YOUTH
ENDOWMENT
FUND

Core measurement guidance
Strengths and Difficulties Questionnaire (SDQ)
Guidance on the implementation and analysis of the SDQ

1. Background

Why the Youth Endowment Fund has produced this guidance

The aim of the Youth Endowment Fund (YEF) is to prevent children and young people becoming involved in violence. We do this by finding out what works and building a movement to put this knowledge into practice.

We are committed to measuring offending both through self-report measures and, where possible, via the long-term follow-up of young people who take part in a YEF funded project using official records of offending. Many projects, however, work significantly upstream of offending and as such, offending behaviours will not always be evaluated over the delivery period of the project, particularly in the instances where projects are working with the youngest children. The YEF is therefore interested in measuring wider behavioural outcomes.

Although each project will have specific mechanisms of change and intended outcomes, the YEF aims to ensure common measurement of outcomes wherever possible to maximise learning across the fund. To this end, the YEF is encouraging all evaluators to use the **Strengths and Difficulties Questionnaire** (SDQ; Goodman, 1997) where relevant to the project's theory of change or logic model. The SDQ is a widely used, short questionnaire measuring behaviours, emotions and relationships and research has demonstrated that it correlates with the level of offending in young offenders (van Domburgh et al., 2011).

As there are several methodological choices in using the SDQ, YEF has produced this guidance document which introduces the measure and provides guidance for implementation, scoring, data aggregation and aggregation as well as frequently asked questions. Please also see YEF's Outcome Measurement Guidance for guidance on choosing outcome measures and the importance of using standardised, validated measures in YEF evaluations.

The importance of recording outcomes consistently

For YEF evaluations it is important that data from outcome measures are scored, aggregated, analysed and archived in the same way, wherever possible, for two reasons:

1. Consistent aggregation and analysis enable the comparison of results across evaluations in the short term;

2. Given the core of the YEF's mission is to evaluate what works to reduce youth offending, participant level data from YEF evaluations will be archived to enable outcomes to be assessed against criminal justice records in future years. Consistent aggregation and analysis will allow us to use the short-term results as mediators/ moderators in long-term analyses.

2. The SDQ

What is the SDQ?

The SDQ is a 25-item questionnaire measuring behaviours, emotions and relationships in 4-17-year olds. Teacher-, parent- and self-report versions of the SDQ are available. The SDQ measures intermediate risk and protective factors (i.e., internalising and externalising problems) of offending and has been shown to predict consistent behavioural problems (Wilson et al., 2012). It is an effective outcome measure in children at risk of developing conduct problems (Hutchings et al., 2013). It is widely used by researchers, clinicians and educators and can be used to evaluate specific interventions and research has shown that it is sensitive to treatment effects (https://youthinmind. com/products-and-services/sdq/).

It includes five subscales that measure:

1. Emotional symptoms;
2. Conduct problems;
3. Hyperactivity/inattention;
4. Peer problems;
5. Prosocial behaviour.

Please see Appendix 1 for all items.

Each item is scored on a 3-point Likert scale (0, 1, 2) and for each of the 5 subscales the score can range from 0-10.

'Somewhat True' is always scored as 1 while the scoring of 'Not True' and 'Certainly True' varies with the item. For the emotional, conduct problems, peer problems and hyperactivity subscales a higher score indicates more difficulty. For the prosocial subscale, a lower score indicates less prosocial behaviour and therefore more difficulty.

In addition to the 25 items, an impact supplement is available. This supplement asks whether the respondent thinks the person has a problem, and if so, asks additional questions about chronicity, distress, social impairment, and burden to others.

The standard version of the SDQ asks about the child or young person's behaviour over the last six months and the follow up version asks about their behaviour in the last month. In addition to the subscales, the SDQ can be aggregated to produce other scores. Please see the table below.

Table 1. SDQ scores

Score	Score generation
Total difficulties score	Ranges from 0-40 and is generated by summing scores from all the subscales, except the prosocial subscale.
Externalising score	Ranges from 0-20 and is generated by summing the scores of the conduct and hyperactivity subscales.
Internalising score	Ranges from 0-20 and is generated by summing the emotional and peer problems subscales.
Impact scores	When using the impact supplement, the items on overall distress and impairment can be summed to generate an impact score that ranges from 0-10 for parent- and self-report versions and from 0-6 for teacher report.

Measurement properties of the SDQ

The psychometric properties of a measure demonstrate its validity and reliability. All three versions of the SDQ (parent-, teacher- and self-report) show good psychometric properties, meaning that all three are an appropriate outcome measure for use. The psychometrics of the SDQ are rated as 4/5 stars EEF's Spectrum Database and the psychometrics of the parent and teacher versions are rated as 4/4 in a recent review of measurement by EIF.

Internal consistency

Internal consistency is the degree to which items designed to measure the same outcome relate to one another (EIF, 2020).

Table 2. Internal consistency of the SDQ. Values are Cronbach's alpha

	Teacher-report	Parent-report	Self-report
Total SDQ score	0.87	0.63-0.85	0.80
Internalising	0.80	0.73	0.66
Externalising	0.88	0.78	0.76
Subscales	0.70-0.88	0.57-0.82	0.41-0.66
Impact	0.85	0.85	0.81

For both the parent-report and self-report versions, the peer problems subscale has a Cronbach's alpha of <.60, this indicates that items are not sufficiently correlated with one another which can lead to issues with inconsistency.

Test-retest reliability and stability over 4-6 months

All three versions of the SDQ show good test-retest reliability and longer-term stability.

Table 3. Test-retest reliability and stability over 4-6 months. From Achenbach et al (2008).

	Test-retest reliability			Stability (4-6 months)		
	Teacher	*Parent*	*Self*	*Teacher*	*Parent*	*Self*
Total score	0.74	0.81	0.79	0.80	0.72	0.62
Subscales	0.73	0.71	0.71	0.73	0.64	0.56

3. Implementation of the SDQ

Guidance for use

Which version of the SDQ should be used? Teacher-, parent-, or self-report?

- YEF does not have a preference for which version of the SDQ is used.
- It is for the Evaluator, in collaboration with the Grantee, to decide which version of the SDQ is most appropriate to use in any given evaluation.
- YEF would expect the Evaluator and Grantee to consider using the version that is likely to minimise bias (for example, through attrition or experimental effects) and burden and maximise data quality[1].

With what age children and young people should the teacher-, parent- and self-report be used?

- The **parent and teacher versions** of the SDQ can be used when reporting on 4-17 year olds.
- The **self-report version** can be used in 11-17 year olds.
- Please note that the developers of the SDQ have advised that the suitability of the SDQ has more to do with developmental life stage than with chronological age.
    - For example, in their experience, the 11-17 year olds version is suitable for those up to 19 years old who are at a similar life stage.
    - Similarly, it may be suitable to use the 11-17 year old version with 10 year olds.

Which version of the SDQ should be used at pre-test and which should be used at post-test?

- The **standard version of the SDQ should be used at pre-test**: this version asks the informant to reflect on the child or young person's behaviour in the last six months.
- The **follow up version of the SDQ should be used at post-test**: this version asks the informant to reflect on the child or young person's behaviour in the last month.
    - The follow-up version includes two additional follow-up questions that are not scores but instead provide additional information
    - Please note that the default in the follow-up version is to refer to 'clinic visits' but this can be replaced with another type of intervention. The developers have advised that it would be possible to replace the word "clinic" with another type of intervention (such as program, group, intervention program, services, therapy etc).

1 The Education Endowment Foundation's guide on the selection, use and interpretation of measures provides a useful overview of things to consider when choosing a respondent (p.11) as well as some useful tips on how to reduce the risk of bias during the administration of outcome measures (p.14-15)

Should the impact supplement be collected?

- Wherever possible the impact supplement should be collected
- The impact supplement provides additional information on any difficulties a child or young person displays in emotions, concentration, behaviour or social relationships, including information on chronicity, distress, social impairment and burden to others.

Permissions of use

Paper version

- The paper versions of the SDQ and the scoring criteria are free to download and can be manually scored.
- The SDQ, whether in English or in translation, are copyrighted documents that may not be modified in any way.
- The developers of the SDQ (Youth in Mind) recommend online scoring due to the level of errors that occur when scoring manually (https://admin.sdqscore.org/).
- Online scoring using Youth in Mind's system has a fee of 20p per use
- YEF has agreed a discount with Youth in Mind for YEF evaluators who wish to administer paper SDQs and have their own scoring system: online scoring has a fee of 40p (plus VAT) per use. This should be accounted for in evaluation budgets if evaluators choose to use the paper version of the SDQ and their own online scoring system.
- Evaluators will need to communicate directly with Youth in Mind (youthinmind@gmail. com) to arrange payment. When doing so please quote that it's for work on a YEF evaluation to ensure the discount is granted.

Online version

- Users are not permitted to create and distribute electronic versions for any purpose without prior authorisation from Youth in Mind (youthinmind@gmail.com).
- Using the SDQ online has an authorisation and usage fee
- Evaluators looking to use an online version of the SDQ in evaluations should create their own version of the SDQ. YEF has agreed a discount with Youth in Mind for evaluators. The cost for YEF evaluators is:
    - £1000 authorisation fee (plus VAT; one off charge) – this covers Youth In Mind's own costs and time working on reviewing the online version of the SDQ and possible modifications before authorisation of use
    - Usage fee of 40p per SDQ administered (plus VAT)
- Evaluators will need to communicate directly with Youth In Mind (youthinmind@gmail. com) to arrange authorisation of the online version and payment. When doing so please quote that it's for work on a YEF evaluation to ensure the discount is granted.

- **YEF will cover these costs**
  - For evaluators working on Launch Grant Round evaluations: please let your Evaluation Manager (EM) know that you are planning to use the online version of the SDQ and with how many participants. You should then invoice YEF at cost.
  - For all other YEF evaluations the cost of online SDQ should be included in your evaluation budget.

4. Scoring the SDQ

Information regarding the manual scoring of the SDQ can be found here.

5. Aggregation, analysis and archiving of the SDQ

The SDQ scores used in primary analyses should be decided upon following consultation with your evaluation manager, taking into account the project's theory of change[2] .

To maintain consistency and enable the comparison of results across YEF evaluations the total SDQ score, scores from the five individual subscales and the impact score should all be transferred to the YEF data archive at the end of the evaluation.

6. FAQs

1. Can evaluators change the wording or the order of the items?
No. The SDQ is a copyrighted document and it may not be modified in anyway (e.g., by changing the wording of questions, adding or deleting questions, altering the order in which items are captured from participants or administering only subsets of questions).

2. Where can evaluators find more information?
https://youthinmind.com/products-and-services/sdq/

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2 For some YEF evaluations it may be appropriate to use the total SDQ score as the primary outcome, whereas for evaluations of other, more targeted projects, it may be more appropriate to use the conduct problems, or combined externalising problems score.

7. References

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Wilson, P., Bradshaw, P., Tipping, S., Henderson, M., Der, G., & Minnis, H. (2012). What predicts persistent early conduct problems? Evidence from the Growing Up in Scotland cohort. *Journal of Epidemiology and Community Health, 67(1), 76–80.* http://doi.org/10.1136/jech-2011-200856

Appendix 1 – SDQ items

The items are:

1. I try to be nice to other people. I care about their feelings
2. I am restless, I cannot stay still for long
3. I get a lot of headaches, stomach-aches or sickness
4. I usually share with others (food, games, pens etc.)
5. I get very angry and often lose my temper
6. I am usually on my own. I generally play alone or keep to myself
7. I usually do as I am told
8. I worry a lot
9. I am helpful if someone is hurt, upset or feeling ill
10. I am constantly fidgeting or squirming
11. I have one good friend or more
12. I fight a lot. I can make other people do what I want
13. I am often unhappy, down-hearted or tearful
14. Other people my age generally like me
15. I am easily distracted, I find it difficult to concentrate
16. I am nervous in new situations. I easily lose confidence
17. I am kind to younger children
18. I am often accused of lying or cheating
19. Other children or young people pick on me or bully me
20. I often volunteer to help others (parents, teachers, children)
21. I think before I do things
22. I take things that are not mine from home, school or elsewhere
23. I get on better with adults than with people my own age
24. I have many fears, I am easily scared
25. I finish the work I'm doing. My attention is good

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