

Researcher-Derived Data Fields

Field Descriptions and Derivation for variables related to bipolar disorder, major depression status and neuroticism score

UK Biobank Project ID	7155	From Publication	Prevalence and Characteristics of Probable Major Depression and Bipolar Disorder within UK Biobank: Cross-Sectional Study of 172,751 Participants
Principal Investigator	Prof. Jill Pell	Citation	Smith <i>et al.</i> (2013) PLOS ONE. 8: e75362
Institution	Institute of Health & Wellbeing, University of Glasgow	DOI	10.1371/journal.pone.0075362
Keywords	Mental Health, Bipolar, Neuroticism, Depression		

This document describes derived data-fields returned from application 7155, focusing on bipolar disorder, major depression and neuroticism status amongst UK Biobank participants, as used in analyses published in PLOS ONE (details above). These categorisations were used in an approach to classify lifetime features of probable bipolar disorder and major depression (within the constraints of the mood questions that were asked of participants); other researchers may choose alternative approaches (e.g., by using different symptom counts and duration/impairment thresholds and also linkage to primary and secondary care data).

Derived data-fields have been generated based on information reported as part of the touchscreen questionnaire undertaken by participants at recruitment to UK Biobank. Details of how each new variable was derived, and their codings, are provided below:

Derived Field		Original UKB Data-fields Used			Details of Derivation Protocol
ID	Data-field Description & Particulars	Data Source	ID	Field Description	
20122 Derived field: Bipolar disorder status	Bipolar disorder status of participant defined from the touchscreen at baseline. <i>Possible values</i> ¹ 1 = Bipolar Type I (Mania) 2 = Bipolar Type II (Hypomania)	T/Screen	4642 4653 5663 5674 6156	Ever Manic/Hyper for two days Ever highly irritable /argumentative for two days Length of longest manic/irritable episode Severity of manic/irritable episode Manic/hyper symptoms	UKB data-fields from the touchscreen (which were based on the Structured Clinical Interview for DSM IV Axis I Disorders ¹) were classified into criteria groups to define a probable case of Bipolar I or II. Bipolar I (probable mania) was classified as (1) ever manic or hyper for ≥2 days OR ever irritable or argumentative for ≥2 days AND (2) manic episodes characterised by at least 3 of 'more talkative', 'more active', 'needed less sleep', 'more creative/more ideas' AND (3) longest manic episode ≥ one week duration AND (4) episode needed treatment or caused problems at work. Bipolar II (probable hypomania) classified as fulfilling criteria (1), (2) and (3) of the Bipolar I definition, NOT criteria (4).
Major Depression Status Fields (3) 20123 Derived field: Single episode of probable MD	Lifetime major depression (MD) status of participant defined from the touchscreen questionnaire at baseline. <i>Possible Values</i> ¹ For each 20123, 20124, 20125 1 = history of major depression	T/Screen	4598 4609 4620 4631 5375	Ever depressed for a whole week Duration of longest period of depression (weeks) Number of depressive episodes ≥ 1 week duration Ever unenthusiastic/disinterested for a whole week Duration of longest period of	Each of the three depression states were defined based on a number of criteria: Criteria (1) Ever felt depressed for a whole week (2) Ever disinterested or unenthusiastic for a whole week (3) Only 1 episode (4) ≥ 2 episodes (5) Episode lasted ≥ 2 weeks

<p>20124 Derived field: Probable recurrent MD (moderate)</p> <p>20125 Derived Field: Probable recurrent MD (severe)</p>		<p>5386</p> <p>2090</p> <p>2100</p>	<p>unenthusiasm/disinterest (weeks)</p> <p>Number of unenthusiastic/disinterested episodes ≥ 1 week duration</p> <p>Seen Doctor (GP) for nerves, anxiety, tension or depression</p> <p>Seen psychiatrist for nerves, anxiety, tension or depression</p> <p><i>Availability</i> Subset of the cohort (n = 188,336) Derived at baseline only</p>	<p>(6) Ever seen a GP for nerves, anxiety, tension or depression</p> <p>(7) Ever seen a psychiatrist for nerves, anxiety, tension or depression</p> <p>Definitions Single Probable MD Episode: {(1) AND (3) AND (5) AND [(6) OR (7)]} OR {(1) AND (3) AND (5) AND [(6) OR (7)]}</p> <p>Probable Recurrent MD (moderate): [(1) OR (2)] AND (4) AND (5) AND (6)</p> <p>Probable Recurrent MD (severe): [(1) OR (2)] AND (4) AND (5) AND (7)</p>
<p>20126 Derived field: Bipolar and major depression status</p>	<p>Summarises full spectrum of mood disorders</p> <p>0 = No Bipolar or Depression</p> <p>1 = Bipolar I Disorder</p> <p>2 = Bipolar II Disorder</p> <p>3 = Probable Recurrent major depression (severe)</p> <p>4 = Probable Recurrent major depression (mod.)</p> <p>5 = Single Probable major depression episode</p>	<p>T/Screen</p>	<p>All above</p> <p>i.e. derived fields 20122 - 20125</p>	<p>This data-field combines bipolar disorder and major depression indicator variables into a single variable. This data-field differs from fields 20122-20125 as codings in this field are mutually exclusive. Individuals are coded only as the most severe condition they possess. Value 0 indicates that the participant did not have bipolar or major depression (among those who provided a response to all the data-fields required to conclude their status). This is in contrast to those who were not formally classified as bipolar or having had major depression, but equally did not have full information available to accurately assess their mental health status.</p> <p>= 0 if derived variables 20122 ≠ 1 AND 20122 ≠ 2 AND 20123 ≠ 1 AND 20124 ≠ 1 AND 20125 ≠ 1 AND UKB variables 4642, 4653, 5663, 5674, 6756, 4598, 4609, 4620, 4631, 5375, 5386, 2090 and 2100 are all non-missing</p> <p>Individuals are coded only as the most severe condition they possess (1 being most severe and 5 least), as defined based on derived fields 20122-20125. An individual flagged for severe recurrent depression (variable 20125=1) and bipolar II (variable 20122 = 2) would, for example, be coded 2 for this field. Counts generated from this field may, therefore, not tally with those generated directly from variables 20122-20125, due to overlapping and comorbid diagnoses.</p>
<p>20127 Derived field: Neuroticism score</p>	<p>Summary score of neuroticism, based on 12 neurotic behaviour domains as reported from the touchscreen questionnaire at baseline</p> <p>Integer: 1 – 12, corresponding to number of distinct neurotic traits present</p>	<p>T/Screen</p>	<p>1920 Mood swings</p> <p>1930 Miserableness</p> <p>1940 Irritability</p> <p>1950 Sensitivity / Hurt Feelings</p> <p>1960 Fed-up Feelings</p> <p>1970 Nervous Feelings</p> <p>1980 Worrier / Anxious Feelings</p> <p>1990 Tense / 'Highly Strung'</p> <p>2000 Worry too long after embarrassment</p>	<p>Participants were assessed for twelve domains of neurotic behaviours via the touchscreen questionnaire. Questions included: "Does your mood often go up and down?"; "Do you ever feel 'just miserable' for no reason?"; "Are you an irritable person?"; "Are your feelings easily hurt?"; "Do you often feel 'fed-up'?"; "Would you call yourself a nervous person?"; "Are you a worrier?"; "Would you call yourself tense or 'highly strung'?"; "Do you worry too long after an embarrassing experience?"; "Do you suffer from 'nerves'?"; "Do you often feel lonely?"; "Are you often troubled by feelings of guilt?". Participants could answer 'Yes', 'No', 'Do not know' or 'Prefer not to answer'</p>

2010	Suffer from 'nerves'
2020	Loneliness, isolation
2030	Guilty feelings

Availability
Full cohort (n = 501,749)
Derived at baseline only

This field summarises the number of 'yes' answers across these twelve questions into a single integer score for each participant.

¹First, Michael B., Spitzer, Robert L, Gibbon Miriam, and Williams, Janet B.W.: Structured Clinical Interview for DSM-IV-TR Axis I Disorders, Research Version, Patient Edition. (SCID-I/P) New York: Biometrics Research, New York State Psychiatric Institute, November 2002.