USC-Office of Population Studies Foundation, Inc.

LONGITUDINAL COHORT STUDY ON THE FILIPINO CHILD

Baseline Survey Technical Report

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Disclaimer

All discussions and interpretations of study findings presented in this report are not necessarily that of UNFPA and the agencies which funded the survey.

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EXECUTIVE SUMMARY

The Longitudinal Cohort Study on the Filipino Child is a 15-year study designed to examine how the lives of young Filipinos are changed in the course of the 15-year agenda implementation of the Sustainable Development Goals (SDGs). The study recruited 4,952 ten-year old children at Baseline (2016-2017), and this cohort will be observed over their life course through age 25. The study sample was selected to be nationally representative of 10-year old Filipinos at Baseline, from the country's three main island groups of Luzon, Visayas, and Mindanao. The sampling design implicitly included marginalized children (specifically from indigenous peoples and households with disabilities). The goal was to retain about 2,000 of the original cohort by the Endline Survey (2030-31).

In this Baseline Survey report we describe the status of the 10-year old Filipino children, and characterize them in terms of key SDG concerns and in areas articulated in the Convention on the Rights of the Child. Seven domains of vulnerability were identified: education (SDG 4), health (SDG 3), nutritional status (SDGs 2/3), food security (SDG 2), child labor (SDG 1), exposure to physical violence (SDGs 3/5), and precedents to risky behaviors (SDG 3). Compared to girls, a higher proportion of boys had higher mean composite vulnerability scores. Overall, children from Luzon had significantly fewer vulnerabilities than those in the Visayas and Mindanao. We examined each vulnerability in terms of associations with a) cohort, household and community characteristics, and b) various indicators of school performance and educational aspirations. These vulnerabilities are interrelated and those that tend to co-exist or cluster together were: a) smoking, drinking alcoholic beverages, experienced more than kissing and watching pornographic movies; b) experiences with physical violence from friends, adults and being forcefully hurt by parents; c) stunting with repeating grades and experiencing hunger; d) illness and disability; e) child labor and online chatting with strangers; and f) low diet diversity scores and non-normal age-specific body mass index.

Our analysis also revealed significant influences of these vulnerabilities on school performance and on aspirations for higher education, even when controlling for individual, household and community attributes. Stunting and experiencing hunger were significantly associated with repeating a grade, missing school and low grades. Those who experienced violence, were wasted or had low diet diversity scores were likely to have repeated grades and/or low grades. Those who were sick in the last 6 months and physically bullied by peers were more likely to report school absences. While few of the children were with disabilities, or who reported behaviors such

as smoking, drinking alcoholic beverages, having experienced more than kissing or chatting with strangers on the internet – these were associated with poor school-related outcomes and need to be monitored as the cohort gets older. These vulnerabilities also affected the children's and mother/caregiver's aspirations for the cohort achieving college education. These findings highlight the importance of addressing these vulnerabilities to improve human capital formation of the country's ten-year old children.

CHAPTER 1

INTRODUCTION

In September 2015, member countries of the United Nations adopted the 2030 Agenda for Sustainable Development focused on 17 goals that these countries pledged to meet in the next 15 years (United Nations, 2017). The Sustainable Development Goals (SDGs) aim to sustain and complete the progress started by the 2000 Millennium Development Goals (United Nations, 2015): end extreme poverty, inequality and injustice, and ensure sustainable development in the midst of climate change. The 2030 Agenda carries the promise of social inclusiveness, leaving no one behind in meeting the SDGs.

The Philippines is committed to and seeks to benefit from the SDGs particularly since the implementation period (2015-2030) falls within the window (2015-2050) when the demographic phenomenon called the "youth bulge" is expected to occur. This phenomenon, marked by a historic increase in the proportions of the population between the ages of 15-29, is more prominent in low-middle income economies like the Philippines. This window of opportunity happens when the age structure of the population is such that there is a large proportion of productive people in the working age groups thereby increasing the country's capacity for economic growth alongside the subsequent decline in dependency ratios (ratio of dependents, 0-14, >65 to working age 15-64) (Mapa, 2015, NEDA, 2017).

To take advantage of this phenomenon, the country needs to invest in the necessary infrastructures that maximize human capital potentials among the youth and ensure that jobs are ready for the large proportion of young people expected to join the labor market. A number of factors threaten the Philippines' claim to its demographic dividend or the potentials for increased per capita income given the increase in labor force. Among which are the relatively

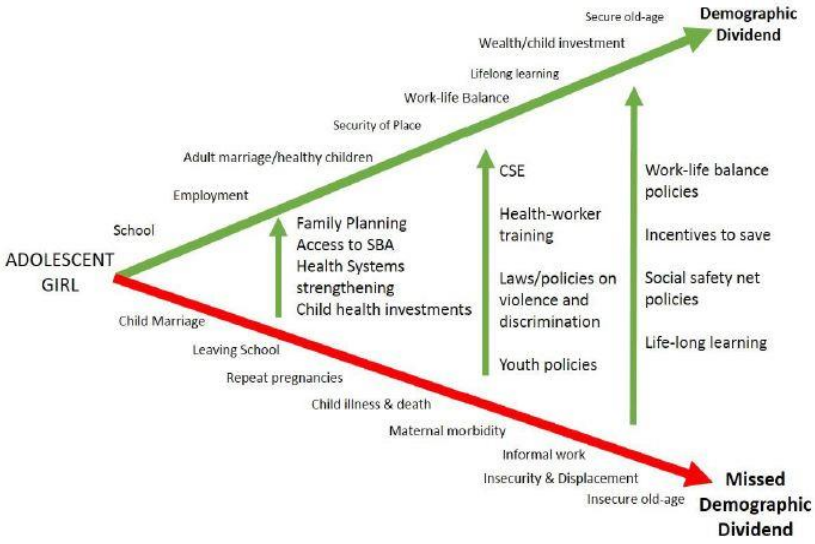
high rates of stunting which is associated with poor adult human capital (Adair et al, 2013), prevailing high out-of-school rates among the 16-24 age group, high prevalence of risky sexual behaviors among adolescents, and increasing rates of adolescent pregnancy particularly among the poor (Bongolan, 2013; NEDA, 2017; PSA, 2014).

The National Economic Development Authority (NEDA) has laid out its strategic framework through the 2017-2022 Philippine Development Plan (NEDA, 2017) that puts in place the necessary preconditions to ensure that opportunities offered by the youth bulge are truly maximized. In consultation with various stakeholders from the government, academe, civil society and private sectors, the NEDA has formulated “Ambisyon Natin 2040”, a visualization of how we Filipinos want to be in 2040: economically stable, with families enjoying work-life balance and having a strong sense of community, and secure in all aspects of our lives through old age (NEDA, 2016).

Impetus for the study: putting a human face to the SDGs

To understand how the SDGs contribute to this envisioned preconditioning of the youth, the United Nations Population Fund (UNFPA), working very closely with NEDA, Philippine Statistics Authority (PSA), Department of Health (DOH), and other government agencies as well as development partners such as UNICEF, conceived of a survey that puts a human face to the development goals, particularly from the perspective of the SDG generation – the children who will transition into young adults in the course of the 15-year SDG agenda implementation. The 2015 Philippine Census of Population (https://www.psa.gov.ph/tags/popcen-2015) reports that about 31.8% of Filipinos are below 15 years old. This age group comprises the SDG generation and it is crucial that key program intervention points are identified to ensure that these children are primed to reach young adulthood healthy and equipped with high social and human capital. The success of the SDGs will be measured by how programs and support systems enable this generation to reach the demographic dividend goal and reduce situations that cause them to miss it, as illustrated among girls in Figure 1 below.

Figure 1a. The path to demographic dividend[1]



[1] Adapted from UNFPA: A Value Proposition for the Demographic Dividend [issued by the Inter Divisional Working Group on the Demographic Dividend in 2015]

The Study Team

The USC-Office of Population Studies Foundation, Inc. (OPS) is the main implementing agency of this nationwide study. With decades of experience in conducting population and health research

projects, the OPS is best known for its implementation of the largest and longest running birth cohort study in Southeast Asia, the Cebu Longitudinal Health and Nutrition Survey (CLHNS) (Adair, et al, 2010). The CLHNS enrolled a cohort of 3,080 Cebuano infants at birth in 1983-84. To date about half of the cohort, now in their 30s, continue to participate in the study.

Collaborating with OPS in this study are renowned research institutions in the country which have partnered with OPS on various projects through the years: the Demographic Research and Development Foundation (DRDF) of the University of the Philippines Population Institute, the Research Institute for Mindanao Culture (RIMCU) of Xavier University, and the Center for Social Research and Education (CSRE) of the University of San Carlos. Also joining the team are well-known experts in their respective fields, Dr. Alejandro N. Herrin (Policy Adviser) and Dr. Erniel B. Barrios (Sampling and Statistical Consultant). The UNFPA Team led by Dr. Rena Dona and Mr. Jose Roi B. Avena, with Dr. Joseph Michael Singh, Ma. Sylvia Nachura and Mr. Jose Nicomedes Castillo, provided general oversight to the Baseline Survey.

The OPS Team led by its Director, Dr. Judith Rafaelita B. Borja, Deputy Director, Dr. Nanette L. Mayol and the rest of the OPS Fellows/Research Associates took the lead in designing the study, with inputs from the Study Team. The OPS team handled data collection training and supervision, data processing and report writing. Data collection and field work were conducted by DRDF (Luzon), CSRE (Visayas) and RIMCU (Mindanao). See Appendix 1 for more information on the collaborating research institutions and data collection teams.

CHAPTER 2

STUDY DESIGN

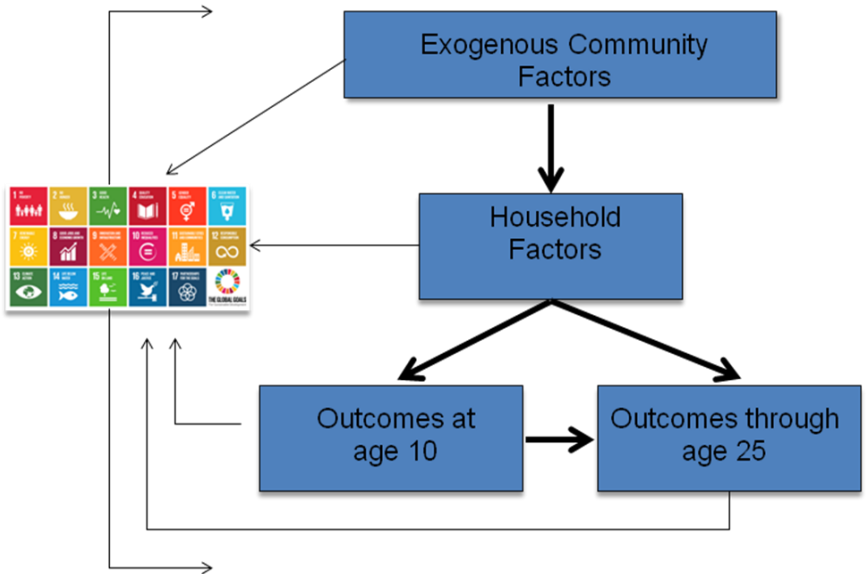
2.1 Study objectives and analysis framework

The main objective of this study is to examine how the lives of young boys and girls are changed as our government implements the SDG agenda in the next 15 years. We aim to prospectively observe a cohort of 10-year old children, representing the SDG generation, and examine their life course trajectories through age 25. In the course of this longitudinal study, data on significant milestones in the lives of this Filipino cohort will be collected (i.e., puberty, school completion, entry into labor force, sexual activity initiation, marriage) from age 10 thru 25.

The study design and data analysis plan involve assessing the ecological relationships among the cohort participants, their households and their communities from childhood through young adulthood based on frameworks used in the Cebu Longitudinal Health and Nutrition Survey (CLHNS) (Cebu Study Team, 1991) and recommended for studying child-specific outcomes (Stewart et al., 2013). The basic premise is that a person's quality of life is defined by the interaction between his/her biological constitution and the environment (family, community, programs/policies, societal factors). Furthermore, one's current state of life is conditioned by his/her prior status. All aspects of this ecosystem are influenced by the SDGs. Conversely, SDG program implementation is also informed by outcomes from different levels of this ecosystem. We aim to study the interplay of underlying (socioeconomic and demographic characteristics), biological, behavioral and community factors (including programs implementing the SDGs) at crucial points of the cohort participants' lives from age 10 to 25 (Figure 2).

As a prospective longitudinal cohort study, characteristics or indicators will be measured repeatedly from the same individuals and communities over time for 15 years. With this design, changes can be tracked, and patterns and trajectories can be observed as they develop. Since exposure to and the development of certain characteristics or outcomes can be observed as they occur over time, sequencing and temporal relationships of events can be established; thus causality can also be better established. By collecting data prospectively and with the relatively shorter intervals between surveys, recall bias is minimized or avoided.

Figure 2. The interrelationships among cohort participants, ecosystem and SDGs[1]



[1] Adapted from the Mosley and Chen framework used in the Cebu Longitudinal Health and Nutrition Study (Cebu Study Team, 1991)

2.2 Longitudinal study design and sampling scheme

This is a 15-year prospective longitudinal cohort study with the cohort participant or index child (hereinafter also referred to as IC) and his/her household as the main units of analysis. The Baseline Survey was conducted in 2016 (IC age: 10) and the Endline Survey will be conducted in 2031 (IC age: 24-25). The study will collect the same core questionnaire sections (See 2.3) in all levels [individual (ICs and their mothers/main caregivers), household and community] at repeat

survey rounds, adding questions and modules relevant to each milestone reached by the cohort. The survey sample was selected to be nationally representative of 10-year old Filipinos, from the country's three main island groups of Luzon, Visayas, and Mindanao, and the sampling design implicitly included marginalized children [specifically from indigenous peoples (IP) and households with disabilities]. The goal was to retain a final sample of about 2,000 ICs at Endline. Informed by the attrition rates experienced by the CLHNS at similar cohort ages (Perez, 2015) we estimated losses to follow-up to range from 5-7% after each survey round, with higher rates expected as the cohort gets older and mobility out of the study area coverage increases, particularly after having completed school and as they begin their adult life. To achieve the target endline sample, we aimed to enroll about 5,000 10-year old children at Baseline (Table 2.2). The Baseline and Endline sample sizes will be large enough to allow us to estimate prevalence rates and changes in prevalence rates of selected indicators with reasonable accuracy. For example, a sample size of 1,859 can estimate a poverty rate of 26.3% (using 2015 national estimates) with a 2% margin of error. A sample size of 1,780 can significantly (at 95% confidence level) detect a change in poverty rate of at least 6%.

We used a two-stage sample selection scheme. Barangays were selected using probability proportional to size systematic sampling. In each sample barangay, sample children were selected using equal probability systematic sampling. Implicit stratification was used to ensure selection of urban-rural sample barangays with children considered as vulnerable (IPs and with disabilities). The final sampling draw yielded 345 barangays. We aimed to enroll 15 households per barangay, obtaining a maximum target sample of 5,175 households, to provide enough margin to get at the desired sample size of 5,000 across all domains (see Appendix 2 for details on the sampling design).

Survey	Year	Cohort age	Sample size	Estimated attrition rate	No. attrited
Wave 1	2016-2017	10.5	4952		
Wave 2	2018	11.8	4704	5%	248
Wave 3	2019	12.8	4469	5%	235
Wave 4	2020	13.8	4246	5%	223
Wave 5	2021	14.8	4033	5%	212

Wave 6	2022	15.8	3832	5%	202
Wave 7	2023	16.8	3640	5%	192
Wave 8	2024	17.8	3385	7%	255
Wave 9	2025	18.8	3148	7%	237
Wave 10	2026	19.8	2928	7%	220
Wave 11	2027	20.8	2723	7%	205
Wave 12	2028	21.8	2532	7%	191
Wave 13	2029	22.8	2355	7%	177
Wave 14	2030	23.8	2190	7%	165
Wave 15	2031	24.8	2037	7%	153

Table 2.2 Longitudinal sample size projections, assuming annual waves.

2.3 Questionnaire core sections and administration

The following core questionnaire sections will be administered at each level, in each survey round:

<u>Household:</u>

IC household contact information

Household composition (sex, age, education, work status of household members and relationships to IC)

Overseas work experience of IC's immediate family members

Language used in household, ethnicity and religion of IC's mother/caregiver

Household utilization of social services and poverty alleviation programs

Basic utilities available in household

Household and neighborhood sanitation and air quality assessment

Household and neighborhood hazard/disaster exposure and experiences

Distance of homes to nearest roads, transportation

Household assets and Internet connectivity

Household sources of income, farming and fishing activities

Food insecurity experience

Household's access to facilities and commercial establishments

Household morbidity and health care utilization

Individual (IC):

Schooling and schooling-related aspirations

Work history

Health status

Diet diversity

Perceived stress and depressive symptoms

Weight and height

Activity diaries

Social networks and internet utilization

Experiences with violence (within and outside home)

Perceptions about dating, sexuality, family planning and reproductive health

Baseline Survey only: IC infant feeding and health history

In later surveys: sexual practices, family planning, pregnancy history and reproductive health care utilization and behaviors

Individual (IC's mother/main caregiver):

Pregnancy history and family planning behaviors of mothers of ICs

Violence against women

Perceived stress and depressive symptoms

Community Questionnaire:

General barangay characteristics

Educational facilities

Health and social services

Barangay community organizations

Commercial establishments and entertainment facilities

Available jobs and prevailing wage rates

Disaster risk reduction management

Peace and order

Price survey

In the Baseline Survey, data were collected using pen-and-paper method. In future survey rounds, data collection will be done through Computer-Assisted Personal Interviews (CAPI). In survey rounds where the cohort participants are minors (below aged 18), household data will be obtained from their mothers or main caregivers.

At each survey round, the Household and IC Questionnaires will be administered in local languages using standard translation and back translation procedures: Cebuano (Visayas and most of Mindanao), Ilonggo and Waray (Visayas) and Tagalog (Luzon and parts of Mindanao such as ARMM). The Community Questionnaire collects secondary data and will be in English.

CHAPTER 3:

BASELINE SURVEY (WAVE 1)

The Baseline Survey data collection was carried out from October 2016 to January 2017. Prior to starting field work in the sample areas, courtesy calls were made to Provincial Governors or City/Municipal Mayors, who then endorsed the project to the barangay captains of the respective sample barangays. Each team carried with them endorsement letters from the UNFPA, NEDA and DOH.

3.1 Survey components

a) Community survey

The Community Survey collected secondary data on barangay-level information that were relevant in contextualizing the household and individual data collected in the survey. The Community questionnaire consists of several modules (see Section 2.3) and responses were obtained from multiple key informants. The data collection teams started completing the questionnaire as soon as the Barangay Captain provided consent for them to conduct the survey in the area. The goal was to complete the questionnaire within the duration of the team's stay in the barangay. If there were questionnaire components not completed by the end of the team's barangay visit, follow-up phone calls were made to the informants to fill out missing sections of the questionnaire.

b) Home Visit

All household and IC questionnaires were administered at the homes of the ICs. Each home visit began with a consenting process to obtain the consent of the IC's mother, or in her absence, the IC's main caregiver to be interviewed (as Household Questionnaire respondents) and for the team to interview their 10-year old eligible child. First to be interviewed were the household respondents, followed by the ICs. The ICs were interviewed at their convenient time (usually before or after school, during noon breaks, or on weekends). The IC interview began with administering the IC assent script to obtain the child's consent to be interviewed. There were two

IC questionnaires: the interviewer- and the self-administered questionnaires. The latter consisted of more sensitive questions that were answerable by yes or no check boxes.

The ICs' weight was measured using a portable bathroom scale. Height was measured using the SECA 206 microtoise or bodymeter. All instruments were calibrated prior to field use, before these were shipped out of OPS to the respective institutions. Prior to each home visit, each interviewer was trained to conduct simple calibration techniques to ensure that these instruments remained accurate. All interviewers were trained by experienced OPS staff who were trained in measuring weight and height among children in the CLHNS (Adair, et al, 2010).

About 84% of the home visits were completed in one day, about 15% in 2 days and very few took 3 days. On average, a home visit session (with most of the sections completed) lasted 2-3 hours. At the end of each home visit, the household was given:

1. A gift pack consisting of a pencil case with pencils and gel pens for the IC; and a *malong* (Luzon and Visayas) or flat sheet (Mindanao) for the household respondent in appreciation of the time they spent for the interview. The value of the gift pack corresponds to the peso value of work time possibly lost by the respondents in spending time for the interview.

2. Weight and height card (with the IC's height and measurements obtained at visit). In future survey rounds, a gift pack of a similar peso value and the IC's weight and height card will be given at the completion of each visit. Until the participant reaches 19 years of age, the study team will plot the child's weight and height over time to show how the IC is growing compared to normal growth ranges for boys and girls of the same ages.

3. Reference list. Some of the questions asked in the interviews were on domestic violence or experiences with physical or emotional aggression. We provided each of the IC's mother or caregiver information on the agencies and their contact numbers (when available) that handle cases of violence against women and children. The list included contact information of other agencies and institutions (i.e., police department, fire department, nearby hospitals) to mask the focus on violence and not make the respondents feel that they were being singled out because of their reported experiences with violence, thereby avoiding unnecessary psychosocial trauma to the respondents.

3.2 Selection of enumeration areas, and household screening and recruitment

One sitio from among the sitios in each sample barangay was randomly selected as the enumeration area (EA). The aim was to enroll 15 households with eligible children in each EA. A saturated household listing was conducted in each EA. The team leader first tossed a coin to determine whether to start the listing from the boundary or at the center of the sitio.

If the starting point was at the sitio boundary: the team leader asked the barangay captain to identify 4 clear landmarks located along the sitio boundary. A landmark was randomly selected as the starting point. Screening began with the household to the right of the starting landmark, and in every household thereafter, in clockwise direction until the interviewer arrived back at the starting landmark. Screening continued in an inward serpentine direction until 15 households with eligible children were enrolled.

If the starting point was at a central location in the sitio: the team leader asked the barangay captain to identify a landmark located somewhere at the center of the sitio. This landmark was selected as the starting point. Screening began with the household to the right of the starting landmark, and in every household thereafter, in clockwise direction moving outward in a serpentine direction until 15 households with eligible children were enrolled.

If the initial sitio has been saturated and more households were needed to be screened, the team moved to the adjacent sitio following the same starting point procedures and screening direction.

<u>Household eligibility criteria:</u>

1. Household must have a 10-year old (as of last birthday) resident (IC)

The IC's mother or main caregiver consented to participate in the baseline survey and in subsequent surveys. Since not all ICs were present in the household at screening (most were in school), we also asked for confirmation from the mother or caregiver that the IC will agree to participate in the study prior to enrolling that household. In the actual IC interviews, IC assent forms were administered prior to data collection.

3.3 Data collection teams

Each domain had 4-5 field teams, with 1 Team Leader and 4 interviewers per team. Interviewers conducted the household and IC interviews and were responsible in field editing their completed questionnaires. The team leader supervised and scheduled the team's field operations, was responsible for completing the Community Questionnaire (with assistance from the interviewers) and was responsible for the final field editing of all completed questionnaires.

3.4 Ethics review

The survey design, protocol and instruments were reviewed by the University of San Carlos Institutional Ethics Review Committee (USC IERC) and approved on October 27, 2016. Please see Appendix 3 for the IERC Certificate of Approval, approved consent form and IC assent script. All project and field staff were also asked to sign the OPS confidentiality and child protection agreement (Appendix 4).

3.5 Data processing

All completed questionnaires were shipped to OPS from all data collection centers for recording and final office editing. Prior to encoding questionnaire data into electronic data format, a group of office editors, mostly experienced field interviewers, went through the questionnaires for consistency, logic and range checks, and assign numeric codes to open-ended and other alphabetic string responses. A data entry program was customized by the OPS Data Manager specifically for this study. A data entry team encoded the data. Quality control procedures included random double data entry and conducting electronic data editing and verification runs through statistical programming.

CHAPTER 4

BASELINE SURVEY COVERAGE AND SAMPLE PROFILES

4.1 Survey coverage

The Baseline Survey sample is representative of 10-year old children from the country's three main island groups (sampling domains) of Luzon, Visayas and Mindanao. Given the estimated attrition rates over time (see Section 2.2), to retain a final cohort sample of 2,000 by the 2030 Endline Survey, we needed to enroll about 5,000 at Baseline. As described in Appendix 2 (Sampling design), 115 barangays were drawn for each island group (345 barangays total). We aimed to recruit 15 households per barangay, or a maximum of 5,175 households with 10-year old children for the entire country, providing enough margin for obtaining the target baseline sample size of 5,000. At the end of the Baseline recruitment, we enrolled a total of 4,952 eligible households and interviewed 4,927 index children (Table 4.1). Over 60,000 households were screened across all domains to attain the final sample. The baseline enumeration area covered 14 regions across the domains (5 in Luzon, 3 in the Visayas and 6 in Mindanao).

Table 4.1 Sample distribution by island group

Survey statistics	Luzon	Visayas	Mindanao	TOTAL
No. of barangays enumerated	115	115	115	345
Target households for enrollment	1,725	1,725	1,725	5,175
No. of households enrolled in study[1]	1,618	1,639	1,695	4,952[2]
No. of index children interviewed	1,600	1,639	1,688	4,927
Weighted sample: Population size per domain[3]	1,134,764	414,162	561,253	2,110,179

[1] Eligible households: with children aged 10 and consented to participate in Baseline and future surveys

[2] 96% of 5175; 99% of target 5000 households

[3] Matches population of 9-year old children in 2015 Census Survey (age 10 in 2016)

4.2 Profile of sample barangays

The study collected data from each of the 345 sample barangays using a semi-structured Community Survey questionnaire. Multiple respondents or key informants from local government units, health centers, Municipal Social Welfare and Development Offices, Philippine National Police, schools, and local businesses were interviewed for this segment. Barangay administrative data were provided mostly by the Barangay Captain, Secretary, Treasurer and Councilors. Barangay health center personnel were sourced for health-related data. The survey questionnaire was completed in about a week, which corresponds to the average time each field team spent in a barangay. In some areas, follow up phone calls to key informants were needed to complete the questionnaire. Table 4.2 presents key characteristics of the barangays of residence of the index children and their households (more community-level data are in the Appendix Tables).

There were more urban barangays in Luzon than in the Visayas or Mindanao, which explains the higher mean number of households and population density, and greater proportions with telephone lines and internet cafes reported in Luzon. The Mindanao sample barangays had the most number of households who were enrolled in the conditional cash transfer or Pantawid Pamilyang Pilipino Program (4Ps) and were IPs. These barangays also reported more armed conflict incidents compared to barangays in the other domains. Based on the distribution of 4Ps enrollment and poverty alleviation programs, Visayas and Mindanao appear to be more disadvantaged compared to Luzon.

Table 4.2 Barangay profile by island group[1]

Selected community characteristics	Luzon (n=115)	Visayas (n=115)	Mindanao (n=115)	ALL (N=345)
Urban barangays [d],%	66.1	34.8	27.8	42.9
Distance from town center (km)	7.3 ± 8.1	6.3 ± 5.6	9.1 ± 12.9	7.6 ± 9.5
Population [d],n	24,673.2± 46,923.4	5,963.2± 9,829.1	9,499.9± 16,529.6	13,335.2± 30,227.3
Land area (km^2)	2,485.7± 13,016.8	25,003.1± 163,937.8	4,220.6± 43,868.3	10,443.2± 97,668.6
Households in barangay [d]	6,101.2± 14,214.9	1,162.4± 1,913.0	2,030.4± 3,861.7	3,071.7± 8,759.0

Population density[d], persons/km^2	14,258.0± 26,590.4	3,882.1± 13,358.2	4,323.0± 8,577.4	7,317.0± 18,123.4
Agriculture as main source of livelihood [d],%	48.7	67.0	72.2	62.6
With local waterworks system,%	61.7	61.7	73.9	65.8
Sources of drinking water, %				
Piped/protected, rain [d]	84.3	57.4	76.5	72.8
Bottled water/refilling station [d]	13.0	40.8	17.4	23.8
With telephone landline system [d],%	73.9	38.3	32.2	48.1
With cellphone service/signal,%	98.3	97.4	95.6	97.1
With internet service,%	81.7	71.3	68.7	73.9
With internet cafes[2, d],%	73.9	48.2	63.5	61.9
Barangay population living in slum or informal settlement areas,%	10.7	12.2	15.7	12.9
Households enrolled in 4Ps in 2016 [d],%	18.1	23.1	31.4	24.8
With social housing programs,%	8.7	7.8	15.6	10.7
With poverty alleviation programs [d],%	19.1	53.0	44.3	38.8
GIDA[3, d],%	1.7	7.8	9.6	6.4
With armed conflict in last 3 years [d],%	2.6	3.5	19.1	8.4
With flooding in last 3 yrs,%	41.7	33.0	47.0	40.6
With indigenous peoples [d],%	21.7	7.8	80.9	36.8

[1] Unweighted results presented as Percentage of barangays or Mean ± SD

[2] These include commercial internet stations run from homes

[3] Geographically Isolated and Disadvantaged Areas as defined by the Department of Health

[d] significantly different between domains at $p<0.05$

4.3 Profile of household respondents

Household characteristics and detailed information on the index children were collected through the Household Questionnaire with the child's mother as the main respondent. In her absence, we interviewed the child's main adult caregiver (father, grandparent, other relative or non-relative) who was residing in the same household as the index child. Table 4.3 describes the profile of the household respondents (more household-level data are presented in the Appendix Tables). The majority of the household respondents were the index children's mothers and the caregivers were more likely to be grandmothers and fathers. About 71% of the respondents reached high school level education and more than half were currently working. The majority were Catholics. As reflected in the community profile, there were more Mindanao respondents who classified themselves as IPs.

Table 4.3 Profile of household respondents by island group[1]

Selected respondent characteristics	Luzon	Visayas	Mindanao	ALL
Relationship to index children,%:				
Mothers	83.5	83.5	81.4	82.9
Grandmothers	8.8	8.4	8.6	8.7
Fathers	4.3	4.5	6.8	5.0
Others	3.4	3.6	3.1	3.4
Mean ± SE age: in years				
Mothers	38.5 ± 0.2	38.8 ± 0.3	38.8 ± 0.2	38.6 ± 0.1
Grandmothers[a,c]	59.8 ± 0.6	62.3 ± 0.8	60.2± 0.5	60.4 ± 0.4
Fathers	42.5 ± 1.4	43.2 ± 1.0	42.8 ± 1.0	42.7 ± 0.8
Others	40.8 ± 1.9	41.7 ± 2.0	40.1 ± 2.0	40.8 ± 1.2
Highest grade completed[a,b,c],%				
No grade completed	0.5	1.2	4.7	1.8
Elementary level	23.1	31.4	31.4	26.9
High school level	56.9	50.8	46.8	53.0

College level	19.3	16.3	17.0	18.1
Post graduate level	0.2	0.3	0.1	0.2
Currently working[a,b],%	53.6	61.6	61.2	57.2
Religion [b,c],%				
None	0.6	0.0	0.3	0.4
Catholic	86.8	87.6	58.2	79.4
Christian denomination	11.9	11.8	20.1	14.1
Islam	0.2	0.1	19.8	5.4
Others	0.5	0.5	1.5	0.8
Classify themselves as Indigenous Peoples[b,c]	5.7	3.4	30.6	11.9

[1] Weighted results based on data from Household Questionnaire (N=4952). Values presented as Percentages or Mean ± SE. Test for significant differences in weighted proportions and means were based on Pearson chi-square test for independence and adjusted Wald test respectively

[a] Significantly different at p<0.05 between Luzon and Visayas; [b] Luzon and Mindanao; [c] Visayas and Mindanao

4.4 Basic characteristics of the index children

Questions about the index children were asked in the Household Questionnaire, and in the index children interviews (using interviewer- and self-administered questionnaires). Of the 4,952 eligible households, 4,927 index children were interviewed (8 were with disabilities and were incapable of being interviewed and 17 refused to be interviewed or were not available for interviews while the teams were in the areas). The self-administered questionnaire consisted of 49 yes-no questions and a multiple choice question. The ICs were asked to check or mark their responses on a two-page answer sheet. About 85% filled out the questionnaire on their own. The rest required assistance from the interviewers. Questionnaire items with no responses or with both yes and no boxes marked were assigned missing values. Complete valid data for the self-administered component were obtained from 3,870 respondents.

Table 4.4 describes some of the basic characteristics of the index children at Baseline. Overall mean age was 10.5 years and about 52% were males. Almost all the children were in school and the majority were in either Grades 4 or 5 at time of survey although a notably higher proportion of children from Mindanao were in lower grade levels. About 78% of the entire sample had both

parents in the household, 16% were in single-parent households and 7% had neither parent living with them.

Table 4.4 Basic profile of index children[1]

Characteristics	Luzon	Visayas	Mindanao	ALL
Mean ± SE age, years	10.4 ± 0.01	10.5 ± 0.01	10.5 ± 0.01	10.5 ± 0.01
Males,%	53.5	49.4	52.6	52.4
Last grade completed[b,c],%				
None or ≤ Grade 1	2.1	1.6	4.2	2.6
Grade 2	4.4	3.7	8.5	5.4
Grade 3	29.1	27.2	31.6	29.4
Grade 4	63.1	65.1	54.8	61.2
Grades 5	1.4	2.5	0.8	1.4
Currently in school[a,c],%	97.9	99.3	98.4	98.3
If in school: current grade enrolled in[b,c],%				
Grade 2	1.8	1.5	3.6	2.2
Grade 3	4.2	3.5	8.4	5.2
Grade 4	28.5	27.3	31.6	29.1
Grade 5	64.0	65.4	55.5	62.0
Grade 6	1.4	2.2	0.8	1.4
No. of biological siblings currently alive[2,b],%	3.1 ± 0.1	3.3 ± 0.1	3.6 ± 0.1	3.3 ± 0.06
Presence of parents in household,%				
Both parents in household	78.8	77.8	74.8	77.5
Mother only	10.9	11.6	13.0	11.6
Father only	3.9	3.3	4.9	4.0
No parents in household	6.4	7.3	7.2	6.8
Household size[b], no. of persons	6.2 ± 0.08	6.3 ± 0.13	6.6 ± 0.14	6.3 ± 0.06

[1] N=4,952 unless otherwise specified; Weighted results based on data from Household and Index Child Questionnaires. Values presented as Percentages or Mean ± SE. Test for significant differences in weighted proportions and means were based on Pearson chi-square test for independence and adjusted Wald test respectively

[2] n=4,105; asked of mother-respondents only

[a] Significantly different at p<0.05 between Luzon and Visayas; [b] Luzon and Mindanao; [c] Visayas and Mindanao

CHAPTER 5

PUTTING A HUMAN FACE TO THE DEVELOPMENT GOALS: FROM THE PERSPECTIVE OF 10-YEAR OLD FILIPINO CHILDREN

5.1 Baseline profile of index children by SDG indicators

The main impetus for conducting this study is to assess how the lives of ten year old boys and girls are changed by programs designed to address the SDG agenda in the country. The basic assumption is that the Baseline Survey period (October 2016 to January 2017) covered the pre- or early Agenda implementation period. Subsequent follow-up survey rounds are expected to capture the influence on the cohort participants of more advanced stages of Agenda implementation as well as newly-implemented programs.

The Baseline Survey collected information relevant to 13 of the 17 SDGs. Tables 5.1A to 5.1D present a select set of baseline characteristics of the index children, their households and communities illustrating how they fared on the development goals. Full coverage of Baseline Survey Data on the SDGs are presented in the Appendix Tables.

Table 5.1A characterizes the children in terms of Goals 1 (End poverty) and 2 (End hunger). Households were asked to provide their total cash income in a poor month as well as in a rich month. About 77% had mean incomes in a poor month that were below province-level per capita income threshold values (Philippine Statistics Authority, 2017). Less than half of the households were enrolled in 4Ps and the highest proportion of beneficiary households were in Mindanao. One in three children were stunted and about 16% were either severely thin or thin based on their body mass index for age. About half of the children had low diet diversity scores or consumed less than 4 of the 9 basic food groups and 43% reported experiencing hunger but did not eat.

Table 5.1B shows the status of the children under Goals 3 (Ensure healthy lives and well-being), 4 (Education for all) and 5 (Gender equality). Close to a third reported an illness in the last 6 months, which included severe cough/colds and diarrhea. The double burden of malnutrition is evident in this sample with about 11% being on the other end of the malnutrition spectrum or who are either overweight or obese. While about 98% were reported to be in school, there were indications of poor school performance such as repeating grades (12%) and missing school (58%)

mainly due to illness. Potentially risky behaviors such as smoking and consumption of alcoholic beverages (4.3% and 4.6% in entire sample, 7.6% and 7.1% in Visayas respectively), reports of having watched pornographic videos (17.8%) as well as experiences with physical violence were also reported in this young sample. Among the female index children, about a third reported being physically hurt by friends/classmates. About 13% and 17% reported being hurt by parents and other adults respectively.

Tables 5.1C and 5.1D present various aspects of the index children's household and community characteristics in line with Goals 5-16 (please refer to the Appendix Tables for more details on these).

Table 5.1A Data on goals 1-2 by island group[1]

Variables	Luzon	Visayas	Mindanao	ALL
GOAL 1. End poverty in all its forms everywhere				
Households classified as poor[2,a,b,c]	72.0	87.6	80.7	77.4
Pantawid Pamilyang Pilipino Program (4Ps) recipients[a,b,c]	39.9	49.1	59.2	46.8
Index child's current work status[a,b,c]				
Not working	97.7	92.7	92.9	95.4
Paid errand work/food vending	0.1	4.0	0.5	1.0
Paid piece work	0.1	0.4	1.6	0.5
Unpaid work in family business	2.1	2.9	5.0	3.0
GOAL 2. End hunger, achieve food security and improved nutrition, and promote sustainable agriculture.				
Stunted[3 , a,b]	26.9	36.4	38.7	32.0
Below normal BMI-for-age categories[3,a,b]				
Severely Thin	3.7	3.8	4.3	3.9
Thin	11.2	12.0	13.6	12.0
Low diet diversity scores (DDS)[4]	55.9	50.5	57.8	55.4
Experienced hunger but did not eat [a,b]	31.5	56.9	55.7	43.0

[1] N=4,952 unless otherwise specified; Weighted results are presented as percentages or mean ± standard error. Test for significant differences in weighted proportions and means were based on Pearson's chi-squared test of independence and adjusted Wald test respectively.

[a]Significantly different at p<0.05 between Luzon and Visayas; [b] Luzon and Mindanao; [c] Visayas and Mindanao

[2]Calculated using 2015 PSA province-level per capita poverty threshold values (PSA, 2017); using average income in a poor month

[3]Classified using the 2007 WHO Reference Standards; BMI-for-age(n=4925): Thin:<-2SD, Severely thin: <-3SD

[4] Consumed less than 4 of 9 food groups the previous day

Table 5.1B Data on goals 3, 4 and 5 by island group[1]

Variables	Luzon	Visayas	Mindanao	ALL
GOAL 3. Ensure healthy lives and promote well-being for all at all ages				
Reported any illness in past 6 months[2,a,b]	33.9	23.4	23.5	29.1
With disability[b]	1.0	1.2	2.3	1.4
Above normal BMI-for-age categories[3,a,b]				
Overweight	8.4	4.2	3.2	6.2
Obese	6.1	3.2	2.9	4.7
Number of times washes hands with soap in a day[a,c]	2.9 ± 0.05	4.1 ± 0.10	2.8 ± 0.05	3.2 ± 0.04
Currently smoking[a,c]	3.5	7.6	3.6	4.3
Currently drinks alcohol[a,c]	3.9	7.1	4.0	4.6
Reported that friends or classmates have said or done something that hurt their feelings[c]	44.9	48.7	41.1	44.6
Reported that parents hurt their feelings[a,b]	17.1	24.3	27.8	21.4
Reported being physically hurt by friends/classmates[a,c]	37.2	44.1	36.8	38.5
Reported being physically hurt by adults [a,b,c]	18.8	30.7	23.6	22.4
Reported being forcefully hurt by parents [a,b]	9.3	23.8	24.3	16.2
Has witnessed any physical violence at home [a,b]	22.2	38.1	36.0	29.0
Has experienced more than kissing [a,b,c]	2.0	10.5	6.0	4.7
Usually chats with strangers on internet[b,c]	4.6	5.0	2.6	4.2
Ever watched pornographic movies/videos[b.c]	19.3	18.3	14.9	17.8
Goal 4: Ensure inclusive and equitable quality education for all and promote lifelong learning				
Not currently in school[a,c]	2.1	0.6	1.6	1.7
Ever repeated a grade	10.9	11.31	13.8	11.8
Ever missed school in previous month	58.1	57.6	59.6	58.4
If with absences, no. of school days missed	3.6 ± 0.1	3.5 ± 0.2	3.5 ± 0.1	3.5 ± 0.1
Missed school because of illness	63.2	66.1	66.2	64.6
Goal 5: Achieve gender equality and empower all women and girls				

Female ICs who reported experiencing being physically hurt (n=2448) by:				
Friends[a,b,c]	28.4	42.6	33.6	32.7
Parent(s) [a,b]	7.9	18.7	19.8	13.3
Any adult[a,b,c]	12.8	24.6	18.6	16.9

[1] N=4,952 unless otherwise specified; Weighted results are presented as percentages or mean ± standard error. Test for significant differences in weighted proportions and means were based on Pearson's chi-squared test of independence and adjusted Wald test respectively.

[a]Significantly different at p<0.05 between Luzon and Visayas; [b] Luzon and Mindanao; [c] Visayas and Mindanao

[2]Includes severe episodes of cough, colds and diarrhea

[3]Classified using the 2007 WHO Reference Standards; BMI-for-age(n=4925): Overweight: >+1SD to +2SD, Obese: >+2SD

Table 5.1C Data on goals 6-15 by island group[1]

Variables	Luzon	Visayas	Mindanao	ALL
Goal 6: Ensure availability and sustainable management of water and sanitation for all				
No access to safe drinking water	33.0	37.2	30.2	33.1
No access to sanitary toilet [a,b]	4.1	9.0	13.8	7.6
Goal 7: Ensure access to affordable, reliable, sustainable and modern energy for all				
Households with electricity[a,b,c]	95.9	93.8	90.5	94.0
Goal 8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all				
Households with income from salaries/wages[a,b,c]	87.0	77.0	66.6	79.6
Goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation.				
Minutes to nearest road [a,b]	2.8 ± 0.2	4.2 ± 0.4	3.6 ± 0.3	3.3 ± 0.2
With internet connection at home[b]	13.9	7.8	4.6	10.2
Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable				
Garbage disposal in barangay: by a garbage collector	73.0	41.7	60.0	58.3
Mother/female caregiver perceives neighborhood as very unsafe/unsafe [a,b]	7.9	10.6	11.9	9.5
Goal 13: Take urgent action to combat climate change and its impacts				
Community has garbage segregation policy[a]	67.3	79.3	77.6	72.4
Household segregates garbage	65.8	67.0	65.5	65.9
Goal 14. Conserve and sustainably use the oceans, seas, and marine resources for sustainable development.				
Among households engaged in fishing (n=375)[a,b]: Received info/training on marine protection	58.6	16.4	13.3	32.0

[1] N=4,952 unless otherwise specified; Weighted results are presented as percentages or mean ± standard error. Test for significant differences in weighted proportions and means were based on Pearson's chi-squared test of independence and adjusted Wald test respectively.

[a]Significantly different at p<0.05 between Luzon and Visayas; [b] Luzon and Mindanao; [c] Visayas and Mindanao

Table 5.1D Community-level data on Goal 16 by island group[1]

Variables	Luzon (n=115)	Visayas (n=115)	Mindanao (n=115)	ALL (n=345)

Goal 16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels.				
Number of policemen	4.1 ± 12.2	2.3 ± 11.5	2.6 ± 8.6	3.0 ± 10.8
Number of barangay tanods	26.6 ± 60.8	16.4 ± 6.9	21.5 ± 25.1	21.6 ± 38.5
Number of reported deaths due to traffic/road injuries in barangay (in 2016)	0.9 ± 3.0	0.3± 1.0	0.7± 1.8	0.6 ± 2.1
Number of reported homicides in barangay (in 2016)	0.9 ± 3.5	0.2 ± 0.8	0.5 ± 1.4	0.5 ± 2.2

5.2 Assessing the children's level of vulnerability

To get a more holistic understanding of the index children's level of vulnerability, particularly of their risk of not reaching their maximum potentials later in life, we identified seven (7) vulnerability domains which are not only key concerns of the SDGs but also focal areas articulated in the Convention on the Rights of the Child (UN General Assembly, 1989). Below are 16 variables (constructed as 1=yes/0=no variables) that represent these domains:

1. Education (GOAL 4): ever repeated a grade
2. Health (GOAL 3): reported any illness in the past 6 months, reported any disability
3. Nutritional status (GOALS 2/3): low diet diversity scores (DDS), underheight for age (stunting), below (severely thin/thin) or above normal (overweight/obese) body mass index (BMI)-for-age
4. Food Security (GOAL 2): experienced hunger but did not eat
5. Child labor (GOAL 1): reported doing any work (whether paid or unpaid) at age 10
6. Exposure to physical violence (GOAL 3/5): reported being physically hurt by friends/classmates, parents or any adult
7. Precedents to risky behaviors (GOAL 3): currently smoking, currently drinking, experienced more than kissing, ever watched pornographic movies, chats with strangers on internet

A vulnerability score, the sum of these 16 dichotomous variables, was generated for 4,584 index children (93% of sample) who had complete data on all variables. While there are limitations to assigning equal weights to these variables, this exercise was meant to illustrate that children may have multiple co-existing disadvantages. The vulnerability score also distinguishes those who are healthy, safe and are on track with schooling from those who are disadvantaged and require intervention. In subsequent surveys these children will be monitored to see who among them continue to stay on track, improve or deteriorate.

Table 5.2A shows the profile of the children (stratified by sex) based on these 16 variables. Compared to girls, a significantly higher proportion of boys have experienced these vulnerabilities except for disability, stunting, diet diversity scores and chatting with strangers. Boys had significantly higher mean vulnerability scores than girls. Figure 3 shows that a higher

proportion of girls had 0-2 vulnerabilities compared to boys. Significant differences were also found across the island groups (Figure 4), with children from Luzon showing significantly fewer vulnerabilities (mean± SE: 2.9 ± 0.1) than those in the Visayas (3.5 ± 0.1) and Mindanao (3.4 ± 0.1).

Table 5.2A Percent of children with vulnerabilities by sex[1]

Characteristics	Boys	Girls	All
Ever repeated a grade***	13.8	9.6	11.8
Sick last 6 months**	30.6	27.4	29.1
With disability	1.2	1.6	1.4
Stunted (n=4925)	33.1	30.7	32.0
Non-normal BMI-for-age** (n=4925)	29.6	23.6	26.7
Low DDS	54.1	56.7	55.4
Hungry but did not eat*** (n=4908)	46.3	39.3	43.0
Currently working**	5.2	3.8	4.6
Physically hurt by friends*** (n=4823)	43.7	32.7	38.4
Physically hurt by parents*** (n=4817)	18.8	13.3	16.2
Physically hurt by adults*** (n=4764)	27.5	16.9	22.4
Currently smoking** (n=4821)	5.5	3.0	4.3
Currently drinks alcohol***(n=4836)	5.8	3.1	4.6
More than kissed***(n=4820)	5.6	3.8	4.7
Watched porn movies***(n=4810)	19.9	15.5	17.8
Chats with strangers (n=4912)	4.4	3.8	4.2
Vulnerability scores (n=4584)	3.4 ± 0.1***	2.8 ± 0.1	3.2± 0.04 (range: 0-12)

1 Weighted results are presented as percentages or mean ± standard error; N=4952 unless otherwise specified. Test for significant differences in weighted proportions and means were based on Pearson's chi-squared test of independence and adjusted Wald test respectively.

* Significant at p<0.10 , ** p<0.05, *** p<0.01

Figure 3. Vulnerability scores by sex

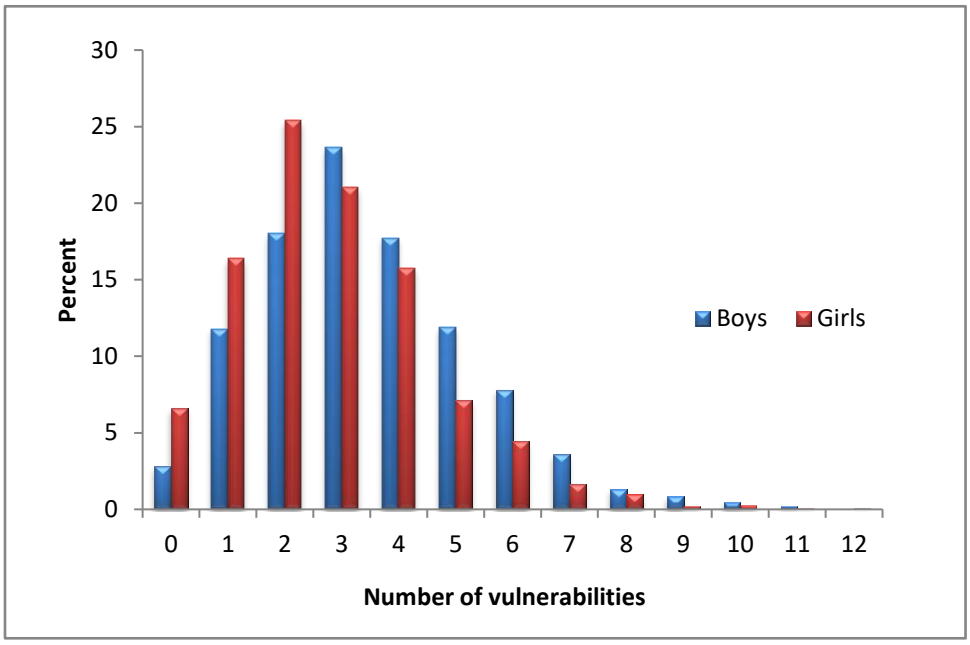
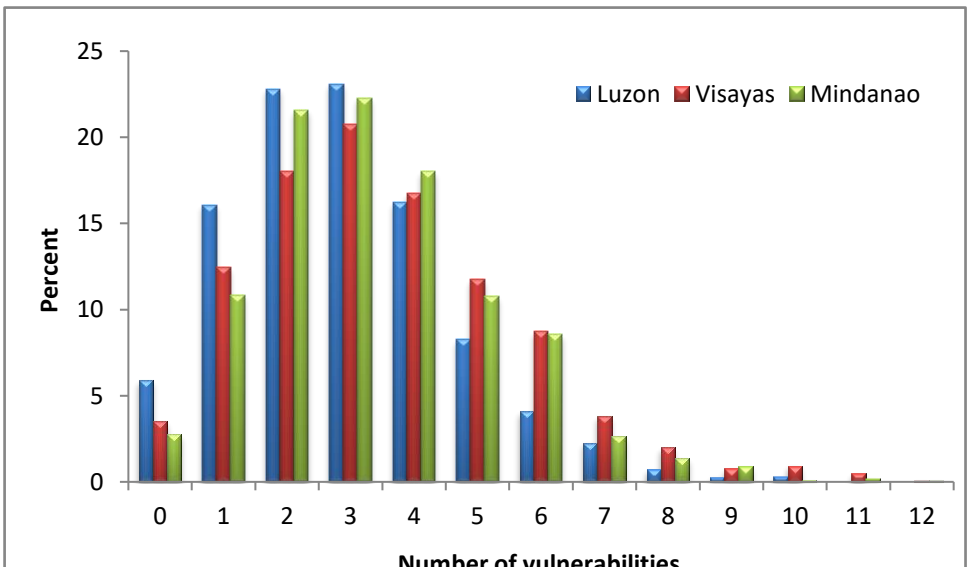


Figure 4. Vulnerability scores by island group



Clustering of Vulnerabilities

Using factor analysis, we identified which vulnerabilities tend to load or cluster together and identified six (6) vulnerability groups (Table 5.2B). Based on the clustering of vulnerabilities, we arbitrarily labeled these groups as representing children who are: prone to risky behaviors (Factor 1), prone to physical violence (Factor 2), stunted, have repeated grades and experienced hunger (Factor 3), sickly and with disability (Factor 4), exposed to outside elements (Factor 5) and malnourished and with poor diets (Factor 6). The critical point suggested here is that, in reality, vulnerabilities tend to exist simultaneously rather than occur singly. Interventions that are holistic and encompassing in design, addressing multiple vulnerabilities, may therefore be more cost effective.

Table 5.2B. Factor loadings and uniqueness based on a principal component analysis with orthogonal rotation for 16 vulnerability items[1].

Vulnerabilities	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Uniqueness
Stunted			0.6665				0.5478
Non-normal BMI						-0.6258	0.5528
Low DDS						0.7534	0.3996
Repeated grade			0.5803				0.5482
Hurt by adults		0.7020					0.4809
Hurt by friends		0.7408					0.4499
Hurt by parents		0.6150					0.5527
Drinks alcohol	0.7665						0.4045
Smokes	0.7679						0.4067
More than kissed	0.6623						0.5280
Watches porn	0.4694						0.6605
Chats w/strangers					0.6585		0.5196
Currently working					0.7217		0.4328

Sick last 6 mos				0.7499			0.4155
With disability				0.7561			0.4086
Was hungry			0.5839				0.5859

[1]Factor loadings <.45 are hidden. Factor groups define as:

Factor 1: prone to risky behaviors (drinks, smokes, more than kissed, watches pornographic videos)

Factor 2: prone to physical violence (reported being physically hurt by friends and adults, forcefully hurt by parents)

Factor 3: stunted, repeated grades and experienced hunger

Factor 4: sickly and with disability

Factor 5: exposed to the elements: currently working and chatting with strangers on internet

Factor 6: poor nutrition: low diet diversity score and non-normal BMI-for-age

Factors associated with vulnerability scores

We examined the associations between vulnerability scores and index child, household and community variables that are usually controlled for in models predicting child-specific outcomes (Adair et al., 2013; Martorell et al., 2010; Stewart et al., 2013). We selected variables that may be associated with vulnerabilities providing insights as to what at-risk children are like (sex, measures of health and other behaviors), the household situations they are in (parents' characteristics, cultural identities, household size, and other measures of socioeconomic status) and types of communities they are exposed to (island group, degree of remoteness, safety, risk of flooding and access to facilities). We excluded urban/rural stratification in the model as this construct was already captured by some of the community-level variables.

Results presented in Table 5.2C indicate that being male is persistently associated with increased vulnerability, even when controlling for household and community characteristics. We also observed that increased frequency of hand washing is associated with lower vulnerability scores in all models. Having mothers/caregivers with at least high school education was associated with lower vulnerability, while having working mothers/caregivers, bigger household size and being 4Ps recipients were associated with higher vulnerability, the latter being a proxy for poor socioeconomic status. Living in barangays exposed to flooding in the last 3 years was moderately associated with vulnerability. Controlling for index child and household level characteristics, vulnerability was strongly influenced by island grouping. Compared to children living in Luzon, those in the Visayas and Mindanao had significantly higher vulnerability scores.

Table 5.2C Linear regression coefficients indicating associations between Index child/household/community characteristics and vulnerability scores[1]

Characteristics	Model 1 (n=4577) β (95% Conf. Interval)	Model 2 (n=4574) β (95% Conf. Interval)	Model 3 (n=4574) β (95% Conf. Interval)
Index child characteristics			
Male	0.628*** (0.51, 0.75)	0.626*** (0.50, 0.75)	0.634*** (0.51, 0.76)
No. of times washes hands with soap/day	-0.045***(-0.08, -0.01)	-0.046***(-0.08, -0.01)	-0.075***(-0.11, -0.04)
Household characteristics			
Both parents in household		-.013(-0.19, 0 .16)	-.0002(-0.17, 0 .17)
Mother/caregiver at least high school		-0.400***(-0.55, -0.24)	-0.365***(-0.52, -0.21)
Mother/caregiver currently working		0.266***(0.13, 0.40)	0.231***(0.10, 0.36)
Household size		0.072***(0.04, 0.10)	0.070***(0.04, 0.10)
4Ps beneficiary		0.187**(0.02, 0.35)	0.153*(-0.005, 0.31)
With access to sanitary toilet		-.077 (-0.37, 0.21)	0.007 (-0.27, 0.28)
Self-classifed as Indigenous Peoples (IP)		-0.104 (-0.32, 0.12)	-0.165 (-0.38, 0.06)
Community characteristics			
Classified as GIDA			-0.081 (-0.29, 0.12)
Experienced armed conflict in last 3 yrs			0.006 (-0.25, 0.26)
Experienced flooding in last 3 yrs			0.147*(0.001, 0.29)
With RHU/CHO/BHS in barangay			-0.146 (-0.38, 0.09)
Domain[2]			
Living in Visayas			0.700***(0.51, 0.89)
Living in Mindanao			0.423***(0.25, 0.59)

[1] β coefficients from multivariable linear regression models using weighted samples; * p<0.10 , ** p<0.05, *** p<0.01

Dichotomous variables coded as 1=yes; 0=no

[2] Living in Luzon as base group

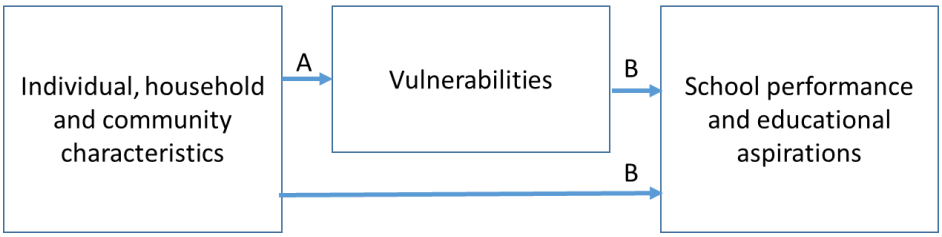
5.3 A closer look at each vulnerability and its correlates

After describing the general level of vulnerability of the cohort participants based on a composite score, we next focus on each set of vulnerability factors identified in Section 5.2 and its correlates. Specifically, we examined vulnerability sets 2-7 (health, nutritional status, food security, child labor, exposure to physical violence and risky behaviors) and assessed how each influences vulnerability set 1 (education). We expanded the education outcomes to include school performance indicators (not being in school, ever repeated a grade, average grade in last school year, and reported any absence during the previous month) and educational aspirations of both the index child and their mothers/caregivers to exemplify how vulnerability sets 2-7 compromise children's human capital potentials.

We first determined which individual, household and community variables were significantly associated with each vulnerability set. The model specifications include variables at the individual-level (sex of IC, hand washing as a proxy for health behavior, measures of social interactions such as having close friends and frequency of quarreling with family members), household-level (parents' characteristics, cultural identities, household size, and other measures of socioeconomic status) and community-level (island group, degree of remoteness, safety, risk of flooding and access to facilities). Again, we excluded urban/rural stratification in the model as this was highly associated with some of the community-level variables. For ease in making comparisons across vulnerability models, we used the same model specification (with a few variations in some) in each analysis.

We next examined how each vulnerability influences school-related outcomes. The structure of the relationships examined is depicted in Figure 5. One set of analysis looks at factors related to specific vulnerability (analysis A), and another set (B) looks at the effect of individual vulnerabilities on school performance and educational aspirations, controlling for individual, household and community characteristics. Assessments for confounding were done for all these models.

Figure 5. Relationship among individual, household and community characteristics, vulnerabilities and schooling-related outcomes



Vulnerabilities are discussed by order of magnitude and significance. Sub-sections 5.3.1 through 5.3.8 (stunting, exposure to physical violence, disability and morbidity, non-normal BMI, diet diversity and food security) are vulnerabilities that affect a significant proportion of the cohort or represent the marginalized (in the case of disability). The statistically significant correlates of each vulnerability are presented in Tables 5.3A (background characteristics associated with vulnerability) and 5.3B (vulnerabilities associated with school-related outcomes). Sub-sections 5.3.9 to 5.3.10 (child labor and precedents to risky behaviors) are vulnerabilities that may have few occurrences for now (at age 10), but have serious implications in the future when not properly addressed.

Complete results of individual regression runs are presented in Appendix 5.

5.3.1 Stunting

Stunting, or being short for age, is one of the broad sub-forms of undernutrition and usually results from chronic or recurrent undernutrition and repeated infections (WHO, 2014, 2017). It is defined as having a height-for-age that is more than two standard deviations below the WHO Child Growth Standards median (de Onis, 2007; WHO, 2006). Although rates of childhood stunting have decreased over the years, stunting remains a major public health concern, especially in developing countries. In 2017, about 155 million children under 5 years across the globe suffered from stunting, accounting for 22.9% (UNICEF, WHO and World Bank Group, 2017). More than half of these stunted children are living in Asia and about two thirds are living in lower-middle income countries. The 2013 National Nutrition Survey (NNS) showed that three in ten Filipino children are stunted (Food and Nutrition Research Institute, 2013). In 2013, about 30.3% of children under 5 are stunted. The irreversible nature of childhood stunting may be reflected in the similar rates observed among children 5-10 years (29.9%) and 10-19 years (31.6%). Specific to children aged 10.08-12.99 years, 32.3% are stunted (males: 34.6%, females: 30.0%). Higher rates are generally observed among males, rural residents, poorest households, and those from Visayas and Mindanao regions. Our Baseline Survey data reveal similar findings: 32% of our 10-

year old cohort participants are stunted (males: 33.1%, females: 30.7%) and children in the Visayas and Mindanao had higher rates compared to those in Luzon (see Table 5.1A).

Factors associated with being stunted

Stunting has been associated with short- and long-term consequences on health, cognitive development and economic productivity (Stewart et al., 2013). Briefly, community and societal contexts affect the direct causes of stunting such as adverse household and family factors particularly poor maternal health and nutrition, inadequate breastfeeding and complementary feeding practices, and having infections (Figure 6). The long-term consequences of stunted growth on human capital has been shown by several studies notably including the Consortium of Health Outcomes (formerly Orientated) Research in Transitional Societies (COHORTS) in which the Philippines (Cebu Longitudinal Health and Nutrition Study (CLHNS)) is a member of together with Brazil, Guatemala, India and South Africa. A major finding of COHORTS is that stunting in the first 2 years of life is associated with reduced schooling attainment in young adulthood (Adair et al., 2013; Martorell et al., 2010). A study by Carba et al. (2009) using CLHNS data showed that higher length-for-age z score at age 2 was associated with increased likelihood of having formal work in young adulthood. With stunting's adverse effects on human capital formation and consequently on economic productivity and growth, decreasing rates of childhood stunting is seen as a sustainable way of boosting national development (WHO Department of Nutrition for Health and Development, 2015).

Results shown in Table 5.3A indicate no significant associations with being male but frequency of hand washing is negatively associated with stunting status particularly when controlling for household and community characteristics. Compared to non-stunted children, those who are stunted are more likely to be in households with mothers/caregivers who have not reached at least high school level, belong to larger households, and are beneficiaries of 4Ps. With moderate statistical significance, being stunted is also associated with not having access to sanitary toilets. At baseline, stunted children are more likely to be living in the Visayas and Mindanao than in Luzon.

Data in Table 5.3B, and as illustrated in Figure 7, show strong evidence of stunted children doing poorly in school. Stunted children are significantly less likely to be in school, are more likely to have repeated a grade and obtained an average grade of < 81 in the last school year. Being stunted was also significantly associated with reporting any absence in the previous month. More worrisome is that mothers/caregivers of stunted children are less likely to believe that the

IC can achieve college-level education and therefore have no aspirations for higher education for these children.

Examining these relationships further in the context of multiple vulnerabilities, it is important to note that stunted children in poor households and with mothers with low education are four times at risk of repeating grades than non-stunted children in non-poor households with mothers who reached high school (results not shown).

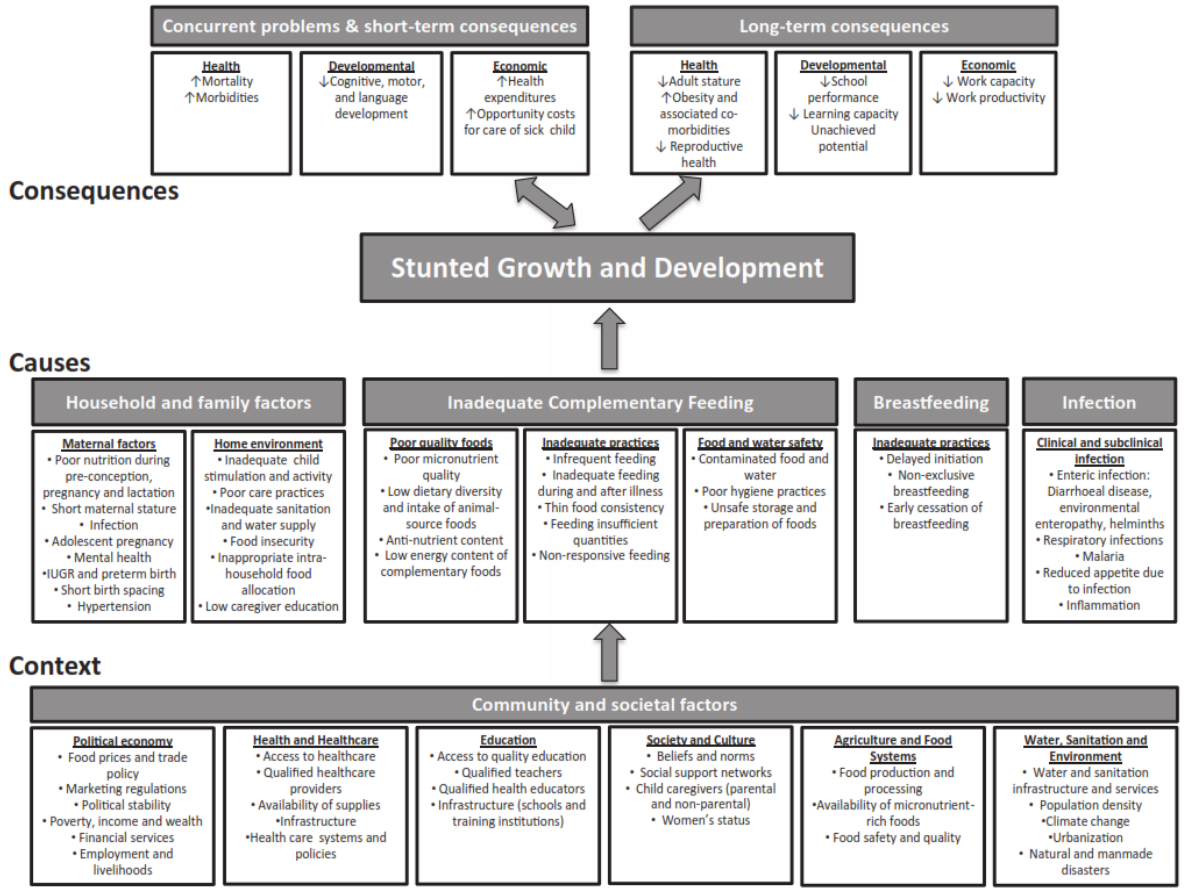


Figure 6. WHO conceptual framework on Childhood Stunting Context, Causes, and Consequences with an emphasis on complementary feeding. Extracted from: Stewart CP, Lanotti L, Dewey KG, Michaelsen KF & Onyango AW. Contextualizing complementary feeding in a broader framework for stunting prevention. Maternal and Child Nutrition 2013;8 (Suppl 2):27-45

Table 5.3A Odds ratios indicating significant associations between background characteristics and specific vulnerabilities[1]

Background Characteristics	Vulnerabilities									
	Stunted (n=4908)	Reported violence (peers) (n=4808)	Reported violence (parents) (n=4803)	Witnessed violence at home (n=4799)	IC with disability (n=4916)	IC living in PWD Household (n=4916)	Sick in last 6 months (n=4904)	Thin (low BMI-for age) (n=4904)	Low DDS (n=4915)	Experienced hunger (n=4898)
Index child characteristics										
Male		1.63***	1.59***	1.49***			1.16*			1.38***
No. of times washes hands with soap/day	0.94**				0.79**				0.95***	0.92***
Frequently quarrels with family			1.24**	1.40***						
Household characteristics										
Both parents in household				0.79**		0.54***				
Mother/caregiver at least high school	0.70***	0.88*	0.76***			0.61***	1.37***		0.79***	0.82**
Mother/caregiver currently working			1.32**	1.18*						
Household size	1.12***	1.02*		1.04**	1.10*	1.14***	0.90***			1.08***
4Ps beneficiary	1.66***							1.43***		1.18*
With access to sanitary toilet	0.74*			1.61***			1.60**		0.77*	
Self-classifed as Indigenous Peoples		0.59***	0.68*	0.64***		0.60*			1.33**	
Community characteristics										
Classified as GIDA	1.37*						1.72**		0.63***	

Experienced armed conflict in last 3 yrs							0.54***	0.63*		
Experienced flooding in last 3 yrs		1.20**	1.20*							
With RHU/CHO/BHS in barangay				0.69**						
Domain (living in Luzon as base group)										3.17***
Living in Visayas	1.56***	1.32***	2.97***	2.14***	1.94*	0.62***	0.62***			2.61***
Living in Mindanao	1.35***		3.27***	2.28***		0.65**				

[1] Odds Ratios (OR) are from weighted multivariable logistic regression models using weighted samples; Exposure (background characteristics) and outcome (vulnerabilities) are dichotomous variables coded as 1=yes; 0=no;

Only ORs significant at * p<0.10 , ** p<0.05, *** p<0.01 are shown

See Appendix 5 for complete results of individual regression runs [Odds Ratios (95% Confidence Interval)].

Table 5.3B Odds ratios relating specific vulnerabilities to school-related outcomes[1]

Vulnerabilities	School-related outcomes					
	Not currently in school	Ever repeated a grade	Average grade in last school year was below 81	Reported any absence the previous month	IC not aspiring for college education	Mom/caregiver not aspiring for college education for IC
Stunted	1.80**	1.79***	1.74***	1.26***		1.49***
Reported violence from peers			1.35***	1.26**	1.37**	
Reported violence from parents	2.21**	1.56***	1.55***		1.38*	1.38**
Witnessed violence at home			1.32**		1.45**	
IC with disability	3.51**	4.24***				2.51**
IC living in PWD household		1.45**				
Sick in last 6 months				2.31***		
Thin (below normal BMI-for-age		1.47***	1.30**			
Low DDS	2.86***		1.34***			1.25**
Experienced hunger		1.45***	1.69***	1.49***	1.66***	1.43***

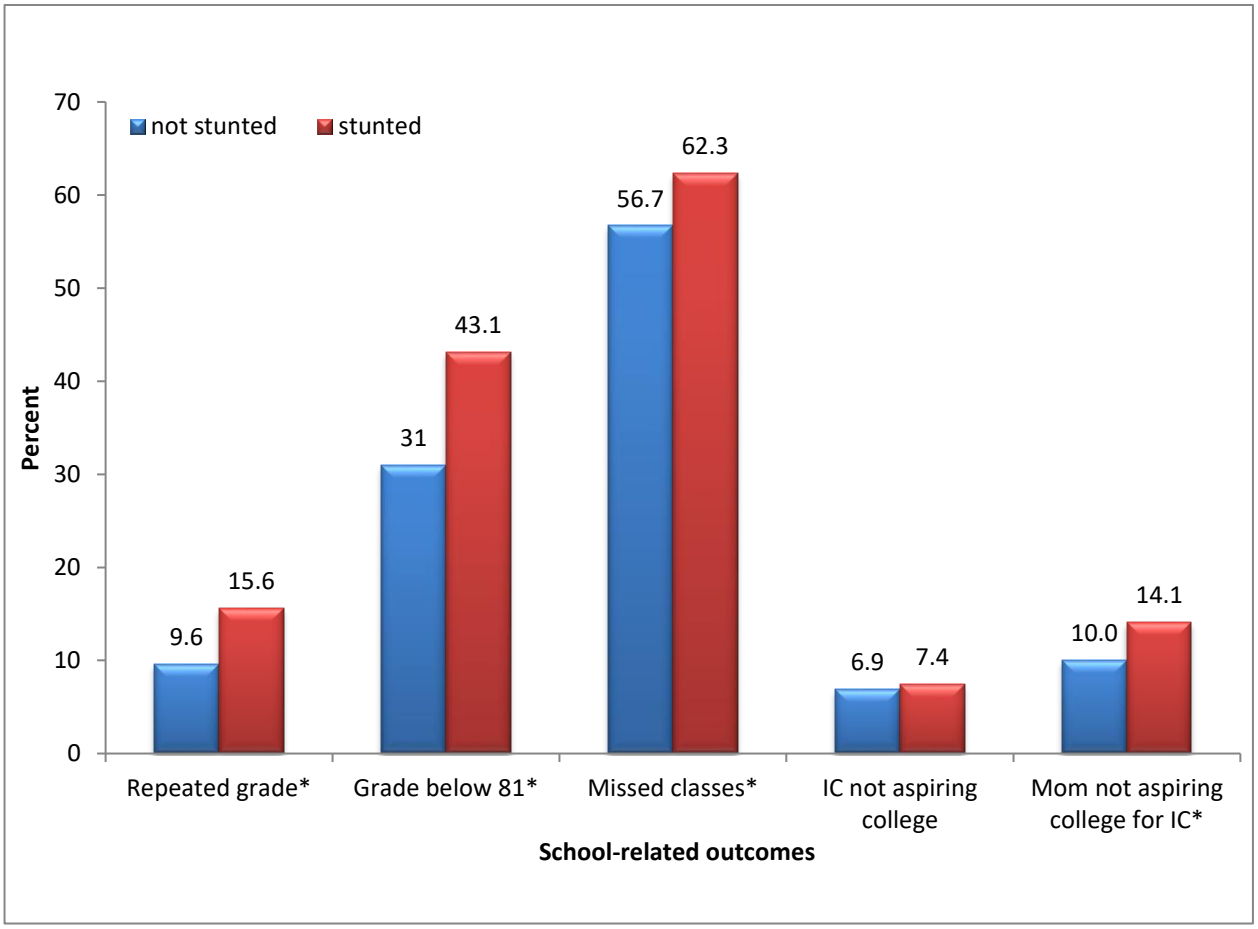
[1] Odds Ratios are from weighted multivariable logistic regression models which assessed for confounding and controlled for individual-, household- and community-level variables (see Table 5.3A)

Main exposure (specific vulnerabilities) and outcome (schooling-related variables) are dichotomous (coded as 1=yes; 0=no);

Only ORs significant at * p<0.10 , ** p<0.05, *** p<0.01 are shown

See Appendix 5 for complete results of individual regression runs Odds Ratios (95% Confidence Interval) and sample sizes.

Figure 7. School-related outcomes and stunting[1]



[1]Predicted rates adjusted for significant confounders. About 98% were in school and this outcome variable was excluded in this graph.

*Significantly different between stunted and not stunted at $p<0.05$.

5.3.2 Experiences with emotional and physical aggression

The Self-administered Questionnaire was designed to have the index children answer more sensitive questions directly on paper rather than verbally responding to the interviewer. The instrument included questions on aggression: emotional (their experiences with friends or classmates saying or doing something that hurt their feelings, and of parents hurting their feelings) and physical (witnessing violence at home, being physically hurt by friends or classmates, by other adults, and being physically hurt in a forceful manner by their parents). About 45% reported being emotionally hurt by their friends/classmates and about 21% by their parents. More alarming were reports of direct physical aggression (Tables 5.1B and 5.2A). About 29% reported having witnessed physical violence at home (Table 5.1B; also Appendix Table 3D). The instrument was designed to be simple and easy for children to answer (yes/no items). The self-administered set up gave the children the freedom to respond without fear of judgment from the interviewers. Unfortunately, it was too complex to premise the items with qualifying questions (although instructions were given to the child by the interviewer prior to administration). While there are indeed limitations to the data, these responses are from 10-year old children and are not to be taken lightly. Article 19 of the Convention on the Rights of the Child (UN General Assembly, 1989) specifically mandates "to protect the child from all forms of physical or mental violence…". For this study, the plan is to administer the same or a similar set of questions in subsequent surveys in order to determine patterns of emotional and physical aggression experienced by the cohort. As they get older more structured questions will be asked to better qualify and classify their responses, and capture other forms of aggression.

Any emotional, physical, sexual or other forms of aggression done on children by parents, legal guardians or other persons in charge of the children's care is considered abuse. If the perpetrator of the aggression is any other person, usually other children, friends or classmates, this is considered bullying (Canadian Red Cross, 2006; Duncan, R.D., 1999; Smith, 2003). Bullying is often unprovoked, repetitive and done with the intent to hurt, embarrass or cause the discomfort to the target of the aggression (American Psychological Association, 2004; Olweus, 1994). Children with specific characteristics (ethnicity, being effeminate, with disabilities) are common targets of bullying (Bradlow et al., 2017; Tippett & Wolke, 2014; Woods et.al. 2009).

Information on the extent of the problem of abuse or bullying is often limited because of the challenges in collecting data. Respondents are often constrained in sharing their experiences because of the intrusive nature of the issue, and the associated trauma or fear (Hirschstein,

2009). In the Philippines, not much empirical data are available on this topic, particularly regarding abuse or bullying among children (Bullying.com, 2017).

Receiving any form of aggression, particularly if this happens repeatedly, have long-term adverse mental and psychological consequences. Perpetrators of aggression and even those who witness violent acts are not spared such adversity (Wolke, et.al., 2001). In the CLHNS, Cebuano adolescents who witnessed domestic violence between parents were found to have higher depressive symptoms scores (Hindin & Gultiano, 2006). A study conducted by the Centers for Disease Control and Prevention (2015) showed difficulty in assimilating in the school environment, difficulty in sleeping, psychosocial stress such as anxiety and depression were among the problems encountered by bullied students (Boulton & Underwood, 1992; Gladden et al., 2013; Nansel et al., 2001). In some studies, trauma from bullying was manifested through school absences (Brown et al., 2011). Studies also showed that children negatively react to their bullying experiences either by engaging in self harm or having suicidal ideations (Nobullying.com, 2017).

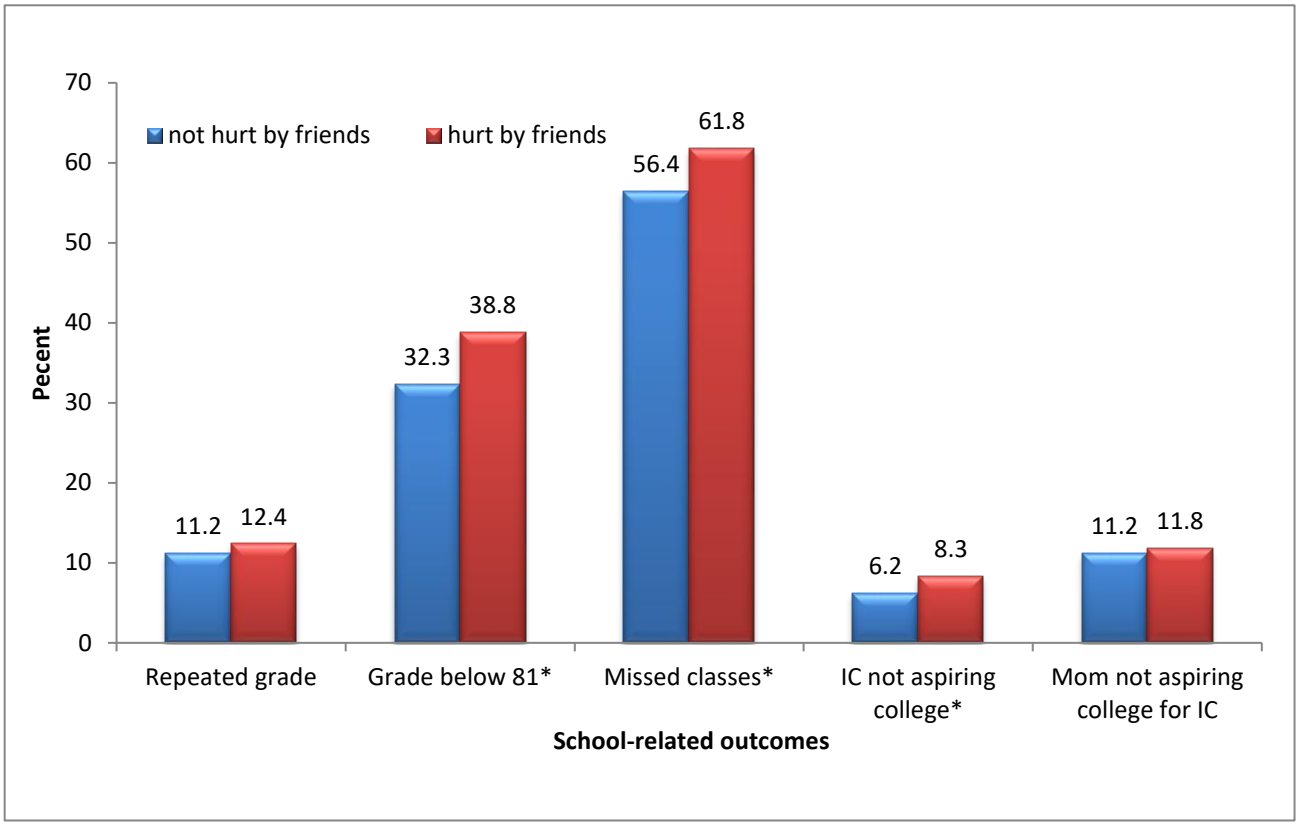
Other studies revealed that boys are likely to report physical bullying compared to girls. However, girls are more prone to emotional bullying which includes receiving sexual innuendoes (Nansel et al., 2001). Higher rates of bullying are reported in elementary to middle school but decline in high school as students learn how to fend for themselves and handle bullying (Nobullying.com, 2015).

Factors associated with experiences with physical violence

Data in Table 5.3A reveal that being male and living in the Visayas (compared to living in Luzon) significantly increased the risk of being physically hurt by friends/classmates, forcefully hurt by parents and witnessing violence at home. Index children living in Mindanao (compared to those in Luzon) and who reported frequent quarrels with household members were significantly more prone to domestic violence (being physically hurt by parents or witnessing violence at home). The risk of being physically hurt by friends/classmates was significantly lower among children in households classified as IPs but increased in flood-prone areas. The risk of being physically hurt by parents was significantly lower if the mother/caregiver was at least high school level but higher if the mother/caregiver was working. The risk of witnessing physical violence at home was higher among children in large households and who have access to sanitary toilets, whereas living with both parents, being IP and living in a community with health centers made the children less at risk.

Table 5.3B and Figures 8A, 8B and 8C show that children who reported physical violence from friends/classmates were less likely to have higher grades, more likely to miss class and less likely to aspire for college education. Being physically hurt by parents was significantly associated with not being in school, ever repeating a grade, having lower grades and mothers who are less likely to aspire college education for them. Witnessing domestic violence was associated with lower grades and decreases likelihood of the index child aspiring for college.

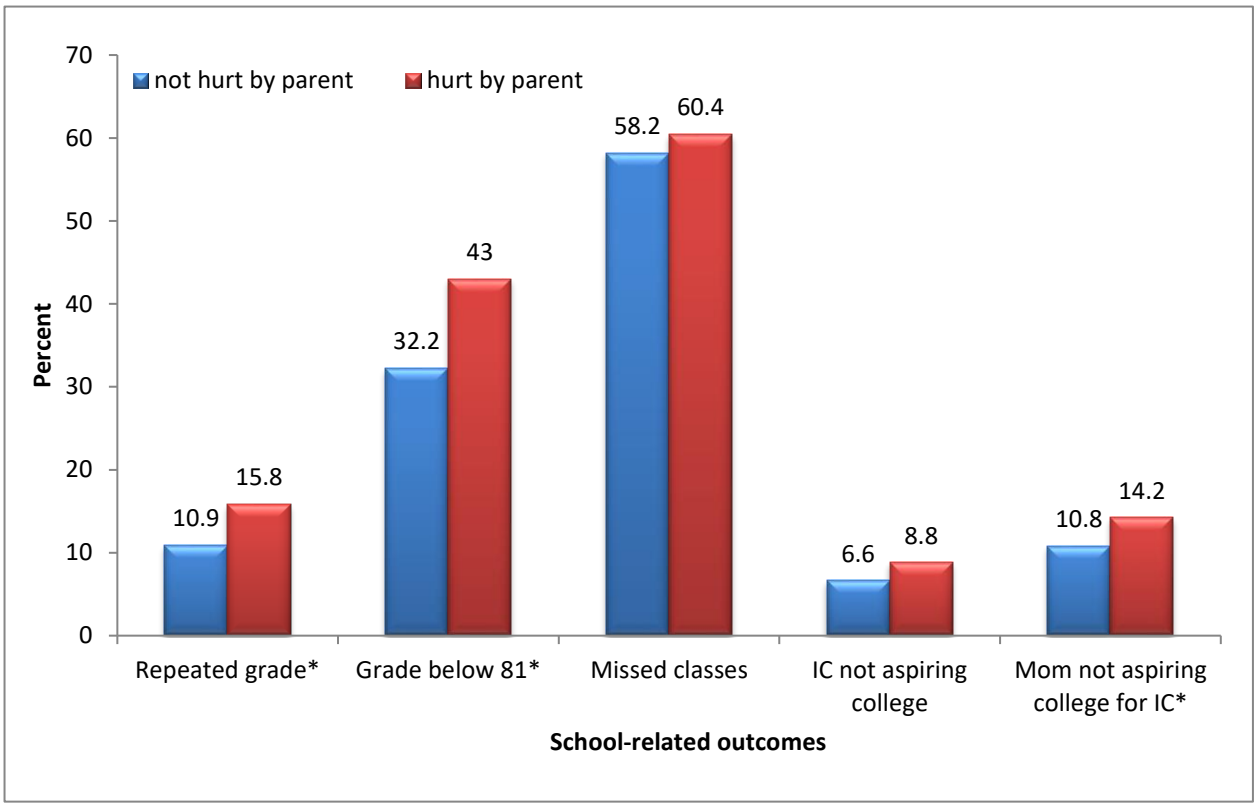
Figure 8A. School-related outcomes and being physically hurt by friends/classmates[1]



[1]Predicted rates adjusted for significant confounders. About 98% were in school and this outcome variable was excluded in this graph.

*Significantly different between physically hurt and not hurt by friends/classmates at p<0.05.

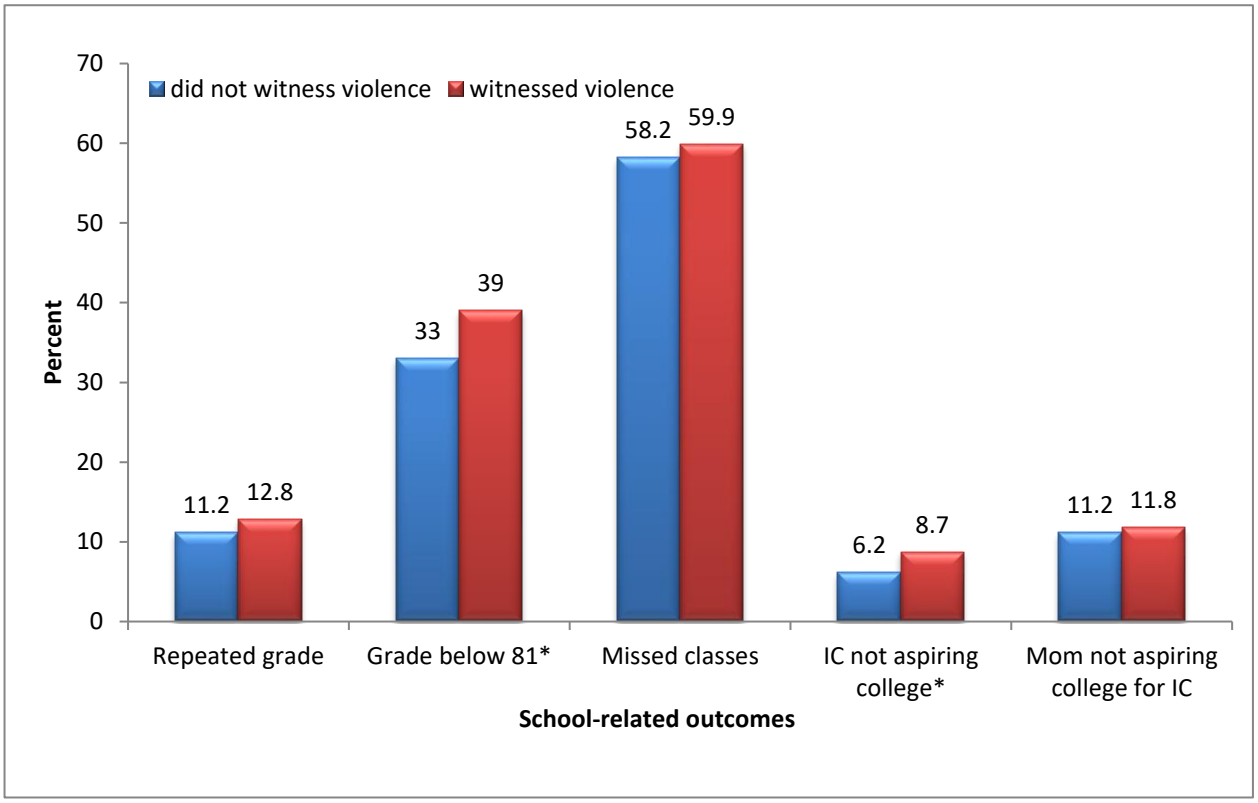
Figure 8B. School-related outcomes and being forcefully hurt by parents[1]



[1]Predicted rates adjusted for significant confounders. About 98% were in school and this outcome variable was excluded in this graph.

*Significantly different between physically hurt and not hurt by parents at $p<0.05$.

Figure 8C. School-related outcomes and witnessing physical violence at home[1]



[1]Predicted rates adjusted for significant confounders. About 98% were in school and this outcome variable was excluded in this graph.

*Significantly different between witnessing and not witnessing physical violence at home at $p<0.05$.

5.3.3 Index children with disability

Results from the 2010 Census of Population and Housing revealed that for every five persons with disability (PWD), one was aged 0 to 14 years, three were in the working age group (aged 15 to 64 years), and one was aged 65 years and over. Among the household population with disability, children aged 10 to 14 years comprised the largest age group (Philippine Statistics Authority, 2014).

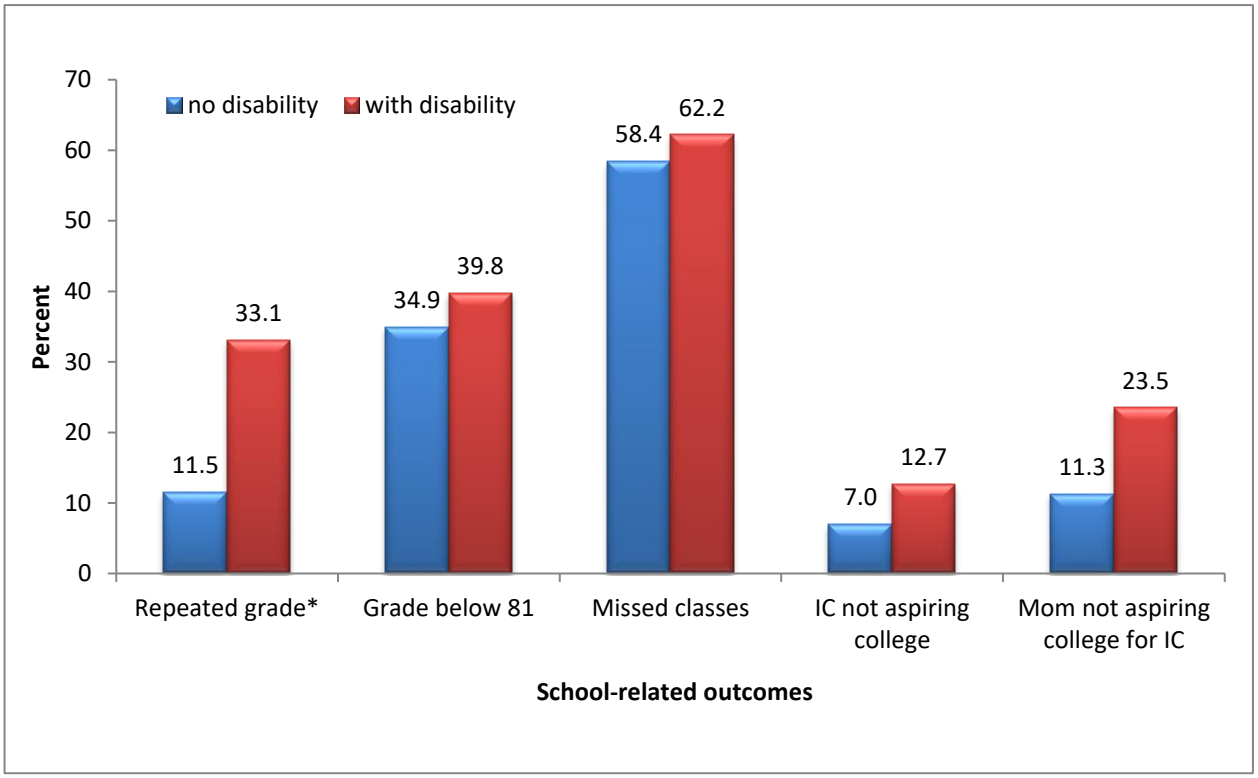
Factors associated with disability

Only 1.4% (n=65) of the index children were reported to have some form of disability (see Table 5.3C for different types of disabilities represented). Except for hand washing, no other background characteristic was significantly associated with disability (Table 5.3A). Data in Table 5.3B and show that children with disability were significantly more at risk of not being in school, ever repeating a grade and having mothers who do not aspire for college education for them. These relationships should be interpreted with caution, however, given the wide confidence intervals due to small cell sizes.

Table 5.3C Types of disability among cohort participants (n=65) and their characteristics

Characteristics	Number
Types of disabilities:	
Visual impairment	18
Intellectual disability	16
Speech/communication impairment	12
Physical/orthopedic disability	9
Hearing impairment	3
Multiple disabilities	7

Figure 9. School performance and disability[1]



*

[1]Predicted rates adjusted for significant confounders. About 98% were in school and this outcome variable was excluded in this graph.

*Significantly different between with and without disability at $p<0.05$.

5.3.4 Index children without disability living with persons with disabilities (PWDs)

We also examined the effects of living with household members with disabilities among children without disability. Table 5.3D shows that compared to Visayas and Mindanao, Luzon had the most number of non-disabled index children living in PWD households. Table 5.3A shows that these children are less likely to be living with both parents, have mothers who reached high school, are more likely to belong to large households and are likely to be Luzon residents. Except for repeating grades, there were no other significant associations with school performance variables (Table 5.3B and Figure 10).

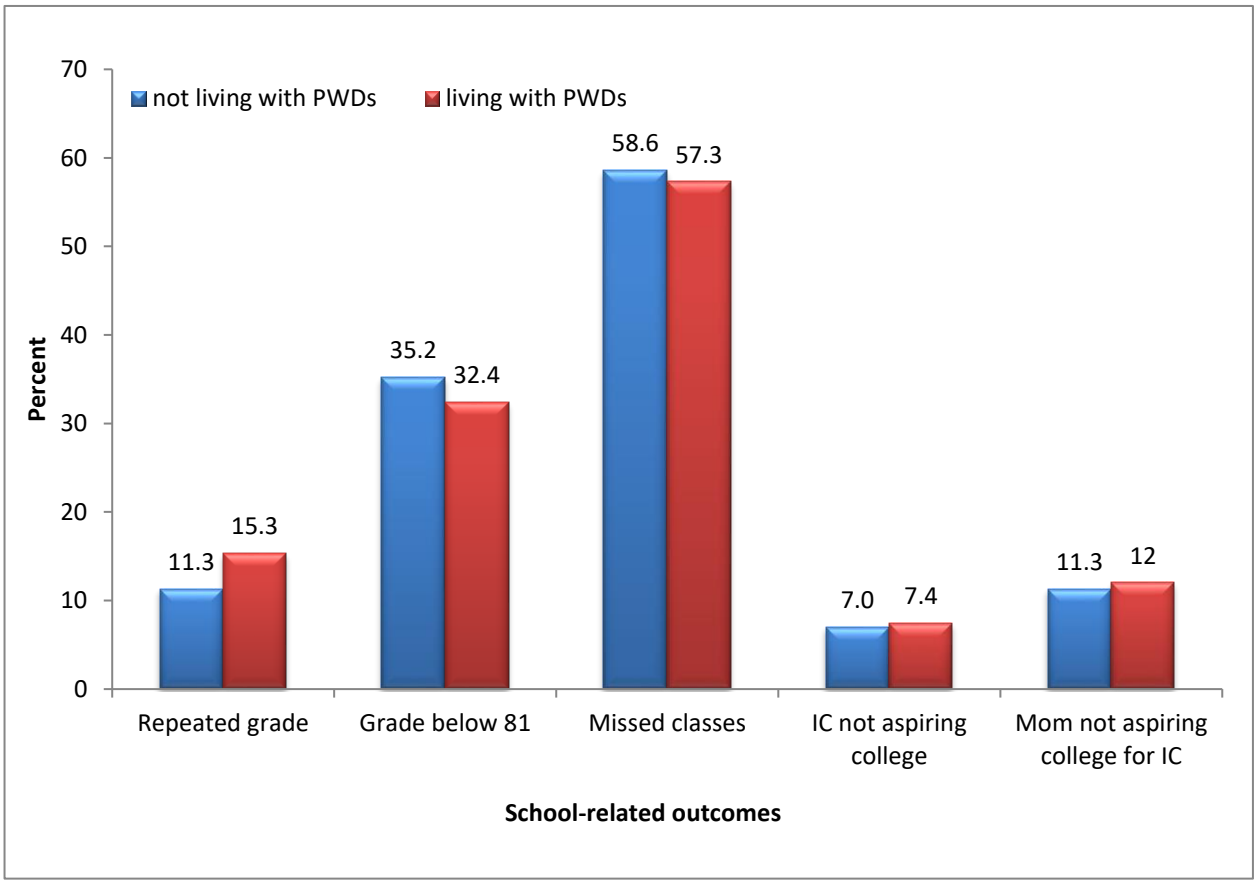
Table 5.3D Children without disabilities living in PWD households by island group[1]

Variables	Luzon	Visayas	Mindanao	ALL
In PWD households[a,b]	11.9	8.3	8.8	10.4
If PWD household: No. of PWD members[a,b]	1.22±0.04	1.08±0.02	1.07±0.02	1.17±0.02

[1]Weighted results are presented as percentages or mean ± standard error. Test for significant differences in weighted proportions and means were based on Pearson's chi-squared test of independence and adjusted Wald test respectively.

[a]Significantly different at $p<0.05$ between Luzon and Visayas; [b] Luzon and Mindanao; [c] Visayas and Mindanao

Figure 10. School-related outcomes and being in households with PWDs[1]



[1]Predicted rates adjusted for significant confounders. About 98% were in school and this outcome variable was excluded in this graph.

*Significantly different between living/not living in PWD households at p<0.05.

Disability and illness

In Section 5.2 we discussed that certain vulnerabilities tend to cluster together, such as illness and disability. Table 5.5E shows an almost significant relationship between index children having disability and reporting illness in the last six months. A stronger positive association was found between illness and living in PWD households. These relationships once again highlight the reality of multiple vulnerabilities in varying dimensions, and as illustrated in this case, non-disabled children living in PWD households, appear to be at greater risk of illness than children in non-PWD households.

Table 5.5E Associations between IC illness in last 6 months and disability variables [1]

Disability variables	IC Illness
IC with disability	1.86* (0.95, 3.62)
IC in PWD households	1.64*** (1.26,2.12)

[1] Values are Odds Ratios (95% Confidence Interval) from weighted logistic regression models controlling for variables in Table 5.5B; * p<0.10 , ** p<0.05, *** p<0.01

Dichotomous variables coded as 1=yes; 0=no

5.3.5 Morbidity

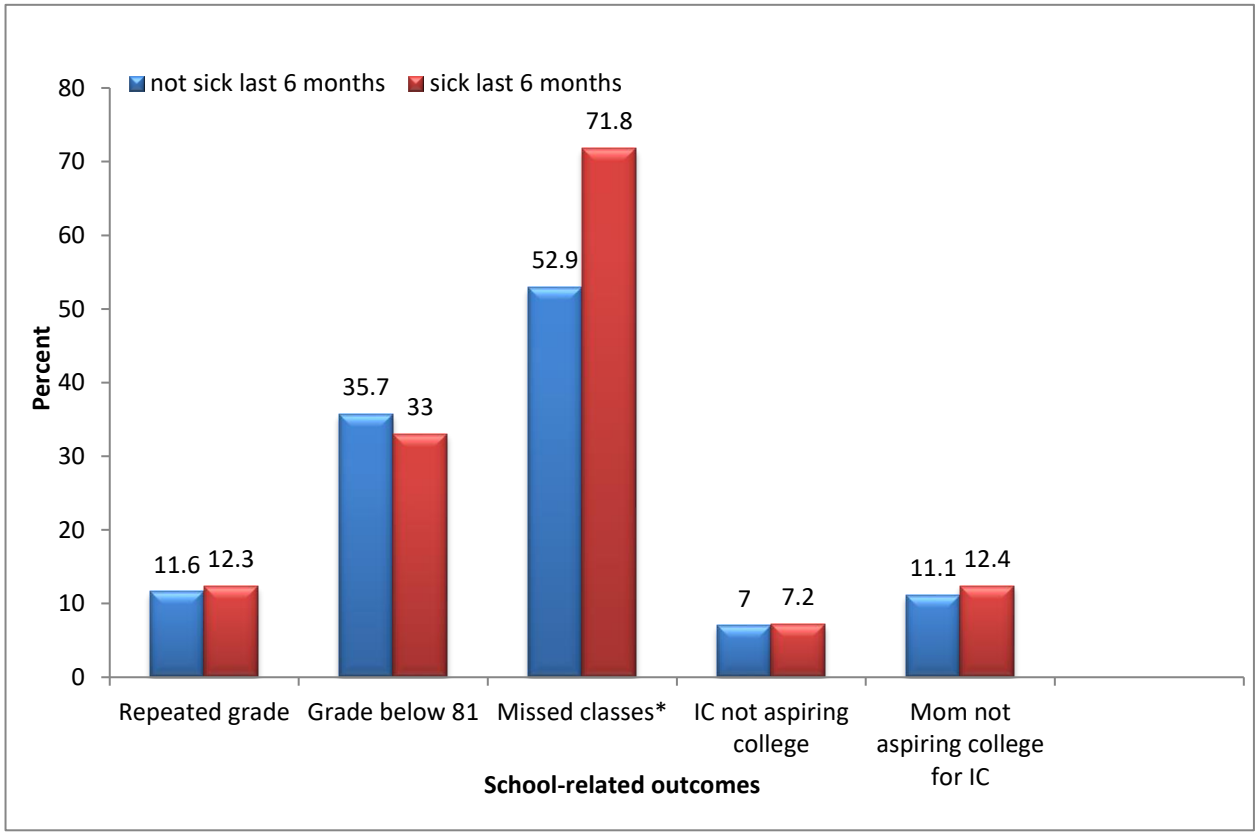
We collected information on the index child's illnesses in the past 6 months. Of those who reported illness, most of these were severe cough/colds (48.4%), diarrhea (9.7%,) and asthma (7.0%). Significantly more children were reported being sick in Luzon compared to those in the Visayas and Mindanao (see Table 5.1B) and were disproportionately male (see Table 5.2A).

<u>Factors associated with being sick</u>

Results of the regression model examining the relationships between morbidity and background characteristics (Table 5.3A) confirm the positive association with being male as well as that with living in GIDA. Contrary to expected, the model further revealed that having mothers reaching high school and access to sanitary toilets were associated with higher risks of being sick, and that having larger household sizes and being in armed conflict areas appear protective against morbidity.

Being sick was only associated with missing school among the school-related outcomes (Table 5.3B and Figure 11). Of those who reported any absences, about 65% reported to have missed school because of illness (see Table 5.1B).

Figure 11. School performance and being sick in the last 6 months[1]



[1]Predicted rates adjusted for significant confounders. About 98% were in school and this outcome variable was excluded in this graph.
*Significantly different between sick/not sick in last 6 months at p<0.05.

5.3.6 Wasting or thinness

Unlike the infancy and early childhood periods, less programmatic emphasis has been directed to the nutritional status of adolescents, particularly pre-adolescents like our baseline sample (Candler et al, 2017). Most of the nutrition interventions focus on female adolescents ignoring males (Salam et al, 2016). Proper nutrition during adolescence not only plays an important role in growth and development but is an important investment in cognitive health and human capital formation (Bellisle, 2004; Black et al., 2013; Bundy et al., 2018).

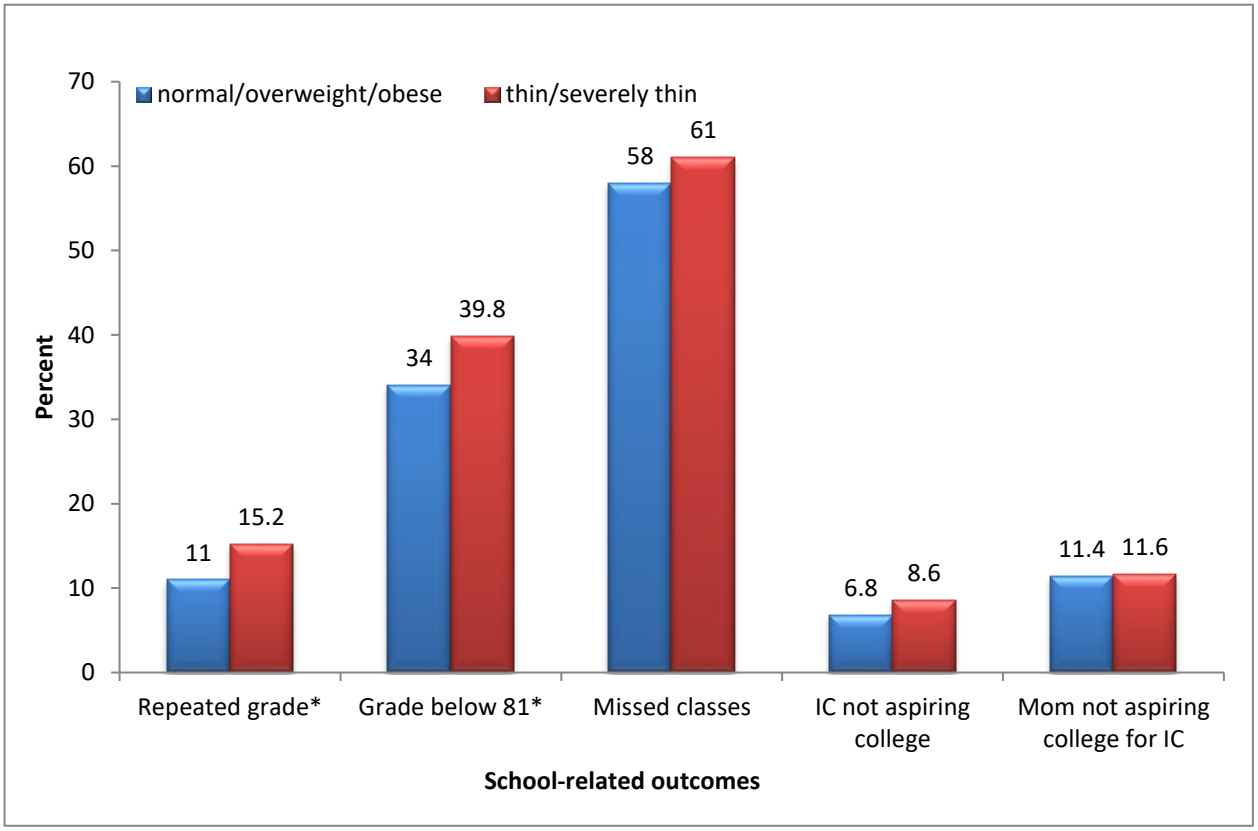
Data from the 2013 NNS reported mean weights (in kg) of 27.5 and 28.5 for 10 year old male and female children respectively (28.0 kg for all). Mean heights (in cm) were 130.7 for males and 132.9 for females (131.8 cm for all) (Food and Nutrition Research Institute, 2013). Our Baseline Survey anthropometric data revealed similar values: mean weights (in kg) of 27.6 for males and 28.2 for females (27.8 kg for all) and mean heights (in cm) of 130.2 for males and 132.3 for females (131.2 cm for all).

Based on age-specific body mass index (BMI; weight/height^2), the 2013 NNS reported that 75.4% of 10-12 year old children had normal BMI-for-age while 14.3% had below normal values (thin to severely thin). Among our baseline sample of 10-year old children the corresponding rates were 73.2% and 15.9%. The slight disparity in rates may be due to our sample being younger than the NNS reference. Although not a focus in this section, it is important to point out that, at the other end of the malnutrition spectrum, 10.3% of the NNS sample was reported as overweight/obese, which is close to the 10.6% in our younger baseline sample. These findings provide further evidence on the double burden of malnutrition and the risk for overweight/obesity associated with poor nutrition in the first 1000 days (WHO, 2017).

<u>Factors associated with being thin</u>

We examined the factors associated with being thin (below normal BMI-for-age versus having a normal or above normal BMI) (Table 5.3A). In these models we also controlled for variables that represented energy intakes and physical activity levels. Children in 4Ps households were more likely to be thin, which is expected given program targeting. Table 5.3B and Figure 12 show that being thin significantly increased the likelihood of repeating grades and having low grades.

Figure 12. School-related outcomes and being thin[1]



[1]Predicted rates adjusted for significant confounders. About 98% were in school and this outcome variable was excluded in this graph.

*Significantly different between being thin/not thin at $p<0.05$.

5.3.7 Low diet diversity scores

Diet diversity scores (DDS) of the index children were measured using a validated questionnaire (FAO, 2010). Several studies have shown high correlations of DDS with both macro- and micronutrient intakes across different age groups (Fanta, 2006; Kennedy et al, 2007). In the household interview, mothers/caregivers were asked to report what the index children ate and drank the previous day. The data were then completed or corrected during the index child interview. Data were collected from both respondents since the mothers/caregivers were more capable of describing the required details (name of dish and ingredients, color of food, etc) while the children were able to report on what they ate in school.

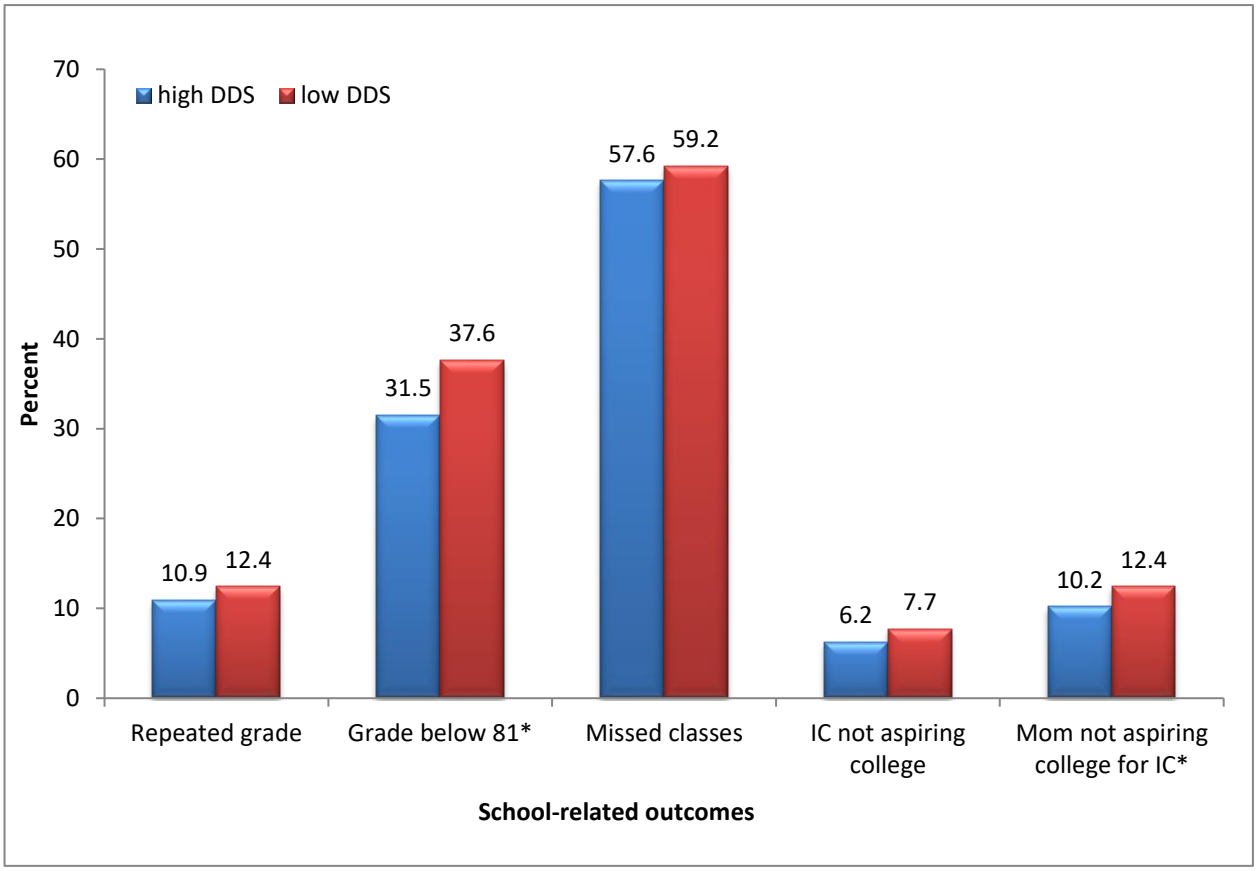
Of the nine (9) referenced food groups, the mean DDS among the children was 3.5 (range: 1-8) and about 55% of the children consumed less than 4 of the 9 basic food groups and were categorized as low DDS.

Factors associated with low diet diversity scores (DDS)

Table 5.3A shows that frequency of washing hands, which we used as a proxy for healthy behaviors appear protective against having low diet diversity scores. Children with less educated mothers and who belong to indigenous populations were at greater risk of scoring low in diet diversity. Living in GIDA was surprisingly negatively associated with inadequate diets.

In this sample, having low diet diversity scores was significantly associated with not being in school or having absences, and having mothers who do not aspire for higher education for the children as seen in Table 5.3B and Figure 13.

Figure 13. School-related outcomes and having low diet diversity scores (DDS)[1]



[1]Predicted rates adjusted for significant confounders. About 98% were in school and this outcome variable was excluded in this graph.

*Significantly different between low/high DDS at $p<0.05$.

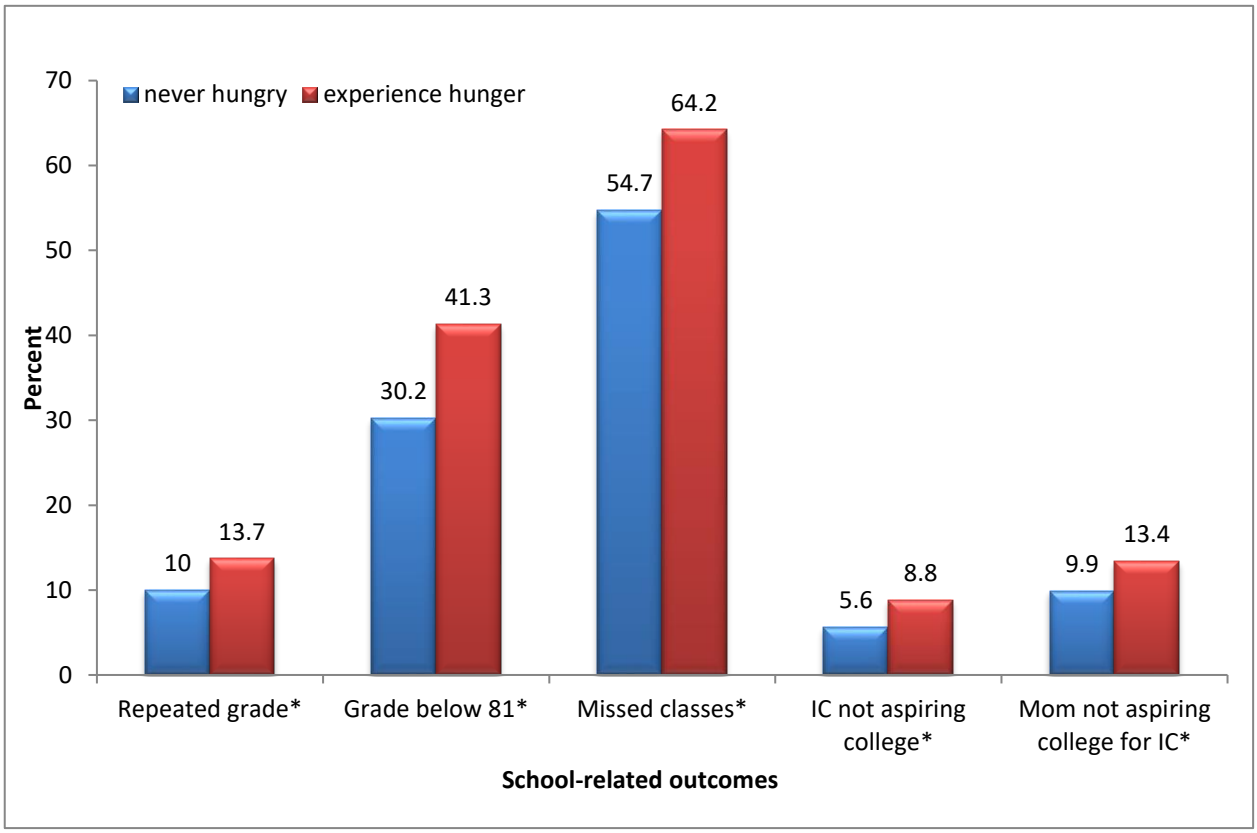
5.3.8 Experiencing hunger

The mothers/caregivers were administered the 8-item Food Insecurity Experience Scale (Ballard et al, 2013) which included the question "Was there a time when, because of lack of money or other resources, you were hungry but did not eat?" using the past 12 months as time reference. We asked the index children the same specific question, using the past 6 months as reference point to facilitate recall. About 30% of the adults and 43% of the children answered yes to this question with 44% of adult-child pairs both responding yes (see Appendix Table 2.B in Appendix Tables for more details). Aside from food insecurity reflecting the effects of poverty and poor nutrition among the youth, particularly among females in low- and middle-income countries (Candler et al., 2017), the longitudinal study of Slopen et al. (2010) showed persistent associations between food insecurity and behavioral problems among children over time. This is a relationship that can be potentially explored among our index children given that the Child Behavior Checklist will be administered starting in the Wave 2 Survey.

Factors associated with experiences with hunger

In Table 5.3A we see that children who are male, in large households and living in the Visayas or Mindanao (compared to living in Luzon) were at greater risk of being hungry. Frequency of washing hands (a proxy for healthy behaviors) and having mothers who reached high school were protective against hunger. Table 5.3B and Figure 14 reveal that experiences with hunger are strongly associated with poor school-related outcomes.

Figure 14. School-related outcomes and experiencing hunger[1]



[1]Predicted rates adjusted for significant confounders. About 98% were in school and this outcome variable was excluded in this graph.

*Significantly different between experiencing/not experiencing hunger at $p<0.05$.

5.3.9 Children with work experiences (child labor)

Article 32 of the Convention on the Rights of the Child states that children must be protected against any form of "economic exploitation and from performing any work that is likely to be hazardous or to interfere with the child's education, or to be harmful to the child's health or physical, mental, spiritual, moral or social development" (UN General Assembly, 1989). The Philippine labor laws stipulate that children below age 15 must not be employed or work for more than 20 hours a week, and for not more than 4 hours in a day (Special Protection of Children Against Child Abuse, Exploitation and Discrimination Act of 2003).

Of the 4952 ICs, about 4.6% (see Table 5.1A) were reported by their mothers or caregivers as doing paid or unpaid work at time of survey: 83 were paid for doing errands or selling food, 38 were paid for piece work and 181 were unpaid workers in the family business. Looking at their work history, about 16% of the index children were reported to have ever worked for pay or in cash/kind. Among the common types of work categories they have experienced were shoe shine or car wash work, as shop assistants, street vending or as farmhand or laborers. Of those who reported to have ever worked, about 8% had experienced 2-4 different types of work categories (results not shown).

Only 4 of the ICs who were reported to be working were not in school. This could mean that the kind of work they were engaged in do not really disrupt their schooling. However, it may be important to note that in Table 5.2B, children who were working were also likely to be chatting with strangers (Factor 5) and therefore may be predisposed to high risk behaviors.

<u>Factors associated with children working</u>

Table 5.39A shows that being male increased the likelihood of working (currently working at Baseline) while ICs with mothers/caregivers who reached high school were less likely to be working. Factors that increased the likelihood of the ICs currently working were having

mothers/caregivers who were working themselves, having a large household size and living in the Visayas or Mindanao (compared to living in Luzon). These relationships are interpreted with the caveat that the confidence intervals are wide given that less than 5% of the ICs were working at time of survey.

Table 5.3.9A Odds ratios indicating associations between Index child/household/community characteristics and IC working[1]

Characteristics	IC working at Baseline (n=4924) Odds Ratio
Index child characteristics	
Male	1.43**(1.05,1.93)
No. of close friends	1.00(0.99,1.01)
Household characteristics	
Both parents in household	0.97(0.72,1.32)
Mother/caregiver at least high school	0.69**(0.51,0.93)
Mother/caregiver currently working	3.75***(2.77,5.08)
Household size	1.07**(1.00,1.15)
4Ps beneficiary	0.96(0.69,1.34)
With access to sanitary toilet	0.94(0.53,1.65)
Self-classifed as Indigenous Peoples	0.71(0.41,1.22)
Community characteristics	
Classified as GIDA	0.78(0.40,1.54)
Experienced armed conflict in last 3 yrs	1.25(0.53,2.96)
Experienced flooding in last 3 yrs	1.24(0.86,1.78)
With RHU/CHO/BHS in barangay	1.91*(0.90,4.05)
Domain	
Living in Visayas	3.17***(1.88,5.35)
Living in Mindanao	3.08***(1.90,5.01)

[1] Values are Odds Ratios (95% Confidence Interval) from logistic regression models using weighted samples; * p<0.10 , ** p<0.05, *** p<0.01

Dichotomous variables coded as 1=yes; 0=no

[2] Living in Luzon as base group

Working and school performance

We examined the association between working and school performance, controlling for significant index-, household- and community-level confounders. Children who reported to be currently working were significantly more likely to repeat grades and be absent from school than those who were not working (Table 5.3.9B and Figure 15).

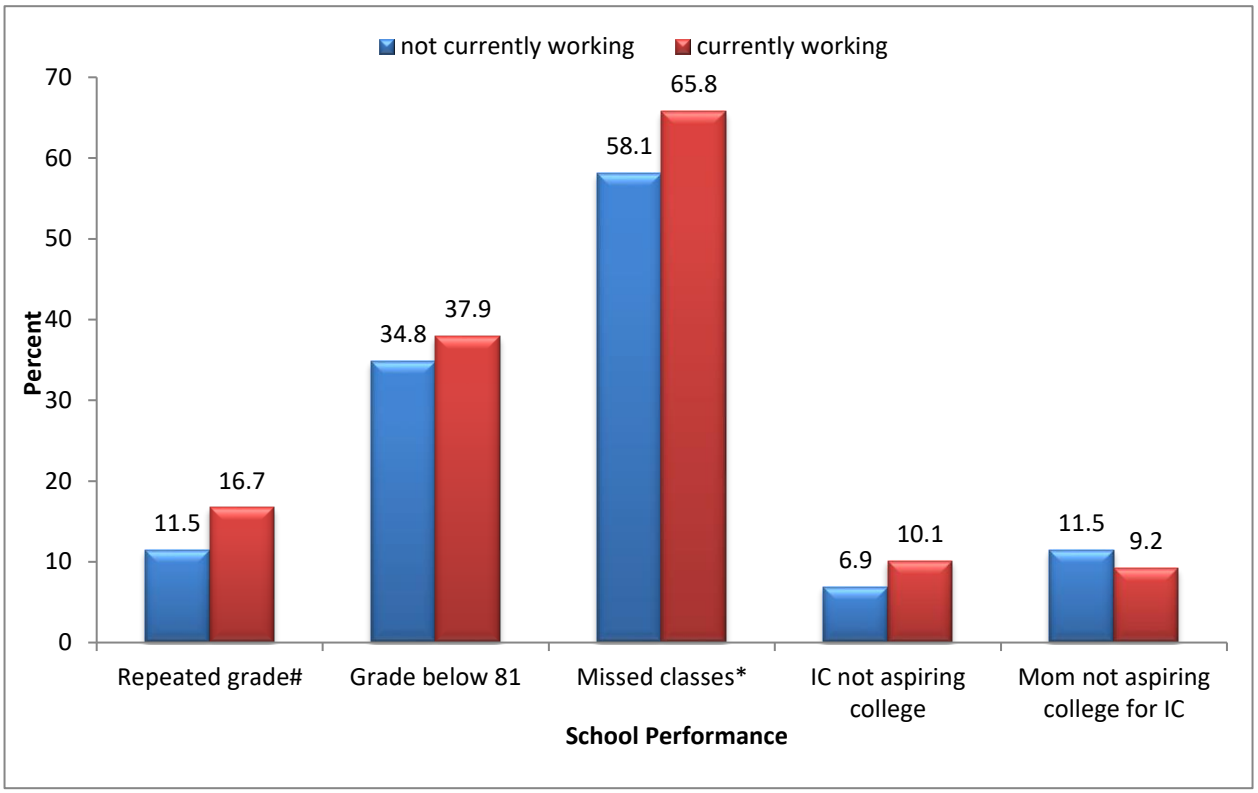
Table 5.3.9B Odds ratios relating currently working with schooling-related outcomes[1]

Schooling-related outcomes	Currently working Odds Ratio (95% CI)
Not currently in school (n=4924)	0.71 (0.22, 2.24)
Ever repeated a grade (n=4924)	1.58** (1.04,2.40)
Average grade in last school year was below 81 (n=4924)	1.16 (0.86,1.56)
Reported any absence the previous month (n=4855)	1.40** (1.04,1.89)
IC not aspiring for college education (n=4365)	1.53 (0.92,2.56)
Mom/caregiver not aspiring for college education for IC (n=4621)	0.78 (0.48,1.25)

[1] Odds Ratios (95% Confidence Interval) obtained from weighted multivariable logistic regression models which assessed for confounding and controlled for individual-, household- and community-level variables (see Table 5.3.9A). Currently working and schooling-related variables are dichotomous (coded as 1=yes; 0=no)

* p<0.10 , ** p<0.05, *** p<0.01

Figure 15. School-related outcomes and currently working[1]



[1]Predicted rates adjusted for significant confounders. About 98% were in school and this outcome variable was excluded in this graph.

Significantly different between working and non-working at *p<0.05 #p<0.10

5.3.10 Precedents to risky behaviors

Studies have shown that certain deviant behaviors developed during adolescence tend to be maintained in adulthood as well as precede riskier sexual and non-sexual behaviors later in life. For example, smoking during adolescence has been associated with alcohol and drug use, as well as depression in adulthood (Myers and Kelly, 2006; Tjora, et. al., 2014). Sexual milestones like kissing and petting are often experienced in adolescence and are predictive of sexual behaviors and sexual orientation in adulthood (Kirby, 2002; Smiler, et. al., 2011;). In this age of communication technology and extensive social media usage, adolescents' exposure to pornographic materials that are freely available online has been associated with behaviors such

as sending sexually-explicit cell phone text messages, particularly among adolescent boys (Ouytsel, et. al, 2014).

In this section we examine some of these behaviors (reported in the self-administered questionnaires) namely: currently smoking, currently drinking, experienced more than kissing, ever watched pornographic movies, and chats with strangers online. Occurrences of these behaviors were reported by a small fraction of the cohort at age 10 (Table 5.2 shows prevalence of 5% for all except for watching porn which was at 18%). However, being aware of what is happening this early provides important insights as to what antecedents to watch out for when designing interventions.

Factors associated with precedents to risky behaviors

The relationships between background characteristics and each of these vulnerabilities are presented in Table 5.3.10A. Except for internet chatting, being male appears to be significantly associated with precedent behaviors. Having a mother/caregiver who reached high school level was strongly protective against drinking. Belonging to large households and being 4Ps beneficiary significantly increased risk of experiencing more than kissing. Except for smoking, ICs whose mothers/caregivers classified themselves as IPs appeared protective, particularly against drinking. In terms of community characteristics, living in an area exposed to armed conflict was strongly associated with watching porn. Residing in barangays with health centers was negatively associated with smoking and watching porn but appeared to increase risk of chatting with strangers, which may be reflecting the effects of the presence of other infrastructures (i.e., internet cafes) in areas where there are health centers. Compared to living in Luzon, living in the Visayas appeared strongly associated with smoking, drinking and more than kissing, the latter being also true with living in Mindanao. ICs from Mindanao appear less prone to watching porn and internet chatting compared to their Luzon counterparts. Once again, these significant associations are interpreted with caution given the wide confidence intervals (see Appendix 5) due to few cases of reported risky behaviors.

Precedents to risky behavior and school performance

Associations between vulnerabilities and school-related outcomes are shown in Table 5.3.10B and illustrated in Figures 16A to 16E. Smoking, drinking alcohol and having gone beyond kissing had strong positive associations with ever repeating a grade and having low grades. Smoking also increased the likelihood of missing school. ICs who reported chatting with strangers online were more likely to have low grades and report school absences. While none of these precedents to risky behavior influenced the cohort's aspirations for college, ICs who reported drinking alcohol and experienced more than kissing had mothers/caregivers who were likely not to aspire for the ICs to reach college level. These significant associations are again interpreted with caution given the wide confidence intervals (see Appendix 5).

Table 5.3.10A Odds ratios indicating significant associations between background characteristics and precedents to risky behaviors[1]

Background Characteristics	Precedents to risky behaviors				
	Currently smoking (n=4818)	Currently drinking (n=4833)	Experienced more than kissing (n=4817)	Ever watched porn movies (n=4807)	Chats with strangers online (n=4909)
Index child characteristics					
Male	1.96***	1.94***	1.54***	1.36***	
No. of close friends					1.01*
Household characteristics					
Both parents in household					
Mother/caregiver at least high school	0.71*	0.63**			
Mother/caregiver currently working					
Household size			1.10***		
4Ps beneficiary		1.44*	1.52***		
With access to sanitary toilet					
Self-classifed as Indigenous Peoples		0.45**	0.57*	0.68*	0.52*
Community characteristics					
Classified as GIDA					
Experienced armed conflict in last 3 yrs				1.70***	
Experienced flooding in last 3 yrs		1.33*			

With RHU/CHO/BHS in barangay	0.35**			0.68**	2.48***
Domain (living in Luzon as base group)					
Living in Visayas					
Living in Mindanao	2.16**	1.69***	5.52***		
			3.20***	0.73**	0.63*

[1] Odds Ratios (OR) are from weighted multivariable logistic regression models using weighted samples; Exposure (background characteristics) and outcome (vulnerabilities) are dichotomous variables coded as 1=yes; 0=no;

Only ORs significant at * p<0.10 , ** p<0.05, *** p<0.01 are shown

See Appendix 5 for complete results of individual regression runs [Odds Ratios (95% Confidence Interval)].

Table 5.3B Odds ratios relating precedents to risky behaviors to school-related outcomes[1]

Precedents to risky behaviors	School-related outcomes					
	Not currently in school	Ever repeated a grade	Average grade in last school year was below 81	Reported any absence the previous month	IC not aspiring for college education	Mom/caregiver not aspiring for college education for IC
Currently smoking	2.48*	1.69**	2.32***	2.30**		
Currently drinking		2.17***	2.12***			1.74**
Experienced more than kissing		1.66***	3.00***			1.78**
Ever watched porn						
Chats with strangers online			1.63**	1.43*		

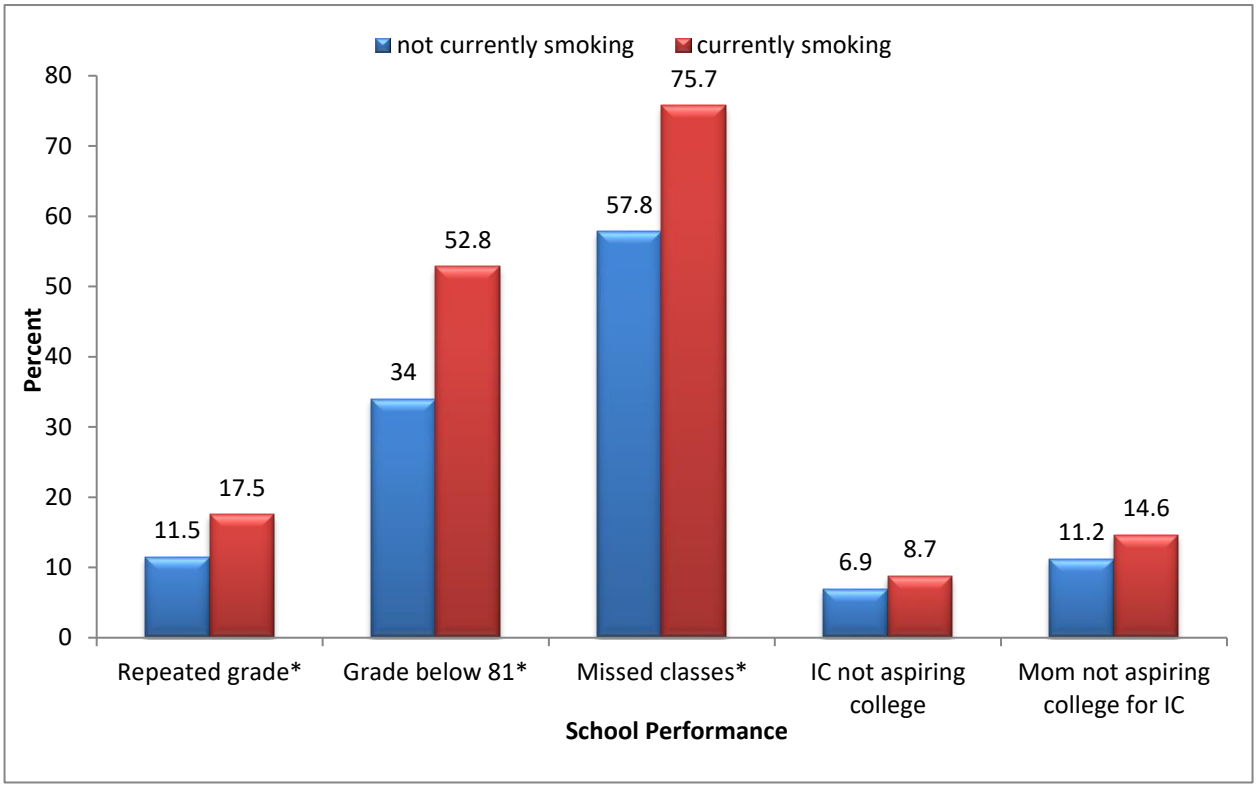
[1] Odds Ratios are from weighted multivariable logistic regression models which assessed for confounding and controlled for individual-, household- and community-level variables (see Table 5.3A)

Main exposure (specific vulnerabilities) and outcome (schooling-related variables) are dichotomous (coded as 1=yes; 0=no);

Only ORs significant at * p<0.10 , ** p<0.05, *** p<0.01 are shown

See Appendix 5 for complete results of individual regression runs [Odds Ratios (95% Confidence Interval)].

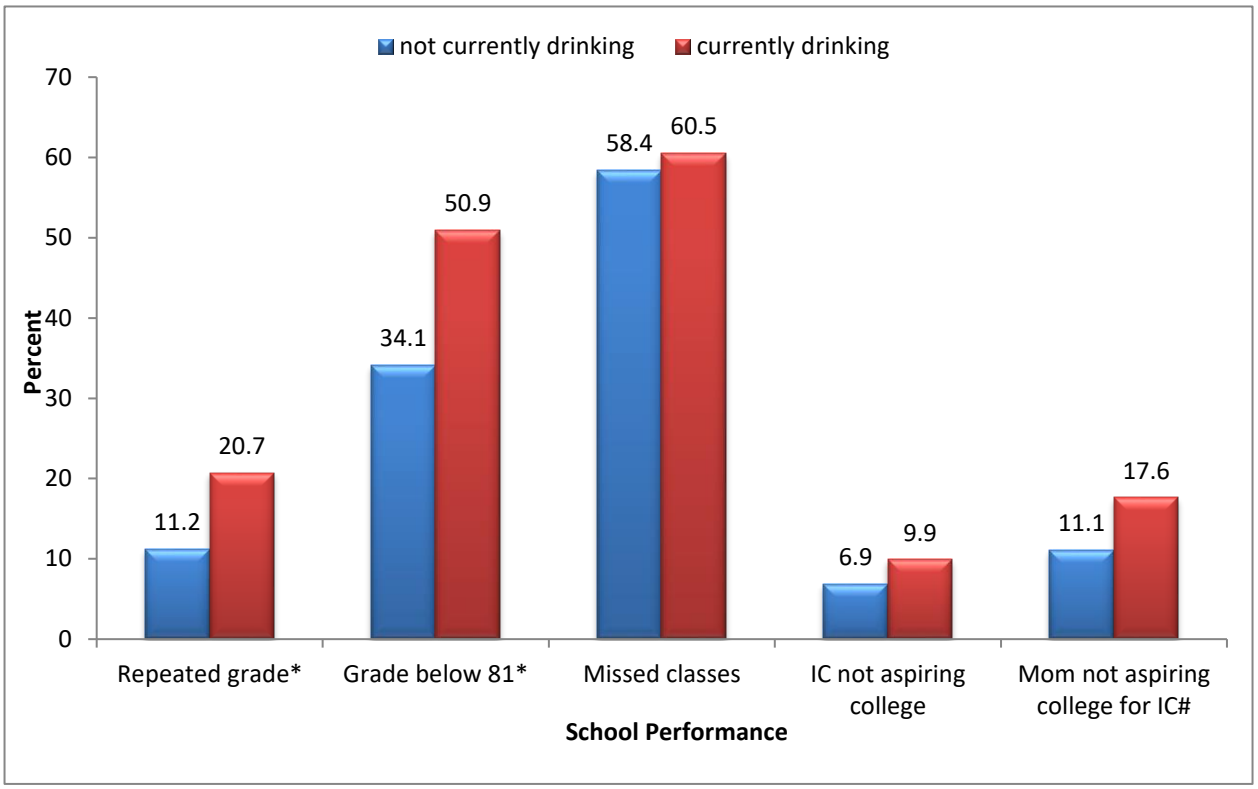
Figure 16A. School-related outcomes and currently smoking[1]



[1]Predicted rates adjusted for significant confounders. About 98% were in school and this outcome variable was excluded in this graph.

*Significantly different between currently smoking and not currently smoking at p<0.05.

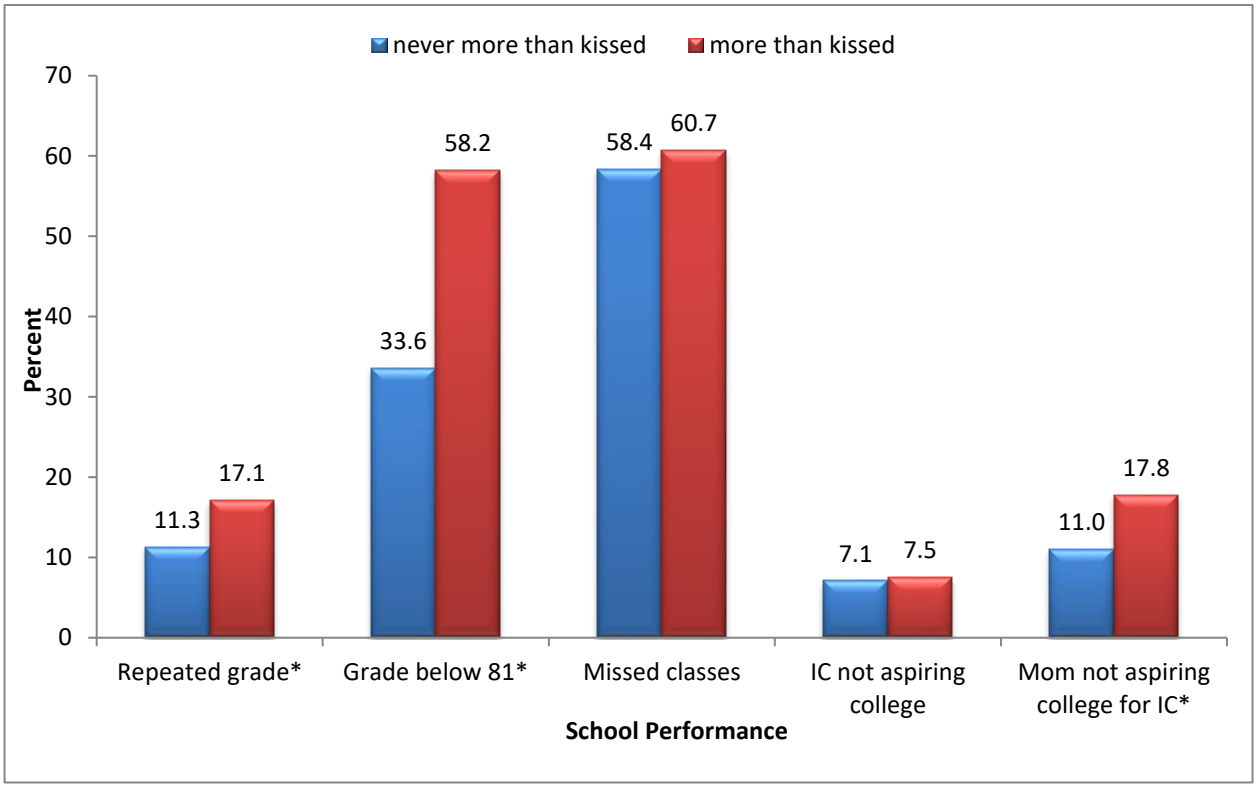
Figure 16B. School-related outcomes and currently drinking alcoholic beverages[1]



[1]Predicted rates adjusted for significant confounders. About 98% were in school and this outcome variable was excluded in this graph.

Significantly different between currently drinking and not currently drinking at *p<0.05, #p<0.10.

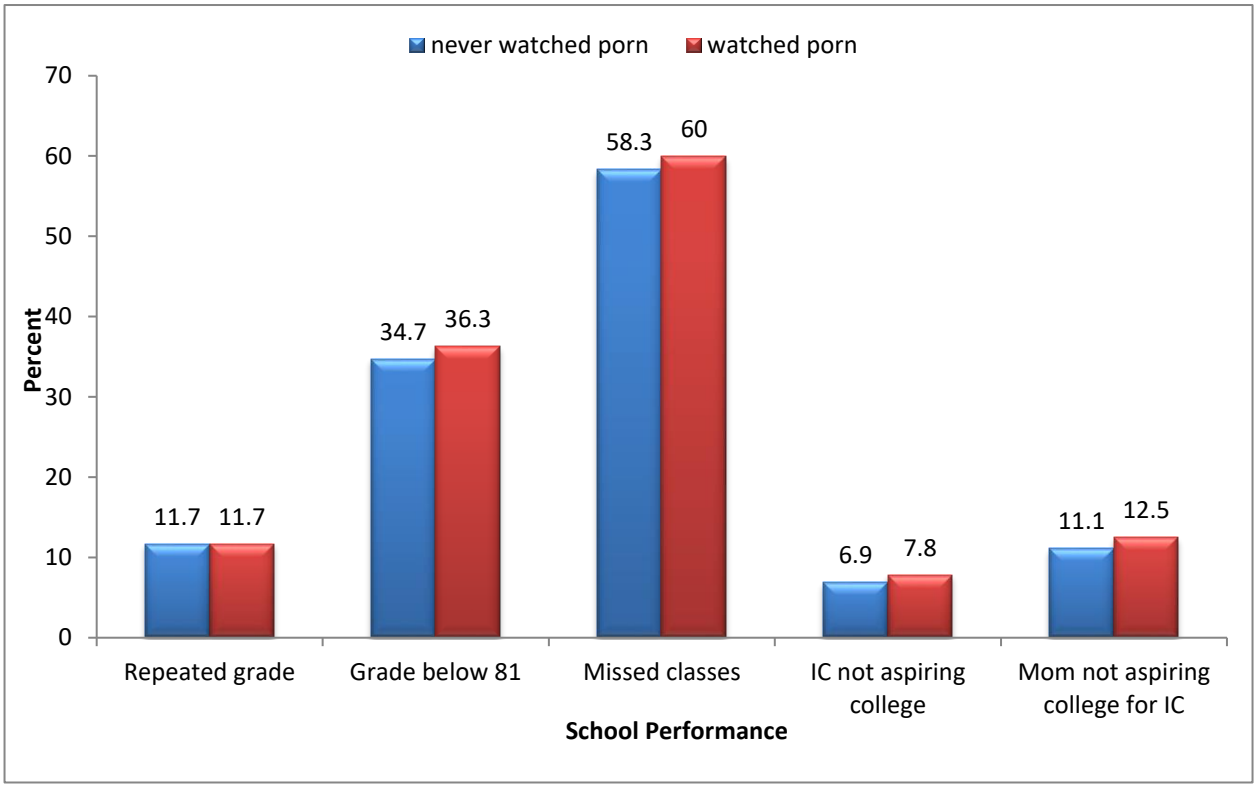
Figure 16C. School-related outcomes and experienced more than kissing[1]



[1]Predicted rates adjusted for significant confounders. About 98% were in school and this outcome variable was excluded in this graph.

Significantly different between more than kissed and never more than kissed at *p<0.05.

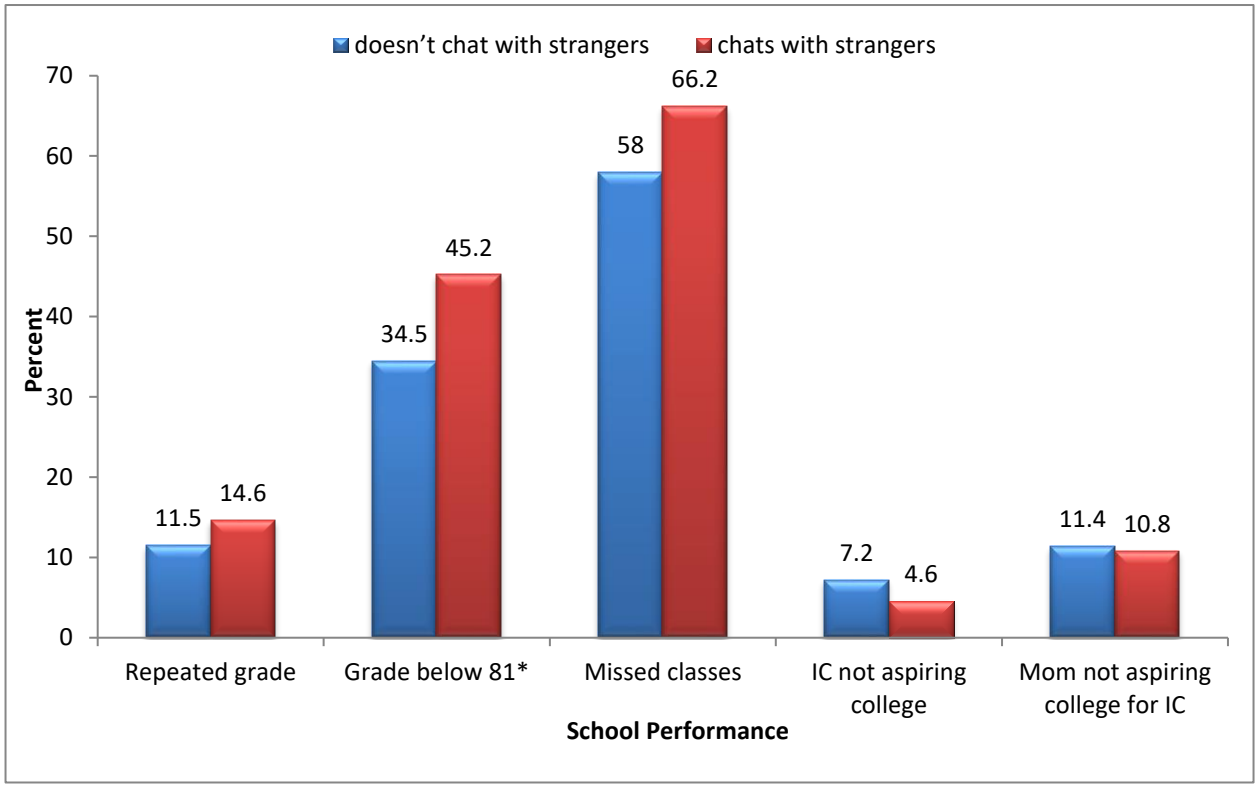
Figure 16D. School-related outcomes and watched pornographic movies[1]



[1]Predicted rates adjusted for significant confounders. About 98% were in school and this outcome variable was excluded in this graph.

Significantly different between more than kissed and never more than kissed at *p<0.05.

Figure 16E. School-related outcomes and chatted with strangers online[1]



[1]Predicted rates adjusted for significant confounders. About 98% were in school and this outcome variable was excluded in this graph.

Significantly different between chats with strangers and doesn't' chat with strangers at *p<0.05.

5.4 Gender differences in school performance

Being male appears to be another dimension of vulnerability, particularly with school-related outcomes. Gender inequality is Goal 5 "Achieve gender equality and empower all women and girls". Here we demonstrate that education is one important area where gender differences manifest early in life. In Tables 5.4A and Figure 17 we see that significantly more boys than girls are likely to repeat grades, have lower grades and are likely to miss school.

In the area of gender parity in education, the Philippines seems to be doing well compared to other countries. According to the Philippine Education Report for All 2015 Review Report (UNESCO, 2015), the Philippines is the only country in Asia that has closed the gender gap, as measured by the 2013 Global Gender Gap Index. The report cited data from the 2008 FLEMMS which showed females as having higher education attainment than males, and females in the elementary and secondary levels outperform their male counterparts in almost all indicators including the GPI37 (for SY 2012-2013), the cohort survival rates, completion rates, and National Achievement Test scores. The report also cited UNICEF as attributing the educational underperformance of males compared to girls to the following factors: less readiness of boys for school, greater likelihood of boys to become malnourished, greater tolerance of parents to boys' underachievement, need for boys especially in rural areas to work and make a financial contribution for the family, lack of interest among boys in routine and passive activities in traditional classrooms.

In this longitudinal cohort study we hope to further study the course of this gender disparity in schooling and at what age or through which circumstances (i.e. adolescent pregnancy) do girls lose their edge in education over boys.

Table 5.4A. Odds ratios relating being male to schooling-related outcomes[1]

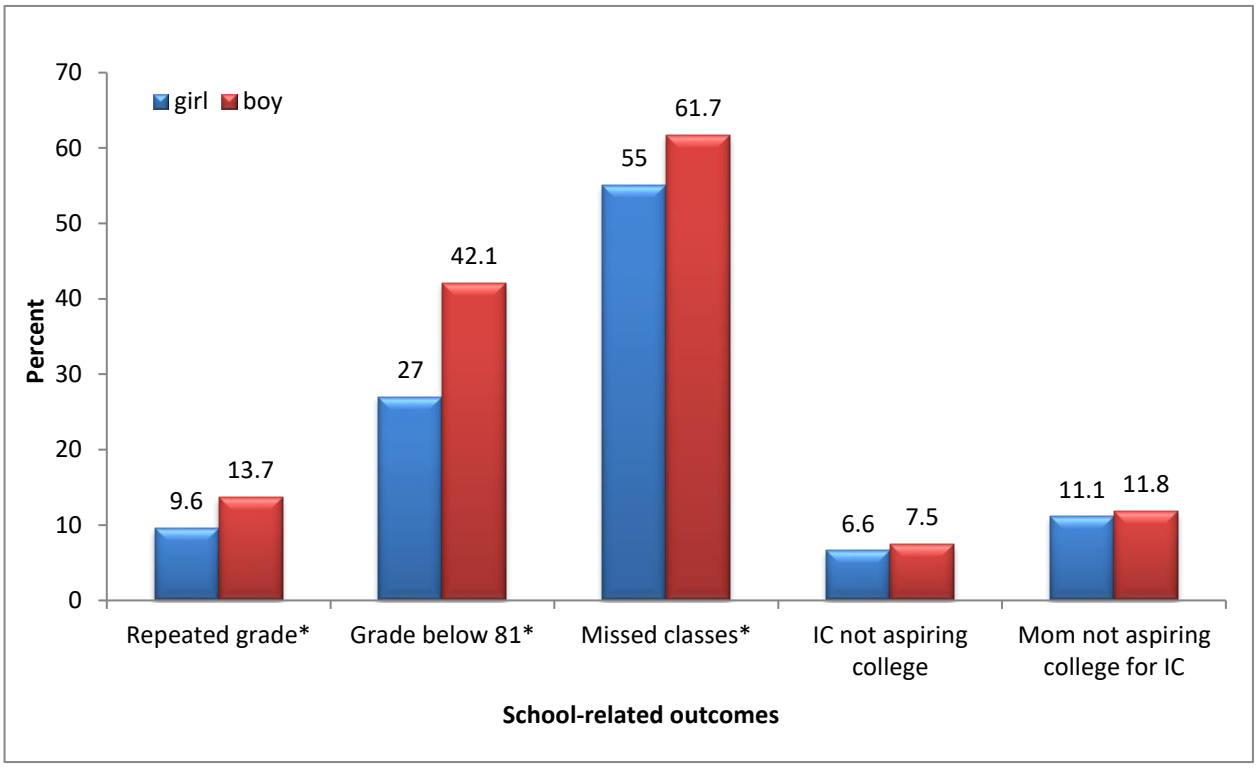
Schooling-related outcomes	Being male Odds Ratio (95% CI)
Not currently in school (n=4950)	1.12(0.62,2.03)
Ever repeated a grade (n=4916)	1.51***(1.21,1.89)
Average grade in last school year was below 81 (n=4916)	2.04***(1.74,2.38)
Reported any absence the previous month (n=4847)	1.33***(1.14,1.55)

IC not aspiring for college education (n=4358)	1.14(0.88,1.49)
Mom/caregiver not aspiring for college education for IC (n=4616)	1.07(0.83,1.38)

[1] Odds Ratios (95% Confidence Interval) obtained from weighted multivariable logistic regression models which assessed for confounding and controlled for individual-, household- and community-level variables known to influence the schooling-sex relationship. Sex (male==1) and schooling-related variables are dichotomous (coded as 1=yes; 0=no)

* p<0.10 , ** p<0.05, *** p<0.01

Figure 17. Gender differences in school performance and aspirations for college[1]



[1]Predicted rates adjusted for significant confounders. About 98% were in school and this outcome variable was excluded in this graph.

*Significantly different between boys and girls at $p<0.05$.

CHAPTER 6

POLICY IMPLICATIONS:

PREVENTING VULNERABILITIES AND MITIGATING THEIR CONSEQUENCES

The findings of the quantitative survey show the magnitude of the various vulnerabilities of children. These findings imply the need to address both the causes and consequences of such vulnerabilities in order to (i) prevent the occurrence of the vulnerability (for those not yet vulnerable) and/or (ii) mitigate the adverse consequences of the vulnerability moving forward.

Given the magnitude of the vulnerabilities, addressing the causes and consequences of these vulnerabilities require a nationwide program that can be implemented effectively and financed adequately. Specific policies and programs to address both the causes and consequences of these vulnerabilities need to be part of the SDG Implementation Agenda that operationalize the broad strategies contained in the PDP 2017-2022.

Before embarking on new strategies and programs, a prior activity in addressing these vulnerabilities require taking an inventory of existing programs, the extent to which they are successfully implemented at scale so as to make a difference in national SDG targets, and documenting and assessing their impacts. Such review will assist in further specification of the SDG implementation agenda that takes account of the life cycle of the target population (cohort of 10-year old children in 2017 as they grow to early adulthood by 2030).

Current vulnerabilities have immediate and long-term impacts. An immediate impact relevant to current discussions is how specific vulnerabilities of the current cohort of 10-year old children might adversely affect schooling performance and aspirations for higher education.

Specifically, this report raises awareness to the following concerns:

Stunting

1. Preventing additional stunting

a. Strengthen what needs to be done in first 1000 days, the critical window of opportunity to prevent stunting in childhood. Many issues to be resolved, foremost is the effectiveness of LGUs in delivering and financing the required set of services.
b. Also important is the better understanding among families and the health delivery personnel about the causes and consequences of stunting. The study findings regarding the association between stunting and school performance provide a concrete set of local evidence to make families, service providers and school administrators aware of the importance of addressing the stunting problem.
c. What programs are needed to increase awareness of parents, school officials, service providers, LGU officials about the consequences of stunting to spur them to undertake the needed interventions to prevent new cases of stunted children. The families with stunted 10-year olds might also have other stunted children, and they might also be still in the childbearing stage. So preventing the next stunted child in the family could be an outcome of better appreciation of the consequences of child stunting that become more manifest during schooling ages, as validated by the findings of this study.
d. For parents, increased awareness programs might involve the use of Family Development Sessions for the 4P families as the venue for discussion and information dissemination. Information on the children's school performance can be discussed with parents in Parent-Teacher Association activities. This can help parents to motivate their children, and promote closer teacher-parent interaction.

2. Mitigating the adverse consequences of stunting on school performance
    a. For the current cohort, focus might be placed on mitigating the consequences of stunting on health and school performance, and later on in life, on productivity as they enter early adulthood. This is a big group consisting of a third of the entire cohort.
    b. While school feeding programs that are often in place will not reverse stunting, they may still have an effect of keeping stunted children in school.
    c. A key intervention that affects learning directly would be programs to address the learning difficulties associated with stunting. What types of remedial learning strategies are available specially tailored to learning disadvantages of stunted children, whether they are in place, and what are the results. Such programs will invariably include the teaching technology, the organization of classes to address heterogeneous pupils (stunted vs. non-stunted), and training and incentives of teachers.

Physical Violence

1. Preventing further exposure to aggression/physical violence

a. Are parents, school officials and teachers and health care providers aware that children who are physically hurt by friends/classmates or parents or have witnessed domestic violence can have long-term adverse mental and psychological consequences? Such information might be of help to motivate them to help adopt preventive measures, including implementation of existing laws such as the Anti-Bullying Act of 2013.
b. More immediately, the information provided by the study on the association between exposure to physical violence and school performance might motivate parents and school officials and teachers to address this problem at home and in school. In particular, what are schools currently doing to help children who are bullied by peers, physically abused at home and who have witnessed physical violence at home? How do school officials and teachers interact with parents to jointly address the issue?
c. What programs in the community are in place to prevent aggression/physical violence? How are existing laws and the provisions of the Convention on the Rights of Children implemented at the local level?

2. Mitigating the consequences of aggression/physical violence
    a. What programs at home and in schools exist that help children cope with aggression or physical violence? For example, how can children build competence to stand up to bullies? How and where (at home or in school) will this happen?

Disability

1. Preventing disability
    a. Factors affecting disability (mostly visually impaired, physically/orthopedically disabled, and to some extent intellectually disabled) may be rooted in early health, nutrition and accidents. This group is relatively small, about 1%. But in the interest of equity and the concept of "no one left behind", there is a need to address specific needs of this group.
2. Mitigating the effects of disability
    a. Laws and programs exist to mitigate the consequences of disability (such as the Magna Carta for Disabled Persons; DepEd Special Education Program for learners with specific types of disability). How well are these implemented among school children such as the children currently being observed by the study (i.e., 10-year old children in elementary grade)?
    b. What are schools currently doing to help children with disabilities, particularly in performing better in school?
    c. Important consequences of disability would involve social interaction, school performance, and future mobility. What programs are in place to address these

potential consequences among children, what is the scale of implementation, and what results can be observed.

Wasting and poor diet quality

1. Preventing further exposure to these nutritional disadvantages
    a. Unlike infants and children under five, adolescents, particularly adolescent boys, have not been the focus of the majority of nutrition interventions. About 16% of the 10-year old children in this study were categorized as wasted and therefore undernutrition in this age group continues to deserve attention.
    b. In the case of poor diet quality, mothers and communities (particularly the IPs) are likely to benefit from nutrition education.

2. Mitigating the adverse consequences of nutritional disadvantage on school performance
    a. School feeding programs that target the undernourished may still have a significant effect on mitigating the adverse outcomes of wasting and poor diet quality on school performance, particularly in reducing school absences.
    b. Just as with stunting, we need to ask what programs are needed to increase awareness of parents, school officials, service providers, LGU officials about the consequences of poor nutrition, not just on health outcomes, but particularly on school performance.

Experiencing hunger

1. Preventing further exposure to hunger or food insecurity
    a. In this cohort, children from large households and those living in the Visayas and Mindanao are at greater risk of experiencing hunger compared to those from Luzon. Male children are at greater risk than girls.
    b. Food insecurity also results from poor access to food and low socioeconomic status.

2. Mitigating the adverse consequences of experiencing hunger on school performance
    a. Experiencing hunger is significantly associated with all the school-related outcomes examined in this report.
    b. School feeding programs target poor children which therefore includes those who are food insecure. Interventions that also address poverty and large family sizes may also be important mitigating factors.

Child labor

1. Preventing further exposure to child labor and mitigating its adverse consequences
    a. While only a fraction of the cohort reported exposure to child labor, it is important to be aware of its significant association with school absences and co-existence with other vulnerabilities, such as online chatting with strangers.
    b. Are parents and school officials aware of these adverse consequences of child labor? Are there community-based programs that promote the message that children should be in school rather than seen as work hands?

Early deviant behaviors that potentially precede riskier sexual and non-sexual behaviors

1. Preventing further exposure to deviant behaviors and mitigating their adverse consequences
    a. While occurrences of these behaviors are low in this cohort (except for watching pornographic movies), their associations with school-related outcomes deserve attention.
    b. What school programs are currently in place to minimize these deviant behaviors among children? Are adverse consequences of non-sexual behaviors such as smoking and drinking alcoholic beverages also effectively being discussed as part of the comprehensive sexual education curriculum?
    c. What programs are available in the community to provide children and adolescents safer and more productive ways to socialize and congregate?
    d. Are internet cafes in the communities, particularly those near schools, properly regulated?

Interrelationship among different vulnerabilities

The vulnerabilities of children are interrelated. Stunted children and those suffering from other nutritional deficiency, and children with disabilities might also be children exposed to physical violence, bullying, abuse and neglect. They are also likely to be reporting illness (as shown by the significant relationship between index children having disability and reporting illness in the past six months). The discussion above on policy and programs needs to recognize the situation of multiple vulnerabilities of children, and a set of interrelated policies and programs are needed to be integrated in their implementation.

Gender differences in school performance

There is a need for better understanding of what is it about boys that they end up performing less well than girls based on gender roles and expectations? What types of gender bias are operating? Are boys less masculine if they are seen studying, and that studying is a girl activity? Are boys more likely, by gender roles, expected to perform chores that is time-wise inconsistent with school work? Are boys, by gender roles, expected to inherit the land (and might not need to be serious in schooling) while girls are expected to leave home (and the inheritance is her education)?

CHAPTER 7

STRENGTHS, LIMITATIONS AND FUTURE DIRECTIONS OF THE STUDY

A major strength of this study is its research design: where multi-level data (individual, household and community) are prospectively collected on a large, nationally representative age cohort, obtaining information on various important milestones throughout the life course, from age 10 through 25. Each survey round collects a wide array of data, capturing various aspects of the SDGs, informing program and policy stakeholders on how this cohort is affected by the development goals and conversely identifying areas that require attention and improvements in program planning. The capacity to establish causality and strength of relationships between variables is among the strong features of a longitudinal study.

The cost of maintaining a 15-year study of this magnitude may be its major limitation. The logistics of conducting annual surveys, with the intention of keeping attrition at reasonable levels, could be quite challenging. Launching each survey round as scheduled, given the logistical requirements, will be a major concern. We have just completed the first follow-up survey and the attrition rate is what we expected. While various strategies will be employed to keep the attrition rates within the expected limits over time, adjusting to unforeseen events such as major humanitarian crisis affecting large segments of the country will continue to be a challenge.

In this report, we identified a set of vulnerabilities characterizing the current situation of 10-year old Filipino children. We will be tracking the cohort on how they fare on these vulnerabilities as they get older. As the cohort crosses various milestones – developmental, social, economic and sexual - we will identify other realms of vulnerability. As we gather the same core information on numerous points in time, we hope to be more equipped in understanding the context of relationships between risk factors and outcomes, and identifying true antecedents to risks – in particular, circumstances in pre-adolescence that have substantial impact on adult outcomes. A vital focus of future analysis will be on the preconditions and required investments that will ensure that the youth of today are provided the social and human capital formation needed to reach the demographic dividend goal and attain the life visualized by “Ambisyon Natin 2040”.

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APPENDIX 1

USC-Office of Population Studies Foundation, Inc.

University of San Carlos

The USC-Office of Population Studies Foundation, Inc. (OPS) is a non-stock and non-profit population and health research institute affiliated with the University of San Carlos (USC), Cebu City, Philippines. It was established in 1971 by a German demographer and SVD priest, Dr. Wilhelm Flieger, SVD in response to the government's call for more academic involvement in national development and to formalize demographic and related-research activities at USC. From an extension office of the Sociology-Anthropology Department and later, of the university, OPS became a USC foundation in 2005 with links to various academic units in the interest of promoting multi- and inter-disciplinary research. Through the years, OPS has evolved into one of the country's leading population and health research institutions.

Our mission is to strengthen local, regional, and national development initiatives through the conduct of quality, multi-disciplinary and socially responsible research on population, health, nutrition, and all other aspects of human development. The OPS is also committed in enhancing research capacities at USC and in the greater community. We aim to disseminate our research findings to relevant stakeholders through publications, lectures, and policy briefs, and share our research expertise through teaching and extension work.

The OPS has an established track record in conducting large-scale, multi-site, multi-level (person, household, community, facility, line agencies) surveys that require elaborate data collection protocols and the construction of complex, hierarchical data file structures. The OPS Research Fellows/Associates are also trained to analyze data, run statistical programs, and write research papers and grant proposals.

For more details on our governance, research portfolio and research collaborators, please visit the OPS website at: http://opsusc.org.

Longitudinal Cohort Study Project Management Team

Principal Investigator:	Dr. Judith Rafaelita B. Borja	
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The Demographic Research and Development Foundation, Inc. (DRDF, Inc.)

The Demographic Research and Development Foundation, Inc. (DRDF, Inc.) is a non-stock, non-profit organization registered with the Philippine Securities and Exchange Commission (SEC). DRDF was established by the faculty of the University of the Philippines Population Institute (UPPI) in 1983 to promote, develop, undertake and enhance population and development research, training and other related activities designed to contribute to Philippine development goals. More specifically, as a group of population and development specialists, DRDF aims to (1) undertake studies in the general area of population and development, (2) lend technical expertise in planning, policy formulation, project conceptualization, project implementation, human resource development in population and development, and (3) disseminate important, policy-relevant and research-based information in various form in aid of policy and for discipline-based as well as for general knowledge.

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The Research Institute for Mindanao Culture (RIMCU)

The Research Institute for Mindanao Culture (RIMCU) was founded in 1957 by Rev. Francis C. Madigan, S.J., PhD. RIMCU's mandate is the pursuit of high-quality social science research to advance the development of the Philippines in general, and Mindanao in particular. RIMCU envisions of becoming a leading research institute in the country that produces high-quality research that informs both policy and practice in the areas of socially just and sustainable development. It aims to: a) pursue academic and research excellence, professionalism, interaction with its network in an inclusive and empowering environment; b) contribute to societal transformation and development through research and training; and c) engage in socially and ethically responsible and evidence-based advocacy.

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Center for Social Research and Education

School of Arts and Sciences, University of San Carlos

The Center for Social Research and Education (CSRE) was established as the research arm, research coordinating body and grant-seeking center of the School of Arts and Sciences, University of San Carlos. It aims to establish strategic alliances and collaborative agreements with other research organizations and professional groups, and produce relevant, timely and interdisciplinary research that could be utilized in community development efforts. CSRE, formerly the Social Science Research Center, supports efforts for evidence-based projects, advocacy, and programs. It undertakes research and development work in areas that relate to: women, gender and health including MCH, HIV and AIDS; reproductive health; environment including disaster risk-reduction, water and sanitation; ethno-medicine; food, culture and local knowledge; poverty, child labor and migration; and other development-related concerns. Technical assistance for community-based initiatives (community assessment, project planning, monitoring and evaluation) is also part of the services it offers. To do this, CSRE harnesses social science and humanities researchers and occasionally invites practitioners from other disciplines within and outside USC for endeavors that require their expertise. For many years now, the research associates and field personnel of CSRE have been involved in several collaborative undertakings, advocacy endeavors, consultancy, and networking activities.

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APPENDIX 2

Sampling Design

Samples are selected using two-stage sample selection. Barangays are considered the Primary Sampling Units (PSU) and are selected using probability proportional to size systematic sampling (PPS Systematic Sampling) with number of target children (age 4 in 2010, age 10 in 2016) per barangay as the size measure. In each sample barangays, sample children are selected using equal probability systematic sampling.

Sampling Domain and Frame

The survey considers three domains corresponding to the main island groups of Luzon, Visayas, and Mindanao, i.e., estimates for the key indicators will be generated for each of these domains. The frame is based on single digit age distribution in Census 2010 (children age 4). Children age 4 in 2010 are expected to be age 10 in 2016. The number of target children are aggregated at the barangay level, this serves as the size measure in the sample selection. Some basic characteristics of the frame are summarized in Tables 1 to 3.

Table 1: Luzon Population

The MEANS Procedure

Variable	No. of Brgys	Mean	Std Dev	Minimum	Maximum
Age4	15928	62.1580864	309.2440384	1.0000000	31084.00
IP	15928	13.8260296	40.1403772	0	3278.00
Male	15928	32.1729031	160.0649233	0	16106.00
PWD	15928	0.4413611	1.7365080	0	147.0000000
Urban	15928	0.1141386	0.3179895	0	1.0000000

Table 2: Visayas Population

The MEANS Procedure

Variable	No. of Brgys	Mean	Std Dev	Minimum	Maximum
Age4	8499	34.5724203	76.1073474	1.0000000	4555.00
IP	8499	2.0125897	9.3967845	0	264.0000000
Male	8499	17.8645723	39.6016543	0	2369.00
PWD	8499	0.2928580	0.8113455	0	29.0000000
Urban	8499	0.0611837	0.2396810	0	1.0000000

Table 3: Mindanao Population

The MEANS Procedure

Variable	No. of Brgys	Mean	Std Dev	Minimum	Maximum
Age4	9344	59.3204195	99.8358605	1.0000000	2957.00
IP	9344	27.2974101	51.1436691	0	1768.00
Male	9344	30.4437072	51.5733744	0	1474.00
PWD	9344	0.4304366	1.0303530	0	19.0000000
Urban	9344	0.0912885	0.2880344	0	1.0000000

Selection of Barangays

To increase the likelihood of observing the target children, barangays are selected with probability proportional the number of children age 4 in systematic sampling (PPS Systematic Sampling). Some barangays with too many eligible respondents are included as certainty units.

Implicit Stratification

To ensure selection of sample barangays that includes certain subdomains (rural-urban, IP children, and PWD children), implicit stratification was used. In each domain, barangays are sorted by urban-rural classification, then by number of IP children, and by number of PWD children. PPS Systematic is then used with these subdomains as the control variable.

Selection of Sample Children

In each of the sample barangays, a screening operation was conducted to identify 15 eligible respondents, i.e., households with children 10 years at that time of the survey. The number of households in the screened sitio or barangay are noted and used in the computation of weights.

Sample Size and Margin of Error

The target of 5,000 respondents is divided into 3 to be allocated equally into the three domains. There will be two options: Option 1: Take 15 sample children in each sample barangay; Option 2: Take 10 sample children in each sample barangays. In Option 1, approximately 115 barangays will be selected for total of 1,725 sample per domain. In Option 2, approximately 170 barangays will be selected or 1,700 samples per domain.

Under the above sample sizes, margin of error was simulated assuming two cases: Case 1-Indicator is a proportion; Case 2-Indicator is a continuous variable. Note that sample selection is done in two stages, thus, the design effect is approximately 2.

Suppose that a proportion is to be estimated, e.g., proportion of children with disability. If the true proportion is 0.1 or 10%, in Table 4, the margin of error is 2.017%, e.g., the 10% proportion will be estimated with an error of ±2.017%. On the other hand, if a continuous indicator (e.g.,

weight) will be estimated, and their weights have a coefficient of variation of 0.4 or 40%, then the margin of error will be 2.689%.

Assuming attrition rate of 5% in the first six years and 7% afterwards, by 2030, Option 1 will have 700 respondents while Option 2 will have 710 respondents. Similar margin of errors are simulated in Tables 6 and 7. In 2030, worst case scenario is expected for estimation of continuous indicator that exhibits 100% CV, the margin of error will be over 10%.

Table 4: Margin of Error for Option 1

Proportion Indicator		Continuous Indicator	
True Proportion	**Margin of Error**	**Coefficient of Variation**	**Margin of Error**
0.1	2.017	0.1	0.672
0.2	2.689	0.2	1.345
0.3	3.081	0.3	2.017
0.4	3.293	0.4	2.689
0.5	3.361	0.5	3.361
0.6	3.293	0.6	4.034
0.7	3.081	0.7	4.706
0.8	2.689	0.8	5.378
0.9	2.017	0.9	6.050
		1	6.723

Table 5: Margin of Error for Option 2

Proportion Indicator		Continuous Indicator	
True Proportion	**Margin of Error**	**Coefficient of Variation**	**Margin of Error**
0.1	2.002	0.1	0.667

0.2	2.670	0.2	1.335
0.3	3.058	0.3	2.002
0.4	3.270	0.4	2.670
0.5	3.337	0.5	3.337
0.6	3.270	0.6	4.004
0.7	3.058	0.7	4.672
0.8	2.670	0.8	5.339
0.9	2.002	0.9	6.006
		1	6.674

Table 6: Margin of Error for Option 1 (at endline)

Proportion Indicator		Continuous Indicator	
True Proportion	Margin of Error	Coefficient of Variation	Margin of Error
0.1	3.143	0.1	1.048
0.2	4.191	0.2	2.095
0.3	4.801	0.3	3.143
0.4	5.132	0.4	4.191
0.5	5.238	0.5	5.238
0.6	5.132	0.6	6.286
0.7	4.801	0.7	7.334
0.8	4.191	0.8	8.381
0.9	3.143	0.9	9.429
		1	10.477

Table 7: Margin of Error for Option 2 (at endline)

Proportion Indicator		Continuous Indicator	
True Proportion	Margin of Error	Coefficient of Variation	Margin of Error
0.1	3.121	0.1	1.040
0.2	4.161	0.2	2.081
0.3	4.767	0.3	3.121
0.4	5.096	0.4	4.161
0.5	5.201	0.5	5.201
0.6	5.096	0.6	6.242
0.7	4.767	0.7	7.282

0.8	4.161	0.8	8.322
0.9	3.121	0.9	9.362
		1	10.403

Characteristics of the Sample

Option 1 was implemented in all domains. Thus, 115 barangays were selected and profiles of target groups are summarized in Tables 8, 9, 10.

Table 8: Characteristics of Sample Barangays in Luzon

Luzon Sample 115 Brgy

The MEANS Procedure

Variable	No. of Sample Barangays	Mean	Std Dev	Minimum	Maximum
Age4	115	855.4956522	3243.05	10.0000000	31084.00
IP	115	97.6608696	332.0631648	0	3278.00
Male	115	442.8782609	1677.57	4.0000000	16106.00
PWD	115	4.4608696	15.8259652	0	147.0000000
Urban	115	0.4869565	0.5020173	0	1.0000000

Table 9: Characteristics of Sample Barangays in Visayas

Visayas Sample 115 Brgy

The MEANS Procedure

Variable	No. of Sample Barangays	Mean	Std Dev	Minimum	Maximum
Age4	115	168.9739130	453.0316100	9.0000000	4555.00
IP	115	4.6869565	19.7925049	0	194.0000000
Male	115	87.7652174	236.2046515	4.0000000	2369.00
PWD	115	1.2956522	3.3455231	0	29.0000000
Urban	115	0.3043478	0.4621444	0	1.0000000

Table 10: Characteristics of Sample Barangays in Mindanao

Mindanao Sample 115 Brgy

The MEANS Procedure

Variable	No. of Sample Barangays	Mean	Std Dev	Minimum	Maximum
Age4	115	211.4782609	366.0241423	17.0000000	2957.00
IP	115	79.5391304	160.7980256	0	1352.00
Male	115	108.2695652	186.7478984	6.0000000	1474.00
PWD	115	1.4956522	2.6536103	0	18.0000000
Urban	115	0.3652174	0.4835983	0	1.0000000

Other Notes

- **Poorest of the poor:** Sample selection will be too restrictive if this will further be included as a control variable in implicit stratification. Since there will be sample barangays that will also be included in the 4Ps, being a beneficiary or not should be included in the listing operation and implicit stratification will be further be done in the selection of sample children in each sample barangays.

- **SDG** cannot be measured from the survey, it should be based on a nationwide survey complemented with administrative reports. The PSA is now looking at the possibility of complementing surveys, census, and administrative reports with Big Data.

Replacement of Barangays

Due to a variety of reasons (accessibility, peace and order, among others), some sample barangays were replaced with those that has similar characteristics in terms of the stratification variables (number of children age 10, those with IP, PWD, urban-rural distribution).

Sampling Weights

The original weights are based on the inclusion probabilities based on the selection of PSU (barangays) through probability proportional to size. Since the households are selected using systematic sampling, the sample household have equal weights within the sample barangays.

Since the 2010 Census was used as the frame, further adjustments need to be done from the original base weights. The number of households in 2015 Census and the number of households screened, eligible, and those interviewed are used in further adjustment of the weights as follows:

$$Adjusted\ Wegihts = Original * \frac{2015HH}{No.of\ HH\ Screened} * \frac{Eligible\ HH}{HH\ Interviewed}$$

If the Eligible HH is missing or less than the HH interviewed, the last multiplier ($\frac{\text{Eligible HH}}{\text{HH Interviewed}}$) is deleted from the adjustment process.

With the availability of single-digit age population from the 2015 Census, the above weights are adjusted further as follows:

$$FinalAdjusted\ Wegihts = Adjusted\ Wegihts * \frac{2015ChildrenAge9}{Total\ AdjustedWeightDomain}$$

There are 2,110,186 children age 9 in 2015 Census (age 10 in 2016), 1,134,767 are from Luzon, 414,166 are from Visayas, and 561,253 are from Mindanao. The idea of the final adjustment above is to make sure that the weights per domain sum up to the total of the target population (age 10).

Adjusted weights may be used as is. However, if there is data on the projected 11 year old for 2017 for each domain (Luzon Visayas Mindanao), it can be used in adjusting the weights further. Example

Projected 11 year old in Luzon for 2017 is 100

Barangay	Adjusted Weight	Final Weight
1	50	$\frac{50}{70}100$
2	20	$\frac{20}{70}100$
Total	70	100

This adjustment will ensure that the total weight coincide with the projected target population for the year. Similar adjustment can be done for other subgroup like PWD children, Ethnic groups, etc.

APPENDIX 3

Institutional Ethics Review Committee

CERTIFICATE OF APPROVAL

October 27, 2016

PROTOCOL NUMBER	:	012/2016-10 – Borja
PROTOCOL TITLE	:	The Longitudinal Cohort Study of the Girl and Boy Child
RESEARCH TEAM	:	Dr. Judith Rafaelita B. Borja
SPONSOR(S)	:	United Nations Population Fund
STUDY SITE	:	Philippines

TYPE OF REVIEW : ___ Full Review ___✓___ Expedited Review

This is to inform you that your study has been reviewed and **APPROVED** by the University of San Carlos Institutional Ethics Review Committee (USC IERC) for 1 year from *October 27, 2016 to October 26, 2017.*

Please take note of your responsibilities:

- submission of *Study Completion Report Form* and *Final Report* to USC IERC within the approved period;
- comply with all relevant international and national guidelines and regulations; and
- abide by the principles of ethical research.

Ryan C. Urbano, PhD
Chair, USC IERC

Conforme:

Dr. Judith Rafaelita B. Borja

Date: 10/29/16

USC-Office of Population Studies Foundation

Talamban, Cebu City, Philippines

Phone #: (63-32) 346-0102, Fax #: (63-32) 346-6050

Website: http://ops.usc.edu.ph

CONSENT FORM FOR MOTHERS AND CAREGIVERS

Consent Form Approval Date: October 26, 2016

Title of Study: LONGITUDINAL COHORT STUDY ON THE GIRL AND BOY CHILD

Research Insitutions conducting this study:

USC-Office of Population Studies Foundation (OPS)

Center for Social Research and Education (CSRE)

University of San Carlos, Cebu City

Demographic Research and Development Foundation (DRDF), University of the Philippines, Diliman, Quezon City

Research Institute for Mindanao Culture (RIMCU), Xavier University, Cagayan de Oro City

Research Teams:

Judith Rafaelita B. Borja, PhD, Lead Investigator (OPS)

Nanette M. Lee, PhD, Co-Investigator (OPS)

Elma P. Laguna, PhD, Co-Investigator (DRDF)

Magdalena C. Cabaraban, PhD, Co-Investigator (RIMCU)

Funding Source and/or Sponsor: United Nations Population Fund (UNFPA)

Study Contact telephone number (Philippines): OPS 63-32-3460102

Study Contact email:opsusc@gmail.com

What you need to know about research studies and participating in these studies

Research studies are done to obtain new information to help us learn more about certain aspects in life that may help people in the future. These studies are planned carefully by researchers or people who have been specially trained to conduct research. People like you are asked to participate in these studies so that researchers can collect important information for their research. Not everyone is asked to participate in a study. Researchers follow a special procedure in selecting who to include in a study. In this study, households are selected to participate in the study at random.

Your household has been selected to participate in this research study. Participation in the study is voluntary. You may refuse to join the study. If you have already agreed to participate, you may withdraw from the study for any reason without penalty. You may not receive any direct benefits from being in the research study. There also may be risks to being in research studies.

The purpose of this consent form is to give you information about the study and your participation in it . It is important that you understand this information so that you can make an informed choice about being in this research study.

You may ask questions about the purpose of the research, what we would ask you to do, the possible risks and benefits, your rights as a participant, and anything else about the research or even about this form if it is not clear to you. When we have answered all your questions, you can decide if you want to be in the study or not. This process is called “informed consent.”

You will be given a copy of this consent form. You should not hesitate to ask the researchers named above, or any of us interviewers, any questions you have about this study at any time.

What is the purpose of this study?

The objective of this research is to study a group of 10-year old children for the next 15 years, or until they reach the age of 25, and find out how their lives are changed by programs that are run by the government and non-government agencies in the community. We are conducting this study in the entire country. This information is important because the country is implementing special programs under the Sustainable Development Goals Agenda or the SDGs in the next 15 years. Almost all countries in the world are participating in the SDG Agenda. These programs are aimed to end extreme poverty, fight inequality and injustice, address the problems of climate change, and achieve good health and well-being for everyone. This research study will help us know more about how the health and welfare of the Filipinos, especially young girls and boys, are being affected as the SDG programs are being implemented in the next 15 years.

Why are you being asked to participate in this?

You are being asked to participate in this study because you have a 10 year old child living in this household. Again, not everyone is asked to participate in a study. Researchers follow a special procedure in selecting which households in the community with 10-year old children are asked to participate in this study. Your household was randomly selected for this study.

How many people will take part in this study?

If you join this study, you will be one of the approximately 5000 households participating in this study. Your 10-year old child will be among the approximately 5000 children across the country who will be participating in this study.

How long will your participation last in this study?

In this study, you will be visited in your home a number of times between now and 2030. For this year you will be visited at home once. Each visit will take about 2-3 hours. If you agree to participate in this study, we can start today or whenever it is convenient for you in the next couple of days.

After this first home visit, we will again visit your child in the next few years until he or she reaches the age of 25. Each visit will again take about 2 hours.

What will happen if you take part in the study?

For this year, at any time between October to December of 2016 or January to February of 2017, one of our researchers will visit you at home and these are the things that will happen during the visit:

1. An interviewer will ask you questions about your household, family, work, pregnancy
2. experiences and family planning, and health. You will also be asked questions about the health, diet and activities of your 10-year old child.

3. Your child's height and weight measurements will be taken.

4. With your permission and if your child agrees to do this, we will ask your child some questions about his/her friends, his experiences and opinions on certain things. We also have a questionnaire which your child will fill out him/herself (INTERVIEWER: SHOW MOTHER A COPY OF THE BLANK IC QUESTIONNAIRE).

All of these will be done in the home visit.

In the next few years after this first visit, an interviewer will return to visit your child again, and ask the same set of questions that we are asking in this first visit. There may be new questions that will be asked, as the child grows up and experiences new things. Your child's height and weight measurements will again be taken.

What are the possible benefits for being in this study?

Research is designed to benefit society by gaining new knowledge. There are no direct benefits to you for participating in this study. However, what we learn from the study may be useful to government policy makers, health care providers and other welfare-related programs. Thus, we feel that you are making a very important contribution. You may also expect to benefit by participating in this study by learning about your child's height and weight.

What are the possible risks or discomforts involved from being in this study?

We think the risks related to your participation are very small. Some of the questions may make you uncomfortable, but you can choose to not answer these questions.

None of the measurements we will take on your child will cause him/her any physical discomfort or pain.

All the information you give will be kept confidential. There is a very small chance that someone outside of the research team might learn of your responses to our questions. We will take great care to prevent this from happening.

How will your privacy be protected?

Participants in this study will NOT be identified in any report or publication about this study. Except for the researchers involved in this study, no one else will learn about your responses to our questions nor of the results of our measurements. The questionnaires will be kept in locked files at the offices of participating research institutions. Only authorized research personnel will have access to your name, address and phone numbers which will be stored in locked files. We will make electronic files from the information in the questionnaires. These files will be shared among researchers, but will NOT include your name, address or phone numbers.

Government or university staff sometimes review studies such as this one to make sure they are being done safely and legally. If a review of this study takes place, this study's researchers will make sure that your privacy is protected.

What if you want to stop before your part in the study is complete?

You can withdraw from this study at any time, without penalty. You can also choose to participate in some parts of the study but not others. The researchers also have the right to stop your participation at any time. This may happen because you have have failed to follow instructions, or because the entire study has been stopped.

Will you receive anything for being in this study?

In appreciation of your time, you will receive a small gift worth 200 pesos for completing the study this year. We will also give you a card with the weight and height measurements of your child.

In the next visits, you will receive gifts of a similar value each time you participate in the study. Once we have collected weight and height measurements of your child, we will also create a "growth chart" just for your child so you can see how he or she is growing compared to other children his age.

Will it cost you anything to be in this study?

There will be no costs to you for being in the study.

What if you have questions about this study?

You have the right to ask any questions you may have about this research. If you have questions, complaints, concerns, or if a research-related injury occurs, you should contact the researchers listed on the first page of this form.

What if you have questions about your rights as a research participant?

All research on human volunteers is reviewed by a committee that works to protect your rights and welfare. The project has been reviewed and approved by the Institutional Ethics Review Committee at the University of San Carlos in Cebu City, Philippines. This group is responsible for judging whether research participants are treated fairly and not exposed to harm. If you have questions or concerns about your rights as a participant in this study, or if you would like to obtain information or offer input, you may contact:

Institutional Ethics Review Committee

University of San Carlos Talamban Campus

Email: usc.ierc@gmail.com

Tel: 2547742 and 2531000 loc 204

Do you agree to participate in this study?

Since this research is designed to collect data on your child at age 10 and in the following years, it is important for us to know if you are willing to participate in this study ***this year and in the next few years***. If you think you can only participate this year but not in the next visit, we cannot include you in this research study.

Do you give your consent to participate in this study this year and in the next visits?

___ YES ___ NO

IF CONSENT IS GIVEN TO PARTICIPATE:

Do you give your consent for our research team to measure your 10-year old child's height and weight? ___ YES ___ NO

Do you give your consent for our research team to directly ask questions to your 10-year old?
___ YES ___ NO

Do you give your consent to have your 10-year old child fill out our questionnaire on his own?
___ YES ___ NO

Since you have agreed for us to visit you again in future surveys ***in the next few years*** being able to reach you will be important to us.

May we ask for a cell phone number where we can reach you?

___ YES ___ NO

Will you give us permission to contact other members of your family or a close friend, in the event that we have problems in reaching you for our future visit?

___ YES IF YES: Will you kindly ask their cell phone numbers for us?

____NO

Certification of interviewer obtaining consent:

I certify that I have read and explained the contents of this consent form to the respondent. The respondent's responses above were given freely without any due influence from me.

Printed name and signature of study staff obtaining consent Date

_____

Printed Name of Research Participant

Script prior to starting IC interviews

Hello, my name is _____ and I am a researcher from DRDF, RIMCU or CSRE (SHOW YOUR ID)

A. PRIOR TO ADMINISTERING THE INTERVIEWER-ADMINISTERED QUESTIONNAIRE:

I am here because your family has been chosen to participate in a research study about the health and well-being of children your age. I have already talked to your mother (or NAME OF CAREGIVER) to ask some questions about your family and your health. I would like to ask you a few questions too, about your schooling, your activities, the things you like to do, your friends and other questions like these. No one else except me and our researchers will know about your answers. This will only take a few minutes. May I ask you a few questions? Before we start do you have any questions?

IF CHILD GIVES ASSENT: PROCEED WITH INTERVIEWER-ADMINISTERED QUESTIONNAIRE

B. PRIOR TO ADMINISTERING THE SELF-ADMINISTERED QUESTIONNAIRE:

Now I would like you to answer a few more questions, but this time, I will ask you to read the questions yourself and write down your answers on this questionnaire (SHOW QUESTIONNAIRE). Please answer the questions as best you can and as honestly as you can. There are no right or wrong answers for any of these questions. Once again, no one else except me and our researchers will know about your answers. This will only take a few minutes. Are you willing to fill out this questionnaire? Before we start do you have any questions?

IF CHILD GIVES ASSENT:

Please mark you responses to the questions with a check. If you don't know the answer or don't want to answer the question, just leave it blank. After answering, please fold the page, place it inside the envelope and seal it.

APPENDIX 4

USC-Office of Population Studies Foundation, Inc.

University of San Carlos

Talamban, Cebu City, Philippines

Phone #: (63-32) 346-0102, Fax #: (63-32) 346-6050

Website: http://opsusc.org

Confidentiality and Child Protection Agreement

This confidentiality and child protection agreement takes effect on this date: _____

between the USC-Office of Population Studies Foundation (OPS), University of San Carlos, Talamban Campus, Cebu City, represented by its director, Judith Rafaelita B. Borja

and

Name of Researcher: _____

Residing in: _____

This agreement is to acknowledge that any data gathered in the conduct of the "Longitudinal Cohort Study on the Girl and Boy Child (Baseline Survey)" including names, addresses, and contact information of study participants are confidential. As a researcher involved in this study, I agree to respect and preserve the privacy, confidentiality, and security of these information. I also fully understand that none of these information may be disclosed in writing, orally or otherwise to unauthorized study personnel or people who are not part of this OPS study including family members and friends of the study participants.

I further certify that I have read the OPS Child Protection Policy and have been briefed on its guidelines. I agree to abide by these guidelines throughout the conduct of this study.

The parties agree to this agreement by executing this below

Signature and Printed Name of Researcher

Date:

Judith Rafaelita B. Borja, PhD

Director

USC-Office of Population Studies Foundation, Inc.

The OPS Child Protection Policy

The OPS is an academic research institution that conducts data collection, other research-related and outreach activities involving direct contact with children and their caregivers. As an institution and as individuals, we advocate for the rights, protection and general welfare of children. Through the years, the OPS research agenda have included studies that increase knowledge and inform policies on the improvement of children's nutritional status, physical and cognitive health, as well as their health and social capital potentials as adults.

We therefore abide by the Philippine government's stand regarding the rights and protection of children as mandated in Article XV, Section 3 of the 1987 Constitution2,stating that the *"State shall defend… (2) The right of children to assistance, including proper care and nutrition, and special protection from all forms of neglect, abuse, cruelty, exploitation, and other conditions prejudicial to their development;".*

All OPS staff (management officers, personnel and research collaborators) are asked to abide by this mandate in their professional and personal lives. All activities conducted in the name of OPS will ensure the general safety and protection of the children that OPS staff are in direct contact with, or have direct knowledge of by way of our data collection or outreach activities.

All OPS staff will be informed and briefed of this policy. Strict compliance of the policy guidelines presented below takes effect **25 September, 2015.**

Definitions

1. *Children* refers to persons under the age of 18.
2. The term *OPS staff* refers to:

   OPS management officers: OPS Board of Trustees, Director, and Management Council

   OPS personnel: all OPS Fellows, Research Associates, and regular/contractual/daily office and field staff

   OPS research collaborators: all local and international experts/researchers/consultants conducting research or related activities in the name of OPS.

3. The term “OPS activity/ies” refers to data collection, research-related, outreach or any other activities conducted in the name of OPS
4. The term “child abuse” refers to the neglect or physical, sexual, verbal or psychological abuse of a child and other forms of child cruelty or maltreatment specified in DepEd Order No. 40, s. 2012.
5. The term “child exploitation” includes sexual and economic exploitation and refers to any form of using a child (which often translates to child abuse) for someone’s advantage or gratification as specified in DepEd Order No. 40, s. 2012.

Child Protection Policy Guidelines

1. All members of the OPS staff must:

a) immediately report to authorized *barangay* officials any verifiable evidence or justifiable concern that a child is a victim of abuse or exploitation;

b) upon consultation with authorized officials and whenever possible within their capacities, assist children who are victims of child abuse or exploitation with the children's general welfare and safety in mind;

c) when called upon by authorized officials, cooperate fully and confidentially in any investigation of concerns and/or allegations of child abuse/exploitation;

d) ensure that audio recording, photographs and videos of children that are used professionally and personally are decent and respectful, not sexually suggestive, and not subject to abuse by any irresponsible members of the public;

e) avoid involving children in any activity or undertaking that presents any possibility of putting the children at risk of abuse/exploitation

2. All members of the OPS staff must ***never***:

a) physically hurt or abuse children;

b) engage in any form of sexual activity or inappropriate behavior, or have sexual intercourse with children. Claiming being misinformed of the child's age is not an excuse;

c) engage in a relationship with children that could in any way be deemed exploitative or abusive;

d) treat children or behave in the presence of children in ways that may be inappropriate, sexually provocative or abusive

e) use language, make suggestions or offer advice which is inappropriate, offensive or abusive to children;

f) spend an inappropriate time alone with children with whom they are working

g) sleep in the same room with children with whom they are working

h) condone or participate in any activity involving children that are illegal, unsafe, abusive or exploitative;

i) behave in ways intended to shame, humiliate, belittle or degrade children, or otherwise perpetrate any form of emotional abuse on children;

j) discriminate against, show unfair differential treatment to, or favor particular children to the exclusion of others;

k) engage or assist in the negotiation of any financial settlement between the family of a child victim of sexual abuse or exploitation and the perpetrator;

3. The following applies to all OPS activities:

a) If any of the incidences cited in #1 and #2 above is encountered in the course of an OPS activity: immediately report this to your direct OPS supervisor or the Director for immediate proper assessment and action

b) Notify your direct OPS supervisor or the Director of any concerns regarding an OPS staff member violating any of the items in #1 and #2.

c) All OPS activities that require direct contact with children must be done with the consent of the children's parents or legal guardians.

d) The design, supervision and implementation of data collection activities involving children or households with children must comply with the OPS Child Protection Policy and the Institutional Review Board (IRB) child protection stipulations specific to a research grant/ project. All involved OPS staff must be trained on and monitored for compliance with said OPS/IRB stipulations.

e) All physical assessments required in data collection (e.g. anthropometric measurements, biospecimen extraction) on children must be done under the supervision of a parent, caregiver or a responsible adult member of the household

f) All data, whether quantitative, qualitative, voice (audio) or image (photographic or video) involving children must be kept confidential, and used only for research purposes (without personal identifiers) by authorized researchers and in compliance with the OPS Child Protection policy.

g) All OPS staff undertaking any new OPS activity involving children must undergo an OPS Child Protection policy briefing.

[1]Retrieved from: http://resourcecentre.savethechildren.se/library/save-childrens-child-safeguardingpolicy-rules-keeping-children-safe

[2]Retrieved from: http://www.gov.ph/constitutions/1987-constitution/#article-xv

APPENDIX 5

LONGITUDINAL COHORT STUDY ON THE GIRL AND BOY CHILD

Regression Runs

Complete results of individual logistic regression runs examining associations among background characteristics, vulnerabilities and school-related outcomes.

Table 5.3.1A Odds Ratios indicating associations between index child/household/community characteristics and stunting[1]

Characteristics	Model 1 (n=4911) Odds Ratio (95% CI)	Model 2 (n=4908) Odds Ratio (95% CI)	Model 3 (n=4908) Odds Ratio (95% CI)
Index child characteristics			
Male	1.11 (0.94, 1.31)	1.11 (0.94, 1.31)	1.12 (0.95, 1.31)
No. of times washes hands with soap/day	0.96* (0.91, 1.00)	0.96 (0.92, 1.00)	0.94** (0.90, 0.99)
Household characteristics			
Both parents in household		0.98 (0.82, 1 .16)	0.98 (0.83, 1 .16)
Mother/caregiver at least high school		0.67***(0.56, 0.81)	0.70***(0.58, 0.84)
Mother/caregiver currently working		1.08(0.93, 1.25)	1.05(0.91, 1.22)
Household size		1.12*** (1.08, 1.16)	1.12*** (1.08, 1.17)
4Ps beneficiary		1.74*** (1.46, 2.08)	1.66*** (1.39, 1.97)
With access to sanitary toilet		0.72** (0.54, 0.97)	0.74* (0.55, 1.00)
Self-classified as Indigenous Peoples		1.24(0.94, 1.64)	1.24(0.90, 1.70)
Community characteristics			
Classified as GIDA			1.37* (0.95, 1.98)
Experienced armed conflict in last 3 yrs			0.82 (0.62, 1.08)
Experienced flooding in last 3 yrs			0.94 (0.79, 1 .13)
With RHU/CHO/BHS in barangay			1.16(0.85, 1.58)
Domain (living in Luzon as base group)			
Living in Visayas			1.56***(1.26, 1.94)
Living in Mindanao			1.35*** (1.09, 1.67)

[1] Values are Odds Ratios (95% Confidence Interval) from multivariablelogistic regression models using weighted samples; Dichotomous variables coded as 1=yes; 0=no; * p<0.10 , ** p<0.05, *** p<0.01

Table 5.3.1B Odds Ratios relating stunting to schooling-related outcomes[1]

Schooling-related outcomes	Stunted Odds Ratio (95% CI)
Not currently in school (n=4923)	1.80**(1.01, 3.20)
Ever repeated a grade (n=4922)	1.79***(1.45, 2.21)
Average grade in last school year was below 81 (n=4909)	1.74***(1.45, 2.09)
Reported any absence the previous month (n=4840)	1.26***(1.07, 1.49)
IC not aspiring for college education (n=4352)	1.08 (0.83, 1.39)
Mom/caregiver not aspiring for college education for IC(n=4608)	1.49***(1.15, 1.94)

[1] Odds Ratios (95% Confidence Interval) obtained from weighted multivariable logistic regression models which assessed for confounding and controlled for individual-, household- and community-level variables (see Table 5.3A Model 3). Stunted and schooling-related variables are dichotomous (coded as 1=yes; 0=no); * p<0.10 , ** p<0.05, *** p<0.01

Table 5.3.2A Odds Ratios indicating associations between index child/household/community characteristics and types of experiences with physical violence[1]

Characteristics	Physical violence from friends/classmates (n=4808) Odds Ratio (95% CI)	Physical violence with force from parents (n=4803) Odds Ratio (95% CI)	Witnessed physical violence at home (n=4799) Odds Ratio (95% CI)
Index child characteristics			
Male	1.63*** (1.41,1.88)	1.59*** (1.33,1.91)	1.49*** (1.24,1.77)
No. of close friends	1.00(0.99,1.01)	1.00(0.98,1.01)	1.00(0.99,1.01)
Frequently quarrels with household members	1.03(0.85,1.25)	1.24** (1.01,1.51)	1.40*** (1.13,1.74)
Household characteristics			
Both parents in household	1.09(0.92,1.29)	1.08(0.89,1.31)	0.79** (0.66,0.95)
Mother/caregiver at least high school	0.88* (0.75,1.04)	0.76*** (0.62,0.93)	0.93(0.78,1.11)
Mother/caregiver currently working	1.07(0.92,1.26)	1.32** (1.10,1.60)	1.18* (1.00,1.39)
Household size	1.02* (1.00,1.06)	1.02(0.99,1.06)	1.04** (1.00,1.08)
4Ps beneficiary	0.93(0.79,1.08)	1.09(0.89,1.34)	0.93(0.77,1.11)
With access to sanitary toilet	1.05(0.75,1.48)	1.15(0.70,1.87)	1.61*** (1.21,2.13)
Self-classifed as Indigenous Peoples	0.59*** (0.45,0.77)	0.68* (0.46,1.02)	0.64*** (0.46,0.90)
Community characteristics			
Classified as GIDA	1.04(0.78,1.39)	0.97(0.62,1.51)	1.00(0.64,1.58)
Experienced armed conflict in last 3 yrs	1.08(0.82,1.41)	1.11(0.81,1.54)	0.96(0.70,1.32)
Experienced flooding in last 3 yrs	1.20** (1.04,1.39)	1.20* (0.97,1.49)	1.14(0.95,1.36)
With RHU/CHO/BHS in barangay	0.97(0.76,1.24)	1.10(0.74,1.63)	0.69** (0.51,0.92)
Domain (living in Luzon as base group)			
Living in Visayas	1.32*** (1.11,1.57)	2.97*** (2.26,3.89)	2.14*** (1.70,2.69)
Living in Mindanao	1.08(0.92,1.28)	3.27*** (2.49,4.31)	2.28*** (1.82,2.86)

[1] Values are Odds Ratios (95% Confidence Interval) from multivariable logistic regression models using weighted samples;

* p<0.10 , ** p<0.05, *** p<0.01;

Dichotomous variables coded as 1=yes; 0=no

Table 5.3.2B Odds Ratios relating experiences with physical violence to schooling-related outcomes[1]

Schooling-related outcomes	Reported physical violence from friends/classmates Odds Ratio (95% CI)	Reported physical violence with force from parents Odds Ratio (95% CI)	Witnessed physical violence at home Odds Ratio(95% CI)
Not currently in school (n=4821/4804/4800)	0.69(0.34,1.42)	2.21**(1.05,4.64)	0.65(0.35,1.24)
Ever repeated a grade (n=4820/4815/4799)	1.14(0.89,1.44)	1.56***(1.23,1.97)	1.18(0.94,1.48)
Average grade in last school year was below 81 (n=4821/4804/4800)	1.35***(1.15,1.59)	1.55***(1.27,1.91)	1.32**(1.10,1.59)
Reported any absence the previous month (n=4756/4739/4739)	1.26**(1.03,1.53)	1.10(0.89,1.35)	1.07(0.87,1.32)
IC not aspiring for college education (n=4276/4262/4259)	1.37**(1.02,1.83)	1.38*(0.97,1.95)	1.45**(1.06,1.98)
Mom/caregiver not aspiring for college education for IC (n=4527/4510/4508)	1.06 (0.84,1.35)	1.38**(1.06,1.78)	1.07(0.86,1.32)

[1] Odds Ratios (95% Confidence Interval) obtained from weighted multivariable logistic regression models which assessed for confounding and controlled for individual-, household- and community-level variables (see Table 5.4A) known to influence the schooling-physical violence relationship. Physical violence and schooling-related variables are dichotomous (coded as 1=yes; 0=no)

* p<0.10 , ** p<0.05, *** p<0.01

Table 5.3.3A Odds Ratios indicating associations between index child/household/community characteristics and disability[1]

Characteristics	Model 1 (n=4919) Odds Ratio (95% CI)	Model 2 (n=4916) Odds Ratio (95% CI)	Model 3 (n=4916) Odds Ratio (95% CI)
Index child characteristics			
Male	0.69(0.35,1.37)	0.69(0.35,1.38)	0.69(0.35,1.35)
No. of times washes hands with soap/day	0.80**(0.67,0.97)	0.80**(0.66,0.97)	0.79**(0.65,0.96)
Household characteristics			
Both parents in household		0.76(0.38,1.55)	0.78(0.38,1.60)
Mother/caregiver at least high school		1.05(0.47,2.36)	1.13(0.49,2.62)
Mother/caregiver currently working		1.55(0.82,2.94)	1.48(0.76,2.88)
Household size		1.10(0.98,1.22)	1.10*(0.99,1.23)
4Ps beneficiary		0.78(0.41,1.48)	0.69(0.38,1.28)
With access to sanitary toilet		1.61(0.42,6.20)	1.80(0.37,8.68)
Self-classifed as Indigenous Peoples		1.98(0.71,5.51)	1.81(0.66,4.95)
Community characteristics			
Classified as GIDA			1.96(0.53,7.2)
Experienced armed conflict in last 3 yrs			0.43(0.14,1.38)
Experienced flooding in last 3 yrs			0.70(0.37,1.32)
With RHU/CHO/BHS in barangay			1.04(0.38,2.80)
Domain (living in Luzon as base group)			
Living in Visayas			1.62(0.78,3.36)
Living in Mindanao			1.94*(0.90,4.19)

[1] Values are Odds Ratios (95% Confidence Interval) from multivariable logistic regression models using weighted samples;

* p<0.10 , ** p<0.05, *** p<0.01

Dichotomous variables coded as 1=yes; 0=no

Table 5.3.3B Odds Ratios relating disability to schooling-related outcomes[1]

Schooling-related outcomes	IC with disability Odds Ratio (95% CI)
Not currently in school (n=4917)	3.51** (1.05, 11.71)
Ever repeated a grade (n=4916)	4.24*** (2.08,8.67)
Average grade in last school year was below 81 (n=4917)	1.26 (0.60, 2.65)
Reported any absence the previous month (n=4848)	1.17 (0.60,2.28)
IC not aspiring for college education (n=4359)	1.99 (0.64,6.17)
Mom/caregiver not aspiring for college education for IC (n=4616)	2.51** (1.20, 5.27)

[1] Odds Ratios (95% Confidence Interval) obtained from weighted multivariable logistic regression models which assessed for confounding and controlled for individual-, household- and community-level variables (see Table 5.5B Model 3). Disability and schooling-related variables are dichotomous (coded as 1=yes; 0=no)

* p<0.10 , ** p<0.05, *** p<0.01

Table 5.3.4A Odds Ratios indicating associations between index child/household/community characteristics and children in PWD households[1]

Schooling-related outcomes	Model 1 (n=4919) Odds Ratio (95% CI)	Model 2 (n=4916) Odds Ratio (95% CI)	Model 3 (n=4916) Odds Ratio (95% CI)
Index child characteristics			
Male	0.93(0.75,1.14)	0.93(0.75,1.15)	0.93(0.76,1.15)
No. of times washes hands with soap/day	0.99(0.94,1.05)	1.00(0.95,1.05)	1.02(0.96,1.07)
Household characteristics			
Both parents in household		0.55***(0.43,0.70)	0.54***(0.42,0.68)
Mother/caregiver at least high school		0.62***(0.44,0.85)	0.61***(0.44,0.85)
Mother/caregiver currently working		1.04 (0.82,1.33)	1.07(0.84,1.36)
Household size		1.14***(1.09,1.19)	1.14***(1.09,1.19)
4Ps beneficiary		0.83(0.63,1.09)	0.85(0.64,1.13)
With access to sanitary toilet		1.78* (0.93,3.42)	1.58(0.83,2.98)
Self-classifed as Indigenous Peoples		0.57** (0.33,0.98)	0.60*(0.36,1.01)
Community characteristics			
Classified as GIDA			1.40(0.92,2.1)
Experienced armed conflict in last 3 yrs			1.50(0.84,2.70)
Experienced flooding in last 3 yrs			1.11(0.81,1.53)
With RHU/CHO/BHS in barangay			1.18(0.65,2.13)
Domain (living in Luzon as base group)			
Living in Visayas			0.62***(0.44,0.87)
Living in Mindanao			0.65** (0.47,0.92)

[1] Values are Odds Ratios (95% Confidence Interval) from multivariable logistic regression models using weighted samples;

* p<0.10 , ** p<0.05, *** p<0.01

Dichotomous variables coded as 1=yes; 0=no

Table 5.3.4B Odds Ratios relating children in PWD households to schooling-related outcomes[1]

Schooling-related outcomes	IC in PWD households

	Odds Ratio (95% CI)
Not currently in school (n=4950)	1.84(0.83, 4.12)
Ever repeated a grade (n=4949)	1.45**(1.01,2.07)
Average grade in last school year was below 81 (n=4917)	0.87(0.66, 1.16)
Reported any absence the previous month (n=4848)	0.95(0.74,1.22)
IC not aspiring for college education (n=4359)	1.06(0.67,1.68)
Mom/caregiver not aspiring for college education for IC (n=4616)	1.07(0.74,1.56)

[1] Odds Ratios (95% Confidence Interval) obtained from weighted multivariable logistic regression models which assessed for confounding and controlled for individual-, household- and community-level variables (see Table 5.5E Model 3). Being in PWD household and schooling-related variables are dichotomous (coded as 1=yes; 0=no)

* p<0.10 , ** p<0.05, *** p<0.01

Table 5.3.5A Odds Ratios indicating associations between index child/household/community characteristics and being sick in the last 6 months[1]

Schooling-related outcomes	Model 1 (n=4915) Odds Ratio (95% CI)	Model 2 (n=4912) Odds Ratio (95% CI)	Model 3 (n=4912) Odds Ratio (95% CI)
Index child characteristics			
Male	1.16* (0.99,1.36)	1.17* (1.00,1.38)	1.16* (1.00,1.37)
Diet diversity score	1.02 (0.93,1.13)	0.99 (0.90,1.10)	1.00 (0.90,1.10)
No. of hours spent in sports/rigorous activity/week	1.00 (0.98,1.02)	1.00 (0.98,1.02)	0.99 (0.97,1.02)
No. of times washes hands with soap/day	0.97 (0.94,1.01)	0.97 (0.93,1.01)	0.98 (0.95,1.03)
Household characteristics			
Both parents in household		1.02 (0.85,1.23)	0.99 (0.82,1.20)
Mother/caregiver at least high school		1.37*** (1.12,1.67)	1.37*** (1.13,1.66)
Mother/caregiver currently working		1.12 (0.95,1.32)	1.15 (0.97,1.35)
Household size		0.90*** (0.86,0.94)	0.90*** (0.86,0.94)
4Ps beneficiary		1.09 (0.91,1.31)	1.12 (0.93,1.35)
With access to sanitary toilet		1.77*** (1.20,2.60)	1.60** (1.07,2.40)
Self-classifed as Indigenous Peoples		1.00 (0.72,1.40)	1.22 (0.89,1.68)
Community characteristics			
Classified as GIDA			1.72** (1.06,2.79)
Experienced armed conflict in last 3 yrs			0.54*** (0.34,0.85)
Experienced flooding in last 3 yrs			1.05 (0.84,1.30)
With RHU/CHO/BHS in barangay			1.12 (0.78,1.60)
Domain (living in Luzon as base group)			
Living in Visayas			0.62*** (0.48,0.82)
Living in Mindanao			0.62 (0.48,0.81)

[1] Values are Odds Ratios (95% Confidence Interval) from multivariable logistic regression models using weighted samples;

* p<0.10 , ** p<0.05, *** p<0.01

Dichotomous variables coded as 1=yes; 0=no

Table 5.3.5B Odds Ratios relating being sick in the last 6 months to schooling-related outcomes[1]

Schooling-related outcomes	Sick last 6 months Odds Ratio (95% CI)
Not currently in school (n=4949)	0.76 (0.40,1.44)
Ever repeated a grade (n=4949)	1.07 (0.84,1.36)
Average grade in last school year was below 81 (n=4917)	0.88(0.73,1.05)
Reported any absence the previous month (n=4847)	2.31*** (1.88,2.84)
IC not aspiring for college education (n=4358)	1.04 (0.78,1.44)
Mom/caregiver not aspiring for college education for IC (n=4616)	1.14 (0.85,1.52)

[1] Odds Ratios (95% Confidence Interval) obtained from weighted multivariable logistic regression models which assessed for confounding and controlled for individual-, household- and community-level variables (see Table 5.7A Model 3). Low BMI and schooling-related variables are dichotomous (coded as 1=yes; 0=no)

* p<0.10 , ** p<0.05, *** p<0.01

Table 5.3.6A Odds Ratios indicating associations between index child/household/community characteristics and being thin[1]

Schooling-related outcomes	Model 1 (n=4907) Odds Ratio (95% CI)	Model 2 (n=4904) Odds Ratio (95% CI)	Model 3 (n=4904) Odds Ratio (95% CI)
Index child characteristics			
Male	1.19 (0.96,1.47)	1.17 (0.95,1.45)	1.17 (0.95,1.44)
Diet diversity score	1.02 (0.94,1.11)	1.03 (0.95,1.11)	1.03 (0.95,1.11)
No. of hours spent in sports/rigorous activity/week	0.96*** (0.94,0.98)	0.97*** (0.95,0.99)	0.97*** (0.95,0.99)
No. of times washes hands with soap/day	1.02 (0.97,1.08)	1.03 (0.98,1.08)	1.03 (0.97,1.09)
Household characteristics			
Both parents in household		0.90 (0.70,1.17)	0.91 (0.70,1.17)
Mother/caregiver at least high school		0.84 (0.67,1.06)	0.85 (0.68,1.07)
Mother/caregiver currently working		1.12 (0.90,1.39)	1.11 (0.89,1.38)
Household size		0.99 (0.95,1.04)	0.99 (0.95,1.04)
4Ps beneficiary		1.47*** (1.19,1.80)	1.43*** (1.17,1.76)
With access to sanitary toilet		0.91 (0.61,1.34)	0.89 (0.60,1.31)
Self-classifed as Indigenous Peoples		1.07 (0.79,1.45)	1.12 (0.82,1.52)
Community characteristics			
Classified as GIDA			1.29 (0.84,1.99)
Experienced armed conflict in last 3 yrs			0.63* (0.39,1.02)
Experienced flooding in last 3 yrs			0.98 (0.79,1.21)
With RHU/CHO/BHS in barangay			1.17 (0.84,1.62)
Domain (living in Luzon as base group)			
Living in Visayas			1.01 (0.78,1.32)
Living in Mindanao			1.10 (0.86,1.40)

[1] Values are Odds Ratios (95% Confidence Interval) from multivariable logistic regression models using weighted samples;

* p<0.10 , ** p<0.05, *** p<0.01

Dichotomous variables coded as 1=yes; 0=no

Table 5.3.6B Odds Ratios relating being thin to schooling-related outcomes[1]

Schooling-related outcomes	Being thin Odds Ratio (95% CI)
Not currently in school (n=4905)	1.33 (0.67,2.63)
Ever repeated a grade (n=4904)	1.47*** (1.13,1.92)
Average grade in last school year was below 81 (n=4904)	1.30** (1.06,1.61)
Reported any absence the previous month (n=4835)	1.13(0.91,1.41)
IC not aspiring for college education (n=4347)	1.30 (0.93,1.80)
Mom/caregiver not aspiring for college education for IC (n=4617)	1.02 (0.72,1.45)

[1] Odds Ratios (95% Confidence Interval) obtained from weighted multivariable logistic regression models which assessed for confounding and controlled for individual-, household- and community-level variables (see Table 5.7A Model 3). Low BMI and schooling-related variables are dichotomous (coded as 1=yes; 0=no)

* p<0.10 , ** p<0.05, *** p<0.01

Table 5.3.7A Odds Ratios indicating associations between index child/household/community characteristics and having low diet diversity scores[1]

Schooling-related outcomes	Model 1 (n=4918) Odds Ratio (95% CI)	Model 2 (n=4915) Odds Ratio (95% CI)	Model 3 (n=4915) Odds Ratio (95% CI)
Index child characteristics			
Male	0.89 (0.77,1.04)	0.89 (0.76,1.04)	0.89 (0.77,1.04)
No. of times washes hands with soap/day	0.94*** (0.90,0.97)	0.94*** (0.91,0.97)	0.95*** (0.91,0.98)
Household characteristics			
Both parents in household		1.03 (0.88,1.20)	1.03 (0.88,1.21)
Mother/caregiver at least high school		0.81** (0.69,0.95)	0.79*** (0.67,0.93)
Mother/caregiver currently working		0.94 (0.82,1.08)	0.95 (0.83,1.08)
Household size		1.02 (0.98,1.05)	1.02 (0.98,1.05)
4Ps beneficiary		0.98 (0.83,1.14)	1.00 (0.85,1.18)
With access to sanitary toilet		0.78* (0.59,1.02)	0.77* (0.58,1.02)
Self-classifed as Indigenous Peoples		1.34** (1.03,1.73)	1.33** (1.03,1.73)
Community characteristics			
Classified as GIDA			0.63*** (0.48,0.82)
Experienced armed conflict in last 3 yrs			1.02 (0.77,1.34)
Experienced flooding in last 3 yrs			1.02 (0.86,1.21)
With RHU/CHO/BHS in barangay			1.08 (0.82,1.41)
Domain (living in Luzon as base group)			
Living in Visayas			0.86 (0.69,1.07)
Living in Mindanao			0.99 (0.81,1.20)

[1] Values are Odds Ratios (95% Confidence Interval) from multivariable logistic regression models using weighted samples;

* p<0.10 , ** p<0.05, *** p<0.01

Dichotomous variables coded as 1=yes; 0=no

Table 5.3.7B. Odds Ratios relating having low diet diversity scores to schooling-related outcomes[1]

Schooling-related outcomes	Low diet diversity Odds Ratio (95% CI)
Not currently in school (n=4915)	2.86*** (1.42,5.78)
Ever repeated a grade (n=4915)	1.16 (0.94,1.44)
Average grade in last school year was below 81 (n=4915)	1.34*** (1.16,1.54)
Reported any absence the previous month (n=4846)	1.07 (0.88,1.29)
IC not aspiring for college education (n=4357)	1.28 (0.95,1.72)
Mom/caregiver not aspiring for college education for IC (n=4615)	1.25** (1.01,1.54)

[1] Odds Ratios (95% Confidence Interval) obtained from weighted multivariable logistic regression models which assessed for confounding and controlled for individual-, household- and community-level variables (see Table 5.7A Model 3). Low diet diversity and schooling-related variables are dichotomous (coded as 1=yes; 0=no)

* p<0.10 , ** p<0.05, *** p<0.01

Table 5.3.8A Odds Ratios indicating associations between index child/household/community characteristics and having experienced hunger[1]

Schooling-related outcomes	Model 1 (n=4901) Odds Ratio (95% CI)	Model 2 (n=4898) Odds Ratio (95% CI)	Model 3 (n=4898) Odds Ratio (95% CI)
Index child characteristics			
Male	1.33*** (1.11,1.58)	1.33*** (1.12,1.59)	1.38*** (1.16,1.64)
No. of times washes hands with soap/day	0.97 (0.93,1.01)	0.97 (0.93,1.01)	0.92*** (0.88,0.96)
Household characteristics			
Both parents in household		0.93 (0.76,1.14)	0.97 (0.79,1.20)
Mother/caregiver at least high school		0.79** (0.67,0.93)	0.82** (0.69,0.97)
Mother/caregiver currently working		1.19* (1.00,1.43)	1.13 (0.94,1.35)
Household size		1.08*** (1.05,1.12)	1.08*** (1.05,1.12)
4Ps beneficiary		1.28*** (1.07,1.54)	1.18* (0.99,1.40)
With access to sanitary toilet		0.94 (0.60,1.48)	1.12 (0.70,1.80)
Self-classifed as Indigenous Peoples		1.22 (0.87,1.71)	1.00 (0.74,1.34)
Community characteristics			
Classified as GIDA			0.79 (0.44,1.40)
Experienced armed conflict in last 3 yrs			1.01 (0.68,1.51)
Experienced flooding in last 3 yrs			0.98 (0.80,1.19)
With RHU/CHO/BHS in barangay			0.96 (0.63,1.47)
Domain (living in Luzon as base group)			
Living in Visayas			3.17*** (2.55,3.95)
Living in Mindanao			2.61*** (2.09,3.25)

[1] Values are Odds Ratios (95% Confidence Interval) from multivariable logistic regression models using weighted samples;

* p<0.10 , ** p<0.05, *** p<0.01

Dichotomous variables coded as 1=yes; 0=no

Table 5.3.8B Odds Ratios relating experience of hunger to schooling-related outcomes[1]

Schooling-related outcomes	Experienced hunger

	Odds Ratio (95% CI)
Not currently in school (n=4899)	1.70 (0.86, 3.38)
Ever repeated a grade (n=4905)	1.45*** (1.13,1.87)
Average grade in last school year was below 81 (n=4899)	1.69*** (1.38,2.07)
Reported any absence the previous month (n=4832)	1.49*** (1.26,1.76)
IC not aspiring for college education (n=4343)	1.66*** (1.19,2.32)
Mom/caregiver not aspiring for college education for IC (n=4600)	1.43*** (1.13,1.81)

[1] Odds Ratios (95% Confidence Interval) obtained from weighted multivariable logistic regression models which assessed for confounding and controlled for individual-, household- and community-level variables (see Table 5.7A Model 3). Experienced hunger and schooling-related variables are dichotomous (coded as 1=yes; 0=no)

* p<0.10 , ** p<0.05, *** p<0.01

Table 5.3.10A Odds Ratios[95% Confidence Intervals] indicating significant associations between background characteristics and precedents to risky behaviors[1]

Background Characteristics	Precedents to risky behaviors				
	Currently smoking (n=4818)	Currently drinking (n=4833)	Experienced more than kissing (n=4817)	Ever watched porn movies (n=4807)	Chats with strangers online (n=4909)
Index child characteristics					
Male	1.96***[1.19,3.22]	1.94***[1.39,2.71]	1.54***[1.15,2.08]	1.36***[1.10,1.67]	1.20 [0.86,1.68]
No. of close friends	0.99 [0.97,1.01]	1.01 [1.00,1.02]	1.01 [1.00,1.02]	1.00 [0.98,1.01]	1.01* [1.00,1.01]
Household characteristics					
Both parents in household	0.88 [0.57,1.37]	0.99 [0.68,1.43]	0.95 [0.66,1.36]	1.07 [0.86,1.33]	0.80 [0.53,1.20]
Mother/caregiver at least high school	0.71* [0.47,1.06]	0.63**[0.44,0.91]	0.76 [0.54,1.06]	0.87 [0.69,1.10]	0.90 [0.62,1.32]
Mother/caregiver currently working	0.73 [0.44,1.22]	1.19[0.86,1.66]	1.00 [0.75,1.32]	0.91 [0.75,1.10]	1.01 [0.73,1.42]
Household size	1.01[0.93,1.10]	1.02 [0.96,1.08]	1.10***[1.03,1.16]	1.03 [1.00,1.02]	1.06 [0.99,1.14]
4Ps beneficiary	1.15 [0.75,1.76]	1.44*[1.00,2.08]	1.52***[1.14,2.03]	1.14 [0.93,1.39]	0.82 [0.58,1.15]
With access to sanitary toilet	1.32 [0.64,2.72]	0.84 [0.48,1.48]	1.01 [0.60,1.70]	1.13 [0.72,1.77]	0.78 [0.44,1.38]
Self-classifed as Indigenous Peoples	0.55 [0.27,1.13]	0.45**[0.24,0.85]	0.57*[0.32,1.03]	0.68* [0.45,1.01]	0.52* [0.24,1.09]
Community characteristics					
Classified as GIDA	0.69 [0.36,1.29]	1.27 [0.74,2.18]	0.67 [0.38,1.16]	0.70 [0.41,1.20]	0.35 [0.08,1.50]
Experienced armed conflict in last 3 yrs	1.30 [0.75,2.24]	1.56[0.79,3.10]	0.87 [0.48,1.57]	1.70*** [1.19,2.42]	0.93 [0.32,2.68]
Experienced flooding in last 3 yrs	1.10 [0.66,1.83]	1.33*[0.96,1.84]	1.02 [0.75,1.38]	1.11 [0.90,1.37]	1.22 [0.82,1.81]

With RHU/CHO/BHS in barangay	0.35** [0.14,0.86]	0.91 [0.54,1.53]	0.99 [0.63,1.54]	0.68** [0.47,0.96]	2.48*** [1.36,4.54]
Domain (living in Luzon as base group)					
Living in Visayas	2.16** [1.17,4.01]	1.69***[1.15,2.50]	5.52***[3.66,8.34]	0.91 [0.73,1.14]	1.12 [0.70,1.79]
Living in Mindanao	1.13 [0.67,1.91]	0.95 [0.63,1.44]	3.20*** [2.01,5.10]	0.73** [0.57,0.95]	0.63* [0.40,1.01]

[1] Odds Ratios (OR) are from weighted multivariable logistic regression models using weighted samples; Exposure (background characteristics) and outcome (vulnerabilities) are dichotomous variables coded as 1=yes; 0=no;

Table 5.3B Odds Ratios [95% Confidence Intervals] relating precedents to risky behaviors to school-related outcomes[1]

Precedents to risky behaviors	School-related outcomes					
	Not currently in school	Ever repeated a grade	Average grade in last school year was below 81	Reported any absence the previous month	IC not aspiring for college education	Mom/caregiver not aspiring for college education for IC
Currently smoking	(n=4818) 2.48* [0.87,7.02]	(n=4818) 1.69** [1.11,2.58]	(n=4818) 2.32***[1.42,3.82]	(n=4750) 2.30**[1.22,4.36]	(n=4272) 1.28 [0.74,2.21]	(n=4526) 1.37 [0.79,2.39]
Currently drinking	(n=4833) 1.73 [0.58,5.12]	(n=4833) 2.17***[1.44,3.28]	(n=4833) 2.12*** [1.50,3.02]	(n=4766) 1.09 [0.78,1.53]	(n=4288) 1.49 [0.76,2.92]	(n=4540) 1.74**[1.09,2.80]
Experienced more than kissing	(n=4817) 1.12 [0.31,4.01]	(n=4817) 1.66***[1.19,2.31]	(n=4817) 3.00***[2.22,4.04]	(n=4749) 1.10 [0.82,1.48]	(n=4273) 1.06 [0.66,1.73]	(n=4524) 1.78** [1.15,2.75]
Ever watched porn	(n=4807) 0.92 [0.43,1.95]	(n=4807) 1.00 [0.77,1.31]	(n=4807) 1.08 [0.89,1.31]	(n=4742) 1.07 [0.83,1.39]	(n=4267) 1.14 [0.75,1.73]	(n=4517) 1.15 [0.86,1.54]
Chats with strangers online	(n=4909) 0.43 [0.09,2.17]	(n=4909) 1.33 [0.83,2.13]	(n=4909) 1.63** [1.11,2.39]	(n=4840) 1.43* [0.94,2.18]	(n=4354) 0.62 [0.27,1.44]	(n=4608) 0.93[0.54,1.59]

[1] Odds Ratios are from weighted multivariable logistic regression models which assessed for confounding and controlled for individual-, household- and community-level variables (see Table 5.3A)

Main exposure (specific vulnerabilities) and outcome (schooling-related variables) are dichotomous (coded as 1=yes; 0=no);

APPENDIX TABLES

LONGITUDINAL COHORT STUDY ON THE GIRL AND BOY CHILD

Baseline Survey Results by SDGs

The Baseline Survey collected data relevant to 13 of 17 SDGs. No data were collected related to Goals 10, 12, 15 and 17. The following Appendix Tables (arranged by SDGs) show characteristics of the index children, their households and communities that illustrate how they fared on the development goals during the Baseline Survey.

Notes:

1. Data are from the following questionnaires: Household (N=4952), Index Child (IC) Interviewer-administered (N=4927), Self-administered (N=4927; with complete data on n=3870) and Community Survey (N=345). Unless otherwise specified, sample sizes for community-, household- and IC-level data are N=345, N=4952 and N=4927 respectively.

2. Weighted results are presented as percentages or mean ± standard error. Test for significant differences in weighted proportions and means were based on Pearson's chi-squared test of independence and adjusted Wald test respectively.

3. IC=index child/ren

GOAL 1: END POVERTY IN ALL ITS FORMS EVERYWHERE (Appendix Tables 1A to 1E)

Appendix Table 1A. Household income, assets and sources of income.

Variables	Luzon	Visayas	Mindanao	ALL
Household assets score[1,a,b]	2.7 ± 0.1	2.2 ± 0.1	2.1 ± 0.1	2.4 ± 0.1
Household owns land and house [b,c]	38.4	35.8	46.0	39.9
Owns land [a,c]	51.0	43.8	55.4	50.8
Households with income from salaries/wages[a,b,c]	87.0	77.0	66.6	79.6
Households receiving remittances abroad[a]	14.7	11.1	13.0	13.5
Households receiving remittances within country [b,c]	19.0	17.0	12.8	17.0
Per Capita income in a poor month[a,b,c]	1714.3 ± 80.7	991.6 ± 46.8	1284.0 ± 75.4	1457.6 ± 52.3
Per Capita income in a good month[a,b,c]	2594.4 ± 103.6	1649.0± 67.2	1954.9 ± 97.3	2238.3 ± 68.2
Percent of households classified as poor[2]				
In a poor month [a,b,c]	72.0	87.6	80.7	77.4

In a good month [a,b,c]	51.1	72.8	64.8	59.0

[a]Significantly different at p<0.05 between Luzon and Visayas; [b] Luzon and Mindanao; [c] Visayas and Mindanao

[1] Sum of 8 major assets: TV, computer, washing machine, refrigerator/freezer, cd/vcd player, karaoke, motorcycle, car/jeep

[2]Calculated using province-level per capita poverty threshold values (PSA, 2017)

Appendix Table 1B. Other household socioeconomic characteristics

Variables	Luzon	Visayas	Mindanao	ALL
Residing in barangays classified as GIDA[1]	2.5	6.2	7.6	4.6
Residing in barangays with armed conflict in last 3 years [b,c]	1.7	3.4	14.8	5.5
Residing in barangays with flooding in last 3 yrs	40.0	36.9	45.8	40.9
Residing in barangays with indigenous peoples (IP) [a,b,c]	23.5	9.6	82.4	36.4
Household respondents who are IPs[2, b,c]	5.7	3.4	30.6	11.9
House made of non-sturdy materials[3]				
Walls [a,b]	13.7	33.9	29.1	21.8
Roof[c]	9.6	6.2	11.1	9.3
Floor[a,b,c]	16.7	39.6	50.9	30.3
At least 2 are non-sturdy: walls, roof, floor [a,b]	10.6	23.5	25.2	17.1
No access to safe drinking water[4]	33.0	37.2	30.2	33.1
No access to sanitary toilet[5, a,b]	4.1	9.0	13.8	7.6
Sanitary toilet shared with other households[b]	33.7	28.0	27.4	31.0
Toilet facility inside the house [a,b,c]	65.0	54.3	38.4	55.9
Type of lighting[a,b,c]				
Electricity	95.9	93.8	90.6	94.1
Kerosene	2.9	5.9	8.1	4.9
Others	1.2	0.2	1.4	1.1
Type of fuel for cooking[a,b]				
LPG	50.9	21.2	12.0	34.7
Wood	27.2	62.0	68.9	45.2
Charcoal	17.8	15.4	17.8	17.3
Others	4.0	1.4	1.4	2.8

[a] Significantly different at p<0.05 between Luzon and Visayas; [b] Luzon and Mindanao; [c] Visayas and Mindanao

[1] Geographically Isolated and Disadvantaged Areas per DOH definition

[2] As reported by household respondent

[3] Makeshift; wall not cement/wood/stone; roof not galvanized/ceramic/cement; floor not wood/tiled

[4] Source of drinking water not piped nor protected

[5] Flushed toilet, covered pit latrine are considered sanitary

Appendix Table 1C. Household composition, schooling and work status

Variables	Luzon	Visayas	Mindanao	ALL
Household size[1,b]	6.2 ± 0.08	6.3 ± 0.13	6.6 ± 0.14	6.4
Household density ≥ 4[2,a,c]	51.1	60.3	49.7	52.5
Female-headed households [a,c]	10.6	18.0	10.7	12.1
Extended/multi-nuclear household	33.1	33.5	35.3	33.8
Mother's highest grade completed [a,b,c]				
No grade completed	0.1	1.0	4.8	1.8
Elementary level	19.3	27.1	29.3	23.5
High school level	59.6	53.5	47.7	55.3
College level	20.2	18.1	18.2	19.2
Post graduate level	0.2	0.3	0.1	0.2
Household head's highest grade completed [a,b]				
No grade completed	0.4	1.6	4.6	1.7
Elementary level	30.6	41.1	37.6	34.5
High school level	54.1	42.5	43.4	49.0
College level	14.9	14.6	14.3	14.7
Post graduate level	0.1	0.2	0.1	0.1
Number of household members currently working for cash/kind[3, a,b]	2.0 ± 0.04	2.2 ± 0.04	2.2 ± 0.05	2.1 ± 0.03
Households without household members working for cash/kind[3]	1.0	1.2	0.6	1.0
With household members with overseas work experience[a,b,c]	16.1	7.9	11.6	13.3
Households with immediate family members abroad[a,c]	8.1	4.4	7.9	7.3
Index child's current work status[a,b,c]				
Not working	97.7	92.7	92.9	95.4
Paid errand work/food vending	0.1	4.0	0.5	1.0
Paid piece work	0.1	0.4	1.6	0.5
Unpaid work in family business	2.1	2.9	5.0	3.0

[a] Significantly different at p<0.05 between Luzon and Visayas; [b] Luzon and Mindanao; [c] Visayas and Mindanao

[1] Standard definition of household used; may consist of both related and unrelated household members

[2] Household size/number of rooms used for sleeping

[3] Among household members aged 6 to 86

Appendix Table 1D. Household utilization of social services/benefits and social support/capital

Variables	Luzon	Visayas	Mindanao	ALL
4Ps beneficiary households [a,b,c]	39.9	49.1	59.2	46.8
IC availed of school feeding program [a,b]	51.5	65.4	69.9	59.1
Households with Senior Citizens (aged ≥ 60)	15.8	17.4	17.3	16.5
Households with Seniors receiving benefits [b,c]	79.7	73.4	58.9	72.7
Households reporting participation in collective action[1] in past year [b]	57.2	63.4	67.7	61.2
Households reporting any volunteer work in past year	56.3	53.0	53.7	55.0
Households with no membership in organization or groups[b,c]	56.1	52.0	45.3	52.4
Insurance/benefits of IC's parents				
SSS[a,b]	52.6	29.8	33.2	43.0
GSIS	3.1	3.5	3.8	3.4
PhilHealth[b,c]	77.4	77.2	83.8	79.1
Others (mostly HMOs) [a,b]	6.4	2.2	2.3	4.5
Households reporting considerable difficulty in meeting expenses (n=1524)[a,b,c]	29.3	39.0	26.2	30.4
Among those reporting considerable difficulty in meeting expenses: Strategies for meeting expenses:				
Loan from relatives, friends	63.4	70.9	53.8	63.1
Loan from banks, cooperatives, other institutions	6.9	11.8	11.8	9.3
Take extra job/business	20.4	11.2	23.4	18.8
Others	9.3	6.1	11.0	8.8
Level of satisfaction with financial/emotional support from family[2,a,b,c]				
Very dissatisfied/dissatisfied	9.2	12.3	9.8	10.0
Moderately satisfied	28.4	23.4	19.1	25.0
Satisfied/Very satisfied	62.4	64.3	71.1	65.0

Level of satisfaction with financial/emotional support from the community[2,b]				
Very dissatisfied/dissatisfied	28.6	26.2	22.4	26.5
Moderately satisfied	33.6	30.0	28.0	31.4
Satisfied/Very satisfied	37.8	43.9	49.7	42.1

[a] Significantly different at p<0.05 between Luzon and Visayas; [b] Luzon and Mindanao; [c] Visayas and Mindanao

[1]Any collective action (such as community projects, church fund-raising , protest actions, barangay council meetings)

[2] Asked only of mothers and female caregivers (n=4659)

Appendix Table 1E. Community (barangay) profile by island group[1]

Selected community characteristics	Luzon (n=115)	Visayas (n=115)	Mindanao (n=115)	ALL (N=345)
Urban barangays	66.1	34.8	27.8	42.9
Mean ± SD distance from town center (km)	7.3 ± 8.1	6.3 ± 5.6	9.1 ± 12.9	7.6 ± 9.5
Mean ± SD population	24,673.2± 46,923.4	5,963.2± 9,829.1	9,499.9 ± 16,529.6	13,335.2± 30,227.3
Mean ± SD land area (km^2)	2,485.7± 13,016.8	25,003.1± 163,937.8	4,220.6± 43,868.3	10,443.2± 97,668.6
Mean ± SD households in barangay	6,101.2± 14,214.9	1,162.4± 1,913.0	2,030.4± 3,861.7	3,071.7± 8,759.0
Mean ± SD population density	14,258.0± 26,590.4	3,882.1± 13,358.2	4,323.0± 8,577.4	7,317.0± 18,123.4
Agriculture as main source of livelihood	48.7	67.0	72.2	62.6
With local waterworks system	61.7	61.7	73.9	65.8
With safe drinking water source	84.3	57.4	76.5	72.8
With telephone landline system	73.9	38.3	32.2	48.1
With cellphone service/signal	98.3	97.4	95.6	97.1
With internet service	81.7	71.3	68.7	73.9
With internet cafes	73.9	47.8	63.5	61.7
Percentage of barangay population living in slum or informal settlement areas	11.4	12.2	15.9	13.2
Percentage of households enrolled in 4Ps	16.8	22.3	29.1	23.3
With social housing programs	8.7	7.8	15.6	10.7
With poverty alleviation programs	19.1	53.0	44.3	38.8
Barangays classified as GIDA[2]	1.7	7.8	9.6	6.4
Barangays with armed conflict in last 3 years	2.6	3.5	19.1	8.4
Barangays with flooding in last 3 yrs	41.7	33.0	47.0	40.6
Barangays with indigenous peoples	21.7	7.8	80.9	36.8

[1] Unweighted results presented as Percentages or Mean ± SD

[2] Geographically Isolated and Disadvantaged Areas per Department of Health definition

GOAL 2: END HUNGER, ACHIEVE FOOD SECURITY, IMPROVE NUTRITION AND PROMOTE SUSTAINABLE AGRICULTURE (Appendix Tables 2A-2D)

Appendix Table 2A. Current nutritional status of index children

Variables	Luzon	Visayas	Mindanao	ALL
Diet diversity data[1] (index children)				
Diet diversity score[2a,c]	3.4 ± 0.04	3.6 ± 0.06	3.4 ± 0.05	3.5 ± 0.03
Low diet diversity score[3, a,c]	55.9	50.5	57.8	55.4
No Vitamin A from plants sources[4, a,b]	63.4	54.3	56.7	59.8
No Vitamin A from animal sources[5, b]	51.1	55.6	60.2	54.4
No heme Iron sources[6]	3.7	3.6	5.3	4.1
Consumed sugar-sweetened beverages[7]	24.5	26.6	24.9	25.0
Consumed processed foods[8, a,b]	89.7	80.2	81.8	85.7
Consumed junk foods[9]	11.3	12.5	14.5	12.4
Consumed fried/sauteed foods [a,b]	94.7	87.4	89.2	91.8
Stunted[10, a,b]	26.9	36.4	38.7	32.0
BMI-for-age categories[10, a,b]				
Severely Thin	3.7	3.8	4.3	3.9
Thin	11.2	12.0	13.6	12.0
Normal	70.6	76.8	75.9	73.2
Overweight	8.4	4.2	3.2	6.2
Obese	6.1	3.2	2.9	4.7
Perceives body weight as:				
Slender	29.0	28.7	29.8	29.1
Average	59.9	61.7	61.3	60.6
Chubby	11.2	9.6	9.0	10.3
Congruence between perceived and actual weight status [a,b]:				
Perceived status matches BMI category	61.6	64.4	63.3	62.6
Perceives self as thinner than BMI category	28.0	23.1	23.2	25.7

Perceives self as heavier than BMI category	10.4	12.5	13.5	11.6

[a] Significantly different at p<0.05 between Luzon and Visayas; [b] Luzon and Mindanao; [c] Visayas and Mindanao

[1] Food groups represented in yesterday's food intake

[2] Sum of 9 food groups represented in yesterday's food intake

[3] Consumed less than 4 of 9 food groups

[4] No consumption of vitamin A rich vegetables and fruits

[5] No consumption of organ meats, eggs, milk/milk products

[6] No consumption of organ meats, flesh meats, fish/seafood

[7] Softdrinks and sugar-sweetend beverages (i.e., juice drinks, iced tea)

[8] Canned, bottled, packaged (e.g., crackers, instant noodes), cured (e.g., hotdogs, tocino)

[9] Low nutritional value snack foods

[10] Classified using the 2007 WHO Reference Standards; Height in cm (n=4925): Stunted= <-2SD;

BMI-for-age(n=4925): Severely thin: <-3SD, Thin: -3SD to <-2SD, Normal: -2SD to +1SD Overweight: >+1SD to +2SD, Obese: >+2SD

Appendix Table 2B. Food Insecurity

Variables	Luzon	Visayas	Mindanao	ALL
Food Insecurity Experience Scale (FIES)[1]				
Household respondents:[2, a,b,c]				
Not food insecure	22.5	8.1	13.6	17.3
Mild	20.4	15.8	19.6	19.3
Moderate	33.1	31.7	31.8	32.5
Severe	24.0	44.5	35.1	31.0
Unable to eat healthy and nutritious food [a,b]	45.2	59.9	61.8	52.5
Experienced hunger but did not eat [a,b,c]	23.0	44.1	34.6	30.2
Index children (n=4908)[3]:				
Unable to eat healthy and nutritious food [a,b]	48.1	62.5	63.8	55.1
Experienced hunger but did not eat [a,b]	31.5	56.9	55.7	43.0
Congruence between household respondent and index child assessment:				
Unable to eat healthy and nutritious food (n=4902)[4]				
Both said yes	28.2	42.3	45.1	35.5
Both said no	34.9	20.0	19.6	27.9
Responses did not match	36.8	37.8	35.3	36.6
Both experienced hunger but did not eat(n=4906)[4]				
Both said yes	10.8	31.0	22.1	17.8
Both said no	56.2	30.2	31.3	44.4
Responses did not match	33.0	38.8	46.6	37.8

[a] Significantly different at p<0.05 between Luzon and Visayas; [b] Luzon and Mindanao; [c] Visayas and Mindanao

[1] Voices of the Hungry, Food and Agriculture Organization

[2] Reference time point: in the last 12 months; data from Household Questionnaire

[3] Reference time point: in the last 6 months; data from Index Child Interviewer-Administered Questionnaire (these two questions were modified from FIES)

[4]Significantly different across categories within domains and for all domains combined

Appendix Table 2C. Household food expenses, strategies and access

Variables	Luzon	Visayas	Mindanao	ALL
Amount spent by household for food/week[a,b]	1,495.1 ± 45.9	1,279.8 ± 42.2	1,287.8 ± 32.1	1,397.7 ± 27.9
Amount per capita [a,b]	261.8 ±9.3	214.6 ± 6.4	211.6 ± 6.4	239.2 ± 5.6
Strategies resorted to when there's not enough to eat[a,b,c]				
Nothing, never experienced situation	16.1	11.1	5.7	12.4
Loan from relatives, friends	33.8	32.3	31.7	33.0
Loan from banks, cooperatives	2.3	2.4	2.8	2.5
Take extra job/business	12.8	11.5	16.4	13.5
Ask money from relatives, friends	3.1	2.5	3.5	3.1
Sell/pawn properties	1.2	1.2	2.7	1.6
Ask goods from relatives, friends	2.5	2.3	2.0	2.3
Purchase goods on credit / borrow goods	19.2	20.8	18.5	19.3
Cook whatever food is grown/reared	3.0	2.2	4.9	3.4
Resort to modifying food preparation	1.4	1.8	6.5	2.8
Limit consumption/intake of other food	3.6	6.8	4.2	4.4
Others	1.1	5.0	1.1	1.8
Distance of market from house[a,b]				
Within walking distance	43.4	28.4	26.8	36.1
Requires a ride	56.3	70.7	73.2	63.6
Far enough to require a ride but no route	0.3	0.9	0.0	0.3
Location of market				
Same barangay	38.8	25.0	28.8	33.5
Another barangay, same municipality/city	54.9	68.2	63.6	59.8
Another municipality/city, same province	5.4	6.3	6.2	5.8
Another province	0.8	0.5	1.4	0.9

[a] Significantly different at p<0.05 between Luzon and Visayas; [b] Luzon and Mindanao; [c] Visayas and Mindanao

Appendix Table 2D. Farming/Fishing activities of households[1]

Variables	Luzon	Visayas	Mindanao	ALL
Number of plots/parcels household cultivates	1.9 ± 0.3	1.4 ± 0.1	1.7 ± 0.1	1.7 ± 0.1
Ownership of cultivated land[b,c]				
Fully owned	27.8	31.8	47.9	36.8
Tenanted	33.2	35.9	30.6	32.9
Leased/rented	12.2	12.8	4.5	9.3
Rent-free	23.6	12.7	15.1	17.4
Others	3.2	6.9	1.9	3.6
Percent of households cultivating crops in the last cropping season				
Rice[b]	60.0	48.4	36.1	47.4
Corn[a,b,c]	9.3	38.9	54.1	34.7
Banana[a]	39.2	61.0	48.6	48.0
Coconut	35.2	30.8	34.3	33.8
Root crops[a,c]	33.2	57.2	43.2	43.3
Legumes[c]	12.3	20.1	7.8	12.5
Leafy vegetables[a,c]	28.2	51.5	39.7	38.8
Other vegetables[a,c]	25.6	46.7	35.3	34.9
Spices[a,b]	5.7	24.8	20.5	16.5
Fruit trees[c]	20.6	31.5	21.4	23.6
Where rice was sold[b]				
Does not sell, for home consumption only	50.0	66.1	54.2	55.5
Market in barangay	18.9	8.8	7.0	12.7
Market in municipality	8.2	13.9	21.1	13.6
Market in city	0.0	1.6	4.4	1.7
Contracted (contract farming)	13.2	3.9	6.7	8.9
Sell from house to house	9.6	5.8	6.5	7.7
Membership in agricultural cooperative	26.8	25.6	21.2	24.3
Government from government assistance for agriculture	28.0	35.4	32.9	31.9

Received information or training about farming[a]	41.3	26.1	29.6	32.8
Market for fish caught[a,c]				
Home consumption only	4.0	15.7	6.5	7.0
Market in barangay	6.0	11.8	22.2	13.8
Market in municipality	19.9	18.8	33.0	25.3
Market in city	9.8	3.0	3.3	5.9
Contracted (contract fishing)	41.4	14.5	19.4	27.7
Client goes to house or boat	15.8	18.4	12.6	14.9
Sell from house to house	3.1	17.6	2.9	5.4

[a] Significantly different at $p<0.05$ between Luzon and Visayas; [b] Luzon and Mindanao; [c] Visayas and Mindanao

[1] There were 1,062 households with parcels of lot cultivated, and 386 households engaged in fishing

GOAL 3: ENSURE HEALTHY LIVES AND PROMOTE WELL-BEING FOR ALL AT ALL AGES (Appendix Tables3A-3U)

Appendix Table 3A. Index Children's current health and well-being

Variables	Luzon	Visayas	Mindanao	ALL
Reported any illness in past 6 months[1,a,b]	33.9	23.4	23.5	29.1
With disability[b]	1.0	1.2	2.3	1.4
Perception of current health status[a,b,c]				
Very unhealthy	12.6	4.8	6.0	9.3
Neither very unhealthy/healthy	75.6	70.6	61.2	70.8
Very healthy	11.7	24.7	32.8	19.9
Missed school previous month because of illness	63.2	66.1	66.2	64.6
Overweight/obese status[2, a,b]				
Overweight	8.4	4.2	3.2	6.2
Obese	6.1	3.2	2.9	4.7

[a] Significantly different at p<0.05 between Luzon and Visayas; [b] Luzon and Mindanao; [c] Visayas and Mindanao

[2]Includes severe episodes of cough,colds and diarrhea

[1]Classified using the 2007 WHO Reference Standards; BMI-for-age(n=4925): Overweight: >+1SD to +2SD, Obese: >+2SD

Appendix Table 3B. Index children's early life health and nutrition[1]

Variables	Luzon	Visayas	Mindanao	ALL
Mother received prenatal care during index pregnancy[b,c]	97.3	98.0	91.3	95.9
First prenatal care visit was within first trimester[3]	75.3	71.5	72.2	73.7
Number of prenatal visits[a,b,c]	6.3 ± 0.1	7.0 ± 0.1	5.5 ± 0.1	6.2 ± 0.1
Mother given injection/vaccination during index pregnancy[a,c]	91.1	94.6	88.8	91.2
Mother took vitamins/supplements during index pregnancy[a,c]	93.2	96.1	89.6	92.8
Index child was delivered in hospital/clinic[b,c]	47.9	41.6	31.7	42.4
Birth assisted by skilled health professionals (doctors, nurses, midwives) [a,b,c]	69.9	57.9	42.5	60.4

Index child was ever breastfed [a,b]	90.1	94.1	93.7	91.8
Months index child was breastfed	16.9 ± 0.5	17.4 ± 0.5	16.3 ± 0.6	16.8 ± 0.3
Age (in months) when IC fed semi-solid food [a]	5.8 ± 0.1	6.1 ± 0.1	6.0 ± 0.2	5.9 ± 0.1
Fed semi-solids before 6 months of age [a,b]	31.4	23.8	32.0	30.1

[a] Significantly different at p<0.05 between Luzon and Visayas; [b] Luzon and Mindanao; [c] Visayas and Mindanao

[1] Data based on responses from mother- respondents only (n=4105)

Appendix Table 3C. Index children's birth weight and immunization status[1]

Variables	Luzon	Visayas	Mindanao	ALL
Fully immunized children[2,a,b,c]	87.5	80.6	79.3	84.0
Based on birth certificate date[3]				
Birth weight in kg.	2.9 ± 0.03	2.9 ± 0.04	2.9 ± 0.03	2.9 ± 0.02
Low birth weight[4]	12.5	15.9	16.1	14.1
Based on mothers' reports[5]				
Birth weight in kg.	2.9 ± 0.04	2.9 ± 0.03	2.9 ± 0.04	2.9 ± 0.02
Low birth weight[4]	22.9	20.5	23.1	22.4
Based on both birth certificate or mothers' reports[6]				
Birth weight in kg	2.9 ± 0.03	2.9 ± 0.03	2.9 ± 0.03	2.9 ± 0.02
Low birth weight[4]	18.9	19.0	20.2	19.2

[a] Significantly different at p<0.05 between Luzon and Visayas; [b] Luzon and Mindanao; [c] Visayas and Mindanao

[1] Data based on responses from mothers and caregivers (n=4952)

[2] using pre-2009 Board Resolution definition (1 dose each of BCG and measles, 3 doses each of DPT and OPV before age 1)

[3] n=1541

[4] birth weight <2.5 kg

[5] n=2285

[6] n=3826

Appendix Table 3D. Index children's pubertal experience, health behaviors, happiness, and experiences with emotional and physical abuse

Variables	Luzon	Visayas	Mindanao	ALL
Girls reporting menses[b]	4.5	2.4	1.6	3.3
Age at menarche	9.8 ± 0.1	9.4 ± 0.2	9.6 ± 0.2	9.7 ± 0.1
Boys reporting voice change[a,b]	50.2	39.3	41.0	45.7
No one has given them information about puberty[a,b,c]	52.4	62.0	61.0	56.5
For those who received information, source of information: [a,b]				
Mothers	33.0	40.0	39.8	35.8
Teachers	46.3	22.6	16.1	35.0
Others	20.7	37.6	44.1	29.2
Number of times/day index child washes hands with soap[a,c]	2.9 ± 0.05	4.1 ± 0.10	2.8 ± 0.05	3.2 ± 0.04
Usually washes hands with soap before eating[a,b,c]	77.1	85.4	68.9	76.5
Ever tried smoking[a,b]	5.0	11.1	7.4	6.8
Currently smoking[a,c]	3.5	7.6	3.6	4.3
Ever tried drinking alcohol[a,b]	9.4	13.5	10.1	10.4
Currently drinks alcohol[a,c]	3.9	7.1	4.0	4.6
Currently very happy now	25.5	25.1	26.9	25.8
What makes them happy related to: [a,b]				
Family	32.0	24.1	21.6	27.7
Playing physical games outside	33.1	37.0	36.8	34.8
Events such as birthdays, going to Jollibee/the beach	8.6	10.9	12.7	10.1
Toys, money, material things	6.8	9.0	12.0	8.6
Friends and classmates	10.2	7.0	6.6	8.6
Digital games/TV	5.9	6.9	6.4	6.2
School	3.4	5.2	3.9	3.9
What makes them unhappy related to: [a,b,c]				
Being scolded/punished	24.8	17.5	18.7	21.7
Conflict among friends/classmates	11.5	18.9	16.7	14.4
Being bullied in school	17.8	15.5	13.9	16.3

Conflict in the family	8.5	10.8	8.2	8.9
Not being able to play physical games outside	5.5	8.3	10.8	7.5
Being alone	7.4	5.4	5.8	6.6
When family members leave or die	9.8	7.9	5.0	8.1
Not having money	2.2	2.5	6.8	3.5
Sickness in the family	2.0	3.6	4.8	3.1
Schooling	3.2	2.9	2.4	2.9
Others	7.3	6.6	6.8	7.0
Reported being physically hurt by friends/classmates [a,c]	37.2	44.1	36.8	38.5
Reported being physically hurt by an adult [a,b,c]	18.8	30.7	23.6	22.4
Reported being forcefully hurt by parent/s [a,b]	9.3	23.8	24.3	16.2
Has witnessed any physical violence at home [a,b]	22.2	38.1	36.0	29.0
Reported that friends or classmates have said or done something that hurt their feelings [c]	44.9	48.7	41.1	44.6
Reported that parents hurt their feelings [a,b]	17.1	24.3	27.8	21.4

[a] Significantly different at $p<0.05$ between Luzon and Visayas; [b] Luzon and Mindanao; [c] Visayas and Mindanao

Appendix Table 3E. Index children's relationship with parents and social support/network

Variables	Luzon	Visayas	Mindanao	ALL
IC close with mother[a,c]	93.8	90.7	94.6	93.4
IC close with father	88.8	86.1	87.2	87.9
Main person IC considered as responsible for upbringing				
Mothers	84.2	80.85	82.5	83.1
Grandmothers	7.4	7.3	7.6	7.4
Fathers	6.8	10.0	7.5	7.6
Others	1.6	2.0	2.4	1.9
IC considers household respondent as responsible for upbringing	88.3	85.8	87.5	87.6
From the perspective of mother/caregiver[1]:				
Father mainly responsible for IC's financial support	67.2	65.5	69.0	67.4
Mother mainly responsible for IC's financial support	20.1	23.0	19.4	20.5
Father mainly responsible for IC's physical care[b]	10.9	13.8	20.0	13.9
Mother mainly responsible for IC's physical care[b]	75.7	73.6	66.9	72.9
Father mainly responsible for IC's emotional support[b,c]	20.4	18.8	27.8	22.0
Mother mainly responsible for IC's emotional support[b,c]	65.7	68.7	58.5	64.4
Father mainly responsible for IC's discipline[a,b,c]	38.1	33.8	50.5	40.6
Mother mainly responsible for IC's discipline[a,b,c]	48.7	54.3	37.2	46.7
Doesn't confide in anyone when with problems[a,b]	39.5	31.1	31.8	35.8
If confides to anyone, confides to: [a,b,c]				
Mother	59.9	67.1	56.9	60.6
Father	6.1	10.4	10.9	8.4
Both parents	12.9	9.7	17.7	13.6
Others	21.0	12.8	14.5	17.4
Quarrels almost daily with other household members [a,b,c]	16.3	14.2	7.0	13.4
Number of close friends who are girls	3.6 ± 0.1	4.0 ± 0.2	3.8 ± 0.2	3.8 ± 0.1

Number of close friends who are boys [a]	4.3 ± 0.2	3.9 ± 0.1	4.1 ± 0.2	4.2 ± 0.1
Number of close friends, both sexes	8.0 ± 0.2	7.9 ± 0.3	7.8 ± 0.4	7.9 ± 0.2
Belongs to a club/organization [b,c]	23.1	26.4	12.7	21.0
Has close friends who smoke[b,c]	17.5	18.3	13.3	16.5
Has close friends who drank alcohol[b,c]	15.6	15.6	10.2	14.1
Has close friends who have boyfriends/girlfriends [a,c]	24.9	33.6	27.5	27.3

[a] Significantly different at p<0.05 between Luzon and Visayas; [b] Luzon and Mindanao; [c] Visayas and Mindanao

[1] Data shown are only for fathers and mothers thus do not add up to 100%

Appendix Table 3F. Social media and sexual experiences

Variables	Luzon	Visayas	Mindanao	ALL
Reported using internet[a,b]	47.9	31.4	35.9	41.4
Days on internet per week(among users) [b,c]	3.2 ± 0.1	3.0 ± 0.2	2.4 ± 0.1	3.0 ± 0.1
Among internet users:				
No. of hours online on typical day (among users)	1.3 ± 0.1	1.1 ± 0.1	1.2 ± 0.1	1.3 ± 0.1
Have email accounts[a,b]	70.7	51.3	42.5	61.3
Have facebook accounts[a,b]	72.4	52.2	50.6	64.4
Number of other internet accounts[1, a,b]	1.6 ± 0.1	1.2 ± 0.1	1.0 ± 0.1	1.4 ± 0.0
Has tried chatting on the internet [a,b,c]	40.0	26.9	18.8	31.8
Usually chats with strangers[b,c]	4.6	5.0	2.6	4.2
Owns a cellphone[a,b]	20.9	12.6	13.8	17.3
Ever watched movies/videos on internet/cellphone[b.c]	63.4	60.0	54.7	60.4
Ever watched pornographic movies/videos[b.c]	19.3	18.3	14.9	17.8
Ever had a crush on a girl[2,b]	25.6	23.1	21.6	24.0
Has any girl ever had a crush on IC? [2]	22.8	19.2	19.6	21.2
Ever had a crush on a boy[2,c]	18.4	19.9	16.1	18.1
Has any boy ever had a crush on IC? [2]	17.9	18.9	16.8	17.8
Ever gone on a date [a,b]	3.8	12.2	9.9	7.1
Done or experienced holding hands with a boy [2,a,c]	13.7	20.0	14.1	15.0
Done or experienced holding hands with a girl [2,b,c]	39.7	43.7	31.6	38.3
Ever kissed a boy[2,a,b]	2.6	6.7	5.8	4.3
Ever kissed a girl[2,a,b,c]	3.4	14.6	11.1	7.6
Has experienced more than kissing [a,b,c]	2.0	10.5	6.0	4.7

[a] Significantly different at p<0.05 between Luzon and Visayas; [b] Luzon and Mindanao; [c] Visayas and Mindanao

[1] Includes Snapchat, Instagram, Twitter

[2] Question asked of both boys and girls

Appendix Table 3G. Index children's understanding of terms related to sexuality

Variables	Luzon	Visayas	Mindanao	ALL
IC's understanding about "dating" [a,b,c]				
No idea	58.0	46.0	61.1	56.4
When a boy and girl get to know each other (going out, conversing, eat/dine together, etc)	24.5	31.7	17.2	24.0
When a boy and girl are in an exclusive relationship	13.3	20.3	20.2	16.5
When a boy and girl in a relationship (ultimately) marry	2.0	0.9	0.6	1.4
Other responses (non-relational)	2.2	1.2	1.0	1.7
Going out with family	0.1	0.0	0.0	0.1
The right age for girls to get married [1,a,b]	27.0 ± 0.2	25.1 ± 0.3	24.3 ± 0.2	25.8 ± 0.2
Among those who responded with situations rather than age (n=643) the right time for girls to get married is: [a,b,c]				
After finishing college	48.4	40.6	29.7	41.2
When already working	20.6	24.6	15.6	19.9
After finishing school and finding a job	8.9	23.9	26.9	17.4
After she has helped parents financially	2.3	3.3	0.3	1.9
When she can afford to support a family	5.8	2.8	2.3	4.2
When she is at the right age or wants to get married	7.5	0.0	18.7	9.3
Other reasons	6.5	4.8	6.5	6.2
When is the right age for boys to get married [1,a,b,c]	28.0 ± 0.2	26.1± 0.4	25.1± 0.2	26.8± 0.2
Among those who responded with situations rather than age (n=515): the right time for boys to get married is: [b,c]				
After finishing college				

When already working	30.0	36.9	19.2	28.5
After finishing school and finding a job	36.3	24.6	24.0	29.6
After he has helped parents financially	9.1	19.7	27.1	17.2
When he can afford to support a family	4.2	3.7	1.5	3.2
When he is at the right age and parents give consent	10.1	11.0	3.6	8.3
When he is already matured	2.5	0.0	9.4	3.9
Others	4.3	0.0	9.9	4.9
	3.6	4.2	5.4	4.3

[a] Significantly different at p<0.05 between Luzon and Visayas; [b] Luzon and Mindanao; [c] Visayas and Mindanao

[1]Asked of both girls and boys

Appendix Table 3H. Index children's sources of information

Variables	Luzon	Visayas	Mindanao	ALL
From Household Questionnaire:				
Mother/caregiver discusses/talks to IC about:				
Friends	93.1	94.0	92.7	93.1
Change that happen during puberty[a,b,c]	65.1	58.4	44.0	58.2
Having crushes[a,b]	52.9	35.8	34.0	44.5
Having boyfriends/girlfriends [b,c]	23.4	20.3	14.0	20.3
Going out on dates[a,b,c]	11.7	9.0	6.5	9.8
Same sex attraction[a,c]	9.7	13.2	8.4	10.1
Marriage[a,b,c]	18.4	12.5	9.3	14.8
Sex/sexuality [b,c]	4.9	6.5	1.7	4.3
From Self-Administered Questionnaire:				
IC has started asking mother about sex[a,c]	14.7	24.6	16.7	17.2
Have started asking father about sex [a,b,c]	11.1	21.0	15.6	14.2
Discusses/talks with mother about his/her friends [a,b]	49.8	64.0	64.5	56.5
Discusses/talks with father about his/her friends [a,b]	36.1	52.8	51.1	43.4
Discusses/talks with mother about puberty [a,b]	54.3	63.3	60.1	57.6
Discusses/talks with father about puberty [a,b]	37.1	51.6	47.0	42.6
Discusses/talks with mother on having crushes	29.5	30.3	26.8	29.0
Discusses/talks with father on having crushes [a]	19.9	24.4	22.5	21.5
Discusses/talks with mother on having boy/girlfriends [a,c]	18.7	24.2	19.9	20.1
Discusses/talks with father on having boy/girlfriends [a,c]	14.8	21.8	16.5	16.7
Discusses/talks with mother on going out on dates [a,b,c]	11.8	25.6	17.9	16.1
Discusses/talks with father on going out on dates [a,b,c]	10.0	22.4	15.1	13.8
Discusses/talks with mother on same sex attraction [a,b]	16.9	28.8	25.2	21.5
Discusses/talks with father on same sex attraction [a,b]	12.3	24.1	20.2	16.7
Discusses/talks with mother on marriage [a,b,c]	21.1	37.1	31.8	27.1

Discusses/talks with father on marriage [a,b,c]	17.7	31.2	26.4	22.7

[a] Significantly different at p<0.05 between Luzon and Visayas; [b] Luzon and Mindanao; [c] Visayas and Mindanao

Appendix Table 3I. Index children's understanding of terms related to reproductive health

Variables	Luzon	Visayas	Mindanao	ALL
IC's knowledge about reproductive health [a,b,c]				
None	88.6	90.4	93.5	90.3
Male and female reproductive system	6.1	3.6	3.0	4.8
About one's health (hygiene, exercise)	2.6	2.7	1.9	2.4
Puberty and menstruation	1.0	0.3	0.1	0.6
About pregnancy/getting pregnant /what to do during pregnancy	0.6	0.9	0.5	0.6
General good health practices/good nutrition	1.0	1.3	0.6	0.9
Reproductive system and hygiene	0.1	0.7	0.0	0.2
Others	0.2	0.1	0.5	0.3
IC's knowledge about family planning				
None	92.2	91.7	92.4	92.2
Planning how/when to have children	1.3	1.3	0.6	1.1
Limiting the number of children	0.5	0.4	0.4	0.4
Planning for the family, making economic decisions	3.0	3.5	3.0	3.1
Planning family activities	2.6	2.5	3.0	2.7
Methods of family planning	0.3	0.3	0.1	0.2
Others	0.3	0.2	0.5	0.3
Right age for girls to get pregnant [1,b,c]	30.0 ± 0.3	29.3 ± 0.3	28.1 ± 0.3	29.3 ± 0.2
Among those who responded with situations rather than age (n=437): the right time for girls to get pregnant is: [b,c]				
After finishing college	6.5	14.0	2.7	7.7
When she is working	10.2	16.5	15.4	13.2
After finishing school and finding a job	4.0	13.7	6.5	7.4
When she can afford to support a family	19.5	22.4	14.6	19.2
After she has menstruated	3.4	1.7	4.9	3.3

After marriage	41.5	27.6	21.3	32.8
After finishing elementary grade	6.4	2.9	1.7	4.3
When she is at the right age/can make plans	3.6	0	22.6	7.0
When she is ready to take care of a baby	2.5	1.2	7.4	3.3
Others	2.4	0	2.8	1.8
Right age for a man to get a woman pregnant[1,b,c]	30.4 ± 0.3	29.8 ± 0.3	28.1 ± 0.3	29.6 ± 0.2
Among those who responded with situations rather than age (n=409) the right time for man to get a woman pregnant is:[a,b,c]				
After finishing college	9.6	12.5	3.3	8.9
When he has found a job	7.6	28.5	22.0	17.8
After finishing school and finding a job	5.0	15.1	10.1	9.4
When he can afford to support a family	21.5	16.0	9.6	16.7
If the woman is ready	11.7	11.2	7.3	10.4
After marriage	30.5	15.9	13.0	21.5
When he is at the right age	7.5	0.0	23.8	9.4
He already know how to take of children	1.9	0.0	4.1	1.9
Others	4.7	0.8	6.8	4.1

[a] Significantly different at p<0.05 between Luzon and Visayas; [b] Luzon and Mindanao; [c] Visayas and Mindanao

[1]Asked of both girls and boys

Appendix Table 3J. Health status and well-being of household, mothers/caregivers

Variables	Luzon	Visayas	Mindanao	ALL
Illnesses reported in household the past 6 months				
Non communicable/chronic diseases[a,b]	16.4	11.1	12.4	14.3
Communicable diseases (TB, pneumonia/hepa)[c]	5.1	6.2	3.7	4.9
Dengue[b]	2.2	2.5	3.8	2.7
Asthma[b]	15.1	13.6	11.3	13.8
Diarrhea[a,c]	19.4	8.3	16.0	16.3
Severe cough and colds[a,b]	51.8	21.4	23.5	38.3
Injuries[a,c]	8.2	3.7	7.5	7.2
STDs (sexually transmitted diseases)	0.1	0.1	0.0	0.1
Physical disability[a]	10.2	6.1	7.9	8.8
Mental health issues[c]	1.4	1.9	1.0	1.4
Medical conditions related to FP use[b,c]	0.5	0.6	2.0	0.9
Medical conditions related to pregnancy	0.7	1.1	0.5	0.7
Medical conditions related to breastfeeding	0.1	0.1	0.4	0.1
Infant and childhood illness such as measles and colic [a,b,c]	4.8	1.2	2.7	3.5
Abortion or medical conditions resulting from it	0.2	0.1	0.0	0.1
Female reproductive tract infections[a,c]	9.4	4.6	10.4	8.7
Breast and reproductive tract cancers	0.2	0.2	0.1	0.2
Diseases related to male reproductive systems[a,c]	2.7	0.6	2.9	2.4
Infertility and sexual dysfunction	0.2	0.0	0.0	0.1
Medical conditions from physical violence among women[b]	0.0	0.0	0.4	0.1
Number of household members with disability[a,b]	1.2 ± 0.0	1.1 ± 0.0	1.1 ± 0.0	1.2 ± 0.0
Among those with disability (n=503): types of disability [a,b]				
Visually impaired	65.5	35.7	25.0	52.6
Hearing impaired	2.9	6.0	8.3	4.5
Speech impaired	4.1	12.6	9.8	6.6
Mute	0.8	3.2	4.2	1.9

Physically/orthopedicallly disabled	10.1	17.2	27.6	14.9
Intellectually disabled	8.5	15.2	14.5	10.7
Psychiatrically disabled	2.7	5.7	6.0	3.8
Rating of quality of life (n=4659 mothers and female caregivers)[a,b,c]				
Very poor/poor	5.3	29.8	6.8	10.5
Moderately good	37.5	29.9	28.3	33.6
Good/very good	57.2	40.3	65.0	55.9
Mothers ever used FP (n=4105) [b]	88.4	85.1	80.4	85.7
Among non-pregnant mothers (n=3359): not currently using any FP or not doing anything to avoid getting pregnant (n=916)[c]	25.8	30.8	26.2	26.9
Among non-pregnant mothers not using anything to avoid pregnancy (n=916): not wanting additional children	83.4	89.2	85.8	85.2

[a] Significantly different at p<0.05 between Luzon and Visayas; [b] Luzon and Mindanao; [c] Visayas and Mindanao

Appendix Table 3K. Psychosocial health: Mothers/caregivers

Variables	Luzon	Visayas	Mindanao	ALL
Depressive symptoms score (range: 12-34)[1, a,c]	19.4 ± 0.1	19.0 ± 0.1	19.6 ± 0.1	19.4 ± 0.1
In highest tertile [b,c]	29.2	26.2	30.9	29.0
Stress score[2] [a,b,c]	17.4 ± 0.2	16.8 ± 0.2	18.6 ± 0.1	17.6 ± 0.1

[1] based on an 12-item instrument adapted from the Center for Epidemiologic Studies Depression Scale (CES-D) screening test for depression (higher scores associated with greater depressive symptoms).

[2] based on an 10-item instrument adapted from the Cohen's Perceived Stress Scale (higher scores associated with greater stress).

Appendix Table 3L. Household health behaviors and environment

Variables	Luzon	Visayas	Mindanao	ALL
No access to safe drinking water[1]	33.0	37.2	30.2	33.1
No access to sanitary toilet[2, a,b]	4.1	9.0	13.8	7.6
Sanitary toilet shared with other households[b]	33.7	28.0	27.4	31.0
Toilet facility inside the house [a,b,c]	65.0	54.3	38.4	55.9
Usual method of garbage disposal [a,b]				
Garbage collector	60.8	36.0	40.4	50.5
Burning	26.1	28.4	26.4	26.6
Composting	10.1	25.2	16.0	14.7
Dumping garbage somewhere	3.0	10.4	17.2	8.2
Household segregates garbage	65.8	67.0	65.5	65.9
Community has garbage segregation policy [a]	67.3	79.3	77.6	72.4
Household garbage segregation compliance [a,b]				
With policy/household segregates	53.9	61.2	62.2	57.6
With policy/household doesn't segregate	13.4	18.1	15.4	14.9
Without policy/doesn't segregate	20.9	14.9	19.1	19.2
Without policy/household segregates	11.8	5.8	3.3	8.4
Type of fuel for cooking[a,b]				
LPG	50.9	21.2	12.0	34.7
Wood	27.2	62.0	68.9	45.2
Charcoal	17.8	15.4	17.8	17.3
Others	4.0	1.3	1.4	2.9
Cooking done inside house (no separate kitchen) [a,b,c]	29.6	46.2	55.4	39.8
House located next to busy road [a,b]	8.8	12.9	13.7	10.9
Area around house with some/heavy excreta[3]	13.5	13.4	17.3	14.5
Air quality in neighborhood describe as poor by:				
Respondent [b]	38.4	29.3	27.5	33.7
Interviewer[c]	37.2	40.1	31.1	36.2

Congruence between both assessments: [b]				
Both reported bad air quality	27.3	26.2	19.8	25.1
Both reported good air quality	51.6	56.8	61.4	55.2
Responses did not match	21.0	17.0	18.8	19.6
Assessment of safety against getting sick in their environment[4,a,b]				
Very unsafe/ unsafe	7.2	10.6	10.7	8.8
Moderately safe	38.6	30.7	27.8	34.2
Safe/very safe	54.2	58.6	61.5	57.0

[a] Significantly different at p<0.05 between Luzon and Visayas; [b] Luzon and Mindanao; [c] Visayas and Mindanao

[1]Source of drinking water not piped nor protected

[2] Flushed toilet, covered pit latrine are considered sanitary

[3] As described by interviewer

[4] Asked only of mothers and female caregivers (n=4659)

Appendix Table 3M. Distance of respondents' homes to nearest health and sports/recreational facilities

Variables	Luzon	Visayas	Mindanao	ALL
Health center or barangay health station [a,b]				
Within walking distance	82.6	76.5	73.7	79.0
Requires a ride	17.4	22.5	26.1	20.7
Requires ride but not in public transport route	0.1	1.0	0.2	0.3
Private clinic [a,b,c]				
Within walking distance	28.9	7.5	10.3	19.7
Requires a ride	70.9	91.5	89.6	80.0
Requires ride but not in public transport route	0.2	1.0	0.0	0.3
Private dental clinic [a,b,c]				
Within walking distance	34.8	7.0	10.5	22.8
Requires a ride	64.8	91.7	87.7	76.2
Requires ride but not in public transport route	0.3	1.3	0.1	0.4
Government hospital[b,c]				
Within walking distance	4.3	1.6	8.8	5.0
Requires a ride	94.9	97.2	91.1	94.3
Requires ride but not in public transport route	0.8	1.2	0.1	0.7
Private hospital[a,c]				
Within walking distance	7.4	0.8	6.1	5.8
Requires a ride	91.9	97.8	93.8	93.6
Requires ride but not in public transport route	0.7	1.3	0.1	0.6
Pharmacy[a,b]				
Within walking distance	54.6	25.8	30.2	42.5
Requires a ride	45.0	73.3	69.8	57.2
Requires ride but not in public transport route	0.3	0.9	0.0	0.3
Basketball court/gym/sports facilities[a,b,c]				
Within walking distance	95.0	91.4	82.3	91.0
Requires a ride	5.0	8.2	17.5	8.9
Requires ride but not in public transport route	0.0	0.3	0.1	0.1

Plaza park [b]				
Within walking distance	39.4	30.7	28.6	34.7
Requires a ride	60.4	68.5	71.4	65.0
Requires ride but not in public transport route	0.2	0.8	0.1	0.3
Entertainment (karaoke bars, movie houses)				
Within walking distance	13.4	24.6	41.8	23.8
Requires a ride	85.6	74.0	58.2	75.4
Requires ride but not in public transport route	1.0	1.3	0.1	0.8

[a] Significantly different at $p<0.05$ between Luzon and Visayas; [b] Luzon and Mindanao; [c] Visayas and Mindanao

Appendix Table 3N. Access to health facilities[1]

Variables	Luzon	Visayas	Mindanao	ALL
Health center/station present in barangay (n=345)	87.8	80.8	89.5	86.1
In another barangay	11.3	18.3	9.6	13.0
In different municipality	0.0	0.9	0.0	0.3
Doesn't know where nearest health station/center	0.9	0.0	0.9	0.6
Private clinic present in barangay (n=344)*	40.4	16.5	26.1	27.6
In another barangay	52.6	60.9	46.1	53.2
In different municipality	6.1	22.6	26.9	18.6
Doesn't know where nearest private clinic	0.9	0.0	0.9	0.6
Puericulture center present in barangay (n=337)*	9.2	0.0	4.4	4.4
In another barangay	45.9	39.5	46.5	43.9
In different municipality	11.0	43.0	35.1	30.0
Doesn't know where nearest puericulture	33.9	17.5	14.0	21.7
Private hospital present in barangay (n=344)*	14.9	2.6	11.3	9.6
In another barangay	64.9	35.6	42.6	47.7
In different municipality	16.7	60.9	45.2	41.0
Doesn't know where nearest private hospital	3.5	0.9	0.9	1.7
Public hospital present in barangay (n=343)*	2.6	1.7	11.3	5.3
In another barangay	66.4	55.7	53.9	58.6
In different municipality	24.8	40.9	33.9	33.2
Doesn't know where nearest public hospital	6.2	1.7	0.9	2.9
Birthing or maternity clinic in barangay (n=344)*	45.6	29.6	43.5	39.5
In another barangay	51.7	64.3	47.8	54.7
In different municipality	0.9	6.1	6.1	4.4
Doesn't know where nearest birthing clinic	1.8	0.0	2.6	1.4
Traditional healers present in barangay (n=344)*	41.2	63.5	74.8	59.9
In another barangay	20.2	23.5	17.4	20.4

In different municipality	1.8	3.5	0.9	2.0
Doesn't know where nearest traditional healer	36.8	9.5	6.9	17.7
Adolescent clinic in barangay (n=319)*	19.2	7.3	3.8	10.0
In another barangay	54.8	66.1	43.4	54.9
In different municipality	1.9	13.8	28.3	14.7
In another province	0.0	0.0	0.9	0.3
Doesn't know where nearest adolescent clinic	24.1	12.8	23.6	20.1
Social hygiene clinic present in barangay (n=341)*	23.9	8.8	19.1	17.3
In another barangay	46.9	66.4	42.6	51.9
In different municipality	5.3	18.6	31.3	18.5
Doesn't know where nearest social hygiene	23.9	6.2	7.0	12.3
TB-DOTS facility present in barangay (n=344)*	48.2	23.5	40.9	37.5
In another barangay	50.0	67.0	53.1	56.7
In different municipality	0.9	7.8	4.3	4.4
Doesn't know where nearest TB-DOTS facility	0.9	1.7	1.7	1.4

[1] Unweighted results based on data from the Community Survey Questionnaire; presented as percentages

Test for significant differences in proportions were based on Pearson's chi-squared test of independence

*significant at $p<0.05$ across island groups

Appendix Table 3O. Access to FP and other services/facilities[1]

Variables	Luzon	Visayas	Mindanao	ALL
FP information center present in barangay (n=344)*	69.3	53.0	77.3	66.6
In another barangay	28.9	43.5	20.9	31.1
In different municipality	0.9	3.5	0.9	1.7
Doesn't know where nearest FP information center	0.9	0.0	0.9	0.6
FP services/supplies center in barangay (n=344)*	71.9	53.9	77.4	67.7
In another barangay	27.2	42.6	20.0	29.9
In different municipality	0.0	3.5	0.9	1.5
Doesn't know where nearest FP service center	0.9	0.0	1.7	0.9
Barangay Supply Point in barangay (n=333)*	45.6	33.0	30.4	36.3
In another barangay	34.8	29.2	44.4	36.3
In different municipality	0.0	12.3	7.8	6.7
Doesn't know where nearest Barangay Supply Point	19.6	25.5	17.4	20.7
Pharmacy present in barangay (n=344)*	52.6	33.0	42.6	42.7
In another barangay	44.7	61.7	49.6	52.0
In different municipality	1.8	5.3	3.5	3.5
Doesn't know where nearest pharmacy	0.9	0.0	4.3	1.6
Counseling facilities for domestic violence (n=323)*				
In barangay	41.5	17.3	33.3	30.5
In another barangay	43.2	60.9	44.2	49.5
In different municipality	6.3	15.4	14.7	12.0
Doesn't know where nearest counseling facility	9.0	6.4	8.8	8.0
Couples/club center present in barangay (n=342)*	23.7	20.2	6.1	16.7
In another barangay	48.2	61.4	32.5	47.3
In different municipality	1.8	9.6	24.6	12.0
Doesn't know where nearest couples' center	26.3	8.8	36.8	24.0
GAD Focal point present in barangay (n=342)*	61.6	35.6	44.4	47.1

In another barangay	24.1	61.7	39.0	41.8
In different municipality	0.0	2.7	7.0	3.2
Doesn't know where nearest GAD Focal point	14.3	0.0	9.6	7.9
Drug rehab center present in barangay (n=344)	1.8	1.7	1.7	1.7
In another barangay	25.4	19.2	32.3	25.6
In different municipality	34.2	55.6	47.8	45.9
Another province	0.0	0.9	1.7	0.9
Doesn't know where nearest drug rehab center	38.6	22.6	16.5	25.9

[1] Unweighted results based on data from the Community Survey Questionnaire; presented as percentages

Test for significant differences in proportions were based on Pearson's chi-squared test of independence

[*] significant at $p<0.05$ across island groups

Appendix Table 3P. Availability of medical health professionals in the RHU/CHO/BHS[1]

Variables	Luzon	Visayas	Mindanao	ALL
Doctors (n=313)				
0	54.6	74.8	66.1	65.5
1	36.1	21.5	30.3	29.1
2	5.2	3.7	1.8	3.5
>2	4.1	0.0	1.8	1.9
Days present in facility in a week:*				
1-2 days	9.3	14.0	7.3	10.2
3-4 days	5.2	2.8	0.0	2.6
5-7 days	26.8	0.9	10.1	12.1
Seldom	4.1	7.5	15.6	12.8
Doesn't know how many days	1.0	0.0	0.9	0.6
Nurses (n=313)				
0	20.0	34.3	26.4	27.2
1	60.0	47.2	58.2	54.9
2	11.6	12.0	10.0	11.2
>2	8.4	6.5	5.4	6.7
Days present in facility in a week:*				
1-2 days	9.5	25.9	16.4	17.6
3-4 days	5.3	5.6	10.9	7.4
5-7 days	50.5	19.4	32.7	33.6
Seldom	12.6	14.8	13.6	13.7
Doesn't know how many days	2.1	0.0	0.00	0.6
Midwives (n=314)				
0	7.3	13.0	9.1	9.9
1	65.6 16.7	77.8	72.7	72.3

2	10.4	5.6	10.9	10.8
>2		3.6	7.3	7.0
Days present in facility in a week:*				
1-2 days	22.9	32.4	19.1	14.8
3-4 days	6.2	7.4	14.5	9.6
5-7 days	51	27.8	43.6	40.4
Seldom	10.4	19.4	13.6	14.7
Doesn't know how many days	2.1	0.0	0.0	0.6

[1] Unweighted results based on data from the Community Survey Questionnaire; presented as percentages

Test for significant differences in proportions were based on Pearson's chi-squared test of independence

*significant at $p<0.05$ across island groups

Appendix Table 3Q. Availability of barangay FP and health personnel in the RHU/CHO/BHS[1]

Variables	Luzon	Visayas	Mindanao	ALL
Trained FP service provider (n=303)*				
0	27.2	61.7	11.5	34.0
1	29.3	17.8	50.0	32.3
2	12.0	7.5	16.4	11.9
>2	31.5	13.0	22.1	21.8
Days present in facility in a week:*				
1-2 days	13.0	14.0	23.1	16.8
3-4 days	7.6	2.8	13.5	7.9
5-7 days	44.6	18.7	40.4	34.0
Seldom	4.4	2.8	8.6	5.3
Doesn't know how many days	3.3	0.0	2.9	2.0
Barangay health workers (n=312)*				
0	0.0	0.0	4.6	1.6
1	9.6	11.1	9.1	9.9
2	9.6	2.8	1.8	4.5
>2	80.8	86.1	84.5	84.0
Days present in facility in a week:*				
1-2 days	35.1	48.1	55.4	46.8
3-4 days	9.6	5.6	5.4	6.7
5-7 days	46.8	30.6	25.5	33.6
Seldom	6.4	15.8	7.3	9.9
Doesn't know how many days	2.1	0.0	1.8	1.3
Barangay Nutrition Scholar (n=313)*				
0	2.1 60.0	2.8	11.8	5.8

1	11.6	79.6	51.8	63.9
2	26.3	13.9	23.6	16.6
>2		3.7	12.8	13.7
Days present in facility in a week:*				
1-2 days	33.7	43.5	50.0	42.8
3-4 days	5.3	4.6	8.2	6.1
5-7 days	46.3	31.5	19.1	31.6
Seldom	10.5	17.6	9.1	12.5
Doesn't know how many days	2.1	0.0	1.8	1.3

[1] Unweighted results based on data from the Community Survey Questionnaire; presented as percentages

Test for significant differences in proportions were based on Pearson's chi-squared test of independence

*significant at $p<0.05$ across island groups

Appendix Table 3R. Availability of volunteer health workers and trained hilots[1]

Variables	Luzon	Visayas	Mindanao	ALL
Volunteer health workers (n=310)				
0	68.8	54.2	69.1	63.9
1	6.4	17.8	10.9	11.9
2	6.4	11.2	8.2	8.7
>2	18.4	16.8	11.8	15.5
Days present in facility in a week:*				
1-2 days	6.4	15.0	15.5	12.6
3-4 days	1.1	3.7	0.9	1.9
5-7 days	14.0	9.4	7.3	10.0
Seldom	5.4	16.8	7.3	10.0
Doesn't know how many days	4.3	0.9	0.0	1.6
Trained hilots (n=310)*				
0	87.2	82.2	75.2	81.3
1	5.3	8.4	5.5	6.4
2	1.1	7.5	6.4	5.2
>2	6.4	1.9	12.9	7.1
Days present in facility in a week:				
1-2 days	3.2	1.9	2.8	2.6
3-4 days	0.0	5.6	4.0	7.7
5-7 days	2.1	0.9	0.9	1.3
Seldom	4.2	14.0	19.3	12.9
Doesn't know how many days	3.2	0.9	1.8	1.9

[1] Unweighted results based on data from the Community Survey Questionnaire; presented as percentages

Test for significant differences in proportions were based on Pearson's chi-squared test of independence

*significant at $p<0.05$ across island groups

Appendix Table 3S. Barangay health statistics: Nutritional status of Infants and young children[1]

Variables	Luzon	Visayas	Mindanao	ALL
Percent of population <5 weighed in the past year* (n=98)[2]				
3 - 79%	60.0	2.4	13.4	11.2
80 - 89%	0.0	14.6	17.3	16.3
90 - 99%	0.0	22.0	27.0	23.5
100%	20.0	61.0	42.3	49.0
Percent of population <5 who are underweight (n=98)[2]				
None	40.0	10.0	9.4	11.2
0.1 to <5%	20.0	62.5	52.8	55.1
5%	20.0	2.5	1.9	3.1
>5%	20.0	25.0	35.9	30.6
Percent of population <5 who are stunted (n=105)				
None	66.7	26.7	19.6	26.7
0.1 to <5%	0.0	33.3	27.4	25.6
5%	11.1	2.2	2.0	2.9
>5%	22.2	37.8	51.0	44.8
Percent of population <5 who are wasted (n=106)				
None	81.8	28.9	34.0	36.8
0.1 to <5%	9.1	80.0	44	47.2
5%	0.0	0.0	2.0	0.9
>5%	9.1	11.1	20.0	15.1

[1] Unweighted results based on data from the Community Survey Questionnaire; presented as percentages

Test for significant differences in proportions were based on Pearson's chi-squared test of independence

[*] significant at p<0.05 across island groups

[2] For the rest of the barangays: either no available data or data not recorded as proportions

Appendix Table 3T. Barangay health statistics: others[1]

Variables	Luzon	Visayas	Mindanao	ALL
Percent of fully immunized children (n=109)[2]				
3 - 79%	22.3	13.9	38.7	27.5
80 - 89%	33.3	14.0	14.0	15.6
90 - 99%	11.1	18.6	26.3	22.0
100%	33.3	53.5	21.0	34.9
Percent of women exclusively BF for 1st 6 months (n=96)[2]				
None	25.0	0.0	0.0	2.1
0.3 - 79%	37.5	43.7	45.0	43.7
80 - 89%	12.5	23.0	22.4	21.9
90 - 99%	0.0	25.6	20.4	20.8
100%	25.0	7.7	12.2	11.5
Rate of adolescent pregnancy (n=96)[2]				
None	35.7	29.8	17.8	25.0
0.55 - 49%	57.2	70.2	77.8	71.9
50% and over	7.1	0	4.4	3.1
Reported exposure to hazardous chemicals	5.2	2.6	8.7	5.51
Reported exposure to pollution and contamination	17.4	7.8	9.6	11.6
Percent of 2016 IRA allotted for health (n=252)				
< 1 %	21. 7	18.7	24.8	21.8
1 %	13.3	30.8	19.8	22.2
2 %	20.0	17.6	12.9	16.3
3 % to 4 %	13.3	15.4	16.8	15.5
>= 5 %	31.7	17.6	25.7	24.2
Frequency of barangay health board/committee meetings (n=332):				
At least once a month	43.5	32.2	33.0	36.2
More than once a month	32.2	60.0	20.9	37.7

Less than monthly	24.4	7.8	46.1	26.1

[1] Unweighted results based on data from the Community Survey Questionnaire; presented as percentages

Test for significant differences in proportions and means were based on Pearson's chi-squared test of independence

[*]significant at $p<0.05$ across island groups

[2]For the rest of the barangays: either no available data or data not recorded as proportions

Appendix Table 3U. Barangay health facility with shortage of FP supplies (N=345)

Number of months experienced shortage*	Luzon	Visayas	Mindanao	ALL
No facility	10.4	4.3	0.0	4.9
NR/No data available	46.9	14.8	22.6	28.1
Less than a month	29.6	60.9	60.9	50.4
1 month	0.9	9.6	4.3	4.9
1.5 month	0.0	0.0	0.9	0.3
2 months	3.5	1.7	3.5	2.9
3 months	2.6	5.2	6.0	4.6
4 months	3.5	0.0	0.0	1.2
6 months	0.0	1.7	0.9	0.9
7 months	0.0	0.9	0.0	0.3
8 months	0.9	0.9	0.0	0.6
12 months	1.7	0.0	0.9	0.9

[1] Unweighted results based on data from the Community Survey Questionnaire; presented as percentages

*Test for significant differences in proportions and means were based on Pearson's chi-squared test of independence

GOAL 4: ENSURE INCLUSIVE AND EQUITABLE QUALITY EDUCATION FOR ALL AND PROMOTE LIFE-LONG LEARNING OPPORTUNITIES FOR ALL (Appendix Tables 4A-4I).

Appendix Table 4A. Index Child current educational status.

Selected characteristics	Luzon	Visayas	Mindanao	ALL
Currently in school[a,c]	97.9	99.3	98.4	98.3
For those in school: current grade enrolled in[b,c]				
Grade 2	1.8	1.5	3.6	2.2
Grade 3	4.2	3.5	8.4	5.2
Grade 4	28.5	27.3	31.6	29.1
Grade 5	64.0	65.4	55.5	62.0
Grade 6[3]	1.4	2.2	0.8	1.4
Last grade completed:,[b,c]				

None or ≤ Grade 1	2.1	1.6	4.2	2.6
Grade 2	4.4	3.7	8.5	5.4
Grade 3	29.1	27.2	31.6	29.4
Grade 4	63.1	65.1	54.8	61.2
Grade 5	1.4	2.5	0.8	1.4
Type of school currently enrolled in [b]				
Private, not coed, sectarian/religious	1.0	1.0	1.0	1.0
Private, not coed, non-sectarian/religious	1.3	0.5	0.3	0.9
Private, coed, sectarian/religious	1.0	1.0	0.9	1.0
Private, coed, non-sectarian/religious	1.2	0.2	0.5	0.8
Public school	95.5	97.3	97.2	96.3
Minutes travel to school[1]	13.8 ± 0.5	13.2 ± 0.6	13.8 ± 0.6	13.6 ± 0.3
No fare required	69.8	64.0	71.3	69.1
Fare (in pesos) for one-way travel to school [a,b]	9.4 ± 0.7	6.2 ± 0.5	6.7 ± 0.3	8.0 ± 0.4
Assigned own textbooks in class[b,c]	72.5	71.9	64.4	70.2
Assigned own desk in class[a,b]	96.5	81.5	85.9	90.7

[a] Significantly different at $p<0.05$ between Luzon and Visayas; [b] Luzon and Mindanao; [c] Visayas and Mindanao

[1] Usual travel mode whether walking or riding

Appendix Table 4B. Index Child school performance

Selected characteristics	Luzon	Visayas	Mindanao	ALL
Ever repeated a grade	10.9	11.31	13.8	11.8
Reasons for repeating grade				
Failed in class	42.1	43.9	39.8	41.7
Not interested in school	16.7	19.6	20.2	18.3
Due to child's health condition	15.0	16.2	15.2	15.3
Afraid/ashamed to attend school for various reasons	9.0	2.3	4.0	6.2
Other reasons	17.3	18.0	20.9	18.5
Ever skipped a grade [c]	0.9	1.4	0.6	0.9
Ever did not enroll in school	3.7	3.0	4.0	3.6
Reasons why not enrolled in school				
Not interested in school	13.4	18.5	15.8	14.9
Financial reasons	24.7	18.5	30.1	25.3
Transferee	19.4	25.1	12.0	18.1
Illness	8.2	29.8	6.9	11.2
Child perceived to be mentally delayed	3.0	1.5	6.0	3.6
No one to look after child	13.3	5.0	8.0	10.4
Afraid/ashamed to attend school for various reasons	12.2	1.6	6.5	8.8
Other reasons	5.9	0.0	14.6	7.5
No absences from school in previous month	41.9	42.4	40.4	41.6
For those with absences, number of school days missed	3.6 ± 0.1	3.5 ± 0.2	3.5 ± 0.1	3.5 ± 0.1
Missed school because of illness	63.2	66.1	66.2	64.6

Average grade last school year was >80 (reported by mother/caregiver (n=4602)[a]	60.8	66.8	62.6	62.5

[a] Significantly different at p<0.05 between Luzon and Visayas; [b] Luzon and Mindanao; [c] Visayas and Mindanao

Appendix Table 4C. Educational/future aspirations of/for index children

Selected characteristics	Luzon	Visayas	Mindanao	ALL
Level of education index children wish to complete:				
Elementary or less	1.1	1.3	1.3	1.2
High School	10.3	10.2	9.6	10.1
College	83.2	82.3	84.9	83.5
More than college	4.7	6.0	3.8	4.7
Vocational/technical course	0.7	0.2	0.4	0.5
Thinks they can achieve completing ≥ college[1,b,c]	95.3	93.3	88.0	93.0
Reasons why can't achieve: [2]				
Child intellectually slow	18.4	27.5	13.9	18.5
Child not interested in school	17.0	14.0	15.5	15.8
Family finances	50.5	47.4	62.2	55.4
Others	14.0	11.1	6.4	10.4
Level of education mothers/caregivers wish index children to complete: [a,c]				
Elementary or less	0.2	0.5	0.4	0.3
High School	3.6	7.8	4.5	4.6
College	94.3	88.9	93.0	92.9
More than college	1.5	2.7	1.8	1.8
Vocational/technical course	0.4	0.1	0.2	0.3
Thinks they can achieve completing ≥ college[1,a,b]	91.0	86.7	84.8	88.6
Reasons why can't achieve:[2]				
Child intellectually slow	5.3	8.1	8.6	7.0
Child not interested in school	15.4	17.4	15.7	15.9
Family finances	74.8	72.5	72.0	73.3
Others	4.5	2.0	3.7	3.8

Congruence on belief that completing ≥ college can be achieved (n=4191)[3]				
Both mother/caregiver and IC said yes	87.4	83.2	77.4	83.9
Both said no	0.4	1.3	3.2	1.3
Responses did not match	12.2	15.5	19.4	14.8
When grown up wants to be[a,b,c]:				
Entrepreneur/businessman	1.2	1.3	0.8	1.1
Local domestic/construction worker	1.2	1.8	0.8	1.2
Chef/cook/baker	5.7	2.8	2.7	4.3
Nurse	4.3	6.4	5.3	5.0
Seaman	5.1	8.0	3.6	5.3
Armed forces	7.3	5.9	6.6	6.9
Engineer	7.7	6.2	8.1	7.5
Doctor	8.7	7.7	7.6	8.2
Other wage work	16.4	13.7	11.7	14.6
Policeman/woman	19.7	18.2	22.2	20.1
Teacher	22.6	28.0	30.4	25.8

[a] Significantly different at p<0.05 between Luzon and Visayas; [b] Luzon and Mindanao; [c] Visayas and Mindanao

[1] No response/doesn't know/not sure assumed as NO

[2] No data on those who had no response/responded doesn't know in prior questions

[3]Significantly different across categories within Visayas and Mindanao and for all domains combined

Appendix Table 4D. Other education-related characteristics of index children

Selected characteristics	Luzon	Visayas	Mindanao	ALL
Belongs to a club/organization [b,c]	23.1	26.4	12.7	21.0
Reads magazines, pocketbooks, comics or newspapers (hardcopy or online) [b,c]	24.2	23.9	18.2	22.5
Reported watching TV[a,b]	96.9	91.4	93.8	95.0
No. of hours TV time/day (watchers)[a,b]	1.9 ± 0.04	1.5 ± 0.05	1.5 ± 0.04	1.7 ± 0.03
No one controls TV content/hours [a,b,c]	52.6	38.1	43.0	47.3
Reported using internet[a,b]	47.9	31.4	35.9	41.4
No. of days per week on internet (users) [b,c]	3.2 ± 0.1	3.0 ± 0.2	2.4 ± 0.1	3.0 ± 0.1
Hours online on typical day (among users)	1.3 ± 0.1	1.1 ± 0.1	1.2 ± 0.1	1.3 ± 0.1

[a] Significantly different at p<0.05 between Luzon and Visayas; [b] Luzon and Mindanao; [c] Visayas and Mindanao

Appendix Table 4E. Education of household members and other education-related household characteristics

Variables	Luzon	Visayas	Mindanao	ALL
Mother's highest grade completed [a,b,c]				
No grade completed	0.1	1.0	4.8	1.8
Elementary level	19.3	27.1	29.3	23.5
High school level	59.6	53.5	47.7	55.3
College level	20.2	18.1	18.2	19.2
Post graduate level	0.2	0.3	0.1	0.2
Household head's highest grade completed [a,b]				
No grade completed	0.4	1.6	4.6	1.7
Elementary level	30.6	41.1	37.6	34.5
High school level	54.1	42.5	43.4	49.0
College level	14.9	14.6	14.3	14.7
Post graduate level	0.1	0.2	0.1	0.1
Main provider of index child's schooling expenses [a,b,c]				
Both parents	21.7	34.1	47.4	30.9
	52.3	34.5	23.9	41.3

Father	14.3	17.8	14.9	15.2
Mother	10.2	6.5	6.1	8.4
Other relatives/others	1.5	7.2	7.7	4.2
4Ps				
Amount (in pesos) spent for index child's school-related expenses in last school year [a,b,c]	6324.7± 391.2	4655.3 ± 460.2	3241.1 ± 173.4	5180.7 ± 242.9
How important for household to hand down knowledge received from ancestors [a,b,c]				
Very important	23.8	41.4	36.1	30.5
Important	73.2	56.6	59.9	66.4
Not important	3.0	1.9	4.0	3.0
With internet connection at home[b]	13.9	7.8	4.6	10.2
Mother/caregiver uses the internet [a,b]	36.8	20.9	19.2	29.0

[a] Significantly different at p<0.05 between Luzon and Visayas; [b] Luzon and Mindanao; [c] Visayas and Mindanao

Appendix Table 4F. Distance of day care centers and preschools to household

Variables	Luzon	Visayas	Mindanao	ALL
Government day care center				
Distance: [a]				
Within walking distance	92.8	89.2	89.8	91.3
Requires a ride	6.1	9.8	9.8	7.8
Far enough to require a ride but area not within public transport route	0	0.8	0	0.2
Does not recognize facility	1.1	0.1	0.4	0.7
Location:				
Same barangay	97.1	96.4	96.0	96.7
Another barangay, same municipality/city	2.7	3.5	3.8	3.1
Another municipality/city, same province	0.2	0.1	0.2	0.2
Another province	0	0.1	0	0.0
Households using government day care center [a,b,c]	20.8	38.5	26.8	25.9
Private/NGO Day Care/Preschool/Playgroup				
Distance: [a,b]				
Within walking distance	51.1	21.0	23.9	37.6
Requires a ride	46.2	74.9	72.9	59.3
Far enough to require a ride but area not within public transport route	0.3	0.9	0	0.4
Does not recognize facility	2.3	3.2	3.2	2.7
Location: [a,b,c]				
Same barangay	53.3	24.3	31.7	41.6
Another barangay, same municipality/city	41.9	66.1	55.3	50.3
Another municipality/city, same province	4.3	8.2	11.1	7.0
Another province	0.5	1.4	1.8	1.0
Households using Private/NGO Day/Care/Preschool/ Playgroup [b,c]	4.1	2.7	2.2	3.3

Government Preschool				
Distance: [a]				
Within walking distance	84.2	76.5	78.0	81.0
Requires a ride	15.0	21.5	20.7	17.8
Far enough to require a ride but area not within public transport route	0	0.9	0	0.2
Does not recognize facility	0.8	1.1	1.4	1.0
Location:				
Same barangay	84.2	84.9	85.9	84.8
Another barangay, same municipality/city	15.5	13.8	12.8	14.4
Another municipality/city, same province	0.3	1.2	1.2	0.7
Another province	0	0.1	0.2	0.1
Households using Government Preschool [a,c]	26.9	36.7	29.5	29.5

[a] Significantly different at p<0.05 between Luzon and Visayas; [b] Luzon and Mindanao; [c] Visayas and Mindanao

Appendix Table 4G. Distance of elementary schools to household

Variables	Luzon	Visayas	Mindanao	ALL
Public Elementary School				
Distance: [a]				
Within walking distance	84.6	75.5	85.0	82.9
Requires a ride	15.4	23.6	15.0	16.9
Far enough to require a ride but area not within public transport route	0	0.8	0	0.2
Location:				
Same barangay	81.5	80.5	87.1	82.8
Another barangay, same municipality/city	18.2	18.9	12.8	16.9
Another municipality/city, same province	0.3	0.7	0.1	0.3
Another province	0.1	0	0	0.0
Households using Public Elementary School	93.8	95.0	95.0	94.4
Private Elementary School				
Distance: [a,b]				
Within walking distance	37.1	15.4	14.2	26.7
Requires a ride	61.7	81.8	85.6	72.1
Far enough to require a ride but area not within public transport route	0.3	1.3	0	0.4
Does not recognize facility	0.8	1.6	0.2	0.8
Location: [a,b]				
Same barangay	39.3	15.6	18.3	29.0
Another barangay, same municipality/city	53.4	68.7	61.4	58.5
Another municipality/city, same province	6.2	13.9	17.1	10.6
Another province	1.2	1.7	3.3	1.9
Households using Private Elementary School [a,b,c]	5.4	3.8	3.2	4.5

[a] Significantly different at p<0.05 between Luzon and Visayas; [b] Luzon and Mindanao; [c] Visayas and Mindanao

Appendix Table 4H. Distance of secondary and senior high schools to household

Variables	Luzon	Visayas	Mindanao	ALL
Public High School				
Distance:				
Within walking distance	44.3	37.6	41.4	42.2
Requires a ride	55.1	61.4	58.6	57.3
Far enough to require a ride but no route	0.5	0.9	0	0.4
Does not recognize facility	0.1	0.1	0	0.1
Location:				
Same barangay	39.7	38.8	46.2	41.3
Another barangay, same municipality/city	58.3	57.7	51.1	56.2
Another municipality/city, same province	1.6	3.3	1.9	2.0
Another province	0.5	0.2	0.8	0.5
Households using Public High School [b,c]	42.2	43.9	39.4	41.8
Private High School				
Distance: [a,b,c]				
Within walking distance	27.4	11.1	10.5	19.7
Requires a ride	70.1	85.8	89.4	78.4
Far enough to require a ride but no route	0.6	1.0	0	0.5
Does not recognize facility	1.9	2.1	0.1	1.4
Location: [a,b]				
Same barangay	28.9	10.0	14.1	21.2
Another barangay, same municipality/city	62.7	69.9	65.1	64.7
Another municipality/city, same province	7.5	18.4	17.6	12.4
Another province	0.8	1.7	3.2	1.7
Households using Private High School [a,b,c]	4.7	2.5	2.8	3.8
Public Senior High School				
Distance:				
Within walking distance	32.3	25.0	33.9	31.3
Requires a ride	65.0	73.3	65.1	66.6

Far enough to require a ride but no route	0.7	1.0	0	0.5
Does not recognize facility	2.1	0.7	1.0	1.5
Location:				
Same barangay	28.9	27.0	38.5	31.3
Another barangay, same municipality/city	67.0	66.4	55.9	63.8
Another municipality/city, same province	3.5	6.2	4.2	4.2
Another province	0.6	0.4	1.4	0.8
Households using Public Senior High School [a,b,c]	5.1	9.4	6.1	6.5
Private Senior High School				
Distance: [a,b]				
Within walking distance	20.0	8.5	9.5	14.8
Requires a ride	74.5	87.0	89.3	81.2
Far enough to require a ride but no route	0.6	1.0	0	0.5
Does not recognize facility	4.9	3.5	1.1	3.5
Location: [a,b]				
Same barangay	22.9	7.8	12.7	17.0
Another barangay, same municipality/city	66.8	66.6	65.5	66.4
Another municipality/city, same province	9.3	23.8	18.3	14.7
Another province	1.0	1.8	3.5	1.9
Households using Private Senior High School [a,b,c]	2.9	0.7	0.7	1.9

[a] Significantly different at p<0.05 between Luzon and Visayas; [b] Luzon and Mindanao; [c] Visayas and Mindanao

Appendix Table 4I. Educational facilities and opportunities in community[1]

Variables	Luzon	Visayas	Mindanao	ALL
Educational facilities in the barangay				
With day care center	98.3	100.0	97.4	98.6
With kindergarten	84.4	88.7	92.2	88.4
With elementary school	90.4	87.8	92.2	90.1
With secondary school/Junior high school	53.9	34.8	53.0	47.2
With Senior high school	43.5	28.7	45.2	39.1
With complete K to 12 curriculum	37.4	22.6	23.5	27.8
With College/University	22.6	12.2	17.4	17.4
With vocational training facilities	34.8	12.2	20.9	22.6
With Alternative Learning System facilities	71.3	33.9	53.9	53.0
With Special education facilities	16.5	3.5	12.2	10.7
With Madrasa (Muslim school)	0.9	1.7	27.0	9.9
Type of courses offered in vocational facilities				
Welding	66.7	62.5	68.0	66.3
Dressmaking	71.4	50.0	60.0	63.9
Bartending	71.4	25.0	44.0	54.2
Housekeeping	61.9	50.0	56.0	57.8
Caregiving	54.8	18.8	28.0	39.8
Call center training	54.8	6.25	16.0	33.7
Culinary	64.3	50.0	60.0	60.2
Electrical	54.8	43.8	72.0	57.8
Machine shop	40.5	37.5	60.0	45.8
Cosmetology	73.8	31.2	60.0	61.4
Other courses	45.2	43.8	68.0	51.8
Educational scholarships available in the barangay				
None	57.4	58.3	51.3	55.7
Sponsored by senator	0.9	3.5	11.3	5.2

Sponsored by governor	1.7	3.5	1.7	2.3
Sponsored by congressman	0.9	14.8	2.6	6.1
Sponsored by the municipality	4.4	1.7	7.0	4.4
Sponsored by the barangay	28.7	6.1	12.2	15.6
Sponsored by the school/university/college	0.9	1.7	0.0	0.9
Sponsored by a foundation or company and NGO	2.6	1.7	1.7	2.0
CHED scholarship	0.9	1.7	0.0	0.9
DSWD scholarship	0.0	1.7	5.2	2.3
TESDA scholarship	0.9	1.7	1.7	1.4
Sangguniang Kabataan scholarship	0.0	0.9	2.6	1.2
Others	0.9	1.7	0.9	1.2

[1] Unweighted results based on data from the Community Survey Questionnaire; presented as percentages or mean ± standard deviation. Test for significant differences in proportions and means were based on Pearson's chi-squared test of independence and one-way analysis of variance respectively.

GOAL 5: ACHIEVE GENDER EQUALITY AND EMPOWER ALL WOMEN AND GIRLS (Appendix Tables 5A-5C)

Appendix Table 5A. Characteristics and experiences of IC mothers[1] and female ICs

Selected characteristics	Luzon	Visayas	Mindanao	ALL
Female-headed households [a,c]	10.6	18.0	10.7	12.1
Mothers' educational status				
Currently in school	0.3	0.2	0.8	0.4
Highest grade completed				
No grade completed	0.1	1.0	4.8	1.8
Elementary level	19.3	27.1	29.3	23.5
High school level	59.6	53.5	47.7	55.3
College level	20.2	18.1	18.2	19.2
Post graduate level	0.2	0.3	0.1	0.2
Mothers with first pregnancies <age 20 [b,c]	33.2	36.0	41.4	35.9
Number of pregnancies [b]	4.6 ± 0.1	4.9 ± 0.1	5.3 ± 0.2	4.8 ± 0.1
Mothers ever used FP [b]	88.4	85.1	80.4	85.7
Mothers who no longer want children or not until 2 years later	96.6	95.8	93.5	95.6
Among those who no longer want to have children or not until 2 years later (n=3923; 4 with missing data) [a,c]:				
Currently using FP	65.5	57.1	59.0	62.2
Never used FP or not currently using FP	32.4	38.7	38.4	35.2
Currently pregnant	2.1	4.3	2.6	2.6

[a] Significantly different at p<0.05 between Luzon and Visayas; [b] Luzon and Mindanao; [c] Visayas and Mindanao

[1] Data based on responses from mother- respondents only (n=4105)

Appendix Table 5B. Violence against women and female children

Selected characteristics	Luzon	Visayas	Mindanao	ALL
Mothers/caregivers who ever had spouses/partners (n=4610) reported having experienced the ff. from spouses/partners:				
Physical violence[b,c]	15.3	14.8	12.0	14.3
Of the 636 physically violated 4% reported that this happened often in last 12months				
Verbal abuse[a,b]	43.6	28.1	26.9	36.2
Of the 1494 verbally abused 9% reported that this happened often in last 12months				
Financial abuse [b]	5.9	7.2	8.3	6.8
Of the 311 financially abused 21% reported that this happened often in last 12months				
Emotional/psychological abuse[a,c]	21.6	34.5	24.1	24.8
Of the 1182 emotional/psychological abused 8% reported that this happened often in last 12months				
Sexual abuse [b]	2.7	3.4	4.4	3.3
Of the 157 sexually abused 7% reported that this happened often in last 12months				
Number of abuses reported[b,c]:				
None	46.5	51.0	61.4	51.2
One	29.8	26.1	18.0	26.0
Multiple	23.7	23.0	20.7	22.8
Of those who reported any abuse, reported seeking help				

Note: about 33% sought help from VAW, police,DSWD, barangay	13.3	19.6	29.9	18.0
Female index children who reported experiencing being physically hurt in the last 6 months by (n=2448):				
Friends[a,b,c]	28.4	42.6	33.6	32.7
Parent(s) [a,b]	7.9	18.7	19.8	13.3
Any adult[a,b,c]	12.8	24.6	18.6	16.9

[a] Significantly different at p<0.05 between Luzon and Visayas; [b] Luzon and Mindanao; [c] Visayas and Mindanao

Appendix Table 5C. Community profile on gender equality and female empowerment[1]

Selected characteristics	Luzon	Visayas	Mindanao	ALL
Proportion of barangay officials who are females	32.8	36.8	33.6	34.5
Barangay has anti-discrimination policy	14.8	12.2	8.7	11.9
Barangay has a GAD policy	78.3	73.9	74.8	75.6
Among those with GAD policy (N=261): Types of GAD services available in the barangay[d]				
No services available	2.2	2.3	3.5	2.7
Livelihood programs	7.8	5.9	8.1	7.3
Trainings and seminars	55.6	34.1	50.0	46.7
Beautification/sanitation	2.2	4.7	7.0	4.6
Health/medical services	11.1	22.4	4.7	12.6
Peace and order/ legal services	1.1	5.9	5.8	4.2
Services for women	12.2	8.2	8.1	9.6
Financial assistance	1.1	4.7	3.5	3.1
Others	6.7	11.8	9.3	9.2

[1] Unweighted results based on data from the Community Questionnaire; presented as Percentages or Mean ± SD

[d]Significantly different at p<0.05 between domains

GOAL 6: ENSURE AVAILABILITY AND SUSTAINABLE MANAGEMENT OF WATER AND SANITATION FOR ALL (Appendix Tables 6A-6B)

Appendix Table 6A. Household access to clean water

Selected characteristics	Luzon	Visayas	Mindanao	ALL
No access to safe drinking water	33.0	37.2	30.2	33.1
Sources of drinking water:				
Piped into dwelling	24.5	14.8	18.1	20.9
Piped to yard/plot	7.8	4.8	9.5	7.7
Public tap/Standpipe	5.4	20.6	12.3	10.2
Tubewell or borehole	15.4	12.7	11.4	13.8
Dug well protected	3.0	5.2	8.3	4.8
Dug well semi protected	1.5	1.1	0.9	1.2
Dug well unprotected	1.2	2.4	1.2	1.4
Protected spring	9.6	3.5	8.8	8.2
Unprotected spring	1.3	1.6	3.4	1.9
Rainwater	0	0.2	0.5	0.2
Tanker truck	0.3	0.2	2.4	0.8
Cart with small tank	0	0	0.2	0.0
Surface water (River/Dam/Lake/Pond/Stream)	0	0.8	0.2	0.2
Bottled water/Refilling station	30.2	32.1	22.4	28.5
Water is bought from water vendor	0	0.1	0.4	0.1
Pays for water used for drinking [b]	62.9	59.7	64.0	62.6
Treats drinking water [a,b]				
Sometimes	11.0	5.4	5.7	8.4
Always	11.8	4.2	6.2	8.9
Sources of water used for cooking, bathing, washing, other chores: [a,b,c]				
Piped into dwelling				

Piped to yard/plot	51.0	25.1	28.7	40.0
Public tap/Standpipe	8.4	7.8	13.7	9.7
Tube well or borehole	4.7	17.7	10.3	8.8
Dug well protected	18.4	23.3	15.9	18.7
Dug well semi protected	3.5	8.4	8.5	5.8
Dug well unprotected	1.4	4.1	3.6	2.5
Protected spring	2.3	5.8	4.2	3.5
Unprotected spring	7.9	2.9	7.2	6.7
Rainwater	1.5	1.4	3.2	1.9
Tanker truck	0	0.1	0.7	0.2
Cart with small tank	0.3	0.1	0.4	0.3
Surface water	0	0	0	0
Bottled water/ Refilling station	0.4	3.4	3.3	1.8
Water is bought from banca	0	0	0	0
	0.1	0	0.4	0.2

[a] Significantly different at p<0.05 between Luzon and Visayas; [b] Luzon and Mindanao; [c] Visayas and Mindanao

Appendix Table 6B. Household access to sanitation

Selected characteristics	Luzon	Visayas	Mindanao	ALL
No access to sanitary toilet [a,b]	4.1	9.0	13.8	7.6
Sanitary toilet shared with other households[b]	33.7	28.0	27.4	31.0
Toilet facility inside the house [a,b,c]	65.0	54.3	38.4	55.9
Usual method of garbage disposal [a,b]				
Garbage collector	60.8	36.0	40.4	50.5
Burning	26.1	28.4	26.4	26.6
Composting	10.1	25.2	16.0	14.7
Dumping garbage somewhere	3.0	10.4	17.2	8.2
Household segregates garbage	65.8	67.0	65.5	65.9
Community has garbage segregation policy [a]	67.3	79.3	77.6	72.4
Household garbage segregation compliance [a,b]				
With policy/household segregates	53.9	61.2	62.2	57.6
With policy/household doesn't segregate	13.4	18.1	15.4	14.9
Without policy/doesn't segregate	20.9	14.9	19.1	19.2
Without policy/household segregates	11.8	5.8	3.3	8.4
Air quality in neighborhood describe as poor by:				
Respondent [b]	38.4	29.3	27.5	33.7
Interviewer[c]	37.2	40.1	31.1	36.2
Congruence between respondent/interviewer assessment: [b]				
Both reported bad air quality	27.3	26.2	19.8	25.1
Both reported good air quality	51.6	56.8	61.4	55.2
Responses did not match	21.0	17.0	18.8	19.6
Area around house with some/heavy excreta[99]	13.5	13.4	17.3	14.5

[a] Significantly different at p<0.05 between Luzon and Visayas; [b] Luzon and Mindanao; [c] Visayas and Mindanao

GOAL 7: ENSURE ACCESS TO AFFORDABLE, RELIABLE, SUSTAINABLE AND MODERN ENERGY FOR ALL

Appendix Table 7. Household's access to energy

Selected characteristics	Luzon	Visayas	Mindanao	ALL
Type of lighting[a,b,c]				
Electricity	95.9	93.8	90.5	94.0
Kerosene	2.9	5.9	8.1	4.9
Others	1.2	0.3	1.4	1.1
Amount of household monthly electricity bill (in pesos)	781.1 ± 55.5	470.7 ± 27.0	490.4 ± 25.9	646.4 ± 33.2
Type of fuel for cooking[a,b]				
LPG	50.9	21.2	12.0	34.7
Wood	27.3	62.0	68.9	45.2
Charcoal	17.8	15.4	17.8	17.3
Others	4.0	1.4	1.4	2.8

[a] Significantly different at $p<0.05$ between Luzon and Visayas; [b] Luzon and Mindanao; [c] Visayas and Mindanao

GOAL 8: PROMOTE SUSTAINED, INCLUSIVE AND SUSTAINABLE ECONOMIC GROWTH, FULL AND PRODUCTIVE EMPLOYMENT AND DECENT WORK FOR ALL (Appendix Tables 8A-8D).

Appendix Table 8A. Household's access to employment and economic growth

Selected characteristics	Luzon	Visayas	Mindanao	ALL
Households without at least one member with > 6 years of schooling [a,b]	5.8	10.1	13.3	8.7
Number of household members of school age (5-25) [b]	3.3 ± 0.1	3.4 ± 0.1	3.6 ± 0.1	3.4 ± 0.1
Households with all school age household members (aged 5-25) currently in school	66.1	67.2	62.1	65.3
Number of household members currently working for cash/kind[4, a,b]	2.0 ± 0.04	2.2 ± 0.04	2.2 ± 0.05	2.1 ± 0.03
Households without household members working for cash/kind[4]	1.0	1.2	0.6	1.0
With household members with overseas work experience[a,b,c]	16.1	7.9	11.6	13.3
Households with immediate family members abroad[a,c]	8.1	4.4	7.9	7.3
Households with income from salaries/wages[a,b,c]	87.0	77.0	66.6	79.6
Households receiving remittances abroad[a]	14.7	11.1	13.0	13.5
Households receiving remittances within country [b,c]	19.0	17.0	12.8	17.0

[a] Significantly different at p<0.05 between Luzon and Visayas; [b] Luzon and Mindanao; [c] Visayas and Mindanao

Appendix Table 8B. Community resources and available economic infrastructures[1]

Selected Variables	Luzon	Visayas	Mindanao	ALL
Reporting presence of commercial establishments in the barangay				
Sari-sari store/Grocery store	100.0	99.1	100.0	99.7
Gas station	46.1	22.6	33.0	33.9
Hardware stores	60.9	29.6	48.7	46.4
Malls	13.9	6.1	5.2	8.4
Bakeries/Food factories	74.8	52.2	64.4	63.8
Movie/Video house	6.1	1.7	6.1	4.6
Cooperatives/banks/remittance centers	50.4	30.4	46.1	42.3
Number of commercial establishments in the barangay				
Sari-sari store/Grocery store	169.3±333.1	54.8±136.7	95.0±147.6	105.3±226.8
Gas station	2.9 ± 2.8	2.2 ± 1.6	3.1 ± 3.3	2.8 ± 2.8
Hardware stores	6.7 ± 10.7	4.1 ± 5.6	4.4 ± 6.1	5.4 ± 8.3
Malls	1.5 ± 0.1	1.7 ± 1.2	1.2 ± 0.0	1.4 ± 0.1
Bakeries/Food factories	38.5 ± 136.9	6.3 ± 23.6	6.4 ± 10.1	18.9 ± 87.7
Movie/Video house	9.3 ± 18.0	1.5 ± 0.7	4.0 ± 5.5	6.1 ± 12.6
Cooperatives/banks/remittance centers	7.3 ± 8.3	4.2 ± 8.8	7.2 ± 18.8	6.5 ± 13.3
Prevailing wage rates in the barangay[2]				
Unskilled wage labor (daily)	401.6±377.1	209.1±80.7	233.4 ± 96.6	268.4±218.8
Unskilled farm labor (daily)	251.6 ± 58.3	205.6±60.0	199.2 ± 53.1	213.9± 60.6
Yaya/nanny (monthly)	3,422.3 ± 1,382.9	2,767.1 ± 672.1	2,480.1 ± 736.8	2,887.3 ± 1,046.6
Other domestic helpers (monthly)	3,811.5 ± 2,959.7	2,390.6 ± 820.5	2,512.0 ± 932.9	2,930.3 ± 1,981.5
Construction workers, skilled (daily)	422.6 ± 84.0	386.8 ± 69.0	367.6 ± 71.9	392.5 ± 78.3
Cosmetologists (per piece)	98.9 ± 157.0	84.2 ± 89.7	113.7 ± 189.7	101.4 ± 158.0
Salesclerks (daily)	375.5 ± 122.6	255.3 ± 80.7	200.6 ± 67.2	276.3 ± 119.1
Factory workers (daily)	385.2 ± 88.2	320.2 ± 70.0	282.5 ± 73.3	336.3 ± 92.6
Day care teachers (monthly)	4,394.6 ± 3,962.7	2,638.4 ± 2,220.3	2,709.1 ± 1,732.2	3,178.1 ± 2,821.1

Elderly care (monthly)	7,625.0 ± 6,283.4	2,985.8 ± 2,565.3	1,596.4 ± 1,467.4	3,537.8 ± 4,223.8

[1] Unweighted results based on data from the Community Survey Questionnaire; presented as percentages or mean ± standard deviation. Test for significant differences in proportions and means were based on Pearson's chi-squared test of independence and one-way analysis of variance respectively.

Appendix Table 8C. Livelihood programs in the barangay[1]

Selected Variables	Luzon	Visayas	Mindanao	ALL
Livelihood programs implemented in the barangay (percent of barangays by livelihood programs)				
No livelihood programs implemented	41.7	46.1	19.1	35.6
Soap making	8.7	0.9	2.6	4.1
Doormat / Rug making	4.4	5.2	2.6	4.1
Food Processing	8.7	2.6	3.5	4.9
Pastry making	7.0	2.6	1.7	3.8
Meat processing	7.0	0	0.9	2.6
Sewing / Dressmaking	11.3	1.7	4.4	5.8
Hilot Wellness /Massage and Spa	6.1	0	2.6	2.9
Swine / Hog raising	4.4	13.0	27.0	14.8
Goat raising	0	3.5	7.3	3.8
Cow / Cattle raising	1.7	2.6	12.2	5.5
Chicken raising	0.9	0.9	4.4	2.0
Provision of fertilizer	0.9	3.5	1.7	2.0
BFAR and PAMANA program for fishing	0.9	2.6	7.0	3.5
Farming	0.9	4.4	1.7	2.3
Bigasan / Rice vending	0.9	2.6	3.5	2.3
Animal dispersal / livestock raising	0.9	3.5	8.7	4.4

[1] Unweighted results based on data from the Community Survey Questionnaire; presented as percentages or mean ± standard deviation. Test for significant differences in proportions and means were based on Pearson's chi-squared test of independence and one-way analysis of variance respectively.

Appendix Table 8D. Prevailing prices of basic commodities[1]

Commodities	Luzon	Visayas	Mindanao	ALL
Prevailing Prices				
Rice (kilo)	40.5 $\pm$ 3.8	41.3 $\pm$ 11.0	40.9 $\pm$ 5.0	40.9 $\pm$ 7.18

Corn (kilo)	24.8 ± 3.1	29.1 ± 4.0	23.7 ± 5.6	26.4 ± 5.4
Pork (kilo)	192.1 ± 12.3	173.5 ± 36.4	167.1 ± 23.7	175.6 ± 30.4
Chicken (kilo)	146.3 ± 27.9	145.8 ± 16.2	151.8 ± 15.4	147.9 ± 20.1
Egg (piece)	6.6 ± 0.8	7.2 ± 0.9	7.1 ± 0.8	6.9 ± 0.9
Fish (kilo)	130.8 ± 28.4	95.0 ± 37.2	91.2 ± 36.2	98.9 ± 37.8

[1] Unweighted results based on data from the Community Survey Questionnaire; presented as percentages or mean ± standard deviation. Test for significant differences in proportions and means were based on Pearson's chi-squared test of independence and one-way analysis of variance respectively.

GOAL 9: BUILD RESILIENT INFRASTRUCTURE, PROMOTE INCLUSIVE AND SUSTAINABLE INDUSTRIALIZATION AND FOSTER INNOVATION.

Appendix Table 9. Household's access to infrastructure and industrialization

Selected characteristics	Luzon	Visayas	Mindanao	ALL
With internet connection at home[b]	13.9	7.8	4.6	10.2
Mother/caregiver uses the internet [a,b]	36.8	20.9	19.2	29.0
IC reported using internet[a,b]	47.9	31.4	35.9	41.4

[a] Significantly different at p<0.05 between Luzon and Visayas; [b] Luzon and Mindanao; [c] Visayas and Mindanao

See Appendix Tables 4F to 4I and Table 7A.

See Appendix Table 8B. Community resources and available economic infrastructures

GOAL 10. REDUCE INEQUALITY WITHIN AND AMONG COUNTRIES (NO APPLICABLE SURVEY DATA).

GOAL 11: MAKE CITIES AND HUMAN SETTLEMENTS INCLUSIVE, SAFE, RESILIENT AND SUSTAINABLE

(Appendix Tables 11A-11G).

Appendix Table 11A. Sense of safety in neighborhood and household quality of life

Selected characteristics	Luzon	Visayas	Mindanao	ALL
Rating of quality of life[1,a,b,c]				

Very poor/poor	5.3	29.8	6.8	10.5
Moderately good	37.5	29.9	28.3	33.6
Good/very good	57.2	40.3	65.0	55.9
Assessment of safety against getting sick in their environment[1,a,b]				
Very unsafe/ unsafe	7.2	10.6	10.7	8.8
Moderately safe	38.6	30.7	27.8	34.2
Safe/very safe	54.2	58.6	61.5	57.0
Assessment of safety against crime/theft/accidents in their neighborhood[1,a,b]				
Very unsafe/ unsafe	7.9	10.6	11.9	9.5
Moderately safe	32.7	21.9	19.5	27.1
Safe/very safe	59.3	67.5	68.6	63.4
House located next to busy road [a,b]	8.8	12.9	13.7	10.9
Residing in barangays with armed conflict in last 3 years [b,c]	1.7	3.4	14.8	5.5
Distance to roads, public transport				
Minutes to nearest road [a,b]	2.8 ± 0.2	4.2 ± 0.4	3.6 ± 0.3	3.3 ± 0.2
Air quality in neighborhood				
Respondents' assessment [a,b]				
Good (fine, fresh, cool)	61.6	70.7	72.5	66.3
Bad smell from human/animal waste	17.3	18.8	16.6	17.4
Bad smell from canal/garbage/septic tank	13.5	6.5	6.2	10.2
Presence of street dust/fumes from trucks	5.6	3.0	3.2	4.5
Bad smell from other causes	1.9	1.0	1.5	1.6
Interviewers' assessment [b]				
Good (fine, fresh, cool)	62.8	59.9	68.9	63.8

Bad smell from human/animal waste	18.1	25.3	19.3	19.8
Bad smell from canal/garbage/septic tank	12.8	11.1	8.5	11.3
Presence of street dust/fumes from trucks	4.9	3.4	2.6	4.0
Bad smell from other causes	1.5	0.3	0.6	1.0

[a] Significantly different at p<0.05 between Luzon and Visayas; [b] Luzon and Mindanao; [c] Visayas and Mindanao

[1]Asked only of mothers and female caregivers (n=4659)

Appendix Table 11B. Access to water and energy sources

Selected characteristics	Luzon	Visayas	Mindanao	ALL
Source of drinking water for most people in the barangay*				
Piped into dwelling	65.2	19.1	43.5	42.6
Piped to yard / plot	1.7	0	1.7	1.2
Public tap / Standpipe	0	10.4	12.2	7.5
Tube well / borehole	8.7	8.7	8.7	8.7
Dug well protected	0.9	6.1	0.9	2.6
Dug well semi protected	0.9	1.7	0	0.9
Dug well unprotected	0	0.9	2.6	1.2
Protected spring	7.0	11.3	8.7	9.0
Unprotected spring	0.9	0.9	1.7	1.2
Rainwater	0	0	0.9	0.3
Tanker truck	0.9	0	0.9	0.6
Cart with small tank	0	0	0.9	0.3
Surface water (River/Dam/Lake/Pond/Stream)	0.9	0	0	0.3
Bottled water / Refilling station	13.0	40.9	17.4	23.8
Availability of local waterworks system in the barangay	61.7	61.7	73.9	65.8
Availability of electricity in the barangay	99.1	99.1	97.4	98.6
Source of cooking fuel for most people in the barangay*				
LPG	72.2	23.5	28.7	41.4
Wood	17.4	60.9	61.7	46.7
Charcoal	8.7	14.8	9.6	11.0
Others	1.7	0.9	0	0.9
Barangay is exploring alternative sources of energy	14.8	11.3	14.8	13.6

[1] Unweighted results based on data from the Community Questionnaire; presented as Percentages or Mean ± SD

*Significantly different at p<0.05 between domains

Appendix Table 11C. Access to infrastructures, communication and services

Selected characteristics	Luzon	Visayas	Mindanao	ALL
Availability of market in the barangay*				
Not available	55.6	82.6	62.6	67.0
Available daily	42.6	13.0	33.0	29.6
Available at least once a week	1.7	3.5	4.4	3.2
Available as needed	0	0.9	0	0.3
With mail delivery service in the barangay*	39.1	28.7	47.8	42.6
With daily newspapers in the barangay*	52.2	26.1	33.9	37.4
With telephone service in the barangay*	73.9	38.3	32.2	48.1
With internet service in the barangay*	81.7	71.3	68.7	73.9
With cable TV service in the barangay*	90.4	93.0	90.4	91.3
Main type of roads in the barangay*				
Cement/asphalt roads	92.2	68.7	47.8	69.6
Dirt roads	7.8	30.4	52.2	30.1
Cement/asphalt and dirt roads	0	0.9	0	0.3
Common modes of public transport in the barangay*				
Motorcycle	47.0	75.7	59.1	60.6
Tricycle / *trisikad*	42.6	16.5	30.4	29.9
Jeepney / *multicab*	9.6	3.5	7.8	7.0
Motorized boats	0.8	1.7	1.7	1.4
Others (Bancas/rafts, Van for hire, Train)	0	2.6	1.0	1.1
Usual method of garbage disposal in the barangay*				
Collected by a garbage collector	73.0	41.7	60.0	58.3
Burning	11.3	15.6	13.0	13.3
Composting	13.0	27.0	13.9	18.0
Dumped away from house	0.9	13.9	2.6	5.8
Dumped around or near house	1.7	1.7	8.7	4.0
Dumped in river / stream / sea	0	0	1.7	0.6
With garbage recycling facilities in the barangay	20.0	15.6	15.6	17.1

Presence of fire station*	28.7	10.4	13.0	17.4

[1] Unweighted results based on data from the Community Questionnaire; presented as Percentages or Mean ± SD

*Significantly different at p<0.05 between domains

Appendix Table 11D. Social networks and recreational facilities

Selected characteristics	Luzon	Visayas	Mindanao	ALL
Presence of organizations in the barangay				
Mothers' Club: related to public health agencies*	47.0	29.6	27.0	34.5
Mothers' club: community based, people's org*	45.2	20.0	38.3	34.5
Other women's group*	54.8	55.6	68.7	59.7
Civic organizations*	45.2	20.9	44.4	36.8
Informal family assistance networks*	22.6	29.6	71.3	41.2
Political organizations/groups	35.6	19.1	32.2	29.0
Charitable organizations*	30.4	9.6	13.0	17.7
Religious organizations*	95.6	84.4	89.6	89.9
Business organizations*	40.0	18.3	29.6	29.3
Sports organizations	63.5	59.1	50.4	57.7
Occupational/Work-related organizations*	31.3	29.6	56.5	39.1
Credit cooperatives/multi-purpose cooperatives	47.8	32.2	48.7	42.9
Other cooperative groups	18.3	14.8	20.9	18.0
Cause-oriented groups*	17.4	5.2	11.3	11.3
Senior citizens organization	96.5	87.8	89.6	91.3
Livelihood-related organizations	57.4	50.4	67.8	58.6
Health-related NGOs*	44.4	20.0	18.3	27.5
Microfinance organization*	56.5	40.0	43.5	46.7
Environmental-concern organization*	39.1	27.0	22.6	29.6
Other organizations*	19.1	36.5	14.8	23.5
Hangout places for adolescents during the day*				
None / House only	7.1	0.9	10.4	6.1
Recreation facility billiard/videoke house/bar/ disco/movie theater)	0.9	1.8	3.5	2.1
Sports facility (Gym/Covered court/Basketball court/Tennis/volleyball court)	42.5	62.3	31.3	45.3

Computer shops/gaming station/store with wifi	21.2	12.3	20.0	17.8
Parks/boulevard/barangay hall/capitol building	9.7	12.3	12.2	11.4
Coffee shops/Restaurant	0.9	0	0	0.3
Malls	3.5	1.8	2.6	2.6
Neighborhood	10.6	3.5	5.2	6.4
School	1.8	1.8	7.0	3.5
Beach/seaport/marine sanctuary/cave	0.9	3.5	7.8	4.1
Church	0.9	0	0	0.3
Hangout places for adolescents at night*				
None /house only	29.4	43.9	23.7	32.3
Recreation facility (billiard/videoke b	0.9	3.5	10.5	5.0
Sports facility (Basketball court/Tenni	14.7	14.9	14.0	14.5
Internet café	18.4	14.9	23.7	19.0
Plaza/parks/boulevard/barangay hall	11.0	13.2	7.0	10.4
Coffee shops/Restaurant	2.8	0	0	0.9
Mall	4.6	1.8	3.5	3.3
Neighborhood	16.5	4.4	13.2	11.3
Coastal area	0	3.5	4.4	2.7
Church	1.8	0	0	0.6

[1] Unweighted results based on data from the Community Questionnaire; presented as Percentages or Mean ± SD

*Significantly different at p<0.05 between domains

Appendix Table 11E. Drug abuse statistics and rehabilitation facilities[1]

Selected characteristics	Luzon	Visayas	Mindanao	ALL
Number of reported drug users*	126.8 ± 334.8	50.2 ± 85.1	84.6 ± 128.8	86.2 ± 128.8
Number of reported drug surrenderees				
In 2015	1.8 ± 11.2	0	2.3 ± 23.3	1.4 ± 15.1
in 2016	109.2 ± 224.5	34.8 ± 53.4	69.4 ± 86.4	70.6 ± 143.0
Number of reported drug-related deaths				
In 2015	0.1 ± 0.5	0.1 ± 0.6	0.2 ± 1.1	0.1 ± 0.8
In 2016	2.0 ± 5.3	0.1 ± 0.5	0.6 ± 1.8	0.9 ± 3.3
Barangay has a drug users rehabilitation facility	2.6	1.7	0.9	1.7

[1] Unweighted results based on data from the Community Questionnaire; presented as Percentages or Mean ± SD

*Significantly different at p<0.05 between domains

Appendix Table 11F. Police/security forces and barangay criminal and police statistics[1]

Selected characteristics	Luzon	Visayas	Mindanao	ALL
Number of policemen	4.1 ± 12.2	2.3 ± 11.5	2.6 ± 8.6	3.0 ± 10.8
Number of barangay tanods	26.6 ± 60.8	16.4 ± 6.9	21.5 ± 25.1	21.6 ± 38.5
Number of reported cases (in 2016):				
Thefts or robberies	19.2 ± 65.8	6.2 ± 19.3	6.0 ± 16.4	10.0 ± 39.1
Homicides	0.9 ± 3.5	0.2 ± 0.8	0.5 ± 1.4	0.5 ± 2.2
Traffic accidents or road injuries	6.3 ± 11.9	4.0 ± 14.7	6.4 ± 12.2	5.5 ± 13.0
Deaths due to traffic or road injuries	0.9 ± 3.0	0.3± 1.0	0.7± 1.8	0.6 ± 2.1
Human trafficking	0.1 ± 0.5	0.1 ± 0.5	0.4 ± 2.6	0.2 ± 1.6
Reported suicides	0.8 ± 2.1	0.1 ± 0.3	0.2 ± 0.5	0.3 ± 1.3

[1] Unweighted results based on data from the Community Questionnaire; presented as Percentages or Mean ± SD

*Significantly different at p<0.05 between domains

Appendix Table 11G. Statistics on physical and sexual violence[1]

Selected characteristics	Luzon	Visayas	Mindanao	ALL
Number of reported cases				
Complaints against violence against women*				
In 2015				
In 2016*	13.8 ± 41.7	3.5 ± 9.2	5.8 ± 12.3	7.4 ± 24.8
Complaints against violence against children*				
In 2015				
In 2016*	12.4 ± 51.4	2.8 ± 9.5	3.5 ± 15.7	5.9 ± 30.4
Complaints against violence against older people				
In 2015				
In 2016*	1.9 ± 6.8	0.7 ± 5.7	0.4 ± 1.5	1.0 ± 5.1
Number of reported cases of physical and sexual violence in 2015				
Physical violence <10 males	0.5 ± 2.9	0.4 ± 1.7	0.5 ± 4.1	0.5 ± 3.0
Physical violence <10 females	0.5 ± 2.9	.02 ± 1.0	0.1 ± 0.4	0.2 ± 0.4
Physical violence 10-17 males	0.5 ± 2.1	0.9 ± 2.8	0.3 ± 1.9	0.6± 2.3
Physical violence 10-17 females	0.8 ± 2.5	0.2 ± 0.8	0.4 ± 1.8	0.4 ±1.8
Physical violence 18-29 males	0.9 ± 3.9	1.0 ± 4.4	0.3 ± 1.2	0.3 ± 1.2
Physical violence 18-29 females	2.2 ± 8.6	0.6 ± 2.5	1.9 ± 8.6	1.5 ± 6.9
Physical violence 30-59 males	0.6 ± 2.7	0.5 ± 2.0	0.3 ± 1.5	0.5 ± 2.1
Physical violence 30-59 females	2.1 ± 10.8	1.1 ± 3.7	1.8 ± 4.6	1.6± 6.6
Physical violence 60 and older males	0.03 ± 0.2	0.05 ± 0.3	0.1 ± 0.5	0.06 ± 0.3
Physical violence 60 and older females	0.01 ± 0.1	0.03 ± 0.2	0.2 ± 1.2	0.1 ± 0.7
Sexual violence <10 males	0.01 ± 0.1	0	0.01 ± 0.1	0.01 ± 0.09

Sexual violence <10 females	0.1 ± 0.4	0.03 ± 0.2	0.1 ± 0.6	0.1± 0.4
Sexual violence 10-17 males	0	0	0	0
Sexual violence 10-17 females	0.1 ± 0.5	0.1 ± 0.4	0.3 ± 1.3	0.2 ± 0.8
Sexual violence 18-29 males	0	0	0	0
Sexual violence 10-17 females	0.6 ± 3.6	0.01 ± 0.1	0.1 ± 0.5	0.2 ± 1.9
Sexual violence 30-59 males	0	0.01 ± 0.1	0	0.004 ± 0.1
Sexual violence 30-59 females	0.1 ± 0.3	0	0.1 ± 0.4	0.04 ± 0.3
Sexual violence 60 and older males	0	0	0	0
Sexual violence 60 and older females	0	0	0	0

[1] Unweighted results based on data from the Community Questionnaire; presented as Percentages or Mean ± SD

*Significantly different at p<0.05 between domains

GOAL 12. ENSURE SUSTAINABLE CONSUMPTION AND PRODUCTION PATTERNS (NO APPLICABLE SURVEY DATA).

GOAL 13: TAKE URGENT ACTION TO COMBAT CLIMATE CHANGE AND ITS IMPACTS (Appendix Tables 13A-13F).

Appendix Table 13A. Household practices that affect the environment and experiences with climate change

Selected characteristics	Luzon	Visayas	Mindanao	ALL
Usual method of garbage disposal [a,b]				
Garbage collector	60.8	36.0	40.4	50.5
Burning	26.1	28.4	26.4	26.6
Composting	10.1	25.2	16.0	14.7
Dumping garbage somewhere	3.0	10.4	17.2	8.2
Household segregates garbage	65.8	67.0	65.5	65.9
Community has garbage segregation policy [a]	67.3	79.3	77.6	72.4
Household garbage segregation compliance [a,b]				
With policy/household segregates	53.9	61.2	62.2	57.6
With policy/household doesn't segregate	13.4	18.1	15.4	14.9
Without policy/ household doesn't segregate	20.9	14.9	19.1	19.2
Without policy/household segregates	11.8	5.8	3.3	8.4

[a] Significantly different at p<0.05 between Luzon and Visayas; [b] Luzon and Mindanao; [c] Visayas and Mindanao

Appendix Table 13B. Disaster Risk Reduction Management[1]

Selected characteristics	Luzon	Visayas	Mindanao	ALL
Amount of IRA for disaster risk management				
2014 IRA	639,193.0 ± 1,387,514	166,040.3 ± 259,754.8	195,310.8 ± 241,165	295,011.5 ± 748,106.8
2015 IRA*	574,532.4 ± 1,343,208	212525.1 ± 375,317.5	221,149.4 ±	302,625.4 ± 729,211.1

2016 IRA*	781,400.9 ± 1,665,137	208,144 ± 283,804.1	273,097.9 260,751.5 ± 391,150.1	376,740.6 ± 925,828.1
Percentage of IRA for DRRM (2016) based on total IRA*	9.3	6.2	5.1	6.6
Barangay has a DRRM office	65.2	32.2	42.6	46.7
Number of DRRM personnel (whether with DRRM office or not)	26.7 ± 24.4	20.6 ± 17.4	26.4 ± 31.5	24.5 ± 24.4
Type of training for DRRM personnel				
None	10.4	17.4	13.0	13.6
First Aid Training	13.0	7.8	14.8	11.9
Fire Drill / Fire Fighting	12.2	22.6	19.1	18.0
Earthquake Drill	21.7	7.8	6.1	11.9
Search and Rescue Operation Training	11.3	13.9	13.9	13.0
Capability Building Training on Disaster	10.4	13.0	14.8	12.8
Basic Life Support	3.5	5.2	1.7	3.5
Has dialogue with the community on DRRM	73.0	72.2	81.7	75.6

[1] Unweighted results based on data from the Community Survey Questionnaire; presented as percentages or mean ± standard deviation. Test for significant differences in proportions and means were based on Pearson's chi-squared test of independence and one-way analysis of variance respectively.

Appendix Table 13C. Hazards experienced by barangay in the last 3 years[1]

Selected Variables	Luzon	Visayas	Mindanao	ALL
Hazards experienced by barangay in the last 3 years				
Cyclone	65.2	75.6	33.0	58.0
Extreme rainfall	60.9	44.4	55.6	53.6
Drought	16.5	33.0	58.3	35.9
Volcanic eruptions/lahar flow	0.9	0.0	0.0	0.3
Storm surge	0.9	6.1	4.4	3.8
Sea level rise	2.6	4.4	7.0	4.6
Flooding/Flash flood	40.6	41.7	33.0	40.6
Tsunami	0.0	0.0	1.7	0.6
Earthquake-induced landslide	0.0	5.2	7.8	4.4
Rainfall-induced landslide	10.4	7.0	17.4	11.6
Fire	31.3	30.4	43.5	35.1
Armed conflict	2.6	3.5	19.1	8.4
Wildfire	7.0	1.7	10.4	8.7
Epidemic	5.2	18.3	31.3	18.3
Marine pollution	0.9	3.5	0.9	1.7
Others	1.7	13.9	3.5	5.8

[1] Unweighted results based on data from the Community Survey Questionnaire; presented as percentages or mean ± standard deviation. Test for significant differences in proportions and means were based on Pearson's chi-squared test of independence and one-way analysis of variance respectively.

Appendix Table 13D. Percentage of barangays with DRRM plans for specific hazards and evacuation strategies[1]

Selected Variables	Luzon	Visayas	Mindanao	ALL
Has DRRM plan for hazard / hazard events				
Cyclone	88.7	95.6	67.8	84.1
Extreme rainfall	80.0	69.6	70.4	73.3
Drought	37.4	38.3	54.8	43.5
Volcanic eruptions/lahar flow	11.3	0.0	4.4	5.2
Storm surge	12.2	14.8	35.6	20.9

Sea level rise	12.2	15.6	27.0	18.3
Flooding/Flash flood	77.4	65.2	73.9	72.2
Tsunami	7.8	14.8	35.6	19.4
Earthquake-induced landslide	48.7	29.6	47.0	41.7
Rainfall-induced landslide	53.0	27.8	49.6	43.5
Fire	78.3	69.6	68.7	72.2
Armed conflict	10.4	6.1	39.1	18.6
Wildfire	8.7	11.3	20.9	13.6
Epidemic	34.8	24.4	42.6	33.9
Marine pollution	6.1	7.0	14.8	9.3
Others	1.7	15.6	3.5	7.0
Presence of evacuation center	55.6	67.8	60.9	61.4
Schools used as evacuation center	73.9	83.5	74.8	77.4

[1] Unweighted results based on data from the Community Survey Questionnaire; presented as percentages or mean ± standard deviation. Test for significant differences in proportions and means were based on Pearson's chi-squared test of independence and one-way analysis of variance respectively.

Appendix Table 13E. Barangays reporting hazards in the last 3 years and extent of effect on communities[1]

Selected Variables	Luzon	Visayas	Mindanao	ALL
Cyclone				
Experienced hazard in last 3 years*	65.2	75.6	33.0	58.0
Among those who experienced hazard:				
Mean ± SD households affected	350.8 ± 1583.6	200.9 ± 465.0	41.6 ± 92.4	227.2 ± 1026.3
Number of deaths in last event	1	52	13	66
Extreme rainfall				
Experienced hazard in last 3 years*	60.9	44.4	55.6	53.6
Among those who experienced hazard:				
Mean ± SD households affected	333.8 ± 1643.5	48.6 ± 105.5	43.7 ± 100.3	151.0 ± 1001.3
Number of deaths in last event	0	0	3	3
Drought				
Experienced hazard in last 3 years*	16.5	33.0	58.3	35.9
Among those who experienced hazard:				
Mean ± SD households affected	823.5 ± 3058.3	103.0 ± 138.1	217.2 ± 545.2	273.0 ± 1248.2
Number of deaths in last event	0	4	0	4
Volcanic eruptions/lahar flow				
Experienced hazard in last 3 years*	0.9	0	0	0.3
Among those who experienced hazard:				
Mean ± SD households affected	33.0	.	.	33.0
Number of deaths in last event	0	.	.	0
Storm surge				
Experienced hazard in last 3 years*	0.9	6.1	4.4	3.8
Among those who experienced hazard:				
Mean ± SD households affected	50.0	71.2 ± 128.4	29.2 ± 42.9	50.2 ± 88.2

Number of deaths in last event	0	1	0	1
<u>Sea level rise</u>				
Experienced hazard in last 3 years*	2.6	4.4	7.0	4.6
Among those who experienced hazard:				
Mean ± SD households affected	120.7 ± 74.2	105.8 ± 136.2	58.2 ± 103.8	83.4 ± 104.7
Number of deaths in last event	0	0	0	0
<u>Flooding/Flash flood</u>				
Experienced hazard in last 3 years*	41.7	33.0	47.0	40.6
Among those who experienced hazard:				
Mean ± SD households affected	511.2 ± 2683.5	99.6 ± 205.5	61.6 ± 99.6	222.8 ± 1562.0
Number of deaths in last event	3	0	2	5
<u>Tsunami</u>				
Experienced hazard in last 3 years*	0	0	1.7	0.6
Among those who experienced hazard:				
Mean ± SD households affected	.	.	0	0
Number of deaths in last event	.	.	0	0

[1] Unweighted results based on data from the Community Survey Questionnaire; presented as percentages or mean ± standard deviation. Test for significant differences in proportions and means were based on Pearson's chi-squared test of independence and one-way analysis of variance respectively.

Appendix Table 13E (con't). Barangays reporting hazards in the last 3 years and extent of effect on communities[1]

Selected Variables	Luzon	Visayas	Mindanao	ALL
Earthquake-induced landslide				
Experienced hazard in last 3 years*	0	5.2	7.8	4.4
Among those who experienced hazard:				
Mean ± SD households affected	.	0.7 ± 1.6	9.0 ± 13.8	5.7 ± 11.3
Number of deaths in last event	.	0	0	0
Rainfall-induced landslide				
Experienced hazard in last 3 years*	10.4	7.0	17.4	11.6
Among those who experienced hazard:				
Mean ± SD households affected	11.0 ± 28.7	1.6 ± 2.8	8.8 ± 23.4	8.0 ± 22.6
Number of deaths in last event	0	0	1	1
Fire				
Experienced hazard in last 3 years*	31.3	30.4	43.5	35.1
Among those who experienced hazard:				
Mean ± SD households affected	210.3 ± 1013.4	24.4 ± 95.5	40.1 ± 173.1	85.5 ± 563.3
Number of deaths in last event	9	26	9	44
Armed conflict				
Experienced hazard in last 3 years*	2.6	3.5	19.1	8.4
Among those who experienced hazard:				
Mean ± SD households affected	11.0 ± 7.9	0.9 ± 1.9	215.1 ± 634.2	149.1 ± 531.4
Number of deaths in last event	2	3	209	214
Wildfire				
Experienced hazard in last 3 years*	1.7	10.4	8.7	7.0
Among those who experienced hazard:				
Mean ± SD households affected	0	0.1 ± 0.3	3.4 ± 9.1	1.5 ± 5.9

Number of deaths in last event	0	0	0	0
Epidemic				
Experienced hazard in last 3 years*	5.2	18.3	31.3	18.3
Among those who experienced hazard:				
Mean ± SD households affected	40.2 ± 40.6	13.8 ± 14.2	39.6 ± 66.2	30.3 ± 52.2
Number of deaths in last event	9	10	28	47
Marine pollution				
Experienced hazard in last 3 years*	0.9	3.5	0.9	1.7
Among those who experienced hazard:				
Mean ± SD households affected	0	95.8 ± 88.5	0	63.8 ± 84.5
Number of deaths in last event	0	0	0	0

[1] Unweighted results based on data from the Community Survey Questionnaire; presented as percentages or mean ± standard deviation. Test for significant differences in proportions and means were based on Pearson's chi-squared test of independence and one-way analysis of variance respectively.

Appendix Table 13F. Illegal logging activities in barangay[1]

Selected Variables	Luzon	Visayas	Mindanao	ALL
Presence of illegal logging in the barangay ever	10.4	7.0	15.6	11.0
Illegal logging currently in the barangay	2.6	4.4	8.7	5.2
Has reforestation program	31.3	42.6	59.1	44.4
With policies and ordinances for protection of public domain lands	31.3	27.8	20.9	26.7

[1] Unweighted results based on data from the Community Survey Questionnaire; presented as percentages or mean ± standard deviation. Test for significant differences in proportions and means were based on Pearson's chi-squared test of independence and one-way analysis of variance respectively.

GOAL 14. CONSERVE AND SUSTAINABLY USE THE OCEANS, SEAS, AND MARINE RESOURCES FOR SUSTAINABLE DEVELOPMENT.

Appendix Table 14. Marine protection

Selected characteristics	Luzon	Visayas	Mindanao	ALL
Among households with household members engaged in fishing (n=375)[a,b]:				
Received info or training on marine protection	58.6	16.4	13.3	32.0

[a] Significantly different at p<0.05 between Luzon and Visayas; [b] Luzon and Mindanao; [c] Visayas and Mindanao

GOAL 15. PROTECT, RESTORE AND PROMOTE SUSTAINABLE USE OF TERRESTIAL ECOSYSTEMS, SUSTAINABLY MANAGE FORESTS, COMBAT DESERTIFCATION, AND HALT AND REVERSE LAND DEGRADATION AND HALT BIODIVERSITY LOSS (NO APPLICABLE SURVEY DATA).

GOAL 16. PROMOTE PEACEFUL AND INCLUSIVE SOCIETIES FOR SUSTAINABLE DEVELOPMENT, PROVIDE ACCESS TO JUSTICE FOR ALL AND BUILD EFFECTIVE, ACCOUNTABLE AND INCLUSIVE INSTITUTIONS AT ALL LEVELS.

See Appendix Tables 11A, 11F and 11G.

GOAL 17. STRENGTHEN THE MEANS OF IMPLEMENTATION AND REVITALIZE THE GLOBAL PARTNERSHIP FOR SUSTAINABLE DEVELOPMENT (NO APPLICABLE SURVEY DATA).