USC-Office of Population Studies Foundation, Inc.

LONGITUDINAL COHORT STUDY ON THE FILIPINO CHILD

Wave 3 Final 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 completed its third survey wave three years since it was launched in 2016. The retention rate remains on target: of the 4, 952 households with 10-year old children recruited at baseline, we have retained 4,663 households (94.2%) in the Wave 3 survey. Much of this is attributed to the dedication and hard work of the field researchers as well as their perseverance in tracking down households across the country. As the cohort of children gets older and as they move on to higher grade levels, migration out of the original communities has been increasingly observed making household tracking a significant challenge. It is also important to acknowledge the rapport that the field teams have established with the study respondents, which has instilled trust and loyalty to the study. Without these, a high participation rate may not be feasible.

In this third household visit, we observe important developmental differences among the 12 year old cohort, compared to when they were age 10 at the start of this study. The majority of the children are midway their pubertal transition and close to 60% of the girls have now reached menarche. As they settle themselves more firmly within early adolescence, we observe more adolescent-like behaviors. For example, internet use dramatically increased from about 40% at age 10 to about 76% at age 12. Correspondingly, the proclivity to potentially high risk behaviors such as online chatting with strangers is on the rise. While the prevalence of stunting has significantly decreased over time, as they catch up in their height trajectories in the course of their pubertal transition, it remains a concern that about a quarter of the cohort is stunted. Their reports of experiencing violence from friends, parents or other adults have significantly decreased over time. This trend is difficult to interpret at this point, as it could either mean that they are getting better in handling these situations as they mature or that they are getting more cautious in responding to these sensitive questions. Nevertheless, it is important to note that about 23% of these 12-year old children reported being physically hurt by their peers. About 97% were enrolled in school at survey time and with about 88% being either in Grades 6 or 7, the cohort appears to be on track in terms of age-appropriate schooling schedule. In this wave we administered the Washington Group Short Set Questionnaire to assess functional disability levels among the children. About 30% of the cohort reported some level of difficulty in certain functions, particularly involving their eyesight and their capacity to remember or concentrate.

As the children get older and as we continue to track their development in subsequent waves, we will expand data collection to cover important milestones in the lives of this cohort. After all, among the objectives of this study is to build a longitudinal database designed to inform policies and programs that address the needs of the Filipino youth. Aside from data collection activities and survey planning, the Study Team is now actively engaged in data analysis and manuscript preparation. A series of policy notes are prepared after each survey wave, highlighting key findings and their policy implications, and disseminated to the policy, research and academic communities. The team has also actively disseminated the study findings through various research forums and in meetings involving both government and non-government agencies.

CHAPTER 1
INTRODUCTION

Study objectives

Now in its fourth year of implementation, with the Wave 4 Survey underway, the Longitudinal Cohort Study on the Filipino Child (Cohort Study)[1] is a research project designed to collect data on key indicators of the Sustainable Development Goals or SDG (United Nations, 2017) which also promotes the state of life for Filipinos visualized in "Ambisyon Natin 2040" by the National Economic and Development Authority (NEDA, 2016).

A joint initiative of the United Nations Population Fund (UNFPA) and the National Steering Committee (NSC) consisting of lead government agencies led by NEDA[2], the study aims to:

1. Contribute to the body of evidence on population dynamics and sexual and reproductive health and rights, with a special focus on the SDG agenda.

2. Provide an evidence-based resource that will inform national policy making and development planning particularly on how the SDG agenda can contribute to maximizing the potentials of the Filipino youth.

This research study is anchored on the premise that the best way to examine how the development goals affect the lives of Filipinos is to study the "SDG generation" or Filipinos who transition from childhood to adulthood in the course of the 15-year (2015-2030) SDG agenda implementation. It is crucial to identify programs and policies that ensure that this generation is primed to reach adulthood in a healthy state and equipped with optimum social and human capital to lead productive lives.

This longitudinal study is designed to prospectively observe a cohort of Filipinos, from ages 10 through 24 through annual survey rounds from 2016-2030. Each round will collect data on important milestones such as puberty, school completion, labor force participation, sexual and reproductive health events and marriage, and indicators relevant to 13 of the 17 development goals[3]. This comprehensive evidence-based resource is intended not just for national and local programming but will also be made accessible to the global research community to generate publications and potentially stimulate more studies on the SDG generation.

This report is on the 2019 Wave 3 Survey, the second follow-up survey since Baseline. For more details on the Cohort Study please refer to the Baseline Survey Final Report (OPS, 2018), other official reports and policy notes listed in Chapter 6.

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[1] The study was launched in 2016 as the "Longitudinal Cohort Study on the Girl and Boy Child". In 2018, the study title was changed to "Longitudinal Cohort Study on the Filipino Child" and is referred to as either the LCSFC or Cohort Study.

[2] See Appendix 1 for a list of member agencies

[3] Excluding SDG 10 (Reduce inequalities within/among countries), 12 (Ensure sustainable consumption and production patterns), 15 (Protect...terrestrial ecosystems...) and 17 (Strengthen... global partnership...) that are obtainable more at the macro/country level rather than at the individual/household/community levels

Study team

The Cohort Study is a research collaboration between the USC-Office of Population Studies Foundation, Inc. (OPS), the study's main implementing agency, and three of the renowned research institutions in the country: 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), Dr. Erniel B. Barrios (Sampling and Statistical Consultant) and Dr. Delia E. Belleza (Psychologist Consultant).

The OPS team designed the study, 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). The final report is reviewed by all collaborators. See Appendix 2 for more information on the collaborating research institutions.

Oversight and study direction are handled by the UNFPA, in consultation with NSC. The UNFPA Team is led by Dr. Charl Andrew P. Bautista (Project Coordinator), Dr. Vicente Jurlano, Dr. Rena Dona, Mr. Jose Roi B. Avena and Dr. Joseph Michael Singh with assistance from Ricca Katrina Bonales and Jose Nicomedes Castillo.

For the Wave 3 Survey, the UNFPA convened a group of known experts from various disciplines (nutrition, psychology, child labor, adolescent sexuality, education) who reviewed the survey instruments and provided inputs on which new variables to add to the survey that would capture significant milestones in the lives of the cohort.

CHAPTER 2
WAVE 3 SURVEY SAMPLE

2.1 Survey Sample and Inclusion Criteria

In the 2016 Baseline or Wave 1 Survey, the Cohort Study recruited a nationally representative sample of 4,952 10-year old Filipinos with the country's three main island groups of Luzon, Visayas, and Mindanao as stratifying domains (Table 2.1). Details of the study design and sampling scheme are described in the Final Reports for Waves 1 and 2 (OPS, 2018 & 2019).

Table 2.1 Wave 1 sample distribution by domain

Survey statistics	Luzon	Visayas	Mindanao	TOTAL
Sample barangays, n	115	115	115	345
Households interviewed, n	1,618	1,639	1,695	4,952
Index children (10-year old sample) interviewed[a], n	1,600	1,639	1,688	4,927
Population of 10-year old children per domain[b] in 2016, n	1,134,854	414,228	561,308	2,110,179
Weighted proportion of sample across domains, %	53.8%	19.6%	26.6%	100.0%

[a]There were 25 index children not interviewed but with household interviews: 8 were with disabilities and incapable of being interviewed and 17 either refused to be interviewed (but parents consented to participate in study) or were not available for interviews]

[b]Estimated based on the population of 9-year old children in 2015 Census Survey (age 10 in 2016)

Source: OPS, 2019

Recruitment criteria for index children (IC) at Baseline:

We recruited households with 10-year old children (as of last birthday, based on data from birth certificates or similar records). The IC's mother or caregiver, as the main household respondent, must have consented to participate in the baseline survey and in subsequent surveys, and given permission for the research team to interview the IC in these surveys. Being a longitudinal survey, participation in follow-up surveys is essential. Thus households who had plans of moving out of the baseline area were considered not eligible for the study. The IC's verbal assent to join the survey was also obtained prior to any data collection.

Recruitment criteria in follow-up surveys:

In the first two follow-up surveys (Waves 2 and 3), we enrolled index children residing in the same municipality or city where they were interviewed in the prior survey (referred to here as sample areas). ICs who moved out of the sample areas or are classified as outmigrants (OMs) were tracked and enrolled if the new address was in a) a municipality/city adjacent to prior address, b) another sample area anywhere in the country where a field team could conduct the interview, and c) any other area were follow-up is deemed logistically feasible. Once again, consent from mothers/caregivers and assent from the ICs were obtained prior to enrollment.

2.2 Waves 1-3 area coverage and sample sizes

From the 345 sample barangays where the 4,952 baseline households were recruited (Table 2.1), the survey area coverage expanded to 483 barangays by Wave 3, with Mindanao having the most number of new barangays as shown in Table 2.2A. At each follow-up survey, all field teams exerted tremendous effort to track the cohort participants particularly those who moved to other barangays over time. As shown in C.3 of Table 2.2A, movements outside of the Wave 1 barangays were mostly confined within the same region or province. Given the follow-up protocol earlier described, the teams continued to track households who moved to municipalities near those enumerated in prior waves.

Table 2.2A also shows sample sizes over time and movements of the retained sample across and within domains since Wave 1. In Wave 2, 95.6% (4,735) of the baseline households were interviewed. In Wave 3, we retained 94.2% (4,663) of the baseline sample, with the highest retention rate observed in the Visayas (97.3% of baseline). While a few households transferred to other domains over time, almost all of the followed-up sample remained in their original domains, with 96.6% (4,503) still residing in the same baseline barangay by Wave 3. Mindanao, followed by the Visayas, had the most number of outmigrants (moved out of the Wave 1 barangay). About 62% of the outmigrants in Luzon moved within the same Wave 1 municipality or city. In Visayas and Mindanao, the outmigrant spread was wider. In subsequent waves as children transition to higher grade levels, finish school or start seeking employment, we anticipate greater migration outside the sample areas.

Reasons for changing addresses

In Waves 2 and 3, the households reported various reasons for moving out of their addresses in the previous survey. In Wave 2 among the predominant reasons for moving out of the Wave 1 address were: housing-related e.g. to avoid rent increase or for better housing conditions (38.6%), work-related e.g. parents changing jobs (22.6%) and family-related e.g. death in the family or changes in household composition (17.7%). Only about 4% were schooling-related (e.g., to be nearer children's schools). In Wave 3, the corresponding proportions were: 45.0% housing related, 10.5% work-related, 25.0% family-related and 12.9% schooling-related. As anticipated, as the cohort gets older, a higher proportion of household movements may be schooling-related.

Table 2.2A Waves 1-3 sample distribution and area coverage by domain

Survey statistics	Luzon (n)	Visayas (n)	Mindanao (n)	TOTAL (n)
A. Sample area coverage				
A.1 Number of barangays:				
Wave 1	115	115	115	345
Wave 2	141	141	132	414
Wave 3	143	162	178	483
Breakdown of Wave 3 barangays (N=483):				
Wave 1 barangays (original sample areas)	115	115	115	345
New barangays in Wave 2 (same in Wave 3)	19	21	13	53
New barangays in Wave 3	9	26	50	85
A.2 Number of municipalities covered in each wave:				
Wave 1	74	84	85	243
Wave 2	82	94	86	262
Wave 3	80	102	99	281
A.3 Number of provinces covered in each wave:				
Wave 1	15	14	25	54
Wave 2	19	15	25	59
Wave 3	18	16	25	59
A.4 Number of regions covered in each wave:				
Wave 1	5	3	6	14
Wave 2	8	3	6	17
Wave 3	6	3	6	15
B. Number of households interviewed:				
Households in Wave 1	1,618	1,639	1,695	4,952
Households in Wave 2	1,492	1,610	1,633	4,735
Households in Wave 3	1,450	1,595	1,618	4,663
C. Breakdown of Wave 3 households:				
C.1 Domain changes				
Original domain sample	1,445	1,589	1,616	4,650
Moved from Luzon		1		1
Moved from Visayas	3		2	5
Moved from Mindanao	2	5		7
C.2 Changes in barangay of residence				
Remained in Wave 1 barangay	1,416	1,540	1,547	4,503
Moved to another Wave 1 barangay	6	5	4	15
Moved to a new barangay	28	50	67	145
C.3 Location of barangays not in Wave 1 (n=160):				
Different barangay, same municipality/city	21	24	28	73
Different municipality, same province	0	15	19	34
Different province, same region	2	10	14	26
Different region	11	6	10	27

Participation status across waves and attrition rates to date

Table 2.2B reveals that about 92% of the baseline sample participated in all 3 survey waves. There were about 6% which participated in only one of the follow-up surveys, either in Wave 2 or Wave 3. It is important to point out that there were 102 households missed in Wave 2 but recruited back in Wave 3. Over time we expect study participants to be in and out of surveys. There were 111 baseline households which were lost to follow-up in the two subsequent waves. We continue to include these in the sampling frame for each wave. To date, there were five ICs who have died and their households have been dropped from the study, reducing the sampling frame for the next wave to 4,947.

The projected attrition rates between waves ranged from 5-7% with higher rates expected as the cohort gets older and more mobile (OPS, 2018). These estimates assume that attrited cases permanently exit the study. To date, the between-survey attrition rates are 4.4% (between Waves 1 and 2) and 1.5% (between Waves 2 and 3), still well below the projected rates. The Wave 3 attrition rate since baseline is 5.8% as shown in Table 2.2B.

Outmigration or moving out of the barangay where the household was previously residing accounts for about 40% of the attrition. As has been noted in Wave 2, Luzon has the highest attrition rate among the domains. This may be attributed to the fact that Luzon has the most number of urban sample barangays compared to the Visayas and Mindanao (66.1%, 34.8% and 27.8% at baseline respectively) (OPS, 2018). Other large-scale Philippine surveys also experienced higher attrition rates in urban versus rural areas (Perez, 2015). The number of migrant households which could not be located has substantially increased from 5 in Wave 2 to 61 in Wave 3. While field teams exhaust all means to track these households (cohort tracking schemes are discussed in Chapter 3), as shown by the number of new barangays reported in Table 2.2A, we did anticipate households to get more mobile as the ICs get older. The number of households unavailable for interview also increased from 46 in Wave 2 to 61 in Wave 3 while the number of refusals remained comparable between Wave 2 (42) and Wave 3 (47). Of the 42 refusals in Wave 2, 16 were recruited back in Wave 3.

Table 2.2B Survey participation patterns and attrition profile by domain[a]

Survey statistics	Luzon n/%	Visayas n/%	Mindanao n/%	TOTAL n (%)
A. Study participation patterns, Waves 1-3 (N=4,952)				
In Waves 1 thru 3	1,396	1,578	1,587	4,561 (92.1%)
In Waves 1 and 2, not in Wave 3	93	30	50	173 (3.5%)
In Waves 1 and 3, not in Wave 2	50	16	36	102 (2.1%)
In Wave 1 only	77	14	20	111 (2.2%)
IC died in Wave 2	1	1	2	4 (0.1%)
In Waves 1 and 2, IC died in Wave 3	1	0	0	1 (0.0%)
Total	1,618	1,639	1,695	4,952 (100.0%)
B. Participation of baseline households (N=4,952):				
in Wave 2:	1,490	1,608	1,637	4,735 (95.6%)
Interviewed	127	30	56	213 (4.3%)
Attrited (non-death)	1	1	2	4 (0.1%)
Attrited (death)				
In Wave 3:	1,446	1,594	1,623	4,663 (94.2%)
Interviewed	170	44	70	284 (5.7%)
Attrited (non-death)	2	1	2	5 (0.1%)
Attrited (death)				
C. Reasons for attrition in Wave 3 (n=289):				
IC died	2	1	2	5 (1.7%)
Outmigrants[b]	53	29	58	115 (39.8%)
Unlocated	43	8	10	61 (21.1%)
Unavailable[c]	42	2	17	61(21.1%)
Refused	32	5	10	47 (16.3%)
Total attrited in Wave 3	172	45	72	289 (100.0%)
D. Current attrition rates since baseline	10.6%	2.8%	4.2%	5.8%

[a] Stratified by domains at baseline (note that there were a few households who changed domains over time; Table 2.2A)
[b] Households who moved out of the Wave 1 or 2 barangay for which we established new address information but were not tracked due to failed contact or area too expensive to visit.
[c] Households still in the same barangay as previous wave but eligible household respondents were not available for interview while team was in the area.

2.3 Representativeness of the Wave 3 sample

The Cohort Study is designed to follow a nationally representative sample of Filipinos from Luzon, Visayas, and Mindanao who were age 10 at baseline (2016). Table 2.1 shows that, inflating the information to domain level, 53.8%, 19.6% and 26.6% of the baseline sample were from Luzon, Visayas and Mindanao respectively. This distribution approximates the actual domain distribution of the 2.1 million 10-year old children in the Philippines in 2016.

In light of the almost 6% attrition since baseline, and in the interest of maintaining the representative distribution of the sample across domains, sampling weights of the 345 baseline barangays were adjusted and applied to the Wave 3 Survey data (see Appendix 3 for more details on survey sampling design and sample weights). These adjusted weights were applied to 4,650 Wave 3 households which remained in the baseline domain (whether still living in the same baseline barangay or have moved to another barangay within the same domain). The new weights are not applicable to 13 households which moved to a different domain in Wave 3 (see C.1 of Table 2.2A).

2.4 Comparing baseline sample with those retained in Wave 3

Weighted logistic regression analysis (see Table 2.4A) indicates that households with more parents present, those enrolled in the conditional cash transfer or Pantawid Pamilyang Pilipino Program (4Ps) program and those from Visayas or Mindanao (compared to those from Luzon) were more likely to be retained in Wave 3, while households classified as indigenous peoples were less likely to be so.

In the Wave 2 Survey (OPS, 2019) the retained households were also likely to be enrolled in 4Ps and were from Visayas or Mindanao. In addition households with currently working mothers/caregivers and were residing in rural areas were more likely to be retained in Wave 2.

Table 2.4A Odds ratios indicating associations between being in Wave 3 or not and selected index child/household/community characteristics[a]

Index child/household/community characteristics	In Wave 3 (n=4948) Odds Ratio (95% CI)
Male	0.88 (0.62,1.25)
Number of parents in household	1.44 (1.15,1.80)**
Mother/caregiver at least high school	0.87 (0.65,1.17)
Mother/caregiver currently working	1.21 (0.85,1.72)
Household size	1.04 (0.97,1.12)
4Ps beneficiary	2.30 (1.56,3.40)***
With access to sanitary toilet	0.90 (0.53,1.52)
Self-classified as Indigenous Peoples (IP)	0.56 (0.40,0.78)***
Urban (1=yes; 0=no)	0.96 (0.67,1.39)
Domain (living in Luzon as base group)	
Visayas	3.24 (2.05,5.11)***
Mindanao	2.69 (1.89,3.82)***

[a]Odds ratios (95% Confidence Interval) from weighted multivariable logistic regression models; Variables are dichotomous (coded as 1=yes; 0=no) except for number of parents, household size (continuous variables). Significant at ** p<0.05, *** p<0.001

Table 2.4B shows that those retained in Wave 3 were no different from those lost to follow-up in terms of select IC vulnerabilities at age 10 (Baseline). Being stunted, repeating a grade, missing school, or experiencing physical violence from peers or parents at age 10 are not significantly associated with participation in Wave 3. Similar results were observed with regards participation in the Wave 2 Survey (OPS, 2019).

Table 2.4B Odds ratios indicating associations between being in Wave 3 or not and selected vulnerabilities[a]

Vulnerabilities	In Wave 3 Model 1[b] Odds Ratio (95% CI)	In Wave 3 Model 2[c] Odds Ratio (95% CI)
Stunted (n=4925)	1.52 (1.06,2.18)**	1.15 (0.83,1.59)
Repeated grade (n=4952)	1.00 (0.66,1.54)	0.85 (0.56,1.29)
Missed school (n=4876)	1.30 (0.83,2.04)	1.26 (0.78,2.03)
Experienced violence from friends (n=4823)	0.87 (0.51,1.46)	0.84 (0.50,1.42)
Experienced violence from parents[d](n=4817)	1.23 (0.81,1.87)	0.85 (0.56,1.29)

[a]Odds Ratios (95% Confidence Interval) from weighted logistic regression models; Variables are dichotomous (1=yes; 0=no)
** Significant at p<0.05
[b] Unadjusted
[c] Controlling for number of parents in household, 4Ps beneficiary, IP classification being male, urban and domain (separate model for each vulnerability)
[d] Forcefully hurt by parents

CHAPTER 3
WAVE 3 SURVEY PROTOCOL

3.1 Data collection teams

The Wave 3 Survey data collection was carried out by 14 teams, each team had a Team Leader and 3-5 Field Interviewers. The number of interviewers assigned to each team depended on the number and geographic location of barangays assigned to the team. See Appendix 2 for the list of data collection teams per domain.

3.2 Survey training

The training of all survey personnel was conducted from January-February 2019 across the three domains. The training in each domain lasted two weeks: the first week was on Pen and Paper Interviewing (PAPI) and the second week was on Computer-Assisted Personal Interviewing (CAPI). We adopted a nested training schedule where while one domain was doing CAPI training, the next domain got started on PAPI. All the training sessions were conducted by OPS Personnel. The sessions were held at the respective research institutions assigned to the domains. For all the survey waves to date, OPS started the training series with the Visayas team. CSRE's proximity to OPS made it possible for all OPS staff to attend the training and make modifications to both the training protocol and survey implementation specifics.

3.3 Data collection period

Given funding availability and survey preparation requirements, the Wave 1 Survey was conducted in the last quarter of 2016. This was the closest date we could start the initial data collection for the study, for which capturing the pre-SDG Agenda implementation environment was essential to sufficiently qualify it as a baseline survey.

The earliest date we could conduct the first follow-up survey following baseline (Wave 2 Survey) was from February to April 2018. From then on it was decided that all follow-up surveys will be conducted during these months, which was particularly favorable too as most of the index children would still be in school and thus easier to track. Maintaining the same data collection schedule is important in controlling for the effects of seasonality on the data.

For the Wave 3 Survey, about 99% of the data collection was carried out from February to April 2019. Efforts to track and interview outmigrant index children continued until June 2019. It was also only in June when we got clearance to conduct the survey in two barangays within the same municipality. At the initial courtesy call to the municipality, an official refused us entry citing constraints related to an insurgency problem.

Maintaining the same sequence of barangays to visit across the waves is generally aimed for but difficult to achieve for several reasons. Among these are availability of the barangays for the survey visit (as illustrated in the example above), and the ongoing data collection pace. The Team Leaders need to strategize to ensure the most efficient use of their time. It has been the practice to start data collection in the urban barangays nearest the research centers, for ease in transition and to facilitate necessary last-minute transactions between center and teams before going full scale on the data collection.

To date, the mean interval between Waves are:

Between Waves 1 and 2: 1.3 years (SD ± 0.04; range: 1.2 to 1.6 years)
Between Waves 2 and 3: 1.0 (SD ± 0.04; range: 0.7 to 1.3 years)

The interval between Waves 2 and 3 was shorter as a result of starting the Wave 3 data collection about two weeks earlier than when Wave 2 started the year before. With an earlier start date, we hoped to complete as many home visits before classes ended. In Wave 2, we found it harder to pin down the IC for interviews once vacation started. OM households comprised most of those with less than a year's interval between Waves 2 and 3 as these were more likely interviewed late in the Wave 2 data collection window.

Data collection method

Data were collected using both PAPI and CAPI methods. The CAPI components were collected and managed using REDCap [Research Electronic Data Capture (Harris et al 2009&2019)] hosted at OPS. REDCap is a secure, web-based software platform designed for surveys. The program features, among others, an intuitive interface for validating data capture such as built-in consistency, logic and range checks. Standard quality control and data integrity procedures were observed from entering data on tablets (Samsung TAB A 8.0 with S-Pen) in the field to data retrieval at OPS. The CAPI set up was tested in the Wave 3 Survey in preparation for full CAPI implementation in subsequent waves.

3.4 Cohort tracking protocol

Cohort masterlist. An essential tool in the successful implementation of longitudinal studies is having a well-maintained and accurate masterlist of all baseline households. This masterlist, which is updated at each wave and securely protected for confidentiality, contains vital contact and basic information on the IC and the household respondent (HR)[4]. This masterlist is critical in successfully tracking the cohort through the years. At the start of each wave, as the teams visit or contact the households by phone, information from the masterlist is used in screening survey participants, to ensure that the people being interviewed are indeed the actual HR and

[4] The primary household respondent is the IC's mother. If the mother is not a household member, a caregiver or an adult household member in charge of the IC, is designated as the respondent.

IC. While Team Leaders often assign interviewers the same households over time, this may not be always feasible. Interviewers visiting a sample household for the first time need to first establish the respondents' identities prior to starting the interview. If respondent identities cannot be ascertained, this is reported to OPS and the domain-based research centers for further strategizing.

In Wave 3, each Team Leader was provided electronic and printed copies of the masterlist containing information on the IC households assigned to the team. All office and field personnel were instructed to ensure confidentiality of data and personal identifiers obtained in the study, and were required to sign the OPS Data Confidentiality Agreement (See Appendix 4). After the survey, the printed masterlist copies were retrieved by OPS from each of the institutions collecting the data.

Tracking protocol. The focus of this study is the IC and at each follow-up survey, we track or locate the IC household. If the HR in the prior survey is no longer in the same household as the IC, a new HR is identified. As described in Chapter 2, we track all living ICs and enroll those who are residing in the same municipality or city where they were last interviewed or have moved to another area where follow-up is logistically feasible.

In Wave 3, tracking was done in two tiers:

Phone Tracking. Calls were made to all 4,948 households (living ICs) using the cell phone numbers obtained in Wave 2. Once contact was made, the current address of the IC was determined and an eligible HR was identified.

Home Tracking. Whether the households were reached by phone or not, a home visit was required to the address recorded in the masterlist or obtained during the phone tracking.

If the household could not be tracked or scheduled for an interview while the team was in the sample area, or if the IC died, interviewers filled out an IC attrition form. For OMs who moved to areas covered by another team (whether in the same domain or not), their contact information was reported to OPS who in turn negotiated with the research centers if transfer interviews were logistically feasible.

3.5 Survey components[5]

a) Community survey

Prior to starting data collection operations in a sample barangay, all teams are required to conduct courtesy calls on the Provincial Governors or City/Municipal Mayors, who then endorse the project to the barangay captains. In Wave 3 each team carried with them endorsement

[5] A list of all the variables collected in each survey wave is available upon request.

letters from the UNFPA, NEDA and the Department of Health, along with standard introduction letters from the research center managing data collection in the area.

The Community Survey collects barangay-level information (using PAPI) that are relevant in contextualizing the household and individual data collected in each survey. The Community questionnaire consists of several modules and responses are obtained from multiple key informants. Barangay administrative data are provided mostly by the Barangay Captain, Secretary, Treasurer and Councilors. Barangay health center personnel are sourced for health-related data. Other community informants include personnel from the Municipal Social Welfare and Development Office, Philippine National Police and local businesses. In cases where the IC moved to a non-baseline barangay, a full Community Survey was administered in the new sample barangay.

At each wave, the data collection teams start completing the Community Survey questionnaire as soon as the Barangay Captain consents to the survey. The goal is to complete the questionnaire within the duration of the team's stay in the barangay. If there are questionnaire components not completed by the end of the team's barangay visit, follow-up phone calls are made to the informants to fill out missing sections of the questionnaire.

b) Home Visit

At each wave, all household and IC questionnaires are administered at the homes of the ICs.

<u>Consenting process.</u>

Once identities of the HR and IC are verified, the interviewer proceeds with the consenting process where the interviewer reads out the consent form and explains this to the HR. The consenting process is aimed to obtain verbal consent from the HR to interview him/her and the IC . The HR is always the first to be interviewed. This gives time for the ICs to observe the process and make them feel more comfortable when it was their turn to be interviewed. The ICs are interviewed at their convenient time (usually before or after school, during noon breaks, or on weekends). The IC assent form is also read out to the IC and his/her verbal consent is obtained before any protocol involving the IC is administered.

<u>Interview components.</u>

In Wave 3, the Household Questionnaire was interviewer-administered and done by PAPI. There were two IC components: the interviewer- and self-administered questionnaires. At the start of the survey, both IC questionnaires were done on PAPI then by CAPI at mid-survey. The IC self-administered questionnaire consisted of simple questions (some were sensitive) that the IC answered by checking yes or no boxes on the questionnaire (if PAPI) or the tablet (if CAPI).

IC weight was measured using a portable bathroom scale. IC 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 domain-based research centers. Prior to each home visit, each interviewer was trained on how to conduct simple calibration techniques to ensure that these instruments remained accurate and reliable. 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).

Since part of the data collection was done on CAPI through a secure data capture software using a tablet, we took pictures of each IC during the home visit. The intention was to use these photos to identify the ICs in the next survey and to provide the IC a compilation of his/her photos taken over time as a keepsake from the study.

At the end of each home visit, the household was given:

1. P200 for the HR and P100 for the IC. The value of the cash gift to the HR corresponded to the estimated amount the HR would have earned had he/she not spent time for the interview. In Waves 1 and 2, we gave the ICs an assortment of pencils and gel pens. The logistics of purchasing and distributing large volumes of pens to the respective domain teams became challenging. A decision was made to also give cash gifts to the ICs starting in Wave 3.

2. A card with the IC's baseline (age 10) and Wave 2 (age 11) height and measurements. The card also contained a brief statement on whether the IC's height was shorter, of the same height or taller than an average 10- or 11-year old child or if the IC weighed less than, the same as or heavier than the average reference child. The Wave 3 height and weight measurements were handwritten by the interviewer on the same card.

3. Resource list. Some of the questions asked in the interviews were on domestic violence or experiences with physical or emotional aggression. We provided each HR 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. This added precaution avoids inflicting unnecessary psychosocial trauma to the respondents.

3.6 Ethics review

The survey design, protocol and instruments were reviewed by the University of San Carlos Research Ethics Committee (REC) and approved on January 24, 2019. Please see Appendix 5 for the REC Certificate of Approval, approved consent form and IC assent script.

3.7 Data processing

All completed hard copy questionnaires were shipped to OPS from all data collection centers for recording and office-editing. The community survey questionnaire data were encoded using a customized data entry system developed by OPS. Data from Household and IC hard copy questionnaires were encoded on REDCap by a trained data entry team. Quality control checks were in place, which included double data entry of randomly selected questionnaires.

All tablet data from the field were sent to the REDCap server at OPS through a secured password-protected channel. Only Team Leaders had access to this gateway and data uploads were always done under the supervision of authorized study personnel at OPS. Aside from the customized consistency, logic and range checks in REDCap, additional data editing and verification checks were run by the OPS Data Manager specifically for this study.

3.8 Problems encountered in the Wave 3 survey implementation

Among the biggest challenge in each survey is keeping the data collection activities within schedule and avoiding the need to extend the home visits after classes have ended for the given school year. Our field teams have observed that index children are harder to locate and pin down for interviews while on vacation. Thus, in our attempt to end the Wave 3 field work earlier, we started at an earlier date than when we started Wave 2 the previous year. Completing all home visits in a barangay within the alloted time (usually less than a week) becomes difficult when the household respondents are not available for interview while the team is in the area. A return visit to the barangay not only disrupts the team schedule, this also adds to the field cost.

In the past waves, arranging barangay visits with local government units has not been a problem, even in areas under threat of armed conflict. In Wave 3, however, we encountered a municipal officer who initially refused entry to the team assigned to the municipality citing an insurgency situation. The same team covered this municipality in the previous wave and did not have any problems with gaining entry. It was only after several attempts, and as the Team Leader presented additional endorsement letters, that the team was allowed to conduct the survey in the area.

CHAPTER 4
WAVE 3 SURVEY SAMPLE AREAS

4.1 Profile of Wave 3 sample barangays

The Wave 3 sample households were spread out in 483 barangays across the domains. In addition to the 345 barangays enumerated in Wave 1, 138 new barangays were added to the study in Wave 3 (see Table 2.2A). Of the 138 new barangays, only 122 had community survey data. The 16 barangays not surveyed were areas OMs moved to and most had only one sample household in the barangay. The interviewers assigned to these barangays were only there for a few days and did not have enough time to conduct a community survey which takes about a week to complete.

Documenting changes in barangay characteristics over time is essential given the role of the community in shaping the lives of children and their households. Table 4.1 compares the basic profile of the baseline sample barangays (n=345) across domains in Waves 1 and 3[6]. Confirming the representativeness of the sample, Luzon had significantly more urban barangays than Visayas and Mindanao. Significant differences observed across the three domains in terms of population density (with Luzon having the most densely populated barangays), Internal Revenue Allotments, agriculture being the main source of income, 4Ps households and presence of indigenous populations in Waves 1 and 2 are still observed in Wave 3 as shown in Table 4.1. This table also reveals that the new barangays in Wave 3 had significantly higher population densities than baseline barangays. It is likely that the households who moved out of the baseline barangays are now residing in more densely populated areas .

When comparing differences in characteristics between Waves 1 and 3, we noticed a significant drop in the proportion of baseline barangays reporting agriculture as among the main sources of livelihood in Mindanao, from about 72% in 2016 (Wave 1) to 49% in 2019 (Wave 3). We hypothesize that the trend may have already been heading downward even in Wave 1 as a result of various threats to agriculture affecting Mindanao. For instance, the drought and El Niño season of 2016 that most severely hit Mindanao may have longer-lasting adverse effects on crops (Dikitanan et al, 2017; International Federation of Red Cross and Red Crescent Societies, 2016). Incidents of armed conflict in Mindanao provinces covered in the study may have also displaced farmers and compromised farming in general (FAO, 2019; UNHCR, 2019).

[6] More in-depth analysis of changes in community-level SDG indicators over time are discussed in other study publications.

Table 4.1 Comparing selected barangay characteristics in Waves 1 and 3 by island group[a]

Selected community characteristics	Luzon		Visayas		Mindanao		ALL		New Wave 3 barangays
	Wave 1 (n=115)	Wave 3 (n=115)	Wave 1 (n=115)	Wave 3 (n=115)	Wave 1 (n=115)	Wave 3 (n=115)	Wave 1 (n=345)	Wave 3 (n=345)	(n=138)
Urban barangays[*],%	64.4		33.0		27.0		41.4		48.6
Distance from town center (km), mean±SD	7.0±7.8		6.3±5.6		9.0±12.9		7.4±9.3		5.9±(6.4) (n=116)
Population density (persons/km^2)[*,#,$], mean±SD	14,258.0± 26,590.4 (n=97)	17,293.5± 32,171.4 (n=97)	3,882.1± 13,358.2 (n=101)	3,845.3± 13,578.8 (n=101)	4,323.0± 8,577.4 (n=109)	4,794.8± 9,920.5 (n=111)	7,317.0± 18,123.4 (n=307)	8,408.0± 21,307.4 (n=309)	26,565.4± 83,162.9 (n=62)
Internal Revenue Allotment (in pesos)[*,#], mean±SD	In 2016 11,015,370± 19,480,693 (n=99)	In 2018 12,227,562± 23,452,116 (n=104)	In 2016 3,948,215± 7,185,689 (n=110)	In 2018 4,602,463± 6,336,658 (n=112)	In 2016 5,253,258± 7,629,480 (n=113)	In 2018 6,506,807± 8,925,874 (n=113)	In 2016 6,579,017± 12,757,827 (n=322)	In 2018 7,666,904± 14,959,027 (n=329)	In 2018 6,771,256± 8,132,099 (n=111)
Agriculture as main source of livelihood [*,#],%	48.7	42.6	67.0	72.2	72.2	48.7	62.6	54.5	51.6 (n=122)
With local waterworks,%	62.3 (n=114)	76.5	61.7	68.4 (n=114)	73.9	76.3 (n=114)	66.0 (n=344)	73.8 (n=343)	78.7 (n=122)
Households enrolled in 4Ps[*,#],mean±SD (among barangays with 4Ps)	In 2016 251.9± 396.2 (n=65)	In 2018 323.3± 631.4 (n=92)	In 2016 136.8± 121.2 (n=100)	In 2018 130.4± 124.0 (n=109)	In 2016 252.1± 216.8 (n=95)	In 2018 291.3± 303.6 (n=107)	In 2016 207.7± 254.2 (n=260)	In 2018 243.9± 403.3 (n=308)	In 2018 266.0± 363.9 (n=98)
With barangay health station, rural/city health unit/office[,$],%	87.8	87.0	80.9	83.5	89.6	91.3	86.1	87.2	95.9 (n=122)
With indigenous peoples[*,#],%	21.9 (n=114)	20.9	7.8	2.6 (n=114)	81.6 (n==114)	77.9 (n=113)	37.0 (n=343)	33.6 (n=342)	43.4 (n=122)

[a]Unweighted results presented as percentage of barangays or mean ± SD; Wave 1 data presented for non-varying attributes; In some cases, values are set to missing if data were reported in a different format

[*]Significantly different at p<0.05 across domains in Wave 1, [#] across domains in Wave 3, [$]between original (baseline) and new barangays; Test for significant differences were based on chi-squared test of independence, mean comparison tests, and one-way analysis of variance tests.

CHAPTER 5
PROFILE OF THE FILIPINO CHILD AT AGES 12-13

5.1 Basic profile of the index children

IC age

The primary inclusion criterion at baseline was that the child must be between the ages of 10.01 to 10.99 (validated based on their birth certificate data). Further validation and final cleaning of the IC date of birth using Waves 2 and 3 data[7] revealed that of the 4,952 recruited at baseline, 98.9% (n=4,897) were within the eligible age range, 20 ICs were between the ages of 9.5 to 9.9 and 15 who just turned 11 years old. In total, 99.6% (4,932) of the baseline sample were between 9.5 to 11.4 years old. We flagged 20 ICs who were found to be either between 8.5-9.4 or 11.6-12.3 years old at baseline. The Project Team, upon our Statistical Consultant's advice, decided to continue tracking these ICs since most analysis adjust for age. Given the intervals between surveys (see Chapter 3), the ICs were aged 11 (71.6%) or 12 (28.0%) in Wave 2 and 12 (73.3%) or 13 (26.3%) in Wave 3.

Household profile

Table 5.1 presents a basic profile of the IC households at Wave 3 stratified by domain. About 80% of the household respondents were mothers of the ICs just like in previous waves. About 90% of the respondents in Wave 3 were also the respondents in Wave 2 or Wave 1 (for those who missed Wave 2). Close to 80% of the ICs were living with both parents while about 8% had no parents in the household. Higher proportion of children with no parents in the household is observed in Mindanao. The average household size in this sample is 6.2 persons, higher than the national average of 4.4 persons[8], given that these are households with children and are more likely to have more household members (see Bongaarts, 1983 & 2001). Almost half of the total households were enrolled in the Pantawid Pamilyang Pilipino Program (4Ps), with Visayas and Mindanao having significantly more beneficiaries compared to Luzon. Similar household characteristics were reported in Wave 2.

IC profile

Table 5.1 also shows that about 97% of the cohort were currently in school in Wave 3 (in Waves 1 and 2 about 98% were in school). On average, these children started first grade at age 6.3. Higher grade levels in Wave 3 were significantly associated with younger ages at Grade 1. The majority of the cohort also appears to be on track in terms of moving up the next grade level every year. Data from prior survey reports (OPS 2018 & 2019) showed that the index children were in Grades Four (29%) or Five (63%) at baseline and in Grades Five (28%) or Six (62%) in Wave 2. In Wave 3 they were in Grades Six (29%) or Seven (60%). Though similar age at school entry is reported across domains, a higher proportion of children in Mindanao are in lower grade levels. Table 5.2 shows that in Wave 1 about 12% of the children were reported to have

[7] In longitudinal surveys, certain data are validated using repeat measures and responsible data edits can be done.

[8] As reported in the 2015 Census of Population (https://psa.gov.ph/population-and-housing/node/69728)

ever repeated a grade since they started school. About 3% and 2% repeated a grade within the school year in Waves 2 and 3 respectively.

Table 5.1 Basic characteristics of index children at Wave 3[#]

Characteristics	Luzon (n=1,445)	Visayas (n=1,589)	Mindanao (n=1,616)	ALL (N=4,650)
Age in years, n	12.8 ± 0.01	12.8 ± 0.01	12.7 ± 0.02	12.7 ± 0.01
Males,%	52.9	49.6	53.0	52.3
Main household respondent[##], %	(n=1,444)	(n=1,582)	(n=1,612)	(n=4,638)
Mothers	80.0	80.3	77.0	79.2
Fathers	6.4	7.4	8.4	7.1
Grandmothers	9.4	8.0	8.9	9.0
Other household members	4.2	4.3	5.7	4.7
Parents in household[##], %:				
Both parents	80.7	81.2	76.9	79.8
Mother only	8.6	8.8	10.2	9.1
Father only	2.7	3.2	3.3	3.0
No parents	8.0	6.9	9.6	8.2
Household size[b], n	6.1±0.08	6.3±0.10	6.5±0.14	6.2±0.06
4Ps beneficiary household[a,b], %	41.3	51.6	57.8	47.7
Currently in school,%	97.4	97.3	96.5	97.1
Current grade[###,b,c],%				
Grade 4 or below; SPED or none completed	3.7	3.3	8.8	5.0
Grade 5	5.1	3.5	8.3	5.6
Grade 6	28.6	28.8	28.9	28.7
Grade 7	61.6	63.7	53.2	59.8
Grades 8/9	1.0	0.7	0.8	0.9
Age first enrolled in Grade 1[####]	6.3±0.02	6.2±0.02	6.3±0.04	6.3±0.02
Repeated a grade in current school year, %	1.1	1.2	2.9	1.6

[#]Weighted results presented as percentages or mean ± standard error (SE). Test for significant differences in weighted proportions and means were based on Pearson chi-square test for independence and adjusted Wald test respectively. Weighted analysis restricted to 4,650 households which remained in the baseline domain (see Section 2.3 of Chapter 2).

[##] Mother/father refers to biological or step/adoptive/foster

[###] Current grade if in school; last grade completed if not in school

[####] Excludes 14 children either still in pre-school or late enrollees at ages 10-12

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

5.2 Status of children's vulnerabilities

This study collects a wide array of data on the cohort to examine how they are faring in various aspects of their lives. To get a quick snapshot of the children's general level of vulnerability, at each wave we assess how they perform in seven domains that are areas of concern in the SDG as well as the Convention on the Rights of the Child (UN General Assembly, 1989). We identified 16 dichotomous variables (1=yes/0=no) 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), measures of undernutrition: stunted (height-for-age), severely thin/thin (body mass index-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

Data for Domains 4, 6 and 7 were based on IC responses, while the rest were derived from responses from the mothers or caregivers. Table 5.2 compares data on these vulnerabilities between boys and girls and across survey waves.

Differences between boys and girls

Compared to girls, boys appear to be consistently disadvantaged from age 10 through 12 in these critical areas: repeating grades, experiencing hunger, exposure to violence (being hurt by friends, parents, other adults) and risky behaviors (smoking, drinking alcohol, having gone beyond kissing, watching pornographic movies). Starting at age 11, a significantly higher proportion of the children have reported chatting with strangers online. While a higher proportion among boys were engaged in this behavior, the increase in the proportion of girls between Waves 2 and 3 was significantly higher than among boys. Just as we have reported in Wave 2 (OPS, 2019), this sharp increase occurs alongside an increase in internet use over time (see Figure 1). The proportion of children using the internet, having their own email accounts and their own cell phones were significantly different between Waves 1 and 3. In Wave 1 only about 33% of the children who owned cell phones used their phones to surf the internet. By Wave 3 the corresponding proportion sharply increased to about 72%.. At age 10, significantly more boys than girls were reported by their mothers/caregivers as having engaged in paid or unpaid worked. The sex differential diminished at ages 11 and 12 as more girls were reported to be working.

Significant sex differences in undernutrition indices were observed starting at age 11. Between the ages of 10-12, in the course of their pubertal transition (see Section 5.3) and increasing growth trajectories, some of the children have caught up and have reached their optimal height-for-age. Thus lower prevalences in stunting are observed at ages 11 and 12 in both sexes, compared to when they were age 10. More dramatic declines are seen in girls given that they mature earlier than boys. Looking at their weight relative to their height at ages 11 and 12, more boys are classified as thin compared to girls. Independent of the effects of physical activities on their energy reserves, increased adiposity among girls during puberty is attributed to hormonal regulation that occurs as their bodies are being prepared for reproduction (Jasik and Lustig, 2008). At age 12, a higher proportion of boys had low diet diversity scores compared to girls.

In Wave 3, we expanded the morbidity section by listing specific impairments (visual, hearing, speech, physical, intellectual, psychiatric). Thus, the morbidity and disability variables in Wave 3 may not be exactly comparable with those of prior waves. At age 12, significantly more girls

than boys were reported by the mothers/caregivers as having some type of disability. To provide more context to this, in Section 5.4 we present the results of a functional disability module that was administered to the ICs for the first time in Wave 3.

Lower reports of vulnerability in Wave 2 and 3

We observed decreasing rates of children experiencing hunger and violence from Wave 1 through Wave 3, with a more dramatic decline between baseline and Wave 2 than between the last two waves. Being self-reported data, it is difficult to determine whether this trend reflects actual change in behavior/experience or a matter of how the children respond to the question, having been asked the same set of questions repeatedly. The more stable response trend between Waves 2 and 3 could mean that the children are more accurately answering the questions. Appendix 6 reports the coefficients of variation (CV) over the three waves among the variables presented in Table 5.2. The CV of most of the variables indicated acceptable levels of precision over time, with more precise values between Waves 2 and 3.

Among the major advantages of monitoring children's outcomes using longitudinal data is that repeat measures allow one to examine trends over time, and is able to determine whether a particular risk behavior is episodic (just happens at age 10) or persistent (risk reported consistently over time). We then get to better characterize children in terms of those who are persistently not at risk, who fluctuate between non-risk to risk status and who consistently remain at risk over time.

Table 5.2 Comparing vulnerabilities by sex across Waves[a]

Vulnerabilities	Wave 1			Wave 2			Wave 3		
	Boys	Girls	All	Boys	Girls	All	Boys	Girls	All
Ever repeated a grade[b]	14.1***	9.1	11.7	3.8***	1.6	2.7	2.0**	1.1	1.6
Ever sick last 6 months[c]	30.8	27.2	29.1	19.0	18.5	18.8	49.2	49.7	49.4
With disability[c]	1.2	1.7	1.4	2.3	2.4	2.3	2.3***	5.2	3.7
Stunted	32.3	29.9	31.1	30.4***	24.7	27.6#	28.7***	20.3	24.6##
Thin (<normal BMI-for-age)[d]	16.4	14.7	15.6	17.6***	13.2	15.5	19.2***	11.5	15.5
Low diet diversity score[e]	54.8	56.3	55.5	57.4	54.0	55.7	57.6**	53.5	55.6
Hungry but did not eat	46.7***	38.9	43.0	37.1***	30.4	33.8#	29.5***	23.5	26.6##
Currently working (paid/unpaid)	5.2**	3.7	4.5	6.0	5.0	5.5	5.5	4.9	5.2
Physically hurt by friends	43.3***	32.4	38.1	33.4***	24.5	29.1#	27.5***	17.3	22.6##
Forcefully hurt by parents	18.9***	12.9	16.0	16.6 ***	8.3	12.6#	13.5***	6.9	10.4##
Physically hurt by adults	27.8***	16.4	22.4	18.0***	10.0	14.2#	15.0***	8.1	11.6##
Currently smoking	5.6**	2.8	4.3	3.4 ***	1.3	2.4#	2.7***	0.8	1.8
Currently drinks alcohol	5.9***	2.8	4.4	7.8 ***	3.2	5.6#	6.2***	2.8	4.6
More than kissed	5.5***	3.6	4.6	5.4***	2.1	3.8	4.3***	1.7	3.1
Watched porn movies	19.4***	15.3	17.4	14.0***	5.7	10.0#	13.8***	5.3	9.7
Chats with strangers	4.5	3.9	4.2	20.7***	11.3	16.1#	29.8***	22.7	26.4##
Vulnerability scores[f]	3.3 ± 0.1***	2.7 ± 0.0	3.0± 0.05 (n=4,311)	2.9 ± 0.1***	2.1 ± 0.0	2.5± 0.04# (n=4,191)	3.0 ± 0.1***	2.3 ± 0.0	2.7± 0.04## (n=4,213)

[a] Weighted results are presented as percentages or mean ± standard error; We used linear combination of estimators (LINCOM) to test for significant differences in proportions between boys/girls within waves, between Waves 1 and 2 and Waves 2 and 3 for both sexes. Analysis sample limited to those in Wave 3 and have remained in the baseline domain (n ranges from 4311 to 4650)

[b] Repeated a grade in Wave 1 means ever repeated a grade; in Waves 2/3: repeated grade within current school year; excluded from LINCOM testing

[c] Values in Wave 3 may not be comparable with previous waves given expanded version of the morbidity section in Wave 3; excluded from LINCOM testing

[d] Classified using the 2007 WHO Reference Standards (update)

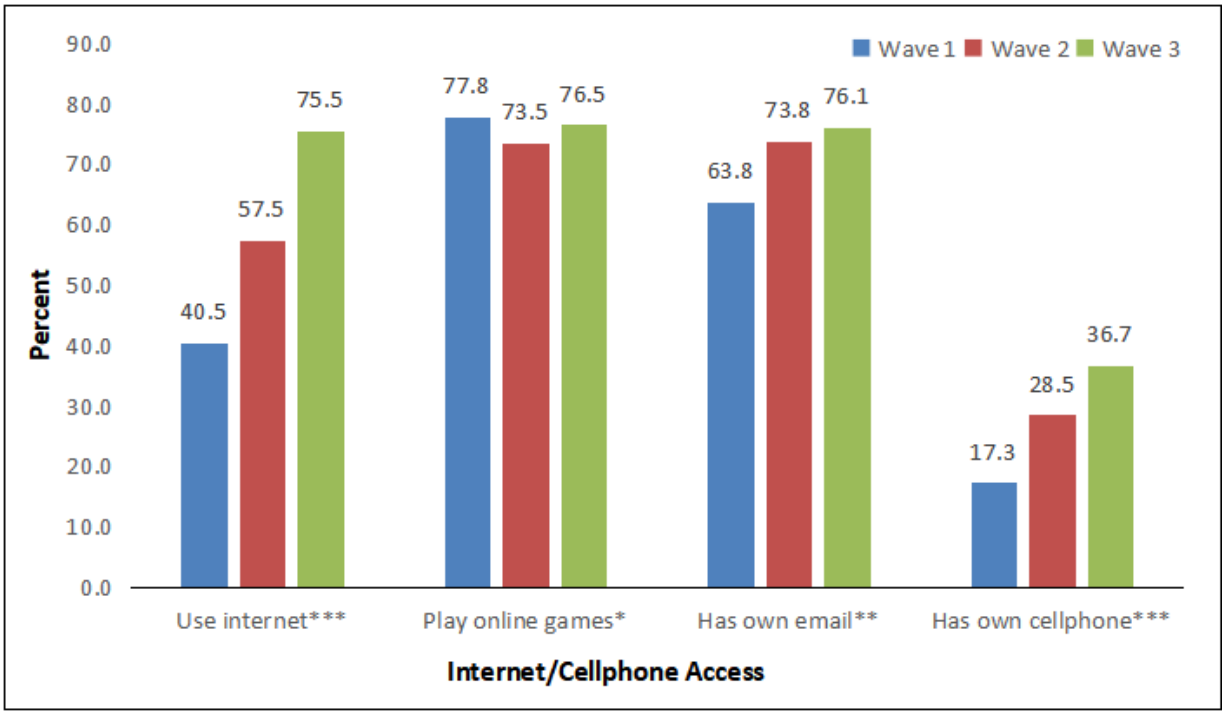
[e] Consumed less than 4 of 9 food groups the previous day

[f] Among those with non-missing values in all 16 vulnerability variables

** Significant between boys and girls at p<0.05; *** at p<0.01

Significant between Waves 1 and 2 for both sexes at p<0.05; ##Significant between Waves 2 and 3 for both sexes at p<0.05;

Figure 1. Internet and cellphone access (Waves 1-3)



*** significantly different in all waves
* significantly different between Waves 1 and 2
** significantly different between Waves 1 and 2/3

5.3 Sexual maturity rating

One important feature of this study is that the children's development over time can be assessed within the context of their pubertal transition, which in many ways help correctly explain particular trends. One example is the shift from stunted to non-stunted status discussed in Section 5.2. Knowing the children's pubertal status also provides important perspective on their emotional status (reacting to manifestations of violence, for instance) and behaviors (as they experiment with life and explore new experiences such as interacting with strangers on the internet, dealing with their sexuality, etc.) (Rosen, 2004; Lee and Styne, 2013; Chulani and Gordon, 2014).

In this study pubertal status is measured using the Sexual Maturity Rating (SMR) Scales developed by Marshall and Tanner for girls (1969) and boys (1970), a widely used self-assessment tool where children identify the pubertal stage they are in. Self-reports of pubertal stages have been validated against staging done through physician's examination and the results were found to sufficiently distinguish children between prepubertal and pubertal status (Rasmussen et al, 2015). The SMR scales consist of two sets of body drawings, each set showing drawings that depict from pre-pubertal stage (drawing 1) through adult stage (drawing 5). The girls' scale has a set of breast drawings showing various stages of breast and nipple changes and another set showing various stages of pubic hair development. The boys' scale has a set of drawings of the penis, scrotum and testes and another on pubic hair.

Given the graphic depictions of breast and external genitalia in the SMR scales, the study team was concerned that administering these at baseline, during the children's first exposure to the study team, might discourage some from participating in further waves. A decision was made to administer the SMR Scales in Wave 2, after the index children have somewhat acclimatized themselves to the study procedures, having gone through the first wave, and rapport has started to be established between the children and interviewers. Fortunately, to date, we've only had one child who refused to participate (in Wave 3) because of the SMR drawings.

Table 5.3A compares the SMR-based pubertal stages between Waves 2 and 3 or between ages 11 and 12. In all the drawing sets (breast, male genitalia and pubic hair) we observed a significant shift in the distribution to a higher stage by age 12. For instance, at age 11 about 20% of the girls still assessed their breast development as being in the prepubertal stage. However by age 12, only about 8% reported being in this stage. At age 11 about 18% of the boys' penile/testicular development was assessed at stage 4. By age 12, the proportion falling under this stage significantly increased to about 29%. A more pronounced shift to higher stages was observed in pubic hair development for both sexes. Being a self-administered module, there were children who assigned themselves at a lower stage in Wave 3 than in Wave 2, but the majority either reported being in the same or higher stage at Wave 3.

In Wave 1 only about 3% of the girls have started their menses. The proportion increased to 25% in Wave 2 and by Wave 3 about 59% were menarcheal. Mean age at menarche in Wave 3 was 11.4 years. Menarcheal status was significantly correlated with the girls' pubertal stages in both waves. About 47%, 53% and 62% of the boys reported experiencing voice change in Waves

1, 2 and 3 respectively. Voice change was likewise positively associated with pubertal stages but at a much lower degree (see Table 5.3B).

Table 5.3A Sexual maturity ratings by sex, Waves 2-3[a]

Pubertal stages		Wave 2		Wave 3	
		Weighted %	Mean Stage ± SE	Weighted %	Mean Stage ± SE
Girls: breast development		(n=2,238)		(n=2,273)	
Stage 1	Prepubertal[##]	20.37		8.05	
Stage 2	Breast bud stage[##]	40.65		31.71	
Stage 3	Further breast enlargement[##]	30.44		42.16	
Stage 4	Areola form a secondary mound[##]	7.71		16.12	
Stage 5	Mature stage[##]	0.83		1.96	
All girls[##]			2.28±0.03		2.72±0.03
Girls: pubic hair development		(n=2,235)		(n=2,272)	
Stage 1	Prepubertal[##]	57.12		28.82	
Stage 2	Sparse growth[##]	29.62		41.13	
Stage 3	Darker, coarser growth[##]	9.41		21.39	
Stage 4	Adult hair, covering small area[##]	3.22		8.33	
Stage 5	Adult hair in type and quantity	0.63		.032	
All girls[##]			1.61±0.03		2.10±0.03
Boys: penile/testicular development		(n=2,263)		(n=2,293)	
Stage 1	Prepubertal[##]	15.02		8.14	
Stage 2	Enlargement of scrotum and testes[##]	28.68		19.61	
Stage 3	Enlargement of penis (length)[#]	31.03		34.86	
Stage 4	Increased size of penis, scrotum, testes[##]	17.88		29.27	
Stage 5	Adult genitalia	7.39		8.11	
All boys[##]			2.74±0.04		3.10±0.04
Boys: pubic hair development		(n=2,255)		(n=2,294)	
Stage 1	Prepubertal[##]	48.91		24.7	
Stage 2	Sparse growth[##]	33.92		39.87	
Stage 3	Darker, coarser growth[##]	13.45		25.52	
Stage 4	Adult hair, covering small area[##]	2.60		8.96	
Stage 5	Adult hair in type and quantity	1.11		0.95	
All boys[##]			1.73±0.02		2.22±0.03

[a] Weighted results are presented as percentages or mean ± standard error; We used linear combination of estimators (LINCOM) to test for significant differences in proportions between boys/girls within waves, between Waves 2 and 3. Analysis sample limited to those in Wave 3 and have remained in the baseline domain.

[#] Significant between Waves 2 and 3 at p<0.05; [##]at p<0.01;

Table 5.3B Pairwise correlation between measures of puberty (Wave 3)

Measures for Girls	Pubic hair development stages	Menarcheal (1=yes; 0=no)
Breast development stages	0.5516***	0.4220***
Pubic hair development stages		0.4353***
Measures for Boys	Pubic hair development stages	Voice Change (1=yes; 0=no)
Genital development stages	0.4491***	0.1259***
Pubic hair development stages		0.2044***

*** Significant at p<0.01

5.4 Functional Limitations Disability

In Wave 3 we administered a modified version of the Washington Group Short Set of Questions on Disability (http://www.washingtongroup-disability.com). This instrument is designed to assess the level of impairment or functional limitations related to vision, hearing, walking, remembering/concentrating, engaging in self-care activities like bathing, dressing and communicating/capacity to be understood. Tables 5.4A and B present data from this module, stratified by sex.

Table 5.4A reports visual and hearing difficulties. There were 119 children who reported wearing eyeglasses and of these about 34% reported difficulty in seeing even while wearing glasses. This could mean that the prescribed glasses did not sufficiently correct vision or were improperly fit. Of those who were not wearing glasses, about 6% claimed to have some level of difficulty in seeing. The implied unmet need for glasses is observed more among girls than boys. There were 8 children reported to be using hearing aids. Of the majority not using any aid, about 3% reported some level of difficulty hearing. None of the eight wearing hearing aids reported any further difficulty in hearing.

Table 5.4B presents data on the level of functional disability based on reported difficulty in seeing (with or without glasses), hearing (with or without hearing aids), walking or climbing steps, remembering or concentrating and engaging in self-care activities. Note that the question on difficulty in communicating/in understanding or being understood using customary language was inadvertently excluded in this survey. As shown in the last row of Table 5.4B, about 35% of the children reported at least one function done with some level of difficulty which mostly refers to their capacity to remember/concentrate or vision. We observed significant correspondence between self-reports of children on their visual and hearing difficulties against reports of mothers/caregivers on whether the ICs have visual or hearing impairments (pairwise correlation results: 0.49 for vision and 0.62 for hearing, both significant at $p<0.01$).

Table 5.4A Washington Group Short Set: Assessing level of difficulty in seeing and hearing (Wave 3)

Functions	Boys (n=2,291)	Girls (n=2,273)	ALL (n=4,564)
Wears glasses*** ,%	1.68	4.31	2.94
If not wearing glasses: level of difficulty in seeing*** ,%			
No difficulty	96.23	92.40	94.42
With some difficulty	3.53	7.16	5.24
A lot of difficulty	0.22	0.41	0.31
Cannot see at all	0.03	0.02	0.02
If wearing glasses, level of difficulty in seeing, %			
No difficulty	69.75	64.33	65.86
With some difficulty	30.25	31.70	31.29
A lot of difficulty	0.00	3.97	2.85
Cannot see at all	0.00	0.00	0.00
Wears hearing aids,%	0.15	0.18	0.16
If not wearing hearing aids: level of difficulty in hearing,%			
No difficulty	97.02	96.81	96.92
With some difficulty	2.68	2.95	2.81
A lot of difficulty	0.30	0.23	0.27
Cannot hear at all	0.00	0.01	0.00
If wearing hearing aids: level of difficulty in hearing, %			
No difficulty	100.00	100.00	100.00
With some difficulty	0.00	0.00	0.00
A lot of difficulty	0.00	0.00	0.00
Cannot hear at all	0.00	0.00	0.00

*** Significantly different between boys and girls at p<0.01

Table 5.4B Washington Group Short Set: Assessing functional disability (Wave 3)

Functions	Boys (n=2,291)	Girls (n=2,273)	ALL (n=4,564)
1) Have difficulty seeing (whether with glasses or not)***, %			
No difficulty	95.81	91.19	93.60
With some difficulty	3.94	8.23	6.00
A lot of difficulty	0.22	0.57	0.38
Cannot see at all	0.02	0.02	0.02
2) Have difficulty hearing (whether with hearing aids or not), %			
No difficulty	97.02	96.81	96.92
With some difficulty	2.68	2.95	2.81
A lot of difficulty	0.30	0.23	0.27
Cannot hear at all	0.00	0.01	0.00
3) Have difficulty walking or climbing steps, %			
No difficulty	97.19	97.05	97.12
With some difficulty	2.62	2.57	2.60
A lot of difficulty	0.19	0.28	0.23
Cannot do at all	0.00	0.10	0.05
4) Have difficulty remembering or concentrating, %			
No difficulty	72.04	71.92	71.99
With some difficulty	26.25	26.86	26.54
A lot of difficulty	1.69	1.11	1.41
Cannot do at all	0.02	0.10	0.06
5) Have difficulty engaging in self-care activities, %			
No difficulty	98.62	99.11	98.85
With some difficulty	0.98	0.65	0.82
A lot of difficulty	0.30	0.24	0.27
Cannot do at all	0.10	0.00	0.05
Level of functional disability in functions #1-5, %			
No difficulty in all	66.44	63.02	64.80
With at least 1 done with some difficulty	31.00	34.86	32.85
With at least 1 done with a lot of difficulty/cannot do at all	2.57	2.12	2.35

*** Significantly different between boys and girls at p<0.01

CHAPTER 6
PUBLISHED REPORTS AND POLICY NOTES

Survey Reports:

USC-Office of Population Studies Foundation, Inc. (OPS). (2018). Longitudinal cohort study on the Filipino child. **Baseline survey technical report**. OPS Report Series No. 2. Retrieved from http://www.opsusc.org/paper_series.php.

USC-Office of Population Studies Foundation, Inc. (OPS). (2019). Longitudinal cohort study on the Filipino child. **Baseline qualitative study report** . OPS Report Series No. 3. Retrieved from http://www.opsusc.org/paper_series.php.

USC-Office of Population Studies Foundation, Inc. (OPS). (2019). Longitudinal cohort study on the Filipino child. **Wave 2 final report**. OPS Report Series No. 4. Retrieved from http://www.opsusc.org/paper_series.php.

Policy Notes:

Largo, F.M., Bacungan, C.C., Alegado, J.L.G., Borja, J.B., Mayol, N.L., Bechayda, S.A., Bautista, C.A.P., Herrin, A.N. (2019). **Mitigating the effects of undernutrition on schooling performance among 10-year-old children: What can be done?** Longitudinal Cohort Study on the Filipino Child. UNFPA-OPS Policy Notes Series_No. 1. USC-Office of Population Studies Foundation, Inc. Retrieved from http://www.opsusc.org/paper_series.php.

Largo, F.M., Bacungan, C.C., Alegado, J.L.G., Borja, J.B., Mayol, N.L., Bechayda, S.A., Bautista, C.A.P., Herrin, A.N. (2019). **Reducing the incidence of bullying and improving elementary school performance: Enhancing effectiveness of school programs.** Longitudinal Cohort Study on the Filipino Child. UNFPA-OPS Policy Notes Series_No. 2. USC-Office of Population Studies Foundation, Inc. Retrieved from http://www.opsusc.org/paper_series.php.

Largo, F.M., Bacungan, C.C., Alegado, J.L.G., Borja, J.B., Mayol, N.L., Bechayda, S.A., Bautista, C.A.P., Herrin, A.N. (2019). **Mitigating the effect of children's disabilities on elementary education outcomes.** Longitudinal Cohort Study on the Filipino Child. UNFPA-OPS Policy Notes Series_No. 3. USC-Office of Population Studies Foundation, Inc. Retrieved from http://www.opsusc.org/paper_series.php.

Largo, F.M., Alegado, J.L.G., Borja, J.B., Mayol, N.L., Bechayda, S.A., Bautista, C.A.P., Herrin, A.N. (2020). **Early work/labor patterns of Filipino children and their implications on policy.** Longitudinal Cohort Study on the Filipino Child. UNFPA-OPS Policy Notes Series_No. 4. USC-Office of Population Studies Foundation, Inc. Retrieved from http://www.opsusc.org/paper_series.php.

Alegado, J.L.G., Largo, F.M., Borja, J.B., Mayol, N.L., Bechayda, S.A., Bautista, C.A.P., Herrin, A.N. (2020). **Closing the gender gap in schooling outcomes and cognitive ability among Filipino children.** Longitudinal Cohort Study on the Filipino Child. UNFPA-OPS Policy Notes Series_No. 5. USC-Office of Population Studies Foundation, Inc. Retrieved from http://www.opsusc.org/paper_series.php.

REFERENCES CITED

Adair, L., Popkin, B., Akin, J., Guilkey, D., Gultiano, S., Borja, J., Perez, L., Kuzawa, C., McDade, T., & Hindin, M. (2010). Cohort profile: The Cebu Longitudinal Health and Nutrition Survey. *International Journal of Epidemiology*, 40(3): 619-625.

Bongaarts, J. (1983.) The formal demography of families and households: An overview. *IUSSP Newsletter* no. 17 (January–April): 27–42.

Bongaarts, J. (2001). Household size and composition in the developing world. *Policy Research Division Working Paper no. 144*. New York: Population Council. Version of record: https://doi.org/10.1080/00324720127697

Chulani, V.L., & Gordon, L.P. (2014). Adolescent growth and development. *Primary Care: Clinics in Office Practice*, 41:465-487.

Dikitanan, R., Grosjean, G., Nowak, A., Leyte, J. (2017). *Climate-Resilient Agriculture in Philippines.* CSA Country Profiles for Asia Series. International Center for Tropical Agriculture (CIAT); Department of Agriculture - Adaptation and Mitigation Initiative in Agriculture, Government of the Philippines. Manila, Philippines.

Food and Agriculture Organization of the United Nations.(FAO). (2017, January). EL NIÑO & LA NIÑA in the Philippines. Retrieved June 19, 2020, from http://www.fao.org/3/a-i6775e.pdf

Harris, PA, Taylor, R, Thielke, R, Payne, J, Gonzalez, N & Conde, JG. (2009). Research electronic data capture (REDCap) – A metadata-driven methodology and workflow process for providing translational research informatics support. *Journal of Biomedical Informatics*, 42(2):377-81.

Harris, PA, Taylor, R, Minor, BL, Elliott, V, Fernandez, M, O'Neal, L, McLeod, L, Delacqua, G, Delacqua, F, Kirby, J, Duda, SN & REDCap Consortium. (2019). The REDCap consortium: Building an international community of software partners. *Journal of Biomedical Informatics*, 95:1-10 [doi: 10.1016/j.jbi.2019.103208]

International Federation of Red Cross and Red Crescent Societies. (2016, April 29). *Information Bulletin-Philippines: Drought and dry spells*. Retrieved June 19, 2020, from https://reliefweb.int/sites/reliefweb.int/files/resources/IBPHdr290416.pdf

Jasik, C. B., and Lustin, R.H. (2008). Adolescent Obesity and Puberty: "The Perfect Storm". *Annals of the New York Academy of Sciences*, 1135:265-279.

Lee, Y. & Styne, D. (2013). Influences on the onset and tempo of puberty in human beings and implications for adolescent psychological development. *Hormones and Behavior*, 64:250-261.

Marshall, WA, & Tanner, JM. (1969). Variations in pattern of pubertal changes in girls. *Archives of Disease in Childhood*, 44(235):291-303.

Marshall, WA, &Tanner, JM. (1970). Variations in the pattern of pubertal changes in boys. Archives of Disease in Childhood, 45(239):13-23. 17.

National Economic Development Authority (NEDA). (2016). Ambisyon Natin 2040. A long-term vision for the Philippines. Retrieved from http://2040.neda.gov.ph/about-ambisyon-natin-2040/.

Perez T.L. (2015). Attrition in the Cebu Longitudinal Health and Nutrition Survey. USC-Office of Population Studies Foundation, Inc. Report Series No. 1. Retrieved from https://www.opsusc.org/paper_series.php.

Rasmussen, A.R., Wohlfahrt-Veje, C., de Renzy-Martin, K.T., Hagen, C.P., Tinggaard, J., Mouritsen, A., Mieritz, M.G. & Main, K.M. (2015). Validity of self-assessment of pubertal maturation. *Pediatrics*, 135(1):86-93.

Rosen, D.S. (2004). Physiologic growth and development during adolescence. *Pediatrics in Review*, 25(6): 194-199.

UN General Assembly. (1989). *Convention on the Rights of the Child.* (20 November 1989, United Nations, Treaty Series, vol. 1577, p. 3). Retrieved from http://www.refworld.org/docid/3ae6b38f0.html

UNHCR. (2019, August). *MINDANAO DISPLACEMENT DASHBOARD* (Issue No. 61). https://reliefweb.int/sites/reliefweb.int/files/resources/Mindanao-Displacement-Dashboard-Aug-2019.pdf

United Nations. (2017). *The Sustainable Development Goals Report 2017*. New York, New York: Department of Economic and Social Affairs.

USC-Office of Population Studies Foundation, Inc. (OPS). (2018). *Longitudinal cohort study on the Filipino child. Baseline survey technical report*. OPS Report Series No. 2. Retrieved from https://www.opsusc.org/paper_series.php.

USC-Office of Population Studies Foundation, Inc. (OPS). (2019). *Longitudinal cohort study on the Filipino child. Wave 2 final report*. OPS Report Series No. 4. Retrieved from https://www.opsusc.org/paper_series.php.

APPENDIX 1

Representatives to the Steering Committee for the Longitudinal Cohort Study on the Filipino Child (as of April 11, 2019)

Agency	Principal Representative
National Economic and Development Authority (NEDA)	Usec. Rosemarie G. Edillon
Department of Health (DOH)	Asec. Maria Rosario S. Vergeire, MDm MPH, CESO IV
Department of Education (DepEd)	Usec. Jesus Lorenzo R. Mateo
Department of Social Welfare and Development (DSWD)	Asec. Glenda D. Relova
National Youth Commission (NYC)	Comm. James Ceasar A. Ventura
Philippine Statistics Authority (PSA)	ANS Wilma Guillen
Philippine Commission on Women (PCW)	Dep. Dir. Maria Kristine Josefina G. Balmes
Council for the Welfare of Children (CWC)	ED Mary Mitzi Cajayon-Uy
Philippine Statistical Research and Training Institute (PSRTI)	ED Josefina C. Venegas-Almeda, PhD

APPENDIX 2

USC- Office of Population Studies Foundation,Inc.

W. Flieger Bldg., University of San Carlos
Talamban, Cebu City

History, Mission and Vision

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, 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.

Our vision is to become a world-renowned research organization with a credible track record in relevant research and related activities that influence programs and policies for uplifting human and social development.

Research Staff

The OPS research core group consists of 9 locally and internationally trained Research Fellows and Associates with expertise in the fields of demography, economics, nutrition, epidemiology, sociology, and reproductive health. In addition, most are survey specialists with vast experiences in designing and implementing surveys. Many have risen from the ranks of field supervisors and data managers. Former Research Fellows/Associates continue to actively engage in OPS research as consultants. In support of research, OPS has a programmer/network administrator, GIS personnel, as well as a Data manager who takes charge of data processing (encoding, editing and validation), documentation, and storage. Administrative work is handled by a Human Resources Manager and a Finance/Grants Officer and their respective staff members. The OPS also has a pool of field research staff, office data editors, and encoders that are hired on a contractual basis for survey operations.

Research Services

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 on the Filipino Child
Wave 3 Survey
OPS Project Management Team

Principal Investigator:	Dr. Judith Rafaelita B. Borja
Co-Investigator:	Dr. Nanette L. Mayol
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	Tita Lorna L. Perez
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	Hanna Sarrah M. Lesmes
	Princess Claire Mae S. Deniega
	Ralphie P. Ramas
	Ana Ruth B. Quiamco
	Jessyl Joie S. Galera
	Therese Ann Y. Montebon

Demographic Research and Development Foundation (DRDF, Inc.)

About Us

The Demographic Research and Development Foundation, Inc. (DRDF), established in 1983, is a non-stock, non-profit organization registered with the Philippine Securities and Exchange Commission that aims to promote and undertake research, training and other related activities in population and development. More specifically, DRDF as a group of population and development specialists 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 pursuing its mission and vision, DRDF works closely with the University of the Philippines Population Institute (UPPI), with whom it has special working relationship and arrangements. DRDF is temporarily housed in the UPPI premises. They share library resources (e.g. books, journals, electronic references), facilities and human resources, creating a synergistic environment for the improvement of the quality of demographic studies and research outputs.

DRDF is an active player in the Philippine demographic arena, working closely with other organizations. It is an active member of the Philippine Population Association (PPA), Philippine NGO Council on Population, Health and Welfare, Inc. (PNGOC), and Reproductive Health Advocacy Network (RHAN). It is accredited by the Department of Science and Technology.

ACTIVE MEMBER:

Philippine Population Association

PNGOC Philippine NGO Council on Population, Health and Welfare Inc.

Reproductive Health Advocacy Network

ACCREDITED:

DEPARTMENT OF SCIENCE AND TECHNOLOGY

Longitudinal Cohort Study on the Filipino Child: Wave 3 Survey
Project Staff List
Demographic Research and Development Foundation (DRDF, Inc.)

Name	Role
Laguna, Elma	Luzon Project Coordinator
Marquez, Maria Paz	Co-Project Coordinator
Villegas, Justine Kristal	Research Associate

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Field Supervisor: Erna Canale	Alma Escanillan
	Lourdes Oliver
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CENTER FOR SOCIAL RESEARCH AND EDUCATION

Harnessing Research, Building Better Communities

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, undertakes research and development work in areas that relate to: (i) environment (including disaster risk-reduction), water and sanitation; (ii) women, gender and health (including MCH, HIV and AIDS, reproductive health, ethno-medicine); (iii) food, culture and local knowledge; (iv) poverty, child labor and migration; and (v) other development-related concerns e.g. assessment and social acceptability. 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 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.

LONGITUDINAL COHORT STUDY ON THE FILIPINO CHILD:
WAVE 3 QUANTITATIVE STUDY

LIST OF PROJECT STAFF

Project Coordinator:	Fiscalina Amadora-Nolasco
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	Mary Cris Lyn Aldaba
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	Stephanie Natividad
Cebuano Team B Leader:	Llopes, Fedilyn
Cebuano Team B Interviewers:	Velyn B. Señor
	Lilibeth C. Casinillo
	Conchita P. Sicad
	Ian Dale B. Rios
Ilonggo Team Leader:	Doregnil, Lina
Ilonggo Team Interviewers:	Faith C. Eucariza
	Jomel D. Desales
	Sheila Mae A. Supetran
Waray Team Leader:	Flora Tampil
Waray Team Interviewers:	Maricel C. Gallego
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RIMCU Profile

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.

RIMCU has conducted a considerable number of locally, nationally, and internationally funded studies. Moreover, it established not only a track record in research but also as a social and cultural center where research findings are generated and shared to a wider audience of students, policy-makers, line agency executives, local government units, non-government organizations, and research respondents/participants. Included in these research studies conducted are its engagement with the IP communities as well as in health-related issues.

To date, more than 600 research undertakings have been successfully completed and disseminated and to some extent utilized by planners and decision-makers. These undertakings cover a wide range of interest, such as:

- conflict situations, peace, and ethnic relations
- preventing/countering violent extremism
- operations research on health
- development studies (socio-economic and cultural factors of the development process)
- violence against women and children, women's concern and gender relations/issues
- sexual and reproductive health and rights
- demographic studies on mortality, fertility, and migration
- natural disasters
- poverty and employment-related issues
- ecological and environmental concern
- evaluation studies
- anthropological studies
- governance and democratization

The research experiences and skills are closely intertwined with education and training, communication and advocacy, and networking endeavors. The twin-affiliation of senior research associates in both the Institute and the Department of Sociology & Anthropology fuels and feeds upon their research and teaching in the academe.

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 research excellence, professionalism, and 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.

To fulfill its aim, RIMCU engages with policymakers, civil society, researchers and students to promote their use of RIMCU's research to strengthen their research capacity and to create opportunities for analysis, reflection and debate.

RIMCU conducts discussions and sharing of research outputs with stakeholders within and outside the university. Within the university, RIMCU shares research experiences and utilizes findings in appropriate courses/subjects. Doing so would increase students' awareness and appreciation of research and research utilization

Thus, it is reflected in its Strategic Plan for 2016-2018 under Mission 2 – "Contributes to societal transformation and development through Research and Teaching;" and under its Goal 3: Informed policymakers and practitioners. Its strategies are:

1. Popularize research outputs in tri-media through linkages with academic units with communication courses
2. Establish strong linkages and partnership with GOs, NGOs, POs, and CSOs
3. Establish strong linkages with policy-makers, planners and political leaders
4. Conduct capability building project/activities in utilizing research outputs in policy-making

At present, the Institute Staff is composed of 8 senior research associates, an experienced administrative staff headed by the Institute's Operations Manager, data processing unit, and a pool of field operation's personnel (survey specialists/field supervisors and data collectors/ interviewers). It has also established a network of relationship and partnerships with the academe, LGUs, and NGOs.

RIMCU's research projects were funded locally, nationally, and internationally. International agencies include World Bank, USAID, DFAT (formerly AusAid), International Development Studies (IDS), UN agencies such UNICEF, UNFPA, ILO, WHO, and FAO, and Oxfam GB, among others; while local or national institutions include the Department of Health (DOH), the Philippine Commission for Health Research and Development (PCHRD), the National Commission for Culture and the Arts (NCCA), and the Philippine Center for Population and Development (PCPD).

LONGITUDINAL COHORT STUDY ON THE FILIPINO CHILD

UNFPA QUANTITATIVE SURVEY – WAVE 3 TEAM COMPOSITION

POSITION/TEAM	**NAME**
Investigator	ECHAVEZ, Chona
Research Assistant	MIGALLON, John Mari
Research Assistant (Finance)	LUMINARIAS, Luzminda LABIANO, Mariel
TEAM LEADER	**FIELD INTERVIEWER**
Team 1: ABELIJA, Rowena F.	ANQUILERO, Jesselle
	SALAPI, Nhurfaida E.
	NAGDER, Nurshida J.
Team 2: RODERO, Idna	PONDOC, Alberta A.
	TELECIO, Teofilo Jr. C.
	MABAQUIAO, Ricky John P.
	ANG, Valerie E.
Team 3: VEGA, Prospercora S.	BARILLO, Eil Ryan E.
	ANG, Bobby Rey E.
	JAMIN, Ildelyn I.
	UCAT, Roxendo Jason A.
Team 4: BOAC, Vergil	GUIMALAN, Pamela Pauline A.
	ELAGO, Alyanna Marie D.
	VERANO, Joel M.
	LINGCONG, Cindy A.
Team 5: MONTEJO, Michael Lou U.	BRIONES, Esther V.
	CAMACHO, Gennie C.
	SUTACIO, Rex Adryann R.
	BACOL, Marilou G.

APPENDIX 3

Longitudinal Study of Boys and Girls
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 aggregated at the barangay level 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 Sampling is then used with these subdomains as the control variable.

Selection of Sample Children

In each of the sample barangays, a listing operation was conducted to enumerate children 10 years at that time, information on sex, IP/non-IP, with/without disability, etc., were included in the listing operation. From the list, sample children were selected using systematic sampling.

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). List of replaced and replacement barangays withheld for data privacy reasons.

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 ($\frac{Eligible\ HH}{HH\ Interviewed}$) 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 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

Data Confidentiality and Child Protection Agreement

This confidentiality agreement takes effect on this date: 14 January 2019 between the USC-Office of Population Studies Foundation, Inc. (OPS), University of San Carlos, Talamban Campus, Cebu City, represented by its Project Director, Dr. Judith Rafaelita B. Borja and

Name of Researcher: _____

Residing at: _____

This agreement is to acknowledge that any data gathered in the conduct of the **Longitudinal Cohort Study on the Filipino Child (Wave 3 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 I am not allowed to disclose any of these information 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 Signed

Judith Rafaelita B. Borja
Project Director
OPS Research Fellow

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 activities 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 Constitution[2], 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.
4. The term "OPS activity/ies" refers to data collection, research-related, outreach or any other activities conducted in the name of OPS.
5. 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.
6. 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. All data collection activities will be conducted within sight of mothers or responsible adult household members (but not within hearing distance);
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 the domain (DRDF/CSRE/RIMCU) PROJECT COORDINATOR who reports the incidence to the 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 parent(s) or legal guardian(s).**

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.

APPENDIX 5

UNIVERSITY of SAN CARLOS
SCIENTIA • VIRTUS • DEVOTIO

Research Ethics Committee

CERTIFICATE OF APPROVAL

January 24, 2019

PROTOCOL NUMBER	:	063/2017-12-borja
PROTOCOL TITLE	:	THE LONGITUDINAL COHORT STUDY ON FILIPINO CHILD (Wave 3 Survey) *(Amendments: new questions added and change of title to THE LONGITUDINAL COHORT STUDY ON FILIPINO CHILD)*
RESEARCH TEAM	:	Dr. Judith R. Borja
SPONSOR(S)	:	United Nations Population Fund
STUDY SITE	:	Luzon, Visayas, Mindanao, 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 Research Ethics Committee (USC REC) for *1 year* from *January 24, 2019* to *January 23, 2020*.

Please take note of your responsibilities:

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

Julie B. Otadoy, PhD
Chair, USC REC

Conforme:

Judith Rafaelita Borja, PhD

Date: _____

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

CONSENT FORM FOR MOTHERS AND CAREGIVERS

Consent Form Approval Date: January 24, 2019
Title of Study: LONGITUDINAL COHORT STUDY ON THE FILIPINO CHILD (Wave 3 Survey)
Fund Management: United Nations Population Fund (UNFPA)

Study Contact:
Judith Rafaelita B. Borja
Project Director and Research Fellow, USC-Office of Population Studies Foundation (OPS), Inc.
Telephone number: 63-32-3460102; Email: opsfoundation@opsusc.org

What you need to know about this study or "research" and participating in this study
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. People like you are asked to participate in these studies so that researchers can collect important information for their research.

The **USC-Office of Population Studies Foundation, Inc.**, with the **Center for Social Research and Education of the University of San Carlos** in Cebu City, **Demographic Research and Development Foundation of the University of the Philippines** in Diliman, Quezon City and the **Research Institute for Mindanao Culture of Xavier University** in Cagayan de Oro City are conducting a research on a group of children from the time they were age 10 until they will reach the age of 24. The purpose of this study is to find out how their lives are changed by programs that are run by the government and non-government agencies, which are aimed to improve the health and well-being of all Filipinos.

(NAME OF INDEX CHILD) is among the children selected to participate in this study. Not everyone is asked to participate in a research project. Our researchers followed a special procedure in selecting households who would participate in this study.

In our first visit to your household, we interviewed you (or NAME OF BASELINE HOUSEHOLD RESPONDENT) and (NAME OF INDEX CHILD). You agreed to have our researchers visit you and (NAME OF INDEX CHILD) again in the next few years.

This year, we would like to interview you and (NAME OF INDEX CHILD) once again. Participation in the study is voluntary. Even if you have already agreed to participate, you may withdraw from the study for any reason and 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 failed to follow instructions, or because the entire study has been stopped.

You should not hesitate to ask me any question you may have about this study. When I have answered all your questions, you can decide if you want to remain in the study or not.

How many people will take part in this study?
(NAME OF INDEX CHILD) is one of about 5,000 children across the country who is participating in this study.

How long will your participation last in this study?
For this year, our visit may take about 2 hours. If we can't finish the interview in one visit, we will need to return to complete the interview. If you agree to participate in this study, we can start today or whenever it is convenient for you while our research team is in your area.

In the next few years you and (NAME OF INDEX CHILD) will be visited again in your home until 2030 or until he/she reaches the age of 24.

What will happen if you take part in the study?
1. Just like in our previous visits, we will ask you questions about your household, family, work, pregnancy experiences and family planning, and health.

2. You will once again be asked questions about the schooling, health, diet, activities and behaviors of (NAME OF INDEX CHILD). His/her height and weight measurements will again be taken.

3. With your permission and if (NAME OF INDEX CHILD) agrees to do this, we will ask him/her some questions about friends, and his/her experiences and opinions on certain things. We also have a questionnaire that he/she will fill out him/herself. We will also show him/her drawings of a child's body and ask which drawing is closest to his/her body. Starting with this visit, we will also take a picture of (NAME OF INDEX CHILD) for our records. We will use this picture to properly identify (NAME OF INDEX CHILD) in future visits. His/her picture will not be used for any other purpose. In our next visit we will give you a copy of his/her picture.

INTERVIEWER: SHOW MOTHER/CAREGIVER COPIES OF THE PRINTED QUESTIONNAIRES FOR REFERENCE.

What are the possible benefits for being in this study?
There are no direct benefits to you for participating in this study. However, what we learn from the study may be useful in improving government and non-government or NGO programs. Thus, we feel that you are making a very important contribution. You will know about (NAME OF INDEX CHILD's) height and weight at each visit. We will provide you a card that records his/her weight and height measurements from the previous visits and how these compare to those of children his/her age.

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 who is not part of this research 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 know about your responses to our questions or of the results of our measurements. All documents related to this research study 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.

Will you receive anything for being in this study?
In appreciation of your time, you will receive P200 and (NAME OF INDEX CHILD) will receive P100 for completing the study this year. We will also give you a card with the weight and height measurements of (NAME OF INDEX CHILD).

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 your rights as a research participant?
If you have questions, complaints, concerns, or if an injury occurs as a result of this visit, you should contact the researchers listed on the first page of this form. You may also contact the Research Ethics Committee at the University of San Carlos in Cebu City who makes sure that you are treated fairly as a participant of this study and that your welfare is protected.

Research Ethics Committee
University of San Carlos Talamban Campus
Email: rec@usc.edu.ph
Tel: 2547742 and 2531000 loc 204

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 us to measure NAME OF INDEX CHILD's height and weight? __ YES ___NO

Do you give your consent for us to interview NAME OF INDEX CHILD? ___ YES ___ NO

Do you give your consent to have NAME OF INDEX CHILD answer our questionnaire? ___ YES ___NO

Do you give your consent for us to take a picture of NAME OF INDEX CHILD? ___ YES ___NO

Since you have agreed for us to visit you again in future surveys, 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? Please inform them too that you are giving us their numbers.

____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

IC ASSENT FORM

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 household 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 household and you. 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. I will measure your weight and height. No one else except me and our researchers will know about your answers. All these will take about an hour.

Are you okay with all these? Do you have any questions?

IF CHILD GIVES ASSENT: PROCEED WITH INTERVIEWER-ADMINISTERED QUESTIONNAIRE

B. PRIOR TO ADMINISTERING THE SELF-ADMINISTERED SECTIONS:

I would like you to answer a few more questions, but this time, I will ask you to read the questions yourself.

IF CAPI: Please enter your responses on this tablet (SHOW TABLET). If you don't know the answer or don't want to answer a question, just skip that question and go to the next question (SHOW CHILD HOW TO ENTER RESPONSE AND SKIP QUESTIONS).

IF DONE ON HARD COPY: Please write down your answers on this questionnaire (SHOW QUESTIONNAIRE). If you don't know the answer or don't want to answer a question, just skip the question and go to the next question.

Please answer the questions as honestly as you can. There are no right or wrong answers for any of these questions.

I will also show you drawings of a child's body. Please mark the drawing that you think is closest to how your own body looks like. Once again, no one else except me and our researchers will know about your answers.

Are you willing to do this? Before we start do you have any questions?

C. PRIOR TO TAKING CHILD'S PICTURE:

Next I will take your picture so that our research office will have a copy. We will use this picture to properly identify you in our next visit. Your picture will not be used for any other purpose. We will also give you a copy of your picture in our next visit.

Will you allow me to take your picture?

APPENDIX 6

Coefficients of variation table (Waves 1-3)[a]

	Estimated Proportions			Coefficients of Variation (%)		
	Wave 1	**Wave 2**	**Wave 3**	**Wave 1**	**Wave 2**	**Wave 3**
Ever repeated a grade[b]	11.7	2.7	1.6		15.4	27.2
Ever sick last 6 months[c]	29.1	18.8	49.4	4.2	4.7	
With disability[c]	1.4	2.3	3.7	15.1	11.7	
Stunted	31.1	27.6[#]	24.6[##]	3.5	3.6	3.8
Thin (<normal BMI-for-age)	15.6	15.5	15.5	4.8	5.1	4.5
Low diet diversity score	55.5	55.7	55.6	2.1	2.0	1.9
Hungry but did not eat	43.0	33.8[#]	26.6[##]	3.1	3.4	4.0
Currently working (paid/unpaid)	4.5	5.5	5.2	9.8	11.8	10.4
Physically hurt by friends	38.1	29.1[#]	22.6[##]	2.6	3.6	3.7
Forcefully hurt by parents	16.0	12.6[#]	10.4[##]	5.7	5.4	5.6
Physically hurt by adults	22.4	14.2[#]	11.6[##]	4.2	4.6	5.8
Currently smoking	4.3	2.4[#]	1.8	17.3	13.0	15.7
Currently drinks alcohol	4.4	5.6[#]	4.6	8.9	8.8	9.6
More than kissed	4.6	3.8	3.1	8.6	10.8	12.6
Watched porn movies	17.4	10.0[#]	9.7	4.9	5.4	5.7
Chats with strangers	4.2	16.1[#]	26.4[##]	9.8	5.3	3.9
Vulnerability scores, mean±sd	3.0± 0.05 (n=4,311)	2.5± 0.04[#] (n=4,191)	2.7± 0.04[##] (n=4,213)	1.6	1.7	1.6

[a]Coefficient of variation (CV) is a standard deviation expressed as the percentage of the mean. It is a measure of the precision of the estimates,with a small CV value indicating a more reliable measurement. The value should be relatively constant across waves to inform us as to the quality of the estimates over time. While a CV value <5% is preferred indicating excellent precision, values between 20-30% are considered acceptable. See Table 5.2 in main text for detailed descriptions of variables

[b] Repeated a grade in Wave 1 means ever repeated a grade; in Waves 2/3: repeated grade within current school year; Wave 1 excluded from CV calculations

[c] Values in Wave 3 may not be comparable with previous waves given expanded version of the morbidity section in Wave 3; excluded from CV calculations

[#] Significant between Waves 1 and 2 for both sexes at p<0.05; [##]Significant between Waves 2 and 3 for both sexes at p<0.05;

Reference:
Campbell, M. J., Machin, D., & Walters, S. J. (2010). Medical statistics: a textbook for the health sciences. John Wiley & Sons.