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Original Article

The development and testing of a module on child functioning for identifying children with disabilities on surveys. III: Field testing

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ABSTRACT

Background: A module on child functioning developed by UNICEF and the Washington Group on Disability Statistics (WG) for use in censuses and surveys reflects current thinking around disability measurement and is intended to produce internationally comparable data. The Child Functioning Module (CFM) was developed in response to limitations of the Ten Question Screening Instrument (TQSI) for use in surveys and builds on the WG Short Set (WG-SS) of questions that was designed to capture disability in censuses, particularly among the adult population.

Objective: This paper documents the testing of the module and summarizes its results, including a description of prevalence levels across countries using different cut-offs, and comparisons with prevalence levels obtained using the TQSI and the WG-SS.

Methods: Field tests were conducted in Samoa as part of the 2014 Demographic and Health Survey and in Mexico as part of the 2015 National Survey of Boys, Girls and Women. The module was also implemented in Serbia as part of a dedicated survey conducted in the province of Vojvodina, in February 2016.

Results: Using the recommended cut-offcut-off, the percentage of children reported as having functional difficulty ranges from 1.1% in Serbia to 2% in Mexico among children aged 2–4 years, and from 3.2% in Samoa to 11.2% in Mexico among children aged 5–17 years. Across all three countries, the prevalence of functional difficulty was highest in the socio-emotional domains.

A comparison of the prevalence levels obtained using the WG-SS and the CFM shows that, except for the question on cognition/learning, the WG-SS and the CFM are relatively close for children aged 5–17 years for the domains that are included in both question sets, but the WG-SS excludes many children identified by the CFM in other domains. The comparison between the TQSI and the CFM shows that, while the prevalence estimates are similar for seeing and hearing, significant differences affect other domains, particularly cognition/learning and communication.

Conclusions: The CFM addresses a full range of functional domains that are important for child development. The module represents an improvement on the TQSI in that it allows for scaled responses to determine the degree of difficulty, and so can separate out many potential false positives. The module is also preferred over the WG-SS for collecting data on children, first, because most of the questions in the WG-SS are not suitable for children under the age of 5 years, and second, because the WG-SS leaves out important functional domains for children aged 5–17 years, namely those related to developmental disabilities and behavioural issues.

This article summarizes the results of field-testing the UNICEF/ Washington Group (WG) Child Functioning Module (CFM) in

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Samoa, Serbia and Mexico between 2014 and 2016. The module was created in collaboration with experts in child development, statisticians from national statistical offices and representatives from disabled people's organisations and international agencies to identify children with disabilities in household surveys (*see paper I*). Prior to the field tests, cognitive testing of the module was conducted in several countries, including Belize, India, Jamaica, Montenegro, Oman and the United States (*see paper II*).

In Samoa, the Bureau of Statistics conducted the field test in collaboration with the Ministry of Health as part of the 2014 Demographic and Health Survey.[1] The field test in Serbia was conducted by the Statistical Office of the Republic of Serbia as part of a dedicated survey administered in the province of Vojvodina, in February 2016. WG and UNICEF provided technical and financial assistance in both countries. In Mexico, the module was implemented as part of the 2015 National Survey of Boys, Girls and Women (ENIM)[2] conducted by the National Institute of Public Health, under the fifth round of the UNICEF-supported Multiple Indicator Cluster Survey (MICS) programme.

The primary objective of these field tests was to collect data that could inform the adoption of the recommended cut-offs for identifying children with a disability. The tests also provided an opportunity to gather information that could improve implementation of the CFM, with a focus on:

- identifying specific needs for training interviewers;
- testing the flow of the questions and the skip patterns;
- gauging the amount of time needed to complete the survey; and
- providing a rough estimate of the positive response rate to assist in calculating the required sample size.

In Serbia, a secondary objective was twofold: to compare the CFM results with results from the Ten Question Screening Instrument (TQSI) in the case of children aged 2–4 years; and to compare the CFM results with results from the Washington Group Short Set (WG-SS) of questions in regard to children aged 5–17 years.

Methods

In Samoa, Serbia and Mexico, the CFM was administered to the mother or to the primary caregiver (if the mother was deceased or did not reside in the household) of all children aged 2–17 years; two separate sets of questions were used, tailored to the child's age (2–4 years or 5–17 years). The same version of the module was used in all three countries, with some exceptions. For example, the question related to fine motor skills was not included in the Samoa survey because it was added to the standard CFM after the field test was completed. In addition, the response options used in Samoa for the question related to controlling behaviour among children aged 5–17 years were “a lot of difficulty” instead of “more difficulty,” and “cannot do at all” instead of “a lot more difficulty.” The questionnaire was translated into the national languages (Samoan, Serbian and Spanish) and then back translated. Differences in translation were resolved through focus group discussions between the translation teams and the survey technical leads.

In Serbia, the TQSI and the WG-SS modules were also used for the 2 to 4 and 5 to 17 age groups, respectively, as points of comparison for the Child Functioning Module. All three surveys also collected data on personal and household characteristics, such as sex and age of the children, mother's education and household wealth.

In addition to the standard questions on child functioning, the versions of the module used in the three countries included a series of probing questions that were introduced to determine possible misinterpretations by parents of the concepts embedded in the questions, and consequently, out-of-scope responses. These probes were developed for exclusive use in the field tests and are not part of the module. In particular, the probes aimed at providing insight into the nature and severity of the functional difficulties reported by respondents. The probes were used for questions on walking for both age groups (2–4 and 5 to 17) and for questions on self-care, remembering, controlling behaviours and accepting changes for children aged 5–17 years. The inclusion of the probes was driven by the need to gauge levels of false positive cases resulting from questions that elicited a higher than expected proportion of out-of-scope responses during cognitive testing, particularly among parents of younger children (*see paper II*). Results from cognitive testing indicate that children with disabilities were systematically reported as having functional difficulties by their parents, and therefore probes were not used to detect false negatives.

In Samoa, the sample was drawn from the master sample frame for the 2011 Population and Housing Census, covering 16% of households in rural areas and 17% in urban areas and appropriate for generating indicators in four regions (Apia Urban Area, North West Upolu, the rest of Upolu and Savaii). A representative sample was selected in two stages – first from clusters in the master sample, and then from a complete listing of households from the 2011 census frame. During the first stage of the sample selection, 458 primary sampling units were identified (132 in urban areas and 326 in rural areas). In the second stage, a fixed number of 7 households per cluster in urban areas and 10 households per cluster in rural areas was selected using equal probability systematic selection. The result was a final sample of 4171 households with 9565 children aged 2–17 years (2139 children aged 2 to 4; 7426 children aged 5 to 17), yielding a response rate of 82% for children.

In Mexico, the ENIM 2015 was a multistage, cluster and stratified national survey designed to produce estimates on 136 indicators of well-being for women and children, with the possibility to stratify by rural or urban areas and by five regions within Mexico (Northwest, Northeast, Central, Mexico City-State of Mexico and South). Sampling followed a probabilistic, multistage, cluster and stratified design.[3] Clusters corresponded to the basic geo-statistical areas defined by the National Institute of Statistics and Geography and constituted the primary sample units (PSUs). In urban areas, clusters were made up of blocks; in rural areas, clusters were made up of places or municipalities, with “rural” areas defined as those having a population of less than 2500. The ENIM 2015 sample frame was built from previously available censuses with geo-statistical data, which were updated through a cartographic listing exercise as part of the preliminary survey activities. For the sample design, five regions composed of neighbouring states were defined, each region corresponding to an equivalent population size. The sample was stratified in each of these five regions as well as in urban and rural areas. Thus defined, the final sample included 11,825 households with an oversample of households with children younger than 5 years ($N = 8216$ children); consequently, this resulted in a higher proportion of women of reproductive age ($N = 12{,}937$) and of 5–17 year old children ($N = 11{,}812$), with a response rate of 98% for children. Seven originally selected PSUs were replaced due to insecurity affecting the country during the time of household listing and data collection. In total, 17 PSUs were added during the third stage of selection. Standardized sample weights were calculated to account for non-response and specific selection probabilities.

In Serbia, the field test was carried out only in the province of Vojvodina and used two different samples. The Serbian samples