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Institute for Statistics
Technical Cooperation
Group

TCG Working Group on
Household Surveys

WG/HHS/3

ISSUES AND RECOMMENDED APPROACHES FOR USING DISABILITY VARIABLES FOR EDUCATION INDICATORS IN HOUSEHOLD SURVEYS

PREPARED BY UNICEF

Objective

This paper aims to 1) introduce the concept and approach of child and adult functioning questions developed by the U.N. Washington Group on Disability Statistics and UNICEF for household surveys; 2) identify issues with disability disaggregation of education statistics, and 3) recommend solutions to disaggregation issues caused by varying age groups used to define functional difficulties.

Background

As access to education increases around the world, so does the concern about schools providing the necessary support to children with disabilities. Too frequently, unaccommodating environments for students with functional difficulties prevent them from making the most of their educational opportunities. In many countries data on these disadvantaged children and how they participate in school may be absent or lack comparability.

To address this, the Washington Group on Disability Statistics in collaboration with UNICEF developed two tools designed to provide cross-national comparable disability data. These tools are the Washington Group Short Set questions (WG-SS) and the WG/UNICEF module on child functioning (CFM). Both these tools collect information on functional difficulty for different age groups and can be added to various household surveys. Moreover, in March 2017, a joint statement issued by multiple UN agencies, member states, organizations of persons with disabilities, and other stakeholders recommended the CFM as the appropriate tool for SDG data disaggregation for children. Considering this, to better provide data for SDG 4.5.1, this paper explores some implications of using the different WG tools to collect information on disability.

Understanding functional difficulty as collected by the WG-SS and WG/UNICEF module on child functioning

The data collected through the WG-SS and WG/UNICEF module on child functioning provides information on functional difficulty. For individuals with functional difficulty, an accommodating environment is key. An accommodating environment may include provisions for glasses, or ramps, or braille, depending on the difficulty, which allows them to participate equally in life and society.

Figure 1 An example showing the link between functional difficulties and disabilities



Washington Group Short Set on Functioning (WG-SS)¹

The WG-SS questions use the World Health Organization's International Classification of Functioning, Disability, and Health (ICF) as a conceptual framework. The WG-SS questions on functioning has been designed in a way that it can be included in, both, national censuses and surveys among adult populations. These questions focus on measuring functional difficulties in six basic, universal actions (capabilities) that, in an unaccommodating environment would place an individual at risk of restricted social participation. The motivation for the six functional domains was to provide insights into whether persons with functional difficulties participate to the same extent as persons without disabilities in activities such as education, employment or family/civic life. Information on access to education and employment is key as data analysis is able to provide information on whether persons identified with difficulties or limitations in these six basic functional domains have participation rates equal to those without limitations.

In short, the use of WG-SS is to a) capture the representation of the majority, but not all, persons with limitation in basic actions for the selected adult age group, b) capture the representation of the most commonly occurring limitations in basic actions, and c) capture persons with similar difficulties across countries.

The data collection for WG-SS is designed for adults to self-report and these WG-SS questions are best implemented for those who are aged 18 or above. There are a number of household surveys and censuses which adopted the WG-SS question.

Motivations for development of the WG/UNICEF module on child functioning²

Various national and international studies highlighted the differences in the distribution of types of disability between children and adults.³ The WG recognized that WG-SS missed

¹ Information summarized from <https://www.washingtongroup-disability.com/question-sets/wg-short-set-on-functioning-wg-ss/>

² For more information, <https://www.washingtongroup-disability.com/question-sets/wgunicef-child-functioning-module-cfm/>

³ UNICEF (2017), *UNICEF/ Washington Group on Disability Statistics Module on Child Functioning*, Concept note.

many functional domains associated specifically with children’s experience, and the WG-SS questions should not be recommended to children under the age of 18. For example, while studies showed that adults face the most difficulty in mobility, sensory, and personal care - especially with advancing years, the most prevalent functional difficulties and disabilities for children are related to intellectual functioning, affect and behavior.⁴

As a result of this, UNICEF and the WG developed the Child Functioning Module (CFM) which is designed to better identify functional difficulties among children aged 2 to 17 years. The CFM is comprised of two questions sets: one for children age 2-4 years old and one for children age 5-17 years old. Both are designed for administration to mothers (or primary caregivers). These tools aim to identify the subpopulation of children who are at greater risk than other children of the same age of experiencing limited participation in an unaccommodating environment. The set of questions is intended for use in national household surveys. While it has been incorporated into the most recent round of UNICEF-sponsored Multiple Indicator Cluster Surveys (MICS), it is expected that more household surveys and censuses will adopt CFM as they have done it with WG-SS in coming years. The 6th round of Multiple Indicator Cluster Survey (MICS6) during 2018-2020 collects data on both adult and child functional difficulty for about 70 countries.

How child functioning questions are developed

The development WG/UNICEF child functioning module is along key principles including⁵:

1. **Identification of children with functional difficulties:** The primary purpose of the questions is to identify children with functional difficulties. These functional difficulties may place children at risk of experiencing limited participation in an unaccommodating environment.
2. **Providing cross-national data:** The module is designed to identify children with similar types of functional difficulties in basic activity across countries.
3. **Selection on child functioning domains:** The International Classification of Functioning, Disability and Health for Children and Youth (ICF-CY), is the conceptual framework that guided the selection of relevant functional domains within which a set of current, relevant, and sustainable questions on child functioning was developed.
4. **Building on WG-SS:** The development of the child functioning questions built upon the WG’s work on the short and extended sets of questions for adults. Findings from several studies and national and international surveys were also considered.

⁴ Theis KA, Steinweg A, Helmick CG, Courtney-Long E, Bolen JA, Lee R. Which one? What kind? How many? Types, causes, and prevalence of disability among U.S. adults. *Disabil Health J.* 2019 Jul;12(3):411-421. doi: 10.1016/j.dhjo.2019.03.001. Epub 2019 Mar 28. PMID: 31000498; Zablotsky B, et al (2019) “Prevalence and Trends of Developmental Disabilities among Children in the U.S: 2009-2017,” <https://doi.org/10.1542/peds.20190811>)

⁵ UNICEF (2017), *UNICEF/ Washington Group on Disability Statistics Module on Child Functioning*, Concept note.

5. **Consulting experts:** Consultation with other experts, including survey statisticians, pediatricians, developmental psychologists, speech therapists, etc. was sought to support the work.
6. **Establishing reference age as 2 to 17-year olds:** The population reference age for the child functioning questions is 0-17 years, as per ICF-CY recommendations. However, capturing disabilities among children under 2 years of age through population surveys is challenging. Due to the transitional nature of the development process for young children, a developmental delay at this age is not necessarily indicative of functional limitations. Therefore, trying to assess difficulties in functioning could yield misleading results for this age group.
7. **Validating the questions:** The set of questions were validated through cognitive and field testing, following established WG procedure.
8. **Use of CFM:** The set of child functioning questions can be used as a component of national population surveys or as a supplement to surveys on specific topics: health, education, etc.

Functional Domains in the WG-SS and WG/UNICEF Child functioning module

The functional domains covered in each of the tool are different as they attempt to capture those difficulties that impact participation which is a function of age. The table below provides information on the domain covered.

Table 1 Functional difficulty domains covered in each tool

WG/UNICEF child functioning module (Functional difficulty age 2-4)	WG/UNICEF child functioning module (Functional difficulty age 5-17)	WG-SS (Adult functional difficulty ages 18 and above)
Seeing	Seeing	Seeing
Hearing	Hearing	Hearing
Walking	Walking	Walking
Fine Motor	Self-care	Cognition
Communication	Communication	Self-care
Learning	Learning	Communication
Playing	Remembering	
Controlling behavior	Concentrating	
	Accepting change	
	Controlling behavior	
	Making friends	
	Anxiety	
	Depression	

Education indicators and functional difficulty

Given that the data on functional difficulty are collected based on age groups, disaggregation of some indicators require caution. The table below provides education indicators that can be disaggregated based on the tool used for different age groups.

Table 2 Education indicators, including SDG indicators that can be disaggregated using information on functional difficulty status collected in household surveys

Education indicators for children aged 2 to 4	Education indicators for children aged 5 to 17	Education indicators for adults aged 18 and above
SDG 4.2.1: Percentage of children aged 24 to 59 months who are developmentally on, by sex	SDG 4.1.1a: Proportion of children and young people in Grade 2 or 3 achieving at least a minimum proficiency level in (i) reading and (ii) mathematics, by sex	4.3.1 Participation rate of youth and adults in formal and non-formal education and training in the previous 12 months, by sex*
SDG 4.2.3: Percentage of children under 5 years experiencing positive and stimulating home learning environments	SDG 4.1.2: Completion rate (primary, lower secondary and upper secondary) *	SDG 4.3.2: Gross enrolment ratio for tertiary education
Early childhood attendance for children 24 months to 59 months (or 36-59 months)	SDG 4.1.3: Gross-intake ratio to the last grade (primary and lower secondary)	SDG 4.3.3: Participation rate in technical-vocational programmes*
	SDG 4.1.4: Out-of-school children rate (primary, lower secondary and upper secondary) *	SDG 4.4.1: Proportion of youth and adults with ICT skills*
	SDG 4.1.5: Percentage of children over-age for grade (primary and lower secondary) *	SDG 4.4.2: Percentage of youth/adults who have achieved at least a minimum level of proficiency in digital literacy skills*
	SDG 4.2.2: Participation in organized learning (one year before the official primary entry age) *	SDG 4.4.3: Youth/adult education attainment rates*

Education indicators for children aged 2 to 4	Education indicators for children aged 5 to 17	Education indicators for adults aged 18 and above
	SDG 4.5.2: Percentage of students in primary education who have their first or home language as language of instruction	SDG 4.6.1: Proportion of population in a given age group achieving at least a fixed level of proficiency in functional (a) literacy and (b) numeracy skills*
	SDG 4.7.4: Percentage of students by age group (or education level) showing adequate understanding of issues relating to global citizenship and sustainability*	SDG 4.6.2: Adult/youth literacy Rate*
	SDG 4.7.5: Percentage of students in the final grade of lower secondary showing proficiency in knowledge of environmental science and geoscience*	SDG 4.6.3: Participation rate of illiterate youth/adults in literacy programme*
	SDG 4.a.2: Percentage of students experiencing bullying in the last 12 months*	
	SDG 4.a.3: Number of attacks on students*	
	Effective transition rate*	
	Adjusted net attendance rate (primary, lower secondary, upper secondary) *	
	Repetition rate by grade*	
	Dropout rate by grade *	
	School Readiness	

**Education indicators where the reference age group overlaps between child functioning module 5 to 17-year-olds and adult functional difficulty or with child functional module 5 to 17-year-olds and child functioning module for 2 to 4-year-olds, and therefore the functional domains change.*

Age-related issues in disaggregating indicators using functional difficulty module

If countries choose to include the WG/UNICEF child functioning module and the WG-SS module to their surveys and given that the data on functional difficulty is collected based on age groups, disaggregation of some indicators require caution. Age groups of some SDG indicators do not necessarily align with that of the measurement of child functional difficulties. For example, SDG 4.4.1 covers youth aged 15 to 24, which includes both child functioning age group and adult functioning age group. Disaggregating the indicator would require clearly identifying which set of functional domains apply to which age group and ensuring to make a note of it in the analysis.

Proposed approaches

Out-of-school children rate (SDG 4.1.4) and Adjusted Net Attendance Rate

Out-of-school children (OOSC) are children and young people in the official age range for a given level of education who are not attending either pre-primary, primary, secondary or higher levels of education.

Adjusted Net Attendance Rate (ANAR) measures the percentage of children of a given age that are attending an education level compatible with their age or attending a higher education level. The rate is termed “adjusted” since it includes both groups.

Given that in most countries, primary, lower secondary and upper secondary ages are 6 to 17, information from CFM can be used to disaggregate OOSC and ANAR by child’s functional difficulty status for primary and lower secondary for most countries. However, for the level of education that includes individuals aged 18 or above, the functional domains from WG-SS will be used, resulting in a change in the identification of functional difficulty for those aged 18 or above. This impacts comparability and should be noted.

Recommendation: As the default approach is to use WG/ UNICEF child functioning module for ages 5 to 17 and provide a note clearly explaining which set (CFM or WG-SS) of functional domains were used for them, if children below 5 years or above 17-year-old are included with children between 5-17 years old. Report if WG-SS are used for all children.

Completion rate (SDG 4.1.2)

The completion rate reflects the percentage of a cohort of children or young people three to five years older than the intended age for the last grade of each level of education (primary, lower secondary, or upper secondary) who have completed that level of education.

Caution will need to be exercised in disaggregation of completion rate. This is because the completion age bracket is 3 to 5 years older than the intended age for last grade, resulting

in different age groups used to identify functional difficulties. As the functional domains differ by the tools i.e. for individuals aged 5 to 17; and those aged 18 and above, it will be important to explain clearly which module is used for functional difficulty disaggregation. For example, if primary completion age is calculated among children aged 14 to 16, then the functional domains from WG/UNICEF child functioning module 5 to 17-year-olds will be used. If the lower secondary completion age is 17 to 19, then WG/UNICEF child functioning module for 5 to 17 year olds will be used for 17 years old and WG-SS will be used for those who are aged 18 and 19. Finally, samples used to calculate completion rates for upper secondary are normally aged 18 or above, in which case the WG-SS questions will be used. This difference in functional domains would mean 'functional difficulty status' will not be comparable between the different levels of education for completion rate.

Recommendation 1: Always provide a note to clarify which functional domains are used to calculate completion rates.

Recommendations 2: In general, do not compare completion rates of children with functional difficulties across education levels. Compare only those levels, where same definitions of functional difficulty (as identified by domains) has been used.

Recommendation 3: When age for completion rate includes adult functioning, do not calculate/report completion rate due to differences in measurement of functioning

Participation rate in organized learning (SDG 4.2.2)

Participation in organized learning measures the share of children one year younger than the official age

to start primary school who are attending ECE or primary education. If primary age begins at 6, information from WG/UNICEF child functioning module for ages 5 to 17 is sufficient for this indicator as it covers children aged 5. If primary begins at age 5, then the functional domains for 4-year olds, as recommended by WG/UNICEF child functioning module for ages 2 to 4 will apply.

Recommendation: As the default approach is to use WG/ UNICEF child functioning module for ages 5 to 17, provide a note if WG/UNICEF child functioning module for ages 2 to 4 is used to identify children with disabilities. A note will be needed if the school-age for grade 1 in primary education is 5 years or lower. Report if WG-SS are used for all

Repetition rate and dropout rate by grade

If individuals are 18-year-old or older, it is a consistent approach to use functional domains based on WG-SS. With household survey data, you can use both WG-SS functional domains and CFM domains to calculate repetition and dropout rates. For example, if some 18-year olds are in grade 10 due to repetition, and the peers are 16 year old, then for the 18 year

olds, information on functional difficulty will come from WG-SS whereas for 16 year olds, it will be from the WG/UNICEF child functioning module.

Recommendation 1: When age for repetition and dropout rate includes adult functioning, do not calculate/report them due to differences in measurement of functioning

Recommendation 2: As the default approach is to use CFM (5-17), provide a note if WG-SS are used to identify children with disabilities. Report if WG-SS are used for all children.

Recommendation 3: Compare indicators across grades only if the same set of functional domains have been used.

All youth related indicators covering ages 15 to 24 including SDG 4.3.1, SDG 4.3.3, SDG 4.4.1, SDG 4.4.2, SDG 4.4.3, SDG 4.6.2

When disaggregating youth related indicators for individuals aged 15 to 24 by functional difficulty, two different sets of functional difficulties will be used. Information on functional difficulty can be gathered from WG/UNICEF child functional module for 15 to 17-year olds and WG-SS for 18 to 24-year olds. This would mean different functional domains will be used to identify functional difficulty by age bracket.

Recommendation: Only report for ages covering adult functioning (18 to 24) or child functioning (15 to 17). Clearly specify the choice made.

Summary Recommendation

For surveys that include both WG-SS and WG/UNICEF module on child functioning, it will be critical to prioritize and calculate only those education indicators which use child functioning module.

As a general rule, it is recommended that a note is included clearly stating the age groups and the set of functional difficulties used for measuring disability. Moreover, comparisons (between countries, levels of education and over time) based on functional difficulty should be made only when the same set of functional difficulty domains apply.