



Teaching students quantitative methods using resources from the British Birth Cohorts

Measuring behaviour difficulties of children and teenagers

This document, **RutterBehaviourQuestions.doc**, summarises the questions that make up the *Rutter Behaviour Scales* (Rutter et al 1970), an established set of questions which combine to give an index of behaviour difficulties in the child (Rutter, 1967b, Rutter et al, 1970). Child Scale A is completed by parents, usually the mother and Child Scale B by teachers. It includes

- a) Background to the Rutter Behaviour Scales
- 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) The different answer categories used to answer the questions at each age and in each cohort.
- d) Examples of how the questions were presented to the cohort members in the questionnaires.

The Rutter Behaviour Scales

At various ages in childhood parents (and teachers) of both NCDS and BCS70 cohort members have completed a set of questions which combine to give an index of behaviour difficulties in the child (Rutter, 1967b, Rutter et al, 1970). Individual items of this scale can also provide useful information, for example concerning truancy. Parents, usually the mother, completed the parental questionnaire (Child Scale A) and teachers completed the teachers' questionnaire (Child Scale B).

The *teachers' questionnaire, or Child Scale B*, (Rutter, 1967b) consisted of 26 descriptions of behaviour against which the teacher was asked to indicate whether each description 'does not apply' 'applies somewhat' or 'definitely applies' to the cohort member. The test had both a good inter-rater reliability ($r = 0.72$) and retest reliability ($r = 0.89$) (Rutter, 1967b).

The *parental questionnaire, or Child Scale A*, had 31 descriptions of behaviour in total, 23 of which were included on the teachers' questionnaire. The inter-rater and retest reliability for this test was quite good, but lower than that of the teachers' questionnaire: inter-rater reliability ($r = 0.64$) and retest reliability ($r = 0.74$) (Rutter, 1970). Unlike the teacher questionnaire this scale consisted of three sections. The first section consisted of eight problems (e.g. complaints of headaches, truants from school), the second section of five questions (e.g. whether child had a speech difficulty, whether child had an eating difficulty). The third section consisted of 18 descriptions of behaviour against which the parent was asked to indicate whether each description 'does not apply' 'applies somewhat' or 'definitely applies' to the cohort member. It is the third section that we are concerned with here. The questions were completed by a parent (usually the mother) as part of the home interview. The number of items selected from the Rutter Child Scale A varied across time and cohort, as did response categories. When administered in its standard format behavioural adjustment is measured by summing responses given to each items on a three category scale from 0 to 2,

where 0='Does not apply', 1='Applies somewhat' and 2='Certainly applies'. A high score indicates behaviour adjustment problems. All 18 descriptions of behaviour in the Child Scale A are included in the Child Scale B. Child Scale B was completed by teachers of NCDS cohort members when they were 16.

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

Specific wording of question	<u>BCS70</u>			<u>NCDS</u>			
	Age of CM when data collected						
	Age 5 (mother)	Age 10 (mother)	Age 16 (mother)	Age 7 (mother)	Age 11 (mother)	Age 16 (mother)	Age 16 (teacher)
1a. Very restless. Often running about or jumping up and down. Hardly ever still.	✓	✓	✓				
1b. Very restless. Has difficulty staying seated for long.						✓	✓
2a. Is squirmy or fidgety.	✓	✓	✓	✓	✓		
2b. Squirmy, fidgety child						✓	✓
3a. Often destroys own or others' belongings.	✓	✓	✓				
3b. Often destroys own or others' property.						✓	
3c. Often destroys or damages own or others' property.							✓
3d. Destroys own or others' belongings (e.g. tears or breaks).				✓	✓		
4a. Frequently fights other children.	✓	✓					
4b. Fights with other children				✓	✓		
4c. Frequently fights with others.			✓				
4d. Frequently fights or is extremely quarrelsome with other children.						✓	✓
5a. Not much liked by other children.	✓	✓				✓	✓
5b. Not much liked by others.			✓				
6a. Often worried, worries about many things	✓	✓	✓			✓	
6b. Often worries, worries about many things							✓
6c. Worries about many things				✓	✓		
7a. Tends to do things on his/her own – rather solitary.	✓	✓	✓			✓	✓
7b. Prefers to do things on his/her own rather than with others				✓	✓		

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	Age of CM when data collected						
	Age 5 (mother)	Age 10 (mother)	Age 16 (mother)	Age 7 (mother)	Age 11 (mother)	Age 16 (mother)	Age 16 (teacher)
8a. Irritable. Is quick to fly off the handle.	✓	✓	✓			✓	
8b. Is irritable, quick to fly off the handle.				✓	✓		
8c. Irritable, touchy, is quick to fly off the handle.							✓
9a. Often appears miserable, unhappy, tearful or distressed.	✓	✓	✓			✓	✓
9b. Is miserable or tearful				✓	✓		
10a. Sometimes takes things belonging to others. (*this behaviour was not included in the Child Scale A)	✓	✓	✓				
10b. Has stolen things on one or more occasions in the last 12 months							✓
11a. Has twitches, mannerisms or tics of the face or body.	✓	✓	✓			✓	✓
11b. Has twitches or mannerisms of the face, eyes or body.				✓	✓		
12a. Frequently sucks thumb or finger.	✓	✓	✓			✓	✓
12b. Sucks thumb or finger during the day.				✓	✓		
13a. Frequently bites nails or fingers.	✓	✓	✓			✓	✓
13b. Bites nails				✓	✓		
14a. Is often disobedient.	✓	✓	✓			✓	✓
14b. Is disobedient at home				✓	✓		
15a. Cannot settle to anything for more than a few moments.	✓	✓	✓			✓	✓

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	Age 5 (mother)	Age 10 (mother)	Age 16 (mother)	Age 7 (mother)	Age 11 (mother)	Age 16 (mother)	Age 16 (teacher)
15b. Has difficulty in settling to anything for more than a few moments				✓	✓		
16a. Tends to be fearful or afraid of new things or new situations.	✓	✓	✓			✓	✓
16b. Is upset by new situation, by things happening for first time				✓	✓		
17a. Is over fussy or over particular.	✓	✓	✓				
17b. Fussy or over-particular.						✓	✓
18. Often tells lies.	✓	✓	✓			✓	✓
19a. Bullies other children.	✓	✓				✓	✓
19b. Bullies others.			✓				
19c. Is bullied by other children.				✓	✓		
20. Truants from school.							✓
21. Tends to be absent from school for trivial reasons.							✓
22. Unresponsive, inert or apathetic							✓

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	Age of CM when data collected						
	Age 5 (mother)	Age 10 (mother)	Age 16 (mother)	Age 7 (mother)	Age 11 (mother)	Age 16 (mother)	Age 16 (teacher)
23. Often complains of aches or pains							✓
24. Has had tears on arrival at school or has refused to come into the building in the past 12 months							✓
25. Has a stutter or stammer							✓
26. Resentful or aggressive when corrected							✓

Different ways Rutter Questions have been asked in NCDS and BCS70

Table 2 summarises how answer categories for the individual Rutter varied across the sweeps of data collection in both studies. Parents (and teachers) had to indicate – circle or tick – the answer category that best applied. The exception was in BCS70 at age 10 when a visual analogue scale was used. This is detailed in table 2 below. The following pages show examples of how the questions were presented to parents (and teachers) in the questionnaires.

**Table 2: Variation in answer categories to Rutter Questions
and attached score to each answer category**

Survey / Age	Available answer categories				
BCS70 age 5	Does not apply (0)	Applies somewhat (1)	Certainly applies (2)		
BCS70 age 10	0 (does not apply) (certainly applies)100 * A visual analogue scale: the mother/father had to draw a vertical line through the printed line to show how much a behaviour applied (or not) to their child				
BCS70 age 16	Does not apply (0)	Applies somewhat (1)	Certainly applies (2)		
NCDS age 7	Never (0)	Sometimes (1)	Frequently (2)	Don't know/inapplicable (missing)	
NCDS age 11	Never (0)	Sometimes (1)	Frequently (2)	Don't know (missing)	Inapplicable (missing)
NCDS age 16	Does not apply (0)	Applies somewhat (1)	Certainly applies (2)		
NCDS age 16 (t)	Does not apply (0)	Applies somewhat (1)	Certainly applies (2)		

* t=teachers completed this set of questions (Child Scale B). All other questions were completed by a parent, usually the mother (Child Scale A).

With the exception of the questions included in the BCS70 age 10 sweep of data collection, all original variables have been recoded to have the following values

0 = does not apply / never

1 = applies somewhat / sometimes

2 = certainly applies / frequently

The overall Rutter score for a cohort member at each age point when data was collected is the sum across the individual variables. Categorical ratings were calculated for each scale by dividing scores into three levels of severity: “normal” scores less than the 80th percentile, “moderate” problem scores between the 80th and 95th percentile and “severe” problem scores above the 95th percentile (this is a simplified version of the technique adopted in a paper by Thompson, A., Hollis, C. and Richards, D. see **RutterBehaviourReferences.doc**). The SPSS syntax for constructing summary Rutter behaviour scores is included in **RutterBehaviourVariables.doc**.

Examples of questions from NCDS Questionnaires

NCDS 1965: Age 7 (mother: self-completion paper questionnaire)

34. Please read this to the mother: "Now I want to mention some description of behaviour shown by many children. I'd like you, first, to tell me whether these kinds of behaviour never happen with whether they happen sometimes, or frequently at the present time".

Please ring appropriate number

	Never	Sometimes	Frequently	Don't know or inapplicable	
N133 (a) Has difficulty in settling to anything for more than a few moments	3 (4)	2 (3)	1 (2)	0 (1)	Col. 65
N134 (b) Prefers to do things on his/her own rather than with others	3 (4)	2 (3)	1 (2)	0 (1)	Col. 66
N135 (c) Is bullied by other children	3 (4)	2 (3)	1 (2)	0 (1)	Col. 67
N136 (d) Destroys own or others belongings (e.g. tears or breaks)	3 (4)	2 (3)	1 (2)	0 (1)	Col. 68
N137 (e) Is miserable or tearful	3 (4)	2 (3)	1 (2)	0 (1)	Col. 69
N138 (f) Is squirmy or fidgety	3 (4)	2 (3)	1 (2)	0 (1)	Col. 70

NCDS 1969: Age 11 (mother: self-completion paper questionnaire)

78. Read this to the mother: 'Now I am going to mention some descriptions of behaviour shown by children. Could you tell me first whether these kinds of behaviour never happen with..... (child), or whether they happen sometimes or frequently at the present time.'

Please ring appropriate number

	Never	Some- times	Fre- quently	Don't know	Inapplicable
N1447 (a) Has difficulty in settling to anything for more than a few moments	1	2	3	4	9
N1448 (b) Prefers to do things on his/her own rather than with others	1	2	3	4	9
N1449 (c) Is bullied by other children	1	2	3	4	9
N1450 (d) Destroys own or other's belongings (e.g. tears or breaks)	1	2	3	4	9
N1451 (e) Is miserable or tearful	1	2	3	4	9
N1452 (f) Is squirmy or fidgety	1	2	3	4	9

NCDS 1974: Age 16 (mother: self-completion paper questionnaire)

46 Below are a series of descriptions of behaviour often shown by young people. Please ask the informant(s) about each one and ring the appropriate number to show the degree to which this description is true of the study child.

		Doesn't apply	Applies somewhat	Certainly applies
N2517	a) Very restless. Has difficulty staying seated for long	1	2	3
N2518	b) Squirmy, fidgety child	1	2	3
N2519	c) Often destroys own or others' property	1	2	3
N2520	d) Frequently fights or is extremely quarrelsome with other children	1	2	3
N2521	e) Not much liked by other children	1	2	3
N2522	f) Often worried, worries about many things	1	2	3
N2523	g) Tends to do things on own—rather solitary	1	2	3
N2524	h) Irritable. Is quick to fly off the handle	1	2	3
N2525	i) Often appears miserable, unhappy, tearful or distressed	1	2	3

NCDS 1974: Age 16 (teacher: self-completion paper questionnaire)

38 Below is a series of descriptions of behaviour often shown by school children.
Please ring the appropriate number in each case to show the degree to which the study child exhibits the behaviour described.
Please complete on the basis of the child's behaviour in the past 12 months.

		Doesn't Apply	Applies Somewhat	Certainly Applies
N2296	i) Very restless, has difficulty staying seated for long	1	2	3
N2297	ii) Truants from school	1	2	3
N2298	iii) Squirmy, fidgety	1	2	3
N2299	iv) Often destroys or damages own or others' property	1	2	3
N2300	v) Frequently fights or is extremely quarrelsome with other children	1	2	3
N2301	vi) Not much liked by other children	1	2	3
N2302	vii) Often worries, worries about many things	1	2	3
N2303	viii) Tends to be on own—rather solitary	1	2	3

Examples of questions from BCS70 Questionnaires

BCS70 1975: Age 5 (mother: self-completion paper questionnaire)

B. Below is a series of descriptions of behaviour often shown by children. After each statement are three columns — "Doesn't apply", "Applies somewhat", and "Certainly applies". If your child definitely shows the behaviour described by the statement put a cross in the box under "Certainly applies". If he/she shows the behaviour described by the statement but to a lesser degree or less often, place a cross under "Applies somewhat". If, as far as you are aware, your child does not show the behaviour, place a cross under "Doesn't apply".

Please put one cross against each statement.

	Doesn't apply	Applies somewhat	Certainly applies
Very restless. Often running about or jumping up and down. Hardly ever still.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is squirmy or fidgety.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Often destroys own or others' belongings.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Frequently fights with other children.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Not much liked by other children.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Often worried, worries about many things.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tends to do things on his own — rather solitary.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Irritable. Is quick to fly off the handle.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

BCS70 1980: Age 10 (mother: self-completion paper questionnaire)

(a) Please make a vertical mark through the line alongside each of the following statements to indicate the extent to which the statement applies to your child's behaviour.

	Does not apply	Certainly applies
1. Very restless. Often running or jumping up and down. Hardly ever still.	M43	
2. Is squirmy or fidgety.	M44	
3. Often destroys own or others' belongings.	M45	
4. Frequently fights with other children.	M46	
5. Not much liked by other children.	M47	
6. Often worried, worries about many things.	M48	
7. Tends to do things on his/her own, rather solitary.	M49	
8. Irritable. Is quick to 'fly off the handle'.	M50	

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

A5. Below is a series of descriptions of behaviour sometimes shown by young people. Please say whether, in respect of your teenager, the descriptions certainly applies, applies somewhat or doesn't apply.

Answer (1-19) and tick one box on each line:

		Certainly Applies	Applies Somewhat	Doesn't Apply
1. Very restless. Often running about or jumping up and down. <i>Hardly ever still</i>	(PAS.1)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Is squirmy/fidgety	(PAS.2)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Often destroys others or own belongings	(PAS.3)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Frequently fights with others	(PAS.4)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Not much liked by others	(PAS.5)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Often worried, worries about many things	(PAS.6)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Tends to do things on own, rather solitary	(PAS.7)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Irritable. Is quick to fly off the handle	(PAS.8)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Often appears miserable, unhappy, tearful or distressed	(PAS.9)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Sometimes takes things belonging to others	(PAS.10)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Has twitches, mannerisms or tics of the face and body	(PAS.11)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Frequently sucks thumb or fingers	(PAS.12)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Frequently bites nails or fingers	(PAS.13)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Is often disobedient	(PAS.14)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Cannot settle to anything for more than a few moments	(PAS.15)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. Tends to be fearful or afraid of new things or new situations	(PAS.16)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. Is fussy or overparticular	(PAS.17)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. Often tells lies	(PAS.18)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. Bullies others	(PAS.19)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>