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

Largo FM[a], Alegado JLG[a], Herrin AN[b], Borja JB[b], Mayol NL[b], Bechayda SA[b] and Bautista CAP[c]

[a]Department of Economics, School of Business and Economics and Center for Social Research and Education, University of San Carlos.

[b]USC-Office of Population Studies Foundation, Inc., University of San Carlos

[c]United Nations Population Fund, Philippines

Largo, F.M., Alegado, J.L.G., Herrin, A.N., Borja, J.B., Mayol, N.L., Bechayda, S.A., Bautista, C.A.P. (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 https://www.opsusc.org/paper_series.php.

1. Background

The employment of children (individuals below the age of 18) in economic activity, is not uncommon historically and in contemporary times. The International Labor Organization (ILO) estimated that as of 2016, 218 million children aged 5-17 were working (ILO, 2017). A big portion of this economic participation is seen as detrimental as it involves activity which hampers the child's ability to engage in meaningful leisure and education with adverse consequences on health and lifelong productivity. Child labor refers to forms of child work not permitted under international conventions and national legislation for these reasons.

There is a difference as to what constitutes permissible work under national legislative and the ILO frameworks (UCW,2015). Philippine national policy for children under 15 classifies child labor as those that either involve more than 20 hours of work, hazardous forms of work, or working from 10 PM to 6 AM. Hazardous work, as defined by various Department of Labor and Employment (DOLE) Department Orders (DOLE, 2016; DOLE, 2017), encompasses several activities from identified sectors thought to be "likely harmful to the health, safety and morals of children." Using this definition, the 2011 Survey on Children (SOC) on a representative sample of Filipinos aged 5-14 revealed that 876,000 of these children were estimated to be engaged in child labor (UCW, 2015). DOLE estimates that about 2.1 million children from ages 5-17 are doing some form of work, 97.7% of which are considered hazardous and thus classified as child labor . Furthermore, twice more male than female children were involved in child labor. Twice as many child laborers were also found to be residing in rural areas. Child labor incidence was also found to increase with age (DOLE, 2018)

The above estimates, however, are considered conservative as the Philippine policy on child labor is less stringent than international conventions. ILO Conventions only allow children aged 12-14 years to engage

in economic activities considered as permissible light work defined as any non-hazardous work of less than 14 hours during the reference week. Any economic activity done by children 5-11 would be considered child labor. Based on international conventions, the earlier cited SOC estimate on child labor would have increased to 1.3 million among 5-14 year old children.

At a global level, child labor remains prevalent and a cause for concern. The ILO estimates for 2016 show that 152 million children worldwide are child laborers with half this number in hazardous work (ILO, 2018). Global action on child labor centers on the Sustainable Development Goals (SDG) (UN, 2017). SDG 8.7 aims to "secure the prohibition and elimination of the worst forms of child labour, including recruitment and use of child soldiers, and by 2025 end child labour in all its forms" while SDG 16.2 targets to "end abuse, exploitation, trafficking and all forms of violence and torture against children." The ILO identifies four areas of action: 1. inclusive and quality education for all in cognition of the correlation between lack of school opportunities and child labor; 2. Social protection systems and social protections floors in recognition of the tendency for households reeling under shocks to send children into labor as a mitigating measure; 3. Decent work for adults and youth of working age as the lack of opportunities for expected breadwinners leads to greater likelihoods of children working; and 4. Legal commitment to child labor elimination to institute international conventions on child labor with corresponding national legislative frameworks. Each area has corresponding action plans with global and requisite national components.

The Philippine government has organized its efforts under its Philippine Program Against Child Labor 2017-2022. This program commits to bring 630,000 children out of child labor by 2022 (DOLE, 2018). The government's strategic directions in this area revolve around the institutionalization of a coordination and monitoring system for child labor, financial support for programs for taking children out of hazardous work, knowledge dissemination among stakeholders, access to safety nets, and enforcement of laws. In the case of the last item, the Philippines has made considerable inroads into instituting a legal framework stemming from the ratification of the important ILO conventions on child labor with relevant local laws (UCW, 2015).

It is clearly important to examine the child work/labor phenomenon in a broader milieu. For instance, we need to know the extent to which other child outcomes, such as schooling and cognitive capacity, are associated with child work/labor. Equally relevant is understanding the household and community context within which engagement in child work/labor exists. The Longitudinal Cohort Study on the Filipino Child or Cohort Study[1] presents an opportunity to look into the child work/labor phenomenon in greater detail and as it affects Filipino children. The initial survey waves observe children in pre-adolescence where child labor is still relatively rare. Evidence of child labor at this stage is thus of grave concern. Given that special purpose surveys on child labor, such as the 2011 SOC, are few and far in between, the Cohort Study (2016-2030) provides more contemporary and long-term data on how child labor correlates with health and education outcomes over time. This note examines data from the first two waves of the Cohort study

[1] The Longitudinal Cohort Study on the Filipino Child is a collaborative undertaking of government agencies, development partners and demographic researchers aimed to examine how the lives of Filipinos are changed in the course of the implementation of the Sustainable Development Goals (SDG) agenda (OPS,2018). The research strategy is to prospectively observe a nationally representative sample of 4,952 Filipinos from age 10 through 24 (2016-2030) and collect data on significant life course milestones such as puberty, school completion, labor force entry/exit, sexual activity initiation and other reproductive health events, and marriage. Data collected at each survey round are analyzed to determine the interplay of child, household and community attributes that explain various health and socio-demographic outcomes among the cohort. Study findings will inform policy decisions, program design and service delivery efforts.

(2016-2018). Child work/labor patterns and their correlates are described and the final section presents policy implications based on these findings.

2. Cohort Study Results on Child Work and Child Labor

2.1 Work Profiles

For Wave 1 which surveyed children at age 10, 303 out of 4,952 children or 4.57 percent[2] were engaged in some form of work at the time of the survey. In Wave 2, with index children aged 11, 4735 or 95.62 percent (unweighted) of the baseline sample was retained (OPS, 2019). At age 11, the proportion currently working increased to 5.57 percent (348 out of 4,735 index children) which is consistent with other results indicating greater incidence with age. The proportion of children age 10-14 considered to be working in the 2011 SOC was 12.5 percent. The first two waves of the Cohort Study capture index child work at its initial stages. Given the SOC findings, we expect the incidence from 12-14 among the index children to substantially increase. The mean starting age for work is 9 years of age across domains. This is lower than the mean starting age of 10 for working children age 10-14 in the 2011 SOC. There is no significant difference in starting age across girls and boys in the Cohort Study.

Data on index children work status at ages 10 and 11 were assessed to obtain patterns capturing persistence of exposure to child work. Table 1 shows the distribution of children across type of child work status and domain as of Wave 2. Two thirds of index children have not experienced any form of work. Close to a quarter started working at either 10 or 11. Five percent have worked before age 10 and continued working thereafter. This last type indicates a particularly persistent form of child work that may deserve the most policy attention.

The proportion of children who have experienced some form of work for pay in cash or in kind is significantly higher for both the Visayas and Mindanao. The proportions for those who have recently started work at age 10 or 11 and those who have ever experienced work before age 10 and worked again at 10 or 11 for the Visayas and Mindanao are almost double that of Luzon.

Table 1. Proportions of Index Children by Work Status and Domain (n=4734)

Work Patterns	Domain			
	Luzon	Visayas	Mindanao	Over-all
Never Worked	79.19	66.88	64.04	72.52
Ever Worked Before Age 10	3.82	4.86	3.44	3.93
Started Working Age 10/11	13.27	23.02	25.50	18.61
Ever Worked Before Age 10 and Working at Age 10/11	3.72	5.23	7.02	4.93

Significantly different proportions tested using Pearson Chi-Squared Statistic $p<0.01$

A greater proportion of male children were engaged in some form of child work as of Wave 2. This is true for every category of work status including persistently working children (i.e., those who worked before age 10 and currently working at either age 10 or 11).

[2] Results are presented as weighted unless otherwise specified

Table 2. Proportions of Index Children by Work Status and Sex (n=4733)

Work Patterns	Sex		Total
	Boy	Girl	
Never Worked	68.32	77.05	72.52
Ever Worked Before Age 10	4.86	2.93	3.93
Started Working Age 10/11	20.75	16.31	18.62
Ever Worked Before Age 10 and Working at Age 10/11	6.07	3.70	4.93

Significantly different proportions tested using Pearson Chi-Squared Statistic $p<0.01$

Around 60 percent of child workers were unpaid workers in family owned businesses at age 10. Slightly more than 23 percent were working for pay outside the household with the rest engaged in some form or piece work or farming and fishing The proportion employed in unpaid family work decreases by roughly the percentage increase in non-farm wage work indicating the start of the shift to paid wage work at age 11. These patterns of child work type are shown in Table 3.

Table 3. Distribution of Currently Working Index Children By Work Category and Wave

Work Category	Wave 1	Wave 2
Piece Work/Farming/Fishing	17.16	38.50
Wage Work	23.10	26.44
Family business/Farm	59.74	35.06

The primary occupation of parents can have an effect on the propensity for child work as the child can be both a complement to a parent's work when some form of home production is done or when working for wages. This is borne out in Table 4 where the proportions of child work across categories of household head's work show greater incidences of child work for such types of work. These would be piece work, which is often done at home, agriculture, or fishing and ownership of a business or a family farm.

Table 4. Proportions of Index Children by Work Status and Work Status of Household Head (n=4733)

Work Patterns	Household Head Work Status			
	Not Working	Piece Work/ Agriculture /Fishing	Wage Work	Family Business/ Farm
Never Worked	78.21	66.23	76.32	68.83
Ever Worked Before Age 10	2.17	5.07	3.50	4.24
Started Working Age 10/11	16.92	23.84	15.59	19.76
Ever Worked Before Age 10 and Working at Age 10/11	2.70	4.88	4.60	7.18

Significantly different proportions tested using Pearson Chi-Squared Statistic $p<0.01$

The 2011 SOC pointed out that 98% of child workers age 5-17 are engaged in child labor if only due to their involvement in hazardous work without any regard to the number of hours worked per week or

employment during nighttime. As the Cohort Study was able to capture the nature of economic activity ever done by index children, this information may be used to indicate the proportion of children ever engaged in child labor. Table 5 shows the distribution of index children by their work history and nature of work across the first two waves. The categorization of the hazardous nature of work was done with reference to the Philippine Standard Occupation Code (PSOC) and the relevant Department of Labor and Employment Administrative Orders classifying hazardous work.[3] While the 2011 SOC classified current work arrangements, the Cohort Study data presented here is oriented towards work history and thus complements the 2011 SOC results.

A strong gender difference in the distribution of children across child work and child labor is shown in Table 5. A higher proportion of girls are doing non-hazardous work while boys are significantly more likely to be in hazardous labor than girls. Child labor is also shown to be more prevalent in rural areas. This is consistent with established results where child labor is primarily rural in nature due to engagement in farming and other activities predominantly located in rural areas such as household based piece work and hired work in agriculture and fishing.

Table 5. Proportions of Index Children by Work Nature, Gender, Residence Wave 2 (n=4,725)

Child Work/Labor Status	Gender		Residence		Overall
	Girls	Boys	Urban	Rural	
Never Worked	77.18	68.41	75.64	69.92	72.63
Ever Worked in Non-Hazardous Occupations	9.38	6.71	9.17	6.95	8.00
Ever Worked in Hazardous Occupations	13.44	24.88	15.19	23.13	19.37

Differences between male and female, and between urban and rural, are significantly different using Pearson Chi-Squared test, p<0.01

When looking at the distribution by domain (Table 6), we see that the Visayas and Mindanao have significantly higher proportions of children employed in child work and child labor by age 11. This is partly attributed to the higher proportion of urban sample areas in Luzon (61.27%) than in Visayas and Mindanao (41.22% and 25.13% respectively).

Table 6. Proportions of Index Children by Work Nature and Domain Wave 2 (n=4,725)

Child Work/Labor Status	Domain			
	Luzon	Visayas	Mindanao	Over-all
Never Worked	79.19	66.93	64.35	72.63
Ever Worked in Non-Hazardous Occupations	6.56	7.90	10.83	8.00
Ever Worked in Hazardous Occupations	14.25	25.17	24.82	19.37

Significantly different proportions tested using Pearson Chi-Squared Statistic p<0.01

The differentiation between economic activity and undocumented household production is relevant as the use of the child's time for the latter also competes with time for human capital accumulation and leisure. Further on, children may be asked to take on larger amounts of effort for household chores when

[3] For example, the top three work categories for Wave 1 for boys are PSOC codes 9120 (Car washer / Car window cleaner / Shoe cleaner / Shoe polisher / Shoe repairman / Street car washer / Umbrella repairman) with 136 boys, 5220 (Shop Salesperson) and 9211 (Crop Farm laborers) each with 63 boys in these work categories. Of these, only code 5220 is categorized as non-hazardous based on the relevant DOLE Department Order.

parents engage in greater economic activity inside and outside the home. Table 7 summarizes differences observed for the incidence of household chores (as reported by their mothers/main caregivers) for index children. As seen in the table, nine out ten children claim to have done household chores. Girls and children in rural areas are more prone to do household chores.

Table 7. Proportions of Index Children Doing Household Chores by, Gender and Residence, Wave 2 (n=4,725)

Engagement in Household Chores	Gender		Residence		Overall
	Girls	Boys	Urban	Rural	
Did Not Do Household Chores	6.34	11.79	12.80	5.91	9.17
Did Household Chores	93.66	88.21	87.20	94.09	90.83

Differences between male and female, and between urban and rural, are significantly different using Pearson Chi-Squared test, p<0.01

A larger proportion of children who work also appear to be doing household chores as seen in Table 8. The proportion is highest for those who have not done hazardous work. It can be surmised that these children have shown some competency in work but are not as weighed down by demanding hazardous work.

Table 8. Proportions of Index Children Doing Household Chores by Child Work Pattern

Child Work/Labor Status	Did Not Do Chores	Did Chores
Never Worked	10.19	89.81
Ever Worked in Non-Hazardous Occupations	3.72	96.28
Ever Worked in Hazardous Occupations	7.65	92.35

Significantly different proportions tested using Pearson Chi-Squared Statistic p<0.01

2.2 Determinants/Correlates of Child Work/Labor

Certain child, household, and community characteristics may drive the child labor supply decision and its setting. The latest results for the Philippines from the 2011 SOC show that being older, male, residing in rural areas, belonging to a poor household, and a lower level of education for the household head increase the likelihood of being a child laborer.

The Cohort Study is able to contribute to this discussion by zeroing in on questions of persistence in child labor. Table 9 shows the results of a multinomial logit regression showing community-, household- and child-level factors and how these are associated with child work status. We included child outcomes representing school performance and aspirations, as well as mental/social competency levels. It is important to remember at this point that close to 80 percent of child work is hazardous child labor. Compared to the base outcome of having never worked, the likelihood of ever experiencing any work before the age of 10 but not after is greater if the household is located in a rural area. This likelihood also increases if the household head works in piece work production, agriculture or fishing. When the index child indicates that he or she has no aspirations for college in both Wave 1 and 2 this also leads to higher chance of the child ever working before age 10. The Child Behavior Check List (CBCL) (Achenbach and Rescorla, 2001) was administered in Wave 2. The CBCL measures competency levels in three dimensions: activity levels (sports, hobbies, household chores, jobs), social skills, and school performance. The likelihood of ever working before age 10 is positively related with CBCL social competency score which could imply that engagement in early child work involves some level of capacity to interact socially.

The probability of a child starting work at age 10 or 11 will be higher if the child is male. Belonging to a household where the household head works in piece work, agriculture, fishing or being self-employed also increases this probability. We used membership in the Pantawid Pamilyang Pilipino Program (4Ps) , the conditional cash transfer program for the poorest Filipino families, as a proxy for being poor. Being a 4Ps beneficiary increases the likelihood of starting work at age 10 or 11 compared to not working at all. This is also true for families where the index child and the mother expressed no aspirations for the child to reach college. Index children with this child work status will also tend to have lower CBCL school competency scores.

Index children who have experienced work before age 10 and have continued working at either age 10 or 11 are also more likely to be in households where the household head works in piecework, agriculture, fishing or is self-employed. They will also tend to have mothers that did not achieve at least a high school level education. Persistent child work will also be more likely if mothers or the children have no aspirations for a college education. Persistent child workers tend to have higher CBCL activity scores and lower school scale scores. The absence of poverty alleviation programs in the barangay where the index child resides is also correlated with persistent child work.

Table 9. Estimated Results of Multinomial Logistic Regression for Patterns of Child Work among the Cohort Study in Wave 1 and 2 (n=4,568)*

Variables	*Ever Worked before Age 10*	*Started Worked at Age 10/11*	*Persistent Worker*
Sex of the Index Child (1 = male)	0.2816	0.3489***	0.5620***
Age of the Index Child	- 0.1134	0.1660	0.1749
Household Resides in Urban Area (1 = Yes)	- 0.3820**	- 0.7820	- 0.1188
Household Head Work Status	-	-	-
Working in piece work/agriculture/fishing	0.8964**	0.4890***	0.9896***
Working for a wage	0.2827	0.0621	0.5676
Self-employed/Owns business	0.4624	0.4308**	1.006***
Household is Recipient of 4Ps (1 = Yes)	- 0.2075	0.2515***	- 0.044
Parents Present in the Household	-	-	-
Father only	0.9325	- 0.1951	- 0.2677
Mother only	0.5163	- 0.0745	0.4595
Both Parents	0.5491	- 0.0324	0.1779
Household Respondent Achieved at Least High School Education	0.2288	- 0.0979	- 0.3979***
Mother Persistently Not Aspiring for College for Index Child	0.1984	0.4530***	0.4456
Index Child Persistently Not Aspiring for College	0.9022***	0.5930***	0.8899***
Index Child Persistently Missing Classes	0.2375	0.2515***	0.1355
Child Behavior Checklist (CBCL) Activity Scale Score	- 0.0055	0.2913***	0.3506***
Child Behavior Checklist (CBCL) Social Scale Score	0.1665**	- 0.0203	- 0.0153
Child Behavior Checklist (CBCL) School Scale Score	- 0.1380	- 0.1329***	- 0.1873***
Presence of Poverty Reduction Program Other than 4Ps	- 0.0692	0.0400	- 0.4004***
Elementary School is Present in Barangay	- 0.4006	0.1067	0.1839

*Unadjusted for sampling weights

*** p values <0.01 ** p<0.05

The higher rate of male children in child work, an established result in the literature, is corroborated in the Cohort Study data. Households specializing along gender lines is often presented as an explanation. When market work or household based production (such as in agriculture or construction) is traditionally biased towards male children, then male children will be more likely to work(Brown et.al, 2002). As agricultural and similar work is controlled for through the household head work status, this would indicate that these children are likely to be engaged in market work. This is true for those who just recently started working and those who are persistent workers.

Rural residency is significantly associated to temporary work before age is 10 but not with other work patterns. While rural residency is observed to be associated with child labor (ILO, 2018; UCW, 2015), it is likely that this due to the presence of agricultural activities and the lack of infrastructure and services which requires the employment of children. As work in agriculture is controlled for, this temporary work is likely due to these other factors such the need for supplemental child work in undertaking basic social services.

Working index children belonging to households in piece work, agriculture, fishing, and with businesses are also cited in the literature (ILO, 2018; UCW, 2015). This is likely due, as Edmonds and Schady (2012) point out, to household based work being more flexible compared to external wage work. This is line with the result above, as school participation is still high, indicating that work is of nature that is not heavily interfering with schooling.

The results above also indicate that households may be specializing among perceived index child characteristics. Akresh et.al (2012) point to the negative relationship between cognitive ability and hours of child work in earlier work. In their own study, they find that higher cognitive ability leads to lower hours of child work. The Cohort Study hints at a similar effect as CBCL schooling scores are negatively correlated for new and for persistent child workers. This is consistent with the effects observed for mother and index child aspirations for college and the occurrence of missed classes which may also indicate cognitive ability or at the very least competence in the school setting. Competence in activity scale leading to higher child work incidence also supports this view of household specialization along these characteristics.

Poverty is a widely accepted driver of child work (Edmonds and Schady,2012). This is significant for the new child workers as our results indicate that belonging to poor households increases the likelihood of child work at age 10 or 11. The negative relationship between the presence of a poverty alleviation program and persistent child work also points to this.

2.3 Associated Health and Education Outcomes

The Cohort Study may also help inform as to the consequences of child work and labor on other development outcomes such as the acquisition of health and education with both short term and long term consequences. The ILO Global Estimates of Child Labor (ILO, 2018) highlight the observed negative correlation between child labor and school attendance. The results in the previous section also indicated this. School participation for the sample is still quite high so that impact on schooling is likely to be felt in attendance and academic performance. Ibrahim et.al's (2019) systematic review of studies linking child labor and health outcomes points to significant relationships between child labor and a multitude of adverse health outcomes. The Cohort Study may provide additional compelling evidence for such links especially in school age children who are in particularly vulnerable stages such as those of the current cohort who are on the cusp of the transition to adolescence. The sections below show results that are so far possible only with the current study as it collects both child work information and psychological test scores.

The CBCL also includes a suite of questions that measure mental and behavioral syndromes as defined in the Diagnostic and Statistical Manual for Mental Disorders (Achenbach, 2013). The syndrome scales consist of factors that represent internal (emanating from within) or external (projected outwardly) factors and problem behaviors (manifestations of social problems, unusual behaviors, attention-seeking and related problems). The internalizing factors are reported behaviors that depict anxious/depressed and withdrawn/depressed behaviors and include somatic complaints. Rule-breaking and aggressive behaviors are considered externalizing factors (OPS, 2019b). The results in Table 10 show that around 20 percent of index children had scores indicating borderline or clear clinical presence of behavioral or mental problems. The proportions of children classified as problematic are higher for children who have experienced some form of work. Especially notable is that the proportion of those with clinical problems is nearly two times higher for those children who have persistently worked compared to those who have never worked.

Table 10. Proportions of CBCL Syndrome Scale by Child Work Status (n=4,730)

Syndrome Scale Range	Child Work Status				
	Never Worked	*Ever Worked before Age 10*	*Started Work at Age 10/11*	*Persistent Worker*	*Total*
Clinical	8.91	11.69	11.13	16.49	9.80
Borderline	9.68	9.81	12.10	8.41	10.08
Normal	81.41	78.49	76.78	75.1	80.12

Significantly different proportions tested using Pearson Chi-Squared Statistic p<0.05

When broken down by problem factor category, we find that a significant difference exists in mean scores for internalizing factors between those who started working or persistent workers and those who never worked (Table 11). Those who have recently started working or have been persistent workers have significantly higher problem scores. The same can be said for externalizing factors.

Table 11. Mean Scores for CBCL Problem Factors (n=4,730)

Work Patterns	Mean Standardized (t) Scores	
	Internalizing	Externalizing
Never Worked	52.20	49.52
Ever Worked Before Age 10	52.30	49.17
Started Working Age 10/11	54.05***	51.49***
Ever Worked Before Age 10 and Working at Age 10/11	55.52***	52.62***

Means significantly different from base case (Never Worked) *** p<0.01

Child work may also expose the child to risky behaviors. Table 12 shows the proportions for such behaviors as collected in the Study. The proportion of children watching pornography is significantly higher if they had experienced any form of work. Smoking is also significantly higher than for those who never worked. It is noteworthy that persistent smoking is highest in incidence among persistent workers. The incidence of children ever chatting with strangers online is also significantly higher for all categories of child workers compared to those who never worked. Differentiating by persistence of chatting did not reveal significant differences across work status.

Table 12. Proportions of Index Children Exhibiting Risky Behavior by Child Work Status

Pattern of Risky Behavior	Work Patterns			
	Never Worked	*Ever Worked before Age 10*	*Started Work at Age 10/11*	*Persistent Worker*
Watching Porn (n=4,539)***				
Never Watched	76.58	69.71	69.34	71.42
Ever Watched Either Wave	20.80	27.71	24.68	21.66
Ever Watched Both Waves	2.62	2.58	5.98	6.92
Smoking (n=4,530)***				
Never Smoked	95.02	92.5	86.68	89.77
Smoked in Either Wave	4.56	7.26	12.96	9.13
Smoked in Both Waves	0.41	0.24	0.35	1.10
Chatting with Strangers Online (n=4,629)**				
Never Chatted	84.71	73.96	82.34	81.84
Ever Chatted	15.29	26.04	17.66	18.16

Significantly different proportions tested using Pearson Chi-Squared Statistic ***p<0.01 **p<0.05

Work status may also be correlated with changes in cognitive ability resulting from missed opportunities in schooling. Alternatively, a child may be chosen to work as he or she already shows less promise in school work as already discussed above. We examined the relationship between work status and scores in the Raven's Standard Progressive Matrices (RSPM) (Raven, 1938), which is a measure of cognitive ability at age 11. The results show that those have never worked have higher mean scores as shown in Table 14. As previously indicated in the section on determinants of child labor supply, CBCL school scale scores are negatively correlated with child work status persistence. Table 14 also shows this as mean scores for the CBCL school scale are significantly lower for every category of child work status compared to children who have never worked.

Table 13. Child Work Status and Cognitive Test Scores

Work Patterns	Mean Raw Scores	
	RSPM n=4,687	CBCL School Scale n=4,633
Never Worked	30.22	5.01
Ever Worked Before Age 10	28.11***	4.82***
Started Working Age 10/11	26.69	4.87****
Ever Worked Before Age 10 and Working at Age 10/11	28.79	4.84**

Means significantly different from base case (Never Worked) *** p<0.01**p<0.05

Lastly, stunting is significantly higher among those with work experience. This could again indicate specialization decisions among households as stunted children typically have poorer education outcomes

than non-stunted children as reported for this study (OPS, 2018). Households may also be inclined to designate those who have done poorly in school to engage in child work as found by Brown et.al (2002). Results in Table 14 indicate that, compared to those who have never worked, exposure to any form of work was associated with increased likelihood of being stunted.

Table 14. Nutritional Status and Child Work (n=4,648)

Nutritional Status	Work Patterns			
	Never Worked	*Ever Worked before Age 10*	*Started Work at Age 10/11*	*Persistent Worker*
Not Stunted/Normal-Above Normal BMI	65.50	60.6	58.13	57.99
Stunted Only	19.19	24.33	26.53	26.22
Below Normal BMI (Thin) Only	9.32	7.06	6.64	7.80
Both Stunted and Thin	5.99	8.02	8.70	7.98

Significantly different proportions tested using Pearson Chi-Squared Statistic $p<0.05$

3. Policy Implications

In its discussion of the Philippine policy framework, UCW (2015) pointed to the sufficiency of the legal framework for addressing the child labor problem in the Philippines. In addition, there is a wealth of identified programs and plans which attack various aspects of the problem. However, some gaps exist in implementing these programs, particularly in addressing other subsequent outcomes linked to child labor. Where programs do exist, there is a need to monitor implementation of these programs and evaluating their efficacy. Public policy aimed at reducing child labor is hindered by mixed results of evaluations of public policy interventions on child labor incidence (Dammert et.al, 2018). This is due to a multitude of conceptual and methodological difficulties.

The Cohort Study presents an opportunity for results that can be used to inform policy revisions or measure success. In relation to the previously identified strategic directions of the Philippine Program on Child Labor, it contributes to the thrust on "improved generation, dissemination, and use of knowledge on child labor among stakeholders, policy makers, and program implementers (DOLE, 2018)." In particular, the findings in this policy note add to the discourse by looking at persistence of child labor at its earliest stages, a visible gap in child labor studies. As child labor is more pronounced in older ages, studies have focused on them. The current results for 10 and 11 year old children provide data for interventions at a stage where child labor supply decisions are slanted towards particular instances (agricultural household production and self-employment). The current policy directions at the national and international levels may need a bit more fine-tuning to be more responsive to the needs and circumstances of children engaged in labor.

The PPCL, for example, envisions expanded access for child laborers and their families to social protection and social services. A nuanced approach to these provisions might be called for based on the literature and the Cohort Study's Findings to avoid perverse effects. The propensity, for example, for interventions that promote entrepreneurial activities, particularly of women, as a poverty alleviation strategy to lead to greater child labor incidence at home either in place of parents or with them may be seen as a basis for caution in implementing such policies when child labor incidence reduction is important. A possible step

forward would be to determine the impact of such livelihood programs on child work incidence within households. On that basis, some conditionality to balance key considerations may be instituted for such programs so as not increase child labor incidence. The nature of such services might be better informed given the Cohort Study findings especially when these measures do not obviously impact child labor decisions. For example, programs to make substitute inputs such as physical capital sufficiently cheaper as to incentivize substitution away from child labor, might be thought of to be primarily agricultural productivity enhancers, but serve the purpose of lowering child labor as well. Programs aimed at the mechanization of agriculture would be a case in point. Technological advancement making other inputs more productive would lead to the same result. Public sponsorships of research aimed at this would also serve the purpose of reducing child labor.

At this stage, child work is predominantly a male oriented phenomenon, likely in some form of market work paid in cash or in kind. This might call for some additional attention to especially vulnerable male children from either the community or school. As school participation is still quite high, the school setting presents an opportunity for tracking these children. As the results so far indicate that specialization may be occurring along lines of cognitive ability, this would point to a need to focus more on especially vulnerable cognitively challenged children. Lowered aspirations for further education drive the child work decision. Interventions may be needed to address this. If as suspected, cognitively less able children are most affected by the adverse consequences of child labor, interventions are needed to save these children from further spiraling downward toward lower productivity and economic outcomes including persistent poverty. Policy attention to remedial measures would be mandated particularly at elevating expectations and outcomes for these cognitively disadvantaged children. Given this, Department of Education programs may need to pay particular attention to male children lagging behind peers and with the other characteristics that make them especially predisposed to engaging in child labor.

The Cohort Study showed that poor households, as indicated by 4Ps membership, may lead to a greater incidence of child labor.The poor are especially vulnerable to economic shocks, programs that transfer resources to households to alleviate poverty and lessen vulnerabilities to economic shocks are desired. If these are coupled with efforts to encourage schooling attendance such as in conditional transfer programs, this will also improve schooling attendance and lower child labor supply. The 4Ps includes counselling sessions aimed at these. Where appropriate, community stakeholders, such as civil society organizations, may be tapped formally to strengthen these sessions and complement related efforts.

Psychosocial and physical health outcomes, particularly the use of CBCL and RSPM results, present additional bases for addressing the negative effects of child work. The case for psychological and educational support along these lines are given some footing from the Cohort Study results linking child work and negative cognitive, schooling, and behavioral outcomes. Addressing these at this stage may be more effective than at later stages of adolescence where scale and nature of negative outcomes may be worse. If child work is proven to be a channel through which risky behaviors are introduced and ingrained, as hinted at by the Cohort Study results, any policy intervention may need to examine and account for this link explicitly. Additionally, the indications that child labor decisions may be driven by children's cognitive ability as perceived by parents may be further justification for early childhood interventions that mitigate factors that lead to cognitive development deficiencies. Again, as school participation is almost universal, the presence of education and counselling professionals in the school setting renders schools especially well placed to deal with these possible confounders and outcomes. Strengthening counselling programs in schools to better track and help concerned students is called for in this regard.

The emphasis on knowledge generation for these ages where child labor is not yet pronounced or of a nature to hamper education is seen as important. Whatever child labor exists may be especially compelling for household survival and indicate acute household and therefore child vulnerability. Also, child labor at this stage, may point to household and child characteristics that will drive further involvement in child labor as children age. Policy interventions can only be better informed when it takes these findings into consideration compared to their absence.

4. References Cited

Achenbach, T.M. (2013). DSM Guide for the ASEBA. Burlington, VT: University of Vermont, Research Center for Children, Youth, & Families.

Achenbach, T.M., and Rescorla, L.A. (2001). Manual for the ASEBA School-Age Forms and Profiles. Burlington, VT: University of Vermont, Research Center for Children, Youth, and Families

Akresh, R. Bagby E. de Walque D. Kazianga H. (2012.). Child Labor, Schooling, and Child Ability. World Bank Policy Research Group Working Paper 5965.

Brown, D. Deardorff, A. Stern, R. (2002). The Determinants of Child Labor: Theory and Evidence. Discussion Paper No. 486. School of Public Policy, University of Michigan.

Dammert, A. De Hoop, J. Mvukiyehe, E. Rosati, E. (2018). Effects of Public Policy on Child Labor: Current knowledge, gaps, and implications for Policy Design. World Development Vol 110 pp 104-123.

Department of Labor and Employment (DOLE). (2018). Guidelines in the Profiling of Child Laborers and Provision of Services to Remove Them from Child Labor. Administrative Order No 142 Series of 2018.

Department of Labor and Employment (DOLE). (2017). Amending Department Order 149 Series of 2016 on Department Order No 149 Series of 2016 Guidelines in Assessing and Determining Hazardous Work in the Employment of Persons Below 18 Years of Age. Department Order No. 149-A Series of 2017.

Department of Labor and Employment (DOLE). (2016). Guidelines in Assessing and Determining Hazardous Work in the Employment of Persons Below 18 Years of Age. Department Order No 149 Series of 2016.

Edmonds, E. Schady N. (2012). Poverty Alleviation and Child Labor. American Economic Journal: Economic Policy. Vol 4(4). Pp. 100-124.

Hoop, J and Rosati. (2014). Cash Transfers and Child Labor. Working Paper. Understanding Child Work Program: Rome.

Ibrahim, I. Salma, Abdalla, S. Jafer, M. Abdelgadir, J. de Vries, N. (2019). Child Labor and Health: A Systematic Literature Review of the Impacts of Child Labor on Child's Health in Low and Middle Income Countries. Journal of Public Health. Vol 41 (1). pp18-26.

International Labor Organization(ILO). (2018). Ending Child Labor by 2025: A Review of Policies and Programs. International Labor Organization: Geneva.

International Labor Organization(ILO). (2017). Global Estimates of Child Labor: Results and Trends 20102-2016. International Labor Organization: Geneva.

Orbeta, A and Paqueo, V. (2016). Pantawid Pamilya Pilipino Program: Boon or Bane?. PIDS Discussion Paper No. 2016-56. Philippine Institute for Development Studies: Quezon City.

Philippine Statistics Authority (PSA). (2014). 2011 Survey on Children 5-17 Years Old: Final Report. Manila: National Statistics Office and International Labour Organization.

Raven J (1938) Standard Progressive Matrices: Sets A, B, C, D and E. London: Lewis, HK

Understanding Children's Work (UCW). (2015). Child Labor and Youth Employment Outcomes in the Philippines. International Labor Organization and the Center for Economic and International Studies.

United Nations (UN). (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). (2019). Longitudinal cohort study on the Filipino child. Wave 2 survey final report. OPS Report Series No. 4. Retrieved from https://www.opsusc.org/paper_series.php.

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.