



Teaching students quantitative methods using resources from the British Birth Cohorts

Measuring signs of psychological distress or depression in teenagers and adults

The Malaise Inventory

This document, **MalaiseQuestions.doc**, summarises the questions that make up the *Malaise Inventory* (Rutter et al 1970), an established scale to measure signs of psychological distress or depression in teenagers and adults. It includes:

- a) Background to the Malaise Inventory
- b) A table specifying the questions asked at each age, allowing users of the data to see which questions are consistently asked across sweeps and across cohorts.
- c) Description of the different answer categories used to answer the questions at each age and in each cohort.
- d) Examples of how the questions have been presented to the cohort members in the questionnaires over the years.

The Malaise Inventory

At various ages from teenager to adulthood, NCDS and BCS70 cohort members have completed *The Malaise Inventory* (Rutter et al, 1970) a set of self-completion questions which combine to measure levels of psychological distress, or depression. The 24 'yes-no' items of the inventory cover emotional disturbance and associated physical symptoms. When administered in its standard format, scores range from 0 to 24. It was itself developed from the Cornell Medical Index Health Questionnaire (CMI) which comprises of 195 self-completion questions (Brodman et al, 1949, 1952). Fourteen of the 24 questions are taken directly from the CMI (Rutter et al., 1970). Individuals responding 'yes' to eight or more of the 24 items are considered to be at risk of depression (Rodgers et al., 1999). The internal consistency of the scale has been shown to be acceptable and validity of the inventory shown to hold in different socio-economic groups (Rodgers et al., 1999). The scale has been used in both general population studies (McGee, Williams & Silva, 1986; Rutter & Madge, 1976; Rodgers et al, 1999) and in investigations of high-risk groups (Grant, Nolan & Ellis, 1990). Rutter himself affirms that 'the inventory differentiates moderately well between individuals with and without psychiatric disorder' (Rutter et al, 1970, p160). The individual questions and the ages they have been asked in the two cohorts are detailed in Table 1.

Table 1: Age individual Malaise questions were asked in BCS70 and NCDS

	<u>NCDS</u>			<u>BCS70</u>			
	Age of CM when data collected						
	Age 23	Age 33	Age 42	Age 16	Age 26	Age 30	Age 34
1. Do you often have backache?	✓	✓	✓	✓	✓	✓	
2. Do you feel tired most of the time?	✓	✓	✓	✓	✓	✓	✓
3. Do you often feel depressed?	✓	✓	✓	✓	✓	✓	✓
4. Do you often have bad headaches?	✓	✓	✓	✓	✓	✓	
5. Do you often get worried about things?	✓	✓	✓	✓	✓	✓	✓
6. Do you usually have great difficulty in falling or staying asleep?	✓	✓	✓	✓	✓	✓	
7. Do you usually wake unnecessarily early in the morning?	✓	✓	✓	✓	✓	✓	
8. Do you wear yourself out worrying about your health?	✓	✓	✓	✓	✓	✓	
9. Do you often get into a violent rage?	✓	✓	✓	✓	✓	✓	✓
10. Do people annoy and irritate you?	✓	✓	✓	✓	✓	✓	
11. Have you at times had a twitching of the face, head or shoulders?	✓	✓	✓	✓	✓	✓	
12. Do you suddenly become scared for no good reason?	✓	✓	✓	✓	✓	✓	✓
13. Are you scared to be alone when there are not friends near you?	✓	✓	✓	✓	✓	✓	
14. Are you easily upset or irritated?	✓	✓	✓	✓	✓	✓	✓
15. Are you frightened of going out alone or of meeting people?	✓	✓	✓	✓	✓	✓	
16. Are you constantly keyed up and jittery?	✓	✓	✓	✓	✓	✓	✓
17. Do you suffer from indigestion?	✓	✓	✓	✓	✓	✓	
18. Do you suffer from an upset stomach?	✓	✓	✓	✓	✓	✓	
19. Is your appetite poor?	✓	✓	✓	✓	✓	✓	
20. Does every little thing get on your nerves and wear you out?	✓	✓	✓	✓	✓	✓	✓
21. Does your heart often race like mad?	✓	✓	✓	✓	✓	✓	✓
22. Do you often have bad pain in eyes?	✓	✓	✓	✓	✓	✓	
23. Are you troubled with rheumatism or fibrosis?	✓	✓	✓		✓	✓	
24. Have you ever had a nervous breakdown?	✓	✓	✓		✓	✓	

CM=cohort member

Differences in ways Malaise Questions have been asked

The 24 questions were asked in the standard way in NCDS at age 23, 33 and 42. In BCS70, all 24 'yes-no' questions were also asked in the standard way at age 26 and age 30 but at age 34, just 9 of the 24 questions were asked (again in the standard 'yes-no' format). However, when BCS70 cohort members were age 16 they answered 22 of the 24 questions and a three answer category approach was adopted:

- 0='rarely/never'
- 1='some of the time'
- 2='most of the time'.

When questions are asked in the standard format, 1-point is awarded for every 'yes' response, 0-points for every 'no' response. An overall Malaise score for a cohort member is the sum across the individual variables, yielding a minimum score of 0 and a maximum of 24. A score of 8 or higher is considered to be a sign that the cohort member is experiencing symptoms associated with depression. When only 9 questions were included, a score of 4 or higher is considered to be a sign that the cohort member is experiencing symptoms associated with depression. The overall Malaise score range for BCS70 cohort members at age 16 (when a three answer category approach was adopted) has a minimum of 0 and a maximum of 44. A score of 15 or higher is considered to be a sign that the cohort member is experiencing symptoms associated with depression. (The SPSS syntax for how these summary variables were made is included in **MalaiseVariables.doc**.)

The following pages include examples of questions from the original questionnaires at each age the questions were collected.

Examples of questions from NCDS Questionnaires

NCDS 1981: Age 23 (self-completion paper questionnaire)

Please read the questions set out below and TICK either the 'Yes' or the 'No' box for each one.

1.	Do you often have back-ache? N6016	Yes	<input type="checkbox"/>	1	No	<input type="checkbox"/>	2	(16)
2.	Do you feel tired most of the time? N6017	Yes	<input type="checkbox"/>	1	No	<input type="checkbox"/>	2	(17)
3.	Do you often feel miserable or depressed? N6018	Yes	<input type="checkbox"/>	1	No	<input type="checkbox"/>	2	(18)

4.	Do you often have bad headaches? N6019	Yes	<input type="checkbox"/>	1	No	<input type="checkbox"/>	2	(19)
5.	Do you often get worried about things? N6020	Yes	<input type="checkbox"/>	1	No	<input type="checkbox"/>	2	(20)
6.	Do you usually have great difficulty in falling or staying asleep? N6021	Yes	<input type="checkbox"/>	1	No	<input type="checkbox"/>	2	(21)

NCDS 1991: Age 33 (self-completion paper questionnaire)

These questions are concerned with how you are feeling generally. Please answer them by ticking either the 'Yes' or 'No' box for each one. It is important that you try to answer ALL the questions.



1.	Do you often have back-ache?	(N504232)	Yes	<input type="checkbox"/>	1	No	<input type="checkbox"/>	2	38
2.	Do you feel tired most of the time?	(N504239)	Yes	<input type="checkbox"/>	1	No	<input type="checkbox"/>	2	39
3.	Do you often feel miserable or depressed?	(N504240)	Yes	<input type="checkbox"/>	1	No	<input type="checkbox"/>	2	40

NCDS 2000: Age 42 (CASI – computer assisted self-completion interview)

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? | | : | MAL01 : YES/NO
| | : | The next questions are concerned with how you are feeling generally. Please type in
| | : | the number which corresponds to your answer and then press the ENTER key.
| | : | How are you feeling generally ...
| | : | Do you often have backache?
| | : |
? | | : | MAL02 : YES/NO
| | : | Do you feel tired most of the time?
| | : |
? | | : | MAL03 : YES/NO
| | : | Do you often feel miserable or depressed?
| | : |
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Examples of questions from BCS70 Questionnaires

BCS70 1986: Age 16 (self-completion paper questionnaire)

 <p>PAINS IN THE EYES</p>	 <p>R U Worried?</p>	<h2 style="margin: 0;">FEELING HEALTHY</h2>	<div style="border: 1px solid black; padding: 5px; display: inline-block;">5⁰</div>																
<p>INSTRUCTIONS</p> <p>Here you will find a list of health problems from which a number of people suffer. We are asking you to tell us whether you have each of these problems most of the time, some of the time, rarely or never.</p> <p>We have labelled an example to show you how to do this.</p>																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 30%;">QUESTION</th> <th colspan="3" style="text-align: center;">EXAMPLE</th> </tr> <tr> <td></td> <th style="width: 15%;">Most of the time (a)</th> <th style="width: 15%;">Some of the time (b)</th> <th style="width: 15%;">Rarely or never (c)</th> </tr> </thead> <tbody> <tr> <td>Do you get nightmares?</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td colspan="4" style="font-size: small;">Answer (b) means that you get nightmares some of the time</td> </tr> </tbody> </table>				QUESTION	EXAMPLE				Most of the time (a)	Some of the time (b)	Rarely or never (c)	Do you get nightmares?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Answer (b) means that you get nightmares some of the time			
QUESTION	EXAMPLE																		
	Most of the time (a)	Some of the time (b)	Rarely or never (c)																
Do you get nightmares?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>																
Answer (b) means that you get nightmares some of the time																			
<p>Please turn now to page 7 in the Student Score Form. Find the set of empty lozenges in section 5⁰. This is where you should record your answers, by filling in one of the lozenges (a), (b), or (c) in reply to each of the 22 questions listed on this page. Remember not to write your answers on <i>this</i> booklet but in the Student Score Form. Fill in only one lozenge in answer to each question.</p>																			
<p>QUESTIONS</p> <ol style="list-style-type: none"> 1. Do you have backache? 2. Do you feel tired? 3. Do you feel miserable or depressed? 4. Do you have headaches? 5. Do things worry you? 6. Do you have great difficulty sleeping? 7. Do you wake unnecessarily early in the mornings? 8. Do you wear yourself out worrying about your health? 9. Do you ever get in a violent rage? 10. Do people annoy and irritate you? 11. Have you at times a twitching of the face, head or shoulders? 12. Do you suddenly become scared for no good reason? 13. Are you scared if alone? 14. Are you easily upset or irritated? 15. Are you frightened of going out alone or meeting people? 16. Are you keyed up and jittery? 17. Do you suffer from indigestion? 18. Do you suffer from upset stomach? 19. Is your appetite poor? 20. Does every little thing get on your nerves and wear you out? 21. Does your heart race like mad? 22. Do you have bad pains in your eyes? 																			

BCS70 1996: Age 26 (self-completion postal paper questionnaire)

<h4 style="margin: 0;">How You Feel</h4> <p>45. These questions are concerned with how you are feeling generally. Please answer them by ticking either the "Yes" or "No" box for each one. It is important that you try to answer ALL the questions.</p>		
	Yes	No
Do you often have backache?	<input type="checkbox"/>	<input type="checkbox"/> (B960637)
Do you feel tired most of the time?	<input type="checkbox"/>	<input type="checkbox"/> (B960638)
Do you often feel miserable or depressed?	<input type="checkbox"/>	<input type="checkbox"/> (B960639)
Do you often have bad headaches?	<input type="checkbox"/>	<input type="checkbox"/> (B960640)

BCS70 2000: Age 30 (CASI – computer assisted self-completion interview)

? | | : | MAL01 : YES/NO

| | : | The next questions are concerned with how you are feeling generally. Please type in the number which corresponds to your answer and then press the ENTER key.

| | : | How are you feeling generally ...

| | : | Do you often have backache?

| | : |

? | | : | MAL02 : YES/NO

| | : | Do you feel tired most of the time?

| | : |

? | | : | MAL03 : YES/NO

| | : | Do you often feel miserable or depressed?

| | : |

BCS70 2004: Age 34 (CASI – computer assisted self-completion interview)

| @ MAL12

| [Variables for this question are held in B7MAL12]

| Do you often suddenly become scared for no good reason?

| TYPE IN NUMBER AND PRESS 'ENTER' TO CONTINUE.

| 1 Yes

| 2 No

|

| @ MAL14

| [Variables for this question are held in B7MAL14]

| Are you easily upset or irritated?

| TYPE IN NUMBER AND PRESS 'ENTER' TO CONTINUE.

| 1 Yes

| 2 No

|

| @ MAL16

| [Variables for this question are held in B7MAL16]

| Are you constantly keyed up and jittery?

| TYPE IN NUMBER AND PRESS 'ENTER' TO CONTINUE.

| 1 Yes

| 2 No