

## TEDS Behaviour measures at ages 2, 3 and 4: references and sources of items

The TEDS twin booklets at ages 2, 3 and 4 included sets of behaviour trait items under the common heading “your child at home”. Many items were repeated at each age. The table below provides a comprehensive list of the items at each age.

The items used at age 2, except for the anomalous first item, are conventionally called the **Behar** items within TEDS, even though they do not all originate from the published Behar scale. These items were repeated at age 3. At age 4, some Behar items were retained while some were replaced with items of the published **SDQ**. At ages 3 and 4, other items were added, and these are referred to as **hyperactivity** and **ARBQ** items in the “TEDS measure shorthand” column of the table.

The last two columns of the table show the sources or measures from which each item was apparently taken, either directly or indirectly. This information draws largely on historical documents written when the studies took place. Not every item can be traced to a published measure. The sources are listed in more detail at the end of this document, in a separate table, with published references where these are known.

For historical reasons, the direct and indirect sources, and the relationships between sources, are not entirely clear for some items. For example, the item “has stutter or stammer” was taken from the unpublished “revised SDQ” measure, according to original TEDS documentation at ages 2 and 3. The wording of this item closely resembles items in the published Behar and Rutter scales but does not match any item in the published SDQ scale. The unpublished RRSPC was also given as the source of the item at age 4. In the table, the direct source is given as RSDQ (revised SDQ) because this was the source first mentioned in documents at age 2.

### Table columns

- **Age 2/3/4 item:** this is the item numbering as shown in the original, printed booklets.
- **Item wording:** as printed in the booklets. Where similar but differently worded items were used at different ages, these are listed in the table as separate items (for example item 22 at age 3 is very similar to item 31 at age 4).
- **TEDS measure shorthand:** this shows how broad sets of items are conventionally referred to within TEDS: SDQ, Behar, ARBQ or hyperactivity. In a few cases, an item at age 4 is grouped with the SDQ or ARBQ measures, whereas at ages 2 and 3 the same item was grouped with the Behar. Here, “Behar” refers to the broad set of items in the age 2 and 3 booklets, rather than to the published Behar scale.
- **Variable name prefix.** This is a key to TEDS dataset item variable names. These variable names are prefixed with “b”, “c” or “d” respectively for age 2, 3 or 4 items. Note that the numbering chosen for SDQ, ARBQ and hyperactivity variable names matches the numbering used for the same items at later ages in TEDS. The numbering for Behar items is linked to the order in which they appear in the age 3 and age 2 booklets.
- **Trait measured.** This indicates whether the item has been used to derive a specific trait subscale at age 2, 3 or 4. The SDQ (age 4) and Behar (ages 2 and 3) have dataset subscales for prosocial behaviour, hyperactivity, and conduct, emotional and peer problems. The ARBQ has subscales for shyness and fear at ages 3 and 4, plus subscales for OCB, negative affect and negative cognition at age 4. All the SDQ and ARBQ subscales are repeated at later ages. Where a trait is not listed in the table, this simply means that the item has not be used in one of these dataset scales at ages 2, 3 and 4. The table does not document other published subscales if not in the main TEDS dataset.
- **Direct and indirect sources.** These are listed in more detail in another table at the end of this document. They include names of researchers who provided the items, and sources named in the original documentation (not always published), as well as known published sources. The distinction between “direct” and “indirect” sources is sometimes arbitrary.

Age 2 item	Age 3 item	Age 4 item	Item wording	TEDS measure shorthand	Variable name prefix	Trait measured	Direct source	Indirect source(s)
1	-	-	Does your child ever spend time with other children of a similar age?	-	bh01	-	Bishop	-
2	1	1	Tries to be fair in games	Behar	beh01	prosocial	RSDQ	RRPSPC
3	2	-	Restless, runs about or jumps up and down. Doesn't keep still	Behar	beh02	hyper	Rbehar	Behar, Rutter
4	3	3	Considerate of other people's feelings	SDQ (4), Behar (2, 3)	sdqpro1 (4), beh03 (2, 3)	prosocial	RSDQ	SDQ, RRPSPC
5	4	-	Squirmy, fidgety	Behar	beh04	hyper	Rbehar	Behar, Rutter
6	5	7	Destroys own or other's belongings	Behar	beh05	conduct	Rbehar	RRPSPC, Rutter
7	7	9	Spontaneously affectionate to family members	Behar	beh06	-	RSDQ	RRPSPC
8	9	-	Fights with other children	Behar	beh07	conduct	Rbehar	Behar, Rutter
9	10	-	Not much liked by other children	Behar	beh08	peer	RSDQ	Behar, Rutter
10	11	-	Volunteers to help around the house or garden	Behar	beh09	prosocial	RSDQ	-
11	13	-	Is worried, worries about many things	Behar	beh10	emotion	Rbehar	Behar, Rutter
12	14	-	Tends to do things on own, rather solitary	Behar	beh11	peer	Rbehar	Behar, Rutter
13	15	21	Irritable, quick to fly off the handle	Behar	beh12	conduct	Rbehar	RRPSPC, Behar, Rutter
14	16	-	Will try to help someone who has been hurt	Behar	beh13	prosocial	RSDQ	-
15	17	-	Appears miserable, unhappy tearful or distressed	Behar	beh14	emotion	Rbehar	Behar, Rutter
16	18	25	Has twitches, mannerisms, or tics of the face or body	ARBQ (4), Behar (2, 3)	anx09 (4), beh15 (2, 3)	-	RSDQ	ARBQ, Behar, Rutter
17	19	26	Bites nails or fingers	Behar	beh16	-	Rbehar	RRPSPC, Behar, Rutter
18	20	-	Is disobedient	Behar	beh17	conduct	Rbehar	Behar, Rutter
19	21	30	Kind to younger children	SDQ (4), Behar (2, 3)	sdqpro4 (4), beh18 (2, 3)	prosocial	RSDQ	SDQ, RRPSPC
20	23	-	Has poor concentration, or short attention span	Behar	beh19	hyper	Rbehar	Behar, Rutter
21	24	-	Tends to be afraid of new things or new situations	Behar	beh20	emotion	Rbehar	Rutter
22	25	-	Helps other children who are feeling ill	Behar	beh21	prosocial	RSDQ	-
23	26	33	Fussy, over particular	ARBQ (4), Behar (2, 3)	anx14 (4), beh22 (2, 3)	OCB	Rbehar	ARBQ, Behar, Rutter
24	27	-	Tells lies	Behar	beh23	conduct	Rbehar	Behar, Rutter
25	28	36	Has wet or soiled self this year	Behar	beh24	-	RSDQ	RRPSPC, Behar, Rutter
26	29	-	Comforts a child who is upset	Behar	beh25	prosocial	RSDQ	-
27	31	38	Has stutter or stammer	Behar	beh26	-	RSDQ	RRPSPC, Behar, Rutter
28	32	39	Has other speech difficulty	Behar	beh27	-	RSDQ	RRPSPC, Behar, Rutter

Age 2 item	Age 3 item	Age 4 item	Item wording	TEDS measure shorthand	Variable name prefix	Trait measured	Direct source	Indirect source(s)
29	33	40	Plays imaginatively, enjoys 'pretend' games	Behar	beh28	-	RSDQ	RRPSPC
30	35	-	Bullies other children	Behar	beh29	conduct	RSDQ	Behar, Rutter
31	36	42	Inattentive	Behar	beh30	hyper	Rbehar	RRPSPC, Behar
32	37	-	Gets on well with other children	Behar	beh31	peer	RSDQ	-
33	40	-	Doesn't share toys	Behar	beh32	-	RSDQ	Behar
34	41	45	Cries easily	Behar	beh33	emotion	RSDQ	RRPSPC, Behar
35	42	46	Forceful, determined child	Behar	beh34	-	RSDQ	RRPSPC
36	43	47	Blames others for things	Behar	beh35	conduct	RSDQ	RRPSPC, Behar
37	44	-	Shares out treats with friends	Behar	beh36	prosocial	RSDQ	-
38	46	51	Gives up easily	Behar	beh37	hyper	RSDQ	RRPSPC, Behar
39	47	52	Inconsiderate of others	Behar	beh38	conduct	RSDQ	RRPSPC, Behar
40	48	53	Independent, confident child	ARBQ (4), Behar (2, 3)	anx23 (4), beh39 (2, 3)	shyness	RSDQ	ARBQ
41	49	54	Kicks, bites other children	Behar	beh40	conduct	RSDQ	RRPSPC, Behar
42	50	55	Kind to animals	Behar	beh41	prosocial	RSDQ	RRPSPC
43	51	56	Stares into space, stares blankly	Behar	beh42	emotion	RSDQ	RRPSPC, Behar
44	52	57	Tries to stop quarrels and fights	Behar	beh43	prosocial	RSDQ	RRPSPC
-	6	8	Strongly refuses or resists sleeping alone	ARBQ	anx20	fear	O'Connor	ARBQ
-	8	11	Has difficulty completing one activity before changing to another	Hyperactivity	hyp1	hyper	Taylor	Rbehar
-	12	18	Touches things s/he is not allowed to	Hyperactivity	hyp3	hyper	Taylor	-
-	22	-	Often complains of stomachaches, headaches or feeling sick	Behar	beh44	emotion	O'Connor	SDQ, Behar, Rutter
-	30	37	Is often extremely upset or distressed when parent leaves	ARBQ	anx16	neg. aff.	O'Connor	ARBQ
-	34	41	Is extremely afraid of day to day things such as the dark, water, animals, blood	ARBQ	anx22	fear	O'Connor	ARBQ
-	38	43	Has difficulty waiting for things	Hyperactivity	hyp2	hyper	Taylor	-
-	39	44	Tends to be shy or timid	ARBQ	anx07	shyness	Eley	CBCL, ARBQ
-	45	49	Takes a long time to warm to strangers	ARBQ	anx02	shyness	Eley	EAS, ARBQ
-	-	2	Restless, overactive, cannot stay still for long	SDQ	sdqhyp1	hyper	SDQ	RRPSPC, Behar, Rutter
-	-	4	Insists on doing something over and over, so that it interferes with day to day life	ARBQ	anx06	OCB	Bolton	ARBQ
-	-	5	Steals from home, school or elsewhere	SDQ	sdqcon5	conduct	SDQ	Behar, Rutter
-	-	6	Constantly fidgeting or squirming	SDQ	sdqhyp2	hyper	SDQ	RRPSPC, Behar, Rutter

Age 2 item	Age 3 item	Age 4 item	Item wording	TEDS measure shorthand	Variable name prefix	Trait measured	Direct source	Indirect source(s)
-	-	10	Many fears, easily scared	SDQ	sdqemo5	emotion, fear	SDQ	Behar, ARBQ
-	-	12	Often fights with other children or bullies them	SDQ	sdqcon3	conduct	SDQ	Behar
-	-	13	Thinks things out before acting	SDQ	sdqhyp4	hyper	SDQ	-
-	-	14	Easily distracted, concentration wanders	SDQ	sdqhyp3	hyper	SDQ	-
-	-	15	Generally liked by other children	SDQ	sdqper3	peer	SDQ	RRPSPC
-	-	16	Tends to check that some things are done exactly 'right'	ARBQ	anx04	OCB	Bolton	ARBQ
-	-	17	Often volunteers to help others (parents, teachers, other children)	SDQ	sdqpro5	prosocial	SDQ	RRPSPC
-	-	19	Many worries, often seems worried	SDQ	sdqemo2	emotion, neg. cog.	SDQ	RRPSPC, ARBQ
-	-	20	Rather solitary, tends to play alone	SDQ	sdqper1	peer	SDQ	RRPSPC, Behar
-	-	22	Helpful if someone is hurt, upset or feeling ill	SDQ	sdqpro3	prosocial	SDQ	RRPSPC
-	-	23	Fussy about keeping his/her hands clean	ARBQ	anx21	OCB	Bolton	ARBQ
-	-	24	Often unhappy, down-hearted or tearful	SDQ	sdqemo3	emotion, neg. aff.	SDQ	RRPSPC, ARBQ
-	-	27	Generally obedient, usually does what adults request	SDQ	sdqcon2	conduct	SDQ	RRPSPC
-	-	28	Picked on or bullied by other children	SDQ	sdqper4	peer	SDQ	-
-	-	29	Gets on better with adults than with other children	SDQ	sdqper5	peer	SDQ	-
-	-	31	Often complains of headaches, stomach-aches or sickness	SDQ	sdqemo1	emotion	O'Connor	SDQ, ARBQ
-	-	32	Sees tasks through to the end, good attention span	SDQ	sdqhyp5	hyper	SDQ	RRPSPC
-	-	34	Often lies or cheats	SDQ	sdqcon4	conduct	SDQ	-
-	-	35	Has at least one good friend	SDQ	sdqper2	peer	SDQ	-
-	-	48	Shares readily with other children (treats, toys, pencils etc.)	SDQ	sdqpro2	prosocial	SDQ	RRPSPC
-	-	50	Often has temper tantrums or hot tempers	SDQ	sdqcon1	conduct	SDQ	-
-	-	58	Asks for reassurance that s/he is OK	ARBQ	anx05	neg. cog.	Bolton	ARBQ

### List of sources

This table provides more information about the entries in the last two columns of the table above: "direct sources" and "indirect sources". The distinction between direct and indirect sources is sometimes arbitrary, but the "direct source" generally indicates the source that was documented when the given item was first used in TEDS.

Abbreviation	Description	References
SDQ	Items published in the <b>Strengths and Difficulties Questionnaire</b> (SDQ)	Goodman, R. (1997): The Strengths and Difficulties Questionnaire: a research note; Journal of Child Psychology and Psychiatry, 38, 581-586.
ARBQ	Items published in the <b>Anxiety Related Behaviours Questionnaire</b> (ARBQ). Note that this publication post-dates the TEDS age 2, 3 and 4 studies. However, it provides a convenient reference for many of the items as well as a cross-reference to the same items used in TEDS at later ages (7, 9, 16).	Eley, T.C., Bolton, D., O'Connor, T.G., Perrin, S., Smith, P. and Plomin, R. (2003). A twin study of anxiety related behaviours in pre-school children. Journal of Child Psychology and Psychiatry, 44: 945 – 960.
RSDQ	<b>Revised Strengths and Difficulties Questionnaire</b> , previously used by the Romanian Study, with wording adapted by Lisa Davies for that study. Some of these items resemble items of the SDQ (above), or the published Behar or Rutter scales (below), while some appear to be new items.	-
Rbehar	<b>Revised Behar</b> items, previously used by the Romanian Study, with wording adapted by Lisa Davies for that study. These items all resemble items of the published Behar and/or Rutter scales (below).	-
RRPSPC	<b>Revised Rutter Parent Scale for Preschool Children</b> (RRPSPC). In earlier 4 Year documentation, this was given as a source of most of the SDQ and Behar items at that age. Some but not all of these items resemble items of the published Behar and/or Rutter scales (below).	-
Behar	The published Behar <b>Preschool Behavior Questionnaire</b> . Note that the label <b>Behar</b> is also used within TEDS as a convenient collective term for the behaviour items first used at age 2, whether or not they derive from this published scale.	(1) Behar, L. & Stringfield, S. (1974). A Behavior Rating Scale for the Preschool Child. Developmental Psychology, 10(5), 601-610. (2) Behar, L. (1977). The Preschool Behavior Questionnaire. Journal of Abnormal Child Psychology, 5, 265-275.
Rutter	The published Rutter <b>Children's Behaviour Questionnaire</b> .	Rutter, M. (1967): A Children's Behaviour Questionnaire for Completion by Teachers: preliminary findings; Journal of Child Psychology and Psychiatry, 8(1), 1-11.
O'Connor	Originally added by <b>Tom O'Connor</b> (who may have authored the item)	-
Eley	Originally added by <b>Thalia Eley</b>	-
Bolton	Originally added by <b>Derek Bolton</b> (who may have authored the item)	-
Taylor	Originally added by <b>Eric Taylor</b> (who may have authored the item)	-
Bishop	Originally added by <b>Dorothy Bishop</b> (who may have authored the item)	-
CBCL	The <b>Child Behavior Checklist</b> (CBCL).	Achenbach TM. Manual for Child Behavior Checklist/ 4–18 and 1991 Profile. Burlington: University of Vermont Department of Psychiatry; 1991.

Abbreviation	Description	References
EAS	The <b>Emotionality, Activity and Sociability Temperament Scale</b> (EAS).	Buss, A. H., & Plomin, R. (1984). <i>Temperament: Early Developing Personality Traits</i> . Hillsdale, MI: Lawrence Erlbaum.