but it could also be the case that different stressors and/or resources are involved in creating the effect for each disorder. Identification of a common factor would be particularly valuable because that might represent a means of effective intervention for both anxiety and depression.

The 60-year age range covered by this 20-year follow-up of three cohorts has allowed ageing and socio-economic effects on psychiatric morbidity to be examined across a broad portion of the lifespan while maintaining an advantage over cross-sectional research in that period and cohort effects could be explored in sensitivity analyses. The longitudinal data also allowed social class to be examined at different points in time, but this did not affect the results. It has been suggested that cohort effects may confound this type of analysis as older cohorts are less comfortable in reporting psychological symptoms (Aldwin *et al*. 1989). However the trajectories reported here were found to be robust to cohort effects and, if anything, the oldest cohort was more likely to report anxiety symptoms controlling for age. Seedat *et al*. (2009) found interactions between gender and cohort in a large international study, such that gender differences in depression levels were smaller in more recent cohorts. Similar interactions between cohort and gender were not observed here, nor were any between cohort and social class, although this may have been due to a lack of power to detect such complex interactions.

These analyses addressed the possible effects of attrition bias by including data up to the point at which a respondent drops out and using likelihood estimators. The residual effect of drop-out was examined by including a count of missing waves in sensitivity models. Although this suggested, consistent with other research (Mirowsky & Reynolds, 2000), that those who missed waves may have had higher levels of disorder, the other parameters were largely unaffected and thus it is unlikely that drop-out could explain the class differences or the age trends observed.

There are some limitations to these findings, however; although the Twenty-07 study covers a wide age range, there is some evidence that the age gradient in psychiatric morbidity is steepest beyond the age of 70 (Grundy & Sloggett, 2003; Nguyen & Zonderman, 2006). This age group is only represented here by the last measurement point from the oldest cohort and thus we cannot assess whether people beyond this age have a steeper psychiatric gradient than suggested. One important caveat in relation to the age trends reported here is that, although adjustment for cohort and period effects suggests the age trends are genuine, the results are representative of the individual experiences of the three age cohorts rather than of continuous ageing of individuals across the whole of the lifespan covered.

In relation to the measure of mental disorder, it is important to note that HADS scores do not represent clinical diagnoses of anxiety or depression, so a case might not necessarily require specialist help, but the raised symptomatology measured, even if subclinical, does still represent a disease burden in the community.

Finally, the predictions of disorder at any of the measurement occasions were not adjusted for levels of disorder at any previous measurement occasion. These analyses refer to prevalence only, and may therefore have combined or confounded incidence and individual episode duration (for discussion in relation to physical health, see Dupre, 2007; Taylor, 2008). Future work should examine relationships between socio-economic circumstances and the progression of symptoms in more depth.

In conclusion, this analysis has examined how socio-economic differences in anxiety and depression vary with age, without confounding the prevalence of the two disorders by combining symptoms of each into a single measure. This provides a clearer understanding of the social patterning of disease burden. Socio-economic inequalities in the prevalence of common mental disorders increase with age, as does the overall prevalence of the more burdensome disorder of depression, representing a 'double jeopardy' for those who are older and from a manual class.

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## Declaration of Interest

None.

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