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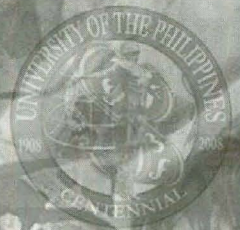
**Selected Abstracts of  
Master's Theses for  
M.A. in Demography,  
University of the Philippines  
Population Institute**

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The **Philippine Population Association (PPA)** is a non-stock, non-profit, non-partisan, and non-sectarian organization of professionals engaged in population and related activities. It seeks to promote a scientific base for addressing population and related issues through research and dissemination, training and extension and keeps population issues at the forefront of public consciousness. Membership in the PPA is open to professionals and students.

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## EDITOR'S NOTES

IN 2005, the mid-decade population census was not carried out, much to the disappointment of demographers, population students, economic planners and just about anybody concerned with the issue of population growth and its impact on national and local development. The Arroyo administration, fresh from the mandate of the previous year's election, failed to provide sufficient funding for such a vital exercise.

This year, however, funding was available. And so, the Philippines had a census in 2007, not a mid-decade census, and not even a mid-year census, as the population count started on August 1, unlike the July 1 start of previous censuses. Let the demographers and population students worry about the relative lack of symmetry and comparability of Philippine Census 2007 with previous censuses, but let us rejoice that a census was carried out at least, even if two years later than anticipated. We should all look forward to the results sometime in 2008 and debate over their implications.

The Philippine Population Association, in its small way, had its own historical first. Upon the initiative of its president, Dr. Connie Gultiano, the PPA held its first scientific conference outside of Manila. On July 28, 2007, the PPA held the National Conference on Life Course Perspective on Population, Nutrition and Health in Cebu City.

One of the presentations in that conference has been transformed into the paper, "Nutrition Transition in the Philippines," by Dr. Ma. Regina A. Pedro, Dr. Corazon VC Barba and Ms. Rhea Benavides-de Leon, which is the lead paper in this year's issue of *Philippine Population Review*. The authors present evidence of dietary changes within the last 25 years, and their findings are alarming. The increased cholesterol and saturated fats in the diets of Filipinos have contributed to the increased prevalence of chronic lifestyle-related diseases, even as the country has not solved the problems of underweight, stunting and micronutrient deficiencies among children, which continue to persist in public health proportions. Thus, the Philippines faces the "double burden" of undernutrition and overnutrition.

Nanette Lee and Dr. Linda S. Adair look at the occupational gender gap among young Filipinos in the labor force. Using data from the 2005 Cebu Longitudinal Health and Nutrition Survey on employed youth in their early 20s, the authors report that occupational gender segregation exists among Filipino youth. This gender segregation is significantly associated with human capital (education and previous work experience), place of residence (whether urban or rural) and job requirements (whether requiring a certain level of education or previous work experience, physical or mental skills, or full-time or not), as well as with wage rate inequality, with women on the negative end of the scale, even after controlling for education.

The social acceptance of homosexuality among Filipino youth is the subject of Christian Joy Cruz and Ruzzel Brian Mallari. The authors make use of qualitative and quantitative data to argue that the level of acceptance by young Filipinos of a homosexual person, along with

his/her homosexual activities, is low, probably as a result of the social stigma that continues to be attached to being a homosexual.

Young adults are again the subject of the fourth paper in this issue. Claire Berja writes of the role of early union in the emergence of multigenerational households. The author makes a distinction among three types of multigenerational households: the first type has a head with children and grandchildren; the second type has a head with children and parents; and type three has a head with children, grandchildren and parents. These multigenerational households appear to be a coping strategy to face poverty resulting from early unions. According to the author, more than one-fifth of young people in her study were living in multigenerational households and more one-third were in early unions.

The paper of Dr. Grace Cruz, on the other hand, focuses on older Filipinos and provides a baseline estimate of their active life expectancy. The study shows that while older Filipino females live longer lives, the quality of their lives leave a lot to be desired as they are more like to be inactive and suffer from increased disability.

Dr. Mercedes B. Concepcion, who served as the first (and only) dean of the University of the Philippines Population Institute (UPPI), has the institutional memory to write its history. PPR intends this history to be the first in a series of profiles presenting the history and achievement of institutions in the Philippines which are making a significant contribution to the advancement of Philippine population studies.

The last paper consists of selected abstracts of masters theses by graduate students engaged in the study of population and development. We hope that it also becomes the first in a series that would highlight the range of population studies being pursued by our graduate students from various parts of the country.

Lastly, the Philippine Population Association and the PPR would like to acknowledge the generosity of the Philippine Center for Population and Development for providing the funding for the publication of this year's PPR. We are truly grateful.

Happy reading!



# Nutrition Transition in the Philippines

Ma. Regina A. Pedro<sup>\*</sup>, Corazon VC. Barba<sup>\*\*</sup>,  
and Rhea Benavides-de Leon<sup>\*\*\*</sup>

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## Abstract

**T**he report examines evidence of dietary changes and the implications to nutritional and health status of various population groups in the country, and whether or not the Philippines is facing a “double burden” of undernutrition and overnutrition. Using data from the National Nutrition Surveys, the study finds that dietary changes occurring in Philippine households in the last 25 years are influenced by the food available to households and the increasing urbanization of the Philippine population. The dietary pattern in Philippine households particularly in the last 10 years is one of increasing energy density. While the increased intake of animal foods and fats and oils may have been a progress towards improving protein quality and bioavailability of important micronutrients, trade-offs in terms of increased cholesterol and saturated fats in the diets, coupled with sedentary lifestyles, have contributed to the significant evidence of dyslipidemia in adults and increasing overweight among adults as well as among adolescents. Nevertheless, underweight, stunting and micronutrient deficiencies especially among children persist in public health proportions. There is evidence that the country faces a “double burden” of undernutrition and overnutrition: persisting undernutrition especially among children, along with a rise in overweight, obesity and diet-related diseases among adults. Given the current economic and social trends, the dietary changes are likely to continue and, with changing lifestyle and physical inactivity, may exacerbate the emerging problems of overnutrition and diet-related chronic degenerative diseases.

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## Introduction

Social, economic and demographic developments in the Philippines have led to the phenomenon called the “double burden” of undernutrition and overnutrition. This report presents the evidence of the country’s dietary changes and an emerging double burden of malnutrition and related health problems. The data presented here were from the Food and Nutrition Research Institute’s National Nutrition Surveys, which is described in [www.fnri.dost.gov.ph](http://www.fnri.dost.gov.ph).

Demographic changes represent one of crucial contributors to the country’s changing dietary patterns. The population has grown at an annual rate of 2.11 percent, and is expected to reach 102.8 million in 2015 from 85.5 million in 2005. Two important demographic trends in the last 30 years have been increased urban growth and migration. The population living in urban areas reached 59 percent in 2001, from 32 percent in 1970 and 54 percent in 1990. In general, the rural population has been moving to industrial zones in regions like the National Capital Region (NCR), Regions IV, X and XI. Women are also more likely to move out than men, and this has implications on food production and care giving. The relations between migrant communities in the urban centers and home communities in the rural areas have nonetheless been sustained by improved access to communication and mass media, which has favorably influenced preferences for processed foods and western foods even among rural dwellers in remote villages.

In terms of the economy, the Philippines has grown in the last years with a Gross National Product (GNP) and Gross Domestic Product that expanded at an average of 5.05 percent and 4.52 percent respectively from 2001 to 2004 (NEDA 2005). It has however been a boom-bust pattern of growth in the last 30 years (Fig.1). Underemployment and poverty have remained challenging issues. Estimates indicate that 24.7 percent of Filipino families were considered poor in 2003.

There has been progress in terms of health and social indicators. Life expectancy has increased to 67 years among males and 72 years in females (from an average of 58 years in the early 1970’s) and the infant mortality rate has decreased from 60 to 29 over roughly the same period (UNDP, 2004). Access to safe water, and levels of literacy and primary school enrollment have increased as well.

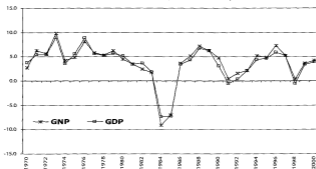
TABLE 1. Key Development Indicators

Indicator	Value	Year
Estimated Total Population	85.5 million	2005
Population Growth Rate	2.11%	2000-2005
Human Development Index (HDI), HDI rank	0.753, 83 <sup>rd</sup>	2002
Gender Development Index (GDI), GDI rank	0.751, 66 <sup>th</sup>	2002
GDP per capita (US\$)1,0262004		
Social Sector Expenditures (as % of total expenditure)	42.81%	2003
Share of poorest quintile in income or consumption	4.7%	2003
Share of richest quintile in income or consumption	53.3%	2003
Life Expectancy Male (at birth in years)	67.2	2003
Life Expectancy Female (at birth in years)	72.5	2003
Unemployment rate	10.9%	2004
Underemployment rate	16.9%	2004
Poverty headcount ratio (% of families below national poverty line) ( <i>Preliminary</i> )	24.7%	2003
Population with access to safe water supply	80%	2002
Simple Literacy Rate	94%	2003
Elementary Participation Rate	90%	2002
Under-5 Mortality Rate (per 1,000 children)	40	2003
Maternal Mortality Rate (per 100,000 live births)	172	1998

Sources: Medium-Term Philippine Development Plan 2004 – 2010  
 2004 UNDP Human Development Report  
 Family Income and Expenditure Survey 2003

There have been significant changes as well with regard to food available to households, as an effect of increasing food imports such as flour, malt, frozen potatoes, cheese, butter, milk, and sugar confectionaries, among others (Figs 1a- 1b). These changes, which are related to globalization, have influenced the dietary and nutrition transition experienced in the country in the last quarter.

FIGURE 1. Real GNP/GDP Growth, 1970-2000



Source: Templo 2003

FIGURE 1A. Food commodity imports (Ref: FAOSATAT 2005)

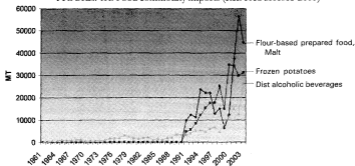
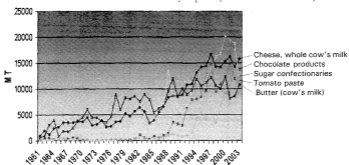


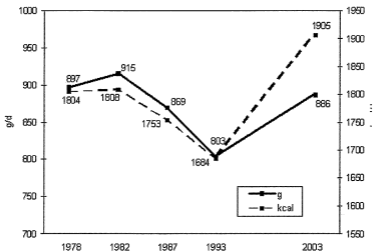
FIGURE 1B. Food commodity imports (Ref: FAOSATAT 2005)



### Dietary Changes 1978-2003

Food consumption, represented as raw As Purchased (AP) weight, has not changed significantly over the last 25 years. However, in terms of dietary energy, the mean one day per capita energy intake increased from 1,804 kilocalories (kcal) in 1978 to 1,905 kcal in 2003 (Figure 2). Thus, while the Filipino food intake has not increased in terms of weight, the energy density of diets has been increasing.

FIGURE 2. Trends in mean per capita food intake (g/day and kcal/day) in Filipino households, 1978 – 2003.



Source: National Nutrition Survey, Philippines, 1978, 1982, 1987, 1993, 2003  
 Survey population: Nationally representative  
 Sample size: 2, 800 (1978), 2, 280 (1982), 3, 200 (1987), 4, 050 (1993), 5, 514 (2003)

As shown in Table 2, the overall dietary pattern generally remains to be rice-vegetable-fish in Philippine households, contributing to 34 percent, 13 percent and 12 percent of food weight in 2003. The contribution of rice and fish has remained similarly proportioned over the past 25 years, while proportion of vegetables in the diet has declined slightly.

TABLE 2. Trends in mean per capita food consumption per day, Philippines, 1978-2003 (total and for selected food groups and sub-groups)

Food Group/Sub-group	Consumption, in grams/day, raw. As Purchased				
	1978	1982	1987	1993	2003
<b>Cereals and Cereal Products</b>	<b>367</b>	<b>356</b>	<b>345</b>	<b>340</b>	<b>364</b>
Rice and Products	308	304	303	282	303
Corn and Products	38	34	24	36	31
Other Cereals and Products	21	18	18	22	30
<b>Starchy Roots and Tubers</b>	<b>37</b>	<b>42</b>	<b>22</b>	<b>17</b>	<b>19</b>
<b>Sugars and Syrups *</b>	<b>19</b>	<b>22</b>	<b>24</b>	<b>19</b>	<b>24</b>
<b>Fats and Oils**</b>	<b>13</b>	<b>14</b>	<b>14</b>	<b>12</b>	<b>18</b>
<b>Fish, Meat and Poultry</b>	<b>133</b>	<b>154</b>	<b>157</b>	<b>147</b>	<b>185</b>
Fish and products	102	113	111	98	104
Meat and products	23	32	37	34	61
Poultry	7	10	9	14	20
<b>Eggs</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>12</b>	<b>13</b>
<b>Milk and Milk Products</b>	<b>42</b>	<b>44</b>	<b>43</b>	<b>44</b>	<b>49</b>
Whole Milk				35	35
Milk Products				9	14
<b>Dried beans, Nuts and Seeds***</b>	<b>8</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>
<b>Vegetables</b>	<b>145</b>	<b>13</b>	<b>11</b>	<b>10</b>	<b>111</b>
		<b>0</b>	<b>1</b>	<b>6</b>	
Green Leafy, Yellow Vegetables	34	37	29	30	31
Other Vegetables	111	93	82	76	80
<b>Fruits</b>	<b>104</b>	<b>102</b>	<b>107</b>	<b>77</b>	<b>54</b>
Vitamin-C Rich foods	30	18	24	21	12
Other Fruits	74	84	83	56	42
<b>MISCELLANEOUS</b>	<b>21</b>	<b>32</b>	<b>26</b>	<b>19</b>	<b>39</b>
Beverages****					26
Condiments					13
<b>TOTAL FOOD (g/day)</b>	<b>897</b>	<b>915</b>	<b>869</b>	<b>803</b>	<b>886</b>

\*also includes softdrinks (sugar content), sherbet and similar preparations

\*\* includes grated coconut and coconut milk (fat)

\*\*\* includes mungbeans, soybeans, peanuts & other dried beans, nuts

\*\*\*\* includes coffee, tuba (local wine), alcoholic beverages, others

NOTE: Numbers may not add up to totals due to rounding off.

Source: National Nutrition Survey, Philippines, 1978, 1982, 1987, 1993, 2003

Survey population: Nationally representative

Sample size: 2, 800 (1978), 2, 280 (1982), 3, 200 (1987), 4, 050 (1993), 5, 514 (2003)

Among cereals, the amount of intake of rice and products has generally not changed; the mean per capita intake fluctuated from 282 g in 1993, which was the lowest recorded intake in the 25-year period, to between 303 - 308 g during the other survey years including 2003. The consumption of corn, which is more common as a staple in combination with rice in Central and Southern Philippines, particularly in the rural areas, was generally declining, except in 1993. The intake of starchy roots and tubers was twice less in 2003 (19 g/day) compared with 1978 (37 g/day), reflecting the diminishing consumption of traditional and ethnic foods, such as native snacks made from locally available yams and tubers.

The consumption of "other cereals and cereal products," which include, among others, breads and bakery products, noodles, and snack foods from wheat flour, peaked at 30 g in 2003 and increased by 36 percent over the per capita intake of 22 g in 1993. The intake of sugars and syrups, including softdrinks, increased. The consumption of softdrinks in particular increased by 150 percent over the per capita intake of two g in 1993 as compared with five g in 2003.

The consumption and contribution of vegetables and fruits to total food intake has declined. The intake of fruits, both vitamin C rich and other fruits, hit a low of 54 grams in 2003, a decrease of 50 grams per capita since 1978 and a steady 30 percent reduction during the periods 1987 - 1993 and 1993 - 2003. Among the vegetables, the intake of green leafy and yellow vegetables has been the same from 1987 to the 2003 while that of other vegetables increased by only four g in the past decade. The pattern of decreasing fruit and vegetable consumption is reflected in the declining proportion of households that consumed <sup>3</sup> 400 g fruits and vegetables per capita per day particularly in the last 10 years, from 11.5 percent in 1993 to 8.2 percent in 2003.

The intake of fats and oils, fish, meats and poultry, and milk and milk products increased, consistent with the Nutritional Guidelines for Filipinos that has called for improving diet quality by including more animal food, fats and oils, and milk and milk products. Overall, there was an increase in the contribution of animal food sources to total food intake (g), from 20 percent to 25 percent between 1978 and 1993, up to 28 percent in 2003 (Fig. 3). These increases, on the

FIGURE 3. Mean one per capita food intake by source, 1993 and 2003.

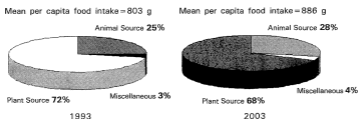


TABLE 3. Trends in per capita energy and nutrient intake and percent adequacy based on Philippine RDA and RENI's, 1978 - 2003

Nutrients	1978 <sup>1</sup>	1982 <sup>1</sup>	1987 <sup>1</sup>	1993 <sup>2</sup>	2003 <sup>3</sup>
<b>Energy</b>					
Intake (kcal)	1804	1808	1753	1684	1905
% Adequacy	88.6	89.0	87.1	87.8	98.3
<b>Protein</b>					
Intake (g)	53.0	50.6	49.7	49.9	56.2
% Adequacy	102.9	99.6	98.2	106.2	99.2
<b>Iron<sup>4</sup></b>					
Intake (mg)	11.0	10.8	10.7	10.1	10.1
% Adequacy	91.7	91.5	91.5	84.7	60.1
<b>Vitamin A</b>					
Intake (ug RE )	-	-	389.7	391.9	455.2
% Adequacy	-	-	75.9	88.1	91.4
<b>Calcium</b>					
Intake (mg)	0.44	0.45	0.42	0.39	0.44
% Adequacy		80.4	75.0	67.0	57.1
<b>Thiamin</b>					
Intake (mg)	0.73	0.74	0.68	0.67	0.88
% Adequacy		71.8	66.7	68.4	86.3
<b>Riboflavin</b>					
Intake (mg)	0.53	0.58	0.56	0.56	0.73
% Adequacy		56.3	54.4	57.1	68.0
<b>Niacin</b>					
Intake (mg)	15.3	16.4	16.3	16.1	20.6
% Adequacy		119.7	119.9	68.0	156.4
<b>Ascorbic Acid</b>					
Intake (mg)	66.8	61.6	53.6	46.7	46.5
% Adequacy		91.1	80.0	73.2	75.0
<b>Fats</b>					
Intake (g)			29	29	38
<b>Carbohydrates</b>					
Intake (g)			324	310	333

<sup>1</sup> 1976 RDA for Filipinos<sup>2</sup> 1989 RDA for Filipinos<sup>3</sup> 2002 RDA for Filipinos<sup>4</sup> Iron requirement in the 1993 RDA and 2002 RDA were higher compared to earlier RDAs. Niacin requirement in 1993 RDA was higher than 2002 RDA; calcium requirement was higher in 2002. These were due to methods of estimation.

Source: National Nutrition Survey, Philippines, 1978, 1982, 1987, 1993, 2003

Survey population: Nationally representative

Sample size: 2, 800 (1978), 2, 280 (1982), 3, 200 (1987), 4, 050 (1993), 5, 514 (2003)

other hand, may also be attributed to the increasing trend in the consumption of fast foods and could also signal a detrimental increase in saturated fat and cholesterol.

The changing diet patterns reflected on household nutrient intakes are shown in Table 3. The mean per capita intake of energy, protein, vitamin A, calcium, thiamin, riboflavin and niacin increased in 2003 from the levels in 1993 and earlier years. Intakes however remained inadequate for most other nutrients. The mean intake particularly for iron, calcium, riboflavin, and vitamin C were less than 80 percent of the recommended levels.

The declining intake of vitamin C over the years may be explained by the declining intake of vitamin C-rich fruits. There was no corresponding increase in iron intake in 2003, in spite of the reported increase in the intake of meat, because the increase in meat intake was mostly in the form of pork, which in general has lower iron content (0.8 mg/100g) than beef (2.8mg/100g).

The 1987 and 1993 NNS showed urban and rural differences in food, and energy and nutrient intakes. Generally, the intake of cereals and cereal products (specifically rice and corn products), starchy roots and tubers, fish, and vegetables, including green leafy and yellow, and other vegetables were higher in rural than in urban areas. Urban households, on the other hand, consumed more "other cereals and cereal products", which include, among others, breads and bakery products, noodles and snack foods from wheat flour; sugars and syrups; fats and oils; meat and poultry; eggs; milk and milk products; dried beans, nuts and seeds; as well as vitamin-C rich fruits. Milk consumption increased in urban areas between 1987 and 1993, but decreased in the rural areas. Nonetheless, diet trends in the rural areas have followed that of urban areas. Like in the urban areas, the consumption of rice and products, starchy roots and tubers, and fruits in the rural areas decreased from 1987 – 1993, while that of "other cereals and cereal products" increased. This is a reflection of the introduction of urban tastes among rural dwellers, particularly by family members who have migrated or transiently moved to urban areas but continue to send food and money (Table 4).

These urban-rural differences are reflected in regional diet patterns revealed from the 2003 NNS. The consumption of "other cereals and cereal products," fats and oils, meats and meat products, and milk and milk products was higher while that of vegetables was lower, in urban areas, such as the NCR, compared to the other regions, which had varying extent of urbanization. The regions with the highest proportion of urban population other than Metro Manila, specifically, Central Luzon and Calabarzon which are at least 60 percent urban, had higher consumption of "other cereals and cereal products," meats and meat products, eggs, and milk and milk products than the regions that were less urbanized such as Cagayan Valley and Eastern Visayas. Central Luzon and Calabarzon had lower intake of starchy roots and tubers and vegetables than most of the rest of the regions that were less urbanized.



Table 4. Trends in per capita food consumption (g) by urban and rural residence

Food Group/Sub-group	Rural		Urban	
	1987	1993	1987	1993
<b>Cereals and Cereal Products</b>	<b>361</b>	<b>350</b>	<b>318</b>	<b>318</b>
Rice and Products	317	289	281	273
Corn and Products	31	55	11	17
Other Cereals and Products	13	16	26	28
<b>Starchy Roots and Tubers</b>	<b>25</b>	<b>21</b>	<b>17</b>	<b>13</b>
<b>Sugars and Syrups*</b>	<b>22</b>	<b>17</b>	<b>26</b>	<b>20</b>
<b>Fats and Oils**</b>	<b>12</b>	<b>11</b>	<b>15</b>	<b>14</b>
<b>Fish, Meat and Poultry</b>	<b>145</b>	<b>133</b>	<b>174</b>	<b>161</b>
Fish and products	109	99	112	97
Meat and products	28	23	52	44
Poultry	8	9	11	19
<b>Eggs</b>	<b>8</b>	<b>9</b>	<b>13</b>	<b>15</b>
<b>Milk and Milk Products</b>	<b>34</b>	<b>24</b>	<b>56</b>	<b>64</b>
Whole Milk	30	22	45	48
Milk Products	4	2	11	16
<b>Dried beans, Nuts and Seeds***</b>	<b>9</b>	<b>8</b>	<b>11</b>	<b>11</b>
Vegetables	104	102	91	86
Green Leafy, Yellow Vegetables	32	34	25	25
Other Vegetables	72	68	66	61
<b>Fruits</b>	<b>115</b>	<b>84</b>	<b>123</b>	<b>93</b>
Vitamin-C Rich fruits	31	26	44	39
Other Fruits	84	58	79	54
<b>MISCELLANEOUS</b>	<b>27</b>	<b>16</b>	<b>24</b>	<b>23</b>
Beverages****	13	6	10	11
Condiments	11	9	11	9
Others	3	1	3	2
<b>TOTAL FOOD</b>	<b>863</b>	<b>786</b>	<b>869</b>	<b>819</b>

\* also includes softdrinks (sugar content), sherbet and similar preparations

\*\* includes coconut grated and coconut milk (fat)

\*\*\* includes mungbeans, soybeans, peanuts & other dried beans, nuts

\*\*\*\* includes coffee, tubs, alcoholic beverages, others

NOTE: Numbers may not add up to totals due to rounding off.

Source: National Nutrition Survey, Philippines, 1987, 1993

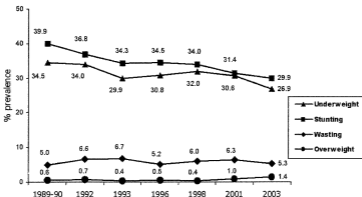
Survey population: Nationally representative

Sample size: 3, 200 (1987), 4, 050 (1993)

### Changes in Nutritional Status

Data on the nutritional status of the Filipino population also come from the NNS rounds in 1993, 1998 and 2003 and the Regional Updating of the Nutritional Status of Children in 1989/90, 1992, 1996 and 2001.

FIGURE 4. Trends in the Prevalence of malnutrition among 0 – 5.9 y old children, 1989/90 – 2003.



Source: National Nutrition Survey, Philippines, 1993, 1998, 2003; Regional Updating of the Nutritional Status of Children 1989-90, 1992, 1996, 2001

Survey population: Nationally representative

Sample size: 8, 008 (1989-90), 7, 243 (1992), 24, 000 Household members (1993), 10, 385 (1996), 28, 698 (1998), 10, 634 (2001), 4, 110 (2003)

Reference: International Reference Standard/NCHS Growth Reference.

Underweight = weight-for-age < -2SD; Wasting = weight-for-height < -2SD;  
Stunting = height-for-age < -2SD; Overweight-for-age = weight-for-age > 2SD

Undernutrition among children continues to be a public health problem. In 2003, underweight and stunting still affected three out of every 10 children 0 – 5.9 years of age (Fig. 4) and 6 -10.9 (Fig. 5) years old. Using 2003 population projections based on 2000 census data from the National Statistics Office, there are 3.2 million underweight 0 – 5.9 year-old children and 2.4 million underweight 6 – 10.9 year-old children; and 3.4 and 3.3 million stunted 0 – 5.9 and 6 – 10.9 year-old children respectively.

There has been however a declining prevalence of undernutrition, specifically underweight and stunting, in both groups of children from 1989/90 to 2003. Within this period, the

proportion of underweight 0 – 5 year-old children declined 7.6 percentage points, from 34.5 percent to 26.9 percent (0.58 percentage point reduction a year); among the 6 – 10 year-old children, the prevalence of underweight was reduced by 8.6 percentage points, from 34.2 percent to 25.6 percent (or 0.66 percentage point reduction a year). Stunting among 0 – 5 and 6 – 10 year-old children also declined 10.0 (0.77 percentage point a year) and 9.0 (0.69 percentage point a year) percentage points, respectively. Meanwhile, the picture of acute malnutrition (wasting) among 0 – 5 year-old children has not improved. The prevalence increased from 5.0 percent in 1989/90 to 5.3 percent in 2003.

FIGURE 5. Trends in the Prevalence of Malnutrition among 6 – 10.9 y old children, 1989/90 – 2003.



Source: National Nutrition Survey, Philippines, 1993, 1998, 2003

Regional Updating of the Nutritional Status of Children 1989-90, 1992, 1996, 2001

Survey population: Nationally representative

Sample size: 4, 306 (1989-90), 5, 636 (1992), 24, 000 Household members (1993), 15, 530 (1996), 3, 040 (1998), 1, 791 (2001), 3, 436 (2003)

Reference: International Reference Standard/NCHS Growth Reference. Underweight = weight-for-age < 2SD; Stunting = height-for-age < 2SD; Overweight-for-age = weight-for-age > 2SD

Overweight, although affecting a smaller proportion among the children (1.4 percent and 1.3 percent of the 0 – 5.9 and 6 – 10.9 year-old children, respectively), has increased significantly between 1998 and 2003. The prevalence of overweight among both groups of children in 1989/90 and 1998 was unchanged. It increased in 2003 by nearly three-fold among the 0 – 5.9 year-old children and more than 10-fold among 6 – 10.9 year-old children from the 1998 levels.

Among adults, undernutrition or Chronic Energy Deficiency (BMI < 18.5) affected 12.3 percent in 2003. Based on the WHO cut-off of 3-5 percent BMI below 18.5 for a healthy

adult population (WHO, 1995), adult undernutrition in the Philippines is also a nutrition problem that needs to be addressed. On the other hand, 24 percent of adults are overweight (BMI 25 - < 30) or obese (BMI  $\geq$  30), with more females (27.3 percent) than males (20.9 percent) who are affected. While progress in reducing adult undernutrition has been slow (about 10 percent reduction over 10 years), adult overweight and obesity has been increasing steadily by 20 percent between each five-year interval from 1993 - 2003.

TABLE 5. Prevalence of Underweight and Overweight among Adults

Gender/Age	Underweight *			Overweight/Obese **		
	1993	1998	2003	1993	1998	2003
% Prevalence						
Male	11.5	11.1	10.6	14.4	17.0	20.9
Female	16.1	15.4	14.2	18.6	23.3	27.3
M & F						
20-39	11.0	11.2	10.6	14.4	18.5	20.6
40-59	14.5	12.0	10.4	23.2	25.3	30.8
60 & over	29.1	25.4	23.4	11.4	14.6	19.1
All	13.9	13.2	12.3	16.6	20.2	24.0

Source: National Nutrition Survey, Philippines, 1993, 1998, 2003

Survey population: Nationally representative

Sample size: 24, 000 Household members (1993), 9, 299 (1998), 11, 696 (2003)

Reference: \* Underweight/Chronic Energy Deficiency (ICED) - BMI < 18.5, \*\* Overweight/Obese - BMI  $\geq$  25

Using the BMI cut-off points recommended by the WHO Expert Consultation to determine public health and clinical action in relation to cardiovascular disease (i.e., BMI 23 - 27.4 = Moderate Risk; BMI  $\geq$  27.5 = High to Very High Risk), the proportion of Filipino adults with moderate to very high risk to co-morbidities related to cardiovascular disease reaches even more significant proportions (Table 6) than looking simply at figures of overweight or obesity (Table 5).

Meanwhile, micronutrient deficiencies are a public health problem in the Philippines. Based on the 2003 National Nutrition Survey, vitamin A deficiency affected 40 percent of 6-59 months old children, 18 percent of pregnant women and 20 percent of lactating mothers. Anemia, which is a measure of iron deficiency, affects 66 percent of infants from six months to less than one year of age; this rate is higher than in 1998 (57 percent). Although the anemia prevalence among pregnant (44 percent) and lactating women (42 percent) was lower in 2003 than in 1998 (51 percent and 46 percent, respectively), the levels still indicate a serious

public health problem. A major reason for the continued high prevalence of vitamin A deficiency and anemia is the inadequate intake of dietary vitamin A and iron. This situation exists despite an on-going fortification program of commercially available and highly processed foods, and the fortification of staples (oil, flour, sugar and rice) as a population approach to manage micronutrient deficiencies.

TABLE 6. Distribution of adults by cut-off points for determining public health and clinical action related to co-morbidities of CVD based on BMI

Age Group (In Years)	CEB	Low Risk	Moderate Risk	High Risk
	(< 18.5)	(18.5 to <23.0)	(23.0 to ≤27.4)	(≥ 27.5)
20-39	10.6	53.0	27.4	9.0
40-59	10.4	40.6	34.8	14.1
60 and Over	23.6	43.7	24.2	8.5
All	12.4	47.4	29.5	10.7

Reference: WHO Expert Consultation, 2004: CEB (BMI < 18.5), Low Risk (BMI - 18.5 to <23.0), Moderate Risk (BMI - 23.0 to ≤27.4) High Risk (BMI ≥ 27.5)

### Trends in Prevalence of Diet-Related CVD Risk Factors 1998-2003

While the dietary changes have been slow in contributing to significant impacts on the micronutrient situation, particularly VAD and anemia, the same has begun to pose a growing threat to the health of the population in terms of chronic lifestyle-related diseases, including cardiovascular diseases (CVD). Data in the last five years indicate increasing prevalence of nutrition-related risk factors to CVD among Filipino adults 20 years of age and over, including overweight and obesity which were discussed earlier, hypertension, dyslipidemia and diabetes.

#### Hypertension

The proportion of Filipino adults who were diagnosed as hypertensive based on blood pressure (Systolic BP > 140 mm Hg or Diastolic BP > 90 mm Hg) in the 2003 NNS was 22.5 percent. The prevalence of hypertension among Filipino adults in that year had significantly increased from 21 percent in 1998, and remained high among the middle-aged adults and elderly – from 26.4 percent among the 40-49 years, 40.2 percent among the 50-59 years, 45.8 percent among the 60-69 years and 56 percent among the 70 years old and over age groups.

TABLE 7. Trends in the prevalence of hypertension<sup>a</sup> among Filipino adults 20 years old and over, 1998 and 2003

Gender	Age group	1998	2003
		Prevalence in %	
M & F	20-29	11.3	8.8
	30-39		14.1
	40-49	29.0	26.4
	50-59		40.2
	60-69	44.3	45.8
	70+		56.0
	All	21.0	22.5

Source: National Nutrition Survey, Philippines, 1998, 2003

Survey population: Nationally representative

Sample size: 9, 299 (1998), 20 - 39 y = 1,402, 40 - 59 y = 1,021, <sup>a</sup> 60 y = 2,330 (2003)

Reference: Hypertension (Systolic > 140 mm Hg; Diastolic > 90 mm Hg)

## Dyslipidemia

The prevalence of hypercholesterolemia among Filipino adults in 2003 was 8.5 percent, which is more than twice the rate of four percent in 1998. There was a significant increase in the prevalence of hypercholesterolemia between the periods particularly among the middle-aged and older adults, and the condition remained significantly higher among the middle-aged adults (10 - 20 percent) and the elderly (15 percent) than younger adults.

The prevalence of elevated LDL-cholesterol among Filipino adults in 2003 was 3.7 percent. This is significantly higher than, and also nearly twice, the 1998 rate of two percent. By age category, the prevalence of elevated LDL-cholesterol was significantly increased within the five-year period among the middle-aged adults and the elderly.

The increasing trend in hypercholesterolemia and elevated LDL-cholesterol may be associated with the increase in consumption of animal-based foods, particularly meats, and possibly fats and oils, as well as the decreasing fruit and vegetable consumption.

There is also no evidence of an increasing prevalence of elevated triglycerides that could be associated with the increasing consumption of fats and oils (which is mostly coconut oil) in Philippine households. Overall, less than one percent (0.7 percent) of Filipino adults had elevated triglycerides, which was only slightly lower than the 1998 rate (0.8 percent).

TABLE 8. Trends in dyslipidemia among Filipino adults 20 years old and over, 1998 and 2003.

Age group	Elevated total cholesterol <sup>1</sup>		Elevated LDL-cholesterol <sup>2</sup>		Low HDL-cholesterol <sup>2</sup>	Elevated triglycerides <sup>3</sup>	
	1998	2003	1998	2003	2003	1998	2003
20-29	3.0	3.3	1.7	1.5	2.9	0.4	0.4
30-39		6.0		2.1	3.2		0.4
40-49	5.8	9.6	2.5	4.5	4.9	1.4	1.3
50-59		19.9		8.3	3.8		1.2
60-69	4.11	5.6	2.3	7.4	2.9	0.4	0.8
70+		15.4		7.0	4.2		1.1
All	4.0	8.5	2.0	3.7	3.5	0.8	0.7

## Diabetes

The Philippine data also show no evidence of a trend towards an increasing prevalence of Diabetes Mellitus. It is surprising that there was no increase in the prevalence of Diabetes Mellitus while obesity increased significantly. The proportion of Filipino adults with Diabetes Mellitus was 3.9 percent in 1998, and 3.4 percent in 2003. However, the proportion of Filipino adults with Impaired Fasting Blood Glucose, a pre-diabetic condition that puts increased risk to diabetes, was 3.2 percent in 2003 (FBS = 100 – 125 mg/dL) compared to only 2.5 percent in 1998 (FBS = 110 – 125 mg/dL).

TABLE 9. Trends in the prevalence of Impaired Fasting Blood Glucose<sup>a</sup> and Diabetes Mellitus<sup>b</sup> among Filipino adults, 20 years old and over, 1998 and 2003

Gender	Age group	1998 <sup>a</sup>		2003 <sup>b</sup>	
		% Prevalence			
		Impaired Fasting Glucose <sup>a</sup>	Diabetes Mellitus Glucose <sup>b</sup>	Impaired Fasting	Diabetes Mellitus
M & F	20-29	1.9	2.6	1.2	0.7
	30-39			2.1	2.0
	40-49	3.1	5.4	5.0	4.9
	50-59			5.7	8.9
	60-69	3.2	6.2	5.6	6.3
	70+			6.2	5.1
	All	2.5	3.9	3.2	3.4

Source: National Nutrition Survey, Philippines, 1998, 2003

Survey population: Nationally representative

Sample size: 9, 299 (1998), 20 – 39  $y = 1,402$ , 40 – 59  $y = 1,021$ ,  $\geq 60 y = 2,330$  (2003)

Reference: <sup>a</sup> Impaired Fasting Glucose: (FBS = 110 – 125 mg/dL, WHO Technical Report Series 1985) ;

<sup>b</sup> (FBS = 100 – 125 mg/dL, ADA), <sup>c</sup> Diabetes mellitus: (FBS  $\geq$  126 mg/dL)

## Conclusion

The dietary changes that have occurred in Philippine households in the last 25 years are reflections of the increasing urbanization of the country. Urban diets have been associated with increasingly Westernized food habits, such as high-fat diets, processed foods and refined carbohydrates. Data from the Philippines exhibit a pattern of increasing intakes of fats and oils, sugars and syrups, meats and processed meat products, and other cereals and cereal products (including breads and bakery products, noodles, and snack foods made from wheat flour), and declining fruit and vegetable consumption. It is likely that these trends will continue given the escalating urbanization of the Philippine population, coupled with increasing availability and variety of processed and fast foods, the frequency of eating outside the home, the use of computers and computer games, and the influence of mass media.

While the improvements in diets have been in the direction of dietary goals and Philippine nutritional guidelines, including increasing the intakes of animal foods (“to increase good quality proteins and absorbable iron to satisfy nutritional requirements”) and fats and oils (“as a remedy to caloric deficiency and to help lower the risk of vitamin A deficiency by facilitating its absorption and utilization”), the Philippines’ progress in achieving the Millennium Development Goals still falls short of the rate necessary to meet the target. In spite of increased consumption of the food sources of iron, calcium and riboflavin, as demonstrated by increasing intake of animal source foods – including meats and dairy – these nutrients remain inadequate. The trade-offs of increased consumption of animal foods and fats and oils are increased cholesterol and saturated fats in diets, and increased overweight in children, adolescents and adults when coupled with sedentary lifestyles. The trend towards increasing obesity, hypercholesterolaemia and elevated LDL-cholesterol, which are known risk factors for CVD, is alarming. There has been increasing mortality from diseases of the heart and vascular system, which in the last 10 years have become the top two leading causes of death in the country. While consumption of animal foods and fats and oils, prevalence of obesity, hypercholesterolaemia and elevated LDL-cholesterol, and mortality from CVD and other non-communicable diseases (NCDs) are moving in the same direction, the consumption of fruits and vegetables and other traditional staples such as maize and root crops has steadily declined over time.

Although there has been progress in addressing undernutrition in the Philippines, it is still a problem of far greater magnitude than overnutrition is, especially among children. Out of every 100 children aged zero to five years, 27 are underweight-for-age, 30 are stunted, more than 30 are anaemic, 40 are vitamin-A deficient, and only one is overweight. Out of every 100 children aged six to 10 years, 27 are underweight, 37 are stunted, 37 are anaemic, 11 are iodine deficient, and again only one is overweight. The burden of undernutrition is also greater among 11-to-12-year-olds and 13-to-19-year-olds, with six underweight to every



overweight child in the former, and four underweight to every overweight child in the latter age group. Among adults, on the other hand, there are twice as many cases of overweight as underweight.

The evidence that the country is facing a double burden of malnutrition is seen in terms of the coexistence at the population level of undernutrition among children and the elderly with overnutrition among adults. The malnutrition double burden within households, e.g., an underweight child and an overweight mother, is also reported to be emerging, with prevalence of 8.2 percent in one poor urban community, rising to about 20 percent in a high-income urban community (Agdeppa, Laña and Barba, 2003). There is increasing scientific evidence to support Barker's hypothesis that chronic diseases such as CVD, diabetes and hypertension in later life may have their origins in fetal cardiovascular, metabolic and endocrine adaptation to intrauterine undernutrition (Aggett and Schofield, 2000). The prevalence of low birth weight, which is associated to fetal undernutrition, was estimated to be about nine to 11 percent in the 1990-1997 period, rising to about 18 percent in 1995-2000. Based on this hypothesis, the increasing prevalence of NCDs may also be associated with maternal and fetal undernutrition. Thus, addressing undernutrition from early life, including pre-pregnancy and maternal undernutrition, will contribute to reducing NCDs in the country. That overnutrition increases with age should also emphasize that programs for the prevention of overweight/obesity and NCDs in later life should start in children, particularly increasing physical activity and exercise.

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# Occupational Gender Segregation and Wage Rate Differentials Among Filipino Youth

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## Abstract

**T**he tendency of men and women to work in different occupations contributes to the persisting gender wage gap. This effect is suggested to be greater at younger ages as people begin their careers. However, this has not been ascertained in the Philippines because of data paucity, particularly among the youth which account for one-fifth of the country's employed population. Using 2005 Cebu Longitudinal Health and Nutrition Survey data on 924 employed youth ages 20-22 years, we examined the: (1) extent of occupational gender segregation using the Karmel and MacLachlan index (1); (2) demand and supply side factors associated with occupational choice; and (3) effect of segregation on wage rate. Multivariate regression and Heckman selection models were employed. Results showed that there is occupational gender segregation that is worse among rural residents. Occupational gender segregation is significantly associated with wage rate inequality, even after controlling for human capital and employment requirements.

## Introduction

Gender equality is essential for sustainable development. This has been a central theme in global conferences such as the International Conference on Population and Development held in Cairo in 1994 and the World Conference on Women held in Beijing in 1995. One of

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the areas where efforts are targeted to promote gender equality and empower women is in the labor market. Women and men tend to work in different occupations, and this segregation has been suggested to cause the continuing discrepancies in wages among men and women. Estimates of the wage gap attributed to occupational gender segregation range from five percent to 40 percent depending on the data and statistical methodology, with about 20 to 25 percent considered as the most reasonable estimate (Hakim 1992; Macpherson and Hirsch 1995; Preston 1999).

The Philippines has been making significant strides towards women empowerment and gender equality. Gender concerns are being mainstreamed in government policies and programs. Labor participation rate of women has been steadily increasing in recent years, from 50.5 percent in 1996 to 54.9 percent in 2001 (ILO 2003). However, gender segregation in the labor market persists. Employment data compiled by the Asian Development Bank (ADB 2004) showed gender segregation following socially ascribed roles and responsibilities of men and women. Women were predisposed to be employed in nurturing functions, such as in private households as housekeepers, in education, and in health and social work. By occupation group, the highest concentrations of females relative to males were among laborers and as unskilled workers. This segregation suggests poorer quality of women's work since these occupations do not usually have good terms of employment (i.e., overtime pay, health benefits, tenure).

The youth population (ages 15 to 24 years) is a significant economic force in the Philippines. The working youth accounted for 20 percent of the total employed persons in 2005. At the same time, this group contributed almost half of the total unemployed persons. Young women had a lower labor force participation rate (LFPR) compared to young men (38 percent and 60 percent, respectively) (NSO 2005). A 2002 report on the Filipino youth found that the employment gender disparity is more pronounced in rural areas, where young women's LFPR was 35 percent against men's 64 percent in 2002 (POPCOM 2002).

A study (Warren and others 2002) on occupational stratification using a life course approach in Wisconsin suggests that gender effect on occupation is greater at younger ages – gender matters most when people are beginning their careers. From career entry, men tend to work in occupations that pay better than the occupations in which women tend to work. Comparing across age groups, the effect of gender segregation on wages was highest among the younger ages (16-29 years) where occupational crowding has been postulated to be more severe (Macpherson and Hirsch 1995). Whether this is true in the Philippines cannot be ascertained, because information on the extent of segregation, particularly among youth workers, has been lacking. Against this context, the authors aim to: (1) determine the presence and extent of occupational gender segregation; (2) examine supply and demand side factors associated with occupational choice; and (3) estimate the effect of occupational gender segregation on

wage rate among the Filipino youth as they undergo a critical but understudied life stage transition.

The paper is organized as follows: (1) overview of the theoretical perspectives on occupational gender segregation and the Philippine youth labor market; (2) data and methods used in the analyses; (3) results; and (4) conclusions.

## Theoretical Perspectives

### Occupational gender segregation

Occupational gender segregation has persisted over time and is evident in all nations of the world (Grusky and England 2004; Moshe and Frank 1999; Preston 1999; Rosenfeld and Spenner 1992). Anker (1997) noted two major reasons why occupational gender segregation should be a continuing concern. First, it is a major source of labor market rigidity and economic inefficiency. Exclusion of majority of laborers on majority of occupations is a waste of human resources. Second, it is detrimental to women since segregation perpetuates negative views of both men and women, consequently affecting women's status, income, education, skills (Anker 1997). The key consequence associated with occupational gender segregation is the segregation of the payment structures and the persistent sex differential in earnings with women on the negative or lower end. The proportion of the gender wage gap (five to 40 percent) attributed to occupational segregation is reportedly higher than the proportion explained by work interruptions (15 percent) and comparable worth wage upgrading (five percent) (Hakim 1992; Preston 1999). It therefore follows that the theories formulated to explain occupational gender segregation are focused on explaining the gender pay gap. As discussed by Anker (1997), occupational gender segregation theories can be classified into three broad categories: (1) neo-classical and human capital theories; (2) institutional and labor market segmentation theories; and (3) non-economic and feminist or gender theories.

#### *The Neoclassical Theory*

This theory assumes rational choice on the parts of both the employer and the worker. Further, it assumes that labor markets function efficiently. The workers assess their own assets against constraints and take into account their preferences in deciding to seek the best paying job while the employer's main goal is to maximize profits by minimizing costs and maximizing productivity but is willing to pay the workers' marginal product because of labor market competition. On the supply side, this theory places high values on productivity-related variables such as education and previous work experience. For the neoclassical theorists, women rightfully have lower pay because of their lower productivity. Further, this theory stresses the responsibility of women in terms of housework and childcare that they are

willing to choose occupations that have relatively low penalties for temporary withdrawals from the labor force, i.e., occupations that offer flexible working hours. On the demand side, human capital theorists believe that the factors that influence workers' preferences (education, skills) for particular jobs influence the preference of employers. Therefore, jobs requiring higher education and work skills are offered to men since they supposedly have better education and skills rather than women. In addition, the stereotypical role of women as homemakers and caretakers can lead to higher indirect costs – i.e., compared to men, women will have higher absenteeism, turn-over rate, and require other non-wage benefits such as crèches for their children, separate toilets, etc. Neo-classical complementary theories have also emerged – the employer's taste for discrimination and compensating differentials. *Employer's taste for discrimination* (Becker 1971) assumes that employers are inherently prejudiced against certain groups, and usually these groups are those who are different because of visible characteristics such as age, sex, race, etc. When employers hire someone that they are prejudiced against, it presents higher cost. The *compensating differentials model* states that women prefer occupations that have good working conditions and fringe benefits and avoid occupations with unpleasant and dangerous conditions – these will lead women to accept lower paying jobs with high non-wage pay (Anker 1997).

#### *The Institutional and Labor Market Segmentation Theories*

These theories assume that institutions (i.e., unions, large enterprises) significantly influence the hiring, firing, promoting and paying of employees. They also believe that labor markets are segmented. The *dual market theory* segments the market into primary and secondary sectors – the former includes jobs that are relatively good in terms of pay, security, opportunities for advancement and working conditions while the latter includes jobs that tend to be poor in pay, chances for promotion and working conditions. Further, primary sectors are believed to be protected from competition unlike secondary sectors where competition is fierce. This segmentation model then is used to explain occupational gender segregation: female occupations have lower wages because of overcrowding while male occupations have lower competition therefore enjoy higher wage rates. The *statistical discrimination theory* is based on the assumption that there are differences in the productivity of distinct groups and high search and information costs associated with recruitment and promotion decisions. It is therefore believed to be rational for employers to discriminate against low-productivity workers such as women to save on decision-making costs (Anker 1997).

#### *Feminist/ Gender Theories*

These theories center on non-market variables that put women at a disadvantage in the labor market, such as the patriarchal nature of society where women are seen as subordinates. This patriarchal ordering and the division of responsibilities contribute to why women

accumulate lower human capital and skills. Women are viewed to be responsible for home and childcare while men are the breadwinners, this stereotyping can then help explain why it is perceived that women have lesser need for education and work experience. This theory further shows how female occupations mirror common stereotypical roles. For example, women's caring nature, skill and experience in household work, greater manual dexterity, greater honesty and attractiveness can qualify her for occupations such as nurses, doctors, social worker, teacher, maid, housekeeper, cleaner, etc. while women's lesser physical strength, lesser ability in math and science, and lesser willingness to face danger can disqualify her for occupations such as engineer, mathematician, driller, miner, construction worker, etc. (Anker 1997; Anker and Hein 1985).

### The Filipino youth

The Filipino youth, ages 15 to 24 years, comprising 15.1 million (~ 20 percent) out of the 76.5 million Filipinos in 2000; half of this youth population was between ages 20-24 years. With an annual growth rate of 2.1 percent, the Philippine population is expected to double in 33 years. As regards to education, about 42 percent were attending school (NSO 2002 ; POPCOM 2002). The female youth had relatively higher educational attainment than the male youth. In fact, young females were more likely to have college education than males, regardless of age (Ogena and Berja 2003). In 2005, the youth comprised about a third of the country's working age population; with about half of them already in the labor force. While this group accounts for 20 percent of the total number of employed individuals, 44 percent of the unemployed were youths (NSO 2005). The latter suggests lack of job opportunities for the younger population, especially for the young women in rural areas; youth unemployment rate gradually increased in the past six years prior to the 2002 youth survey (Erica 2003). The Filipino youth's significant share in the labor force underscores their influence in the direction of the socio-economic development of the country.

Among Asian countries included in a cross-national study, the Philippines was reported to have the most gender segregated occupations as measured by the index of dissimilarity (Moshe and Frank 1999). Wage differentials between men and women have been reported and is a serious concern but have not been analyzed in the context of occupational gender segregation (ADB 2004). And as previously stated, few, if any, have examined working preferences and concentration among the younger population – a population that comprise a significant portion of the country's population, and its workforce. Our study explored the applicability of the theories of occupational gender segregation for a population where women are generally more highly educated than men but at the same time a population that still holds strong stereotypical views as regards to female/male responsibilities and occupations (ADB 2004; Ogena and Berja 2003; POPCOM 2002).

## Data and Methods

The authors used data gathered by the Cebu Longitudinal Health and Nutrition Survey (CLHNS) on a community-based sample of individuals born between 1983-84 in metropolitan Cebu, the second largest metropolitan area in the Philippines. A stratified, single stage sampling was used to select 33 barangays (smallest administrative unit) – 17 urban and 16 rural barangays. Households in the selected barangays were surveyed and information was collected on all births occurring between May 1, 1983 and April 30, 1984. The CLHNS collected individual, household and community level data through face-to-face interviews using structured questionnaires in 1983-84, 1994, 1998, 2002, and 2005. This paper is a cross-sectional analysis utilizing data from the last survey round when participants were young adults.

Of the original cohort of 3,080 single live births, 1,912 (1,008 males, 904 females) remained in the 2005 survey; 1,048 were working at the time of the survey but we focused on the 924 paid workers (ages 20-22 years). About 56 percent of the analysis sample were male, most (95 percent) were not currently in school with about two-thirds having graduated from high school and only seven percent from college. Urban residents and those who were never married made up majority of the sample (69 percent and 71 percent, respectively). Less than half had previous work experience, most were employees and working full-time, and about 45 percent were in crafts and production occupations.

TABLE 1. Profile of the respondents, CLHNS 2005 (N = 924)

Selected characteristics	n	Percent
Male	517	55.95
Married	268	29.00
Not schooling	878	95.02
Graduated high school	607	65.69
Urban resident	638	69.05
With work experience	385	41.67
Employee (not self-employed)	812	87.88
Working full-time	695	75.22
Occupation:		
Administrative, executive, managerial, professional	51	5.52
Clerical	101	10.93
Sales	127	13.74
Farming, fishing, hunting, mining	23	2.49
Transportation, communication services	78	8.44
Crafts, production	413	44.70
Service, sports	131	14.18



Details of the analysis methods employed are discussed under each aim as different segregation measures are employed. Aim 1 focuses on measuring segregation at the macro level while Aims 2 and 3 assess characteristics associated with and the effects of segregation measured at the micro level.

### Aim 1

For Aim 1, which is to determine the presence and extent of occupational gender segregation, we used the Karmel and MacLachlan Index (1988)<sup>1</sup>. This index is based on the understanding that segregation means a different distribution of women and men across occupational categories, and the more equal the distribution over occupations, the less segregation. The Karmel and MacLachlan Index ( $I_p$ ) can be computed using:

$$I_p = \left( \frac{1}{T} \right) \sum_{j=1}^p |F_j - a(M_j + F_j)|$$

where  $T$  and  $a$  are total employment and the female share of total employment, respectively, and  $F$  and  $M$  are the number of female and male employees in the  $th$  occupation. The number of females in occupation  $j$  under occupational integration is  $a(M + F)$ . This index is interpreted as the proportion of the workforce (persons in employment), which would need to change occupations to remove segregation taking into account the female and male shares of occupations. The index represents the level of employment that would have to relocate, with replacement, to achieve 0 segregation. The  $I$  index ranges from 0 in the case of complete equality where women's employment is distributed similarly to men's across occupations to .5 in the case of complete dissimilarity where women and men are in completely different occupations (Emerck and others 2003; Karmel and MacLachlan 1988; Watts 1997; Watts 1998a; Watts 1998b).

In this study, we used the 2-3 digit Philippine Standard Occupation Codes (most detailed, lowest level of occupational grouping available) to classify each respondent's work. Our respondents were employed in 126 occupation groups. These occupation groups were then classified into the seven major occupational groups (see details below) that were used to compute for the  $I$ . We also estimated segregation indices stratified by characteristics that may affect the extent of segregation such as residence, employment type (Emerck and others 2003) and schooling status.

### Aim 2

In Aim 2, which is to examine supply and demand side factors associated with occupational choice, we grouped occupations into three occupational gender-types to represent the dependent variable – integrated, female dominated, and male dominated occupations.

*Dependent variable*

The CLHNS coded nine major occupational groups: (1) professional, technical workers; (2) administrative, executive and managerial workers; (3) clerical workers; (4) sales workers; (5) farmers, fishermen, hunters, loggers; (6) miners, quarrymen; (7) workers in transport and communications; (8) craftsmen, production-process workers; and (9) service and sports workers. To increase sample size per group, we combined groups (1)  $n = 9$  and (2)  $n = 42$ , and combined groups (5)  $n = 21$  and (6)  $n = 2$  resulting in seven major occupational groups (see Table 1 for detailed distribution). These occupational groups were then categorized into three occupational gender-types: integrated, female dominated, or male dominated occupations. There is no standard way of allocating occupations into gender-type categories; examples of the different ways in which these (or similar) categories have been defined in the literature include: (1) determining an occupation to be atypical when a majority of the employed are of the other gender (Corcoran and others 1984; Rosenfeld 1984) with some using set cut-offs such as 70 percent, 80 percent or 90 percent (Melkas and Anker 1997); (2) looking at patterns of mobility to identify blocks that are internally homogenous (Jacobs 1989; Rosenfeld and Spenner 1992); (3) defining integrated jobs as jobs falling within a certain proportion band (i.e., 10, 20, 40 percent) around the average female share of the workforce (Hakim 1992); and, (4) considering female representation in the labor force and classifying occupations that have a given degree of female over/under representation as 'male' or 'female' (Beller 1984; Rytina and Bianchi 1984).

In a similar thread with the last definition, we determined occupational gender types as follows: an occupation was classified (fe)male dominated if its (fe)male share of employment was higher than the overall (fe)male share of employment, otherwise the occupation was classified as integrated (Watts 1998b). For example, we classified an occupational group to be female dominated if the female share of employment in this particular group was significantly higher (alpha set at 0.05) than the over-all share of female employment (44 percent). On the other hand, if its female share of employment was significantly lower than 44 percent, the occupation was classified as male dominated. The resulting classification corresponded well with the Hakim (1992) classification scheme of 20 percent band around the (fe)male share of occupation. Integrated occupations were coded 0, female dominated occupations were coded 1, and male dominated occupations were coded 2.

*Explanatory variables*

Supply side explanatory variables included traditional human capital variables of education and work experience, family structure variables such as living with mother and marital status, geographic residence (urban-rural), and job-finding network. For demand side explanatory variables, we considered job availability as perceived by the young adults, and requirements for education, work experience, physical exertion and work time.

To gather information on these demand side explanatory variables, the study asked the respondents about the requirements/qualifications necessary for their current jobs as regards to these variables. Operationalization of supply and demand side predictors are presented in Table 2.

TABLE 2. Operationalization of supply and demand side predictors

Predictor	Measure
<b>SUPPLY SIDE</b>	
<i>Human capital</i>	
Education	Number of completed years of formal education
In school	Currently schooling/studying 1 = yes (46), 0 = no (878)
Work experience	Worked previously 1 = yes (385), 0 = no (539)
<i>Family structure</i>	
Marital status	Currently/Previously married = 1 (268), never married = 0 (656)
Living with mother	Living with mother 1 = yes (690), 0 = no (234)
<i>Geographic residence</i>	
Urban residence	Urban resident = 1 (638), rural resident = 0 (286)
<i>Job finding network</i>	
Found job by himself	Nobody helped to find job = 1 (361), somebody helped to find job = 0 (563)
<b>DEMAND SIDE</b>	
<i>Job availability</i>	
Only job available	Reason cited for choosing job: only job available = 1 (406), other reasons = 0 (518)
<i>Human capital requirement</i>	
Requires at least high school graduate	Educational requirement of job at least high school graduate 1 = yes (393) , 0 = no (531)
Requires work experience	Job requires previous work experience 1 = yes (257), 0 = no (667)
<i>Physical requirement</i>	
Physical exertion	Main job activity requires moderate/heavy physical exertion 1 = yes (417), 0 = no (507)
<i>Time requirement</i>	
Full time job	Works at least 40 hrs/wk 1 = yes (695), 0 = no (229)

(1) - n in each category

### *Analysis approach*

To identify supply and/or supply side factors significantly associated with our 3 – level occupational gender type outcome (nominal, with no ordering assumed), we used polytomous logistic regression. This simultaneously models the log of the odds that the occupation is female dominated (divided by the odds that the occupation is integrated) and the log of the odds that the outcome is male dominated (divided by the odds that the occupation is integrated). In contrast to using two or separate dichotomous logistic models, using a polytomous model utilizes the data for all categories of the outcome variable in a single model structure, considering all levels of the outcome simultaneously (Rothman and Greenland 1998). First we ran a model with supply side factors only to determine significant respondent characteristics associated with occupational ‘choice’, then we entered demand side variables to the model to determine what employer/occupation characteristics influenced the outcome as well as to examine if the addition of these factors modulates the supply side effects. Further, we performed the analyses stratified by gender to see if the same predictors influenced occupational choice among males and females. Lastly, self-employed individuals may have different decision patterns, influences and job market constraints than those who depend on outside employment. Therefore, we assessed sensitivity of results to the inclusion of self-employed respondents by performing all analyses with and without this group ( $n = 112$ ), coded 1 if self-employed, 0 if an employee. Most self-employed respondents were in transportation and communication (36.6 percent) and in sales (28.6 percent) jobs.

### **Aim 3**

*Aim 3 is to estimate the effect of occupational gender segregation on wage rate among the Filipino youth.* To operationalize the outcome, wage per hour, we divided self-reported usual weekly earnings by the usual number of hours worked per week – both pertaining to the main occupation. The local currency, Philippine peso, was used in the analyses. The main exposure of interest, occupational gender segregation (represented by occupational gender type) and the control variables, human capital characteristics such as education and work experience, and geographic residence were operationalized as previously described.

Multivariate regression models were employed to estimate the effect of being in a gender-dominated occupation on wage rates. Heckman selection models were used to account for potential selection bias that may have resulted from limiting our study to paid workers. For example, the respondent’s decision not to work (therefore not having paid wages and excluded in the sample) could be influenced by reservation wages that are higher than the offer wages – therefore it is possible that those who were not in the sample could have had higher wages than those who were actually in the sample if they chose to work. The Heckman selection model assumes an underlying regression relationship:

$$y_j = x_j \hat{\alpha} + u_{1j} \quad (\text{regression equation})$$

The dependent  $y$  variable (wage rate), is not always observed but the dependent variable for observation  $j$  is observed if:

$$Z_j \alpha + u_{2j} > 0 \quad (\text{selection equation}) \text{ where}$$

$$u_{1j} \sim N(0, \hat{\sigma}) \quad \text{and} \quad u_{2j} \sim N(0, \hat{\sigma}), \quad \text{corr}(u_{1j}, u_{2j}) = \hat{\rho}$$

When  $\hat{\rho} \neq 0$ , then the regression equation will yield biased results while the Heckman will provide consistent, asymptotically efficient estimates for the parameters in such models (Gronau 1974; Heckman 1976; StataCorp 1999).

Similar to the analysis approach used for Aim 2, we assessed the effect of having self-employed respondents by estimating effects with and without this group.

## Results

### Presence and extent of occupational gender segregation

There is occupational gender segregation among Filipino youth. As measured by the I index shown in Table 3, about 27.9 percent of the sample needed to switch occupations to remove segregation; segregation was worse among those still in school, 43 cases of them ( $I = 41.3$  percent), living in rural areas ( $I = 34.3$  percent) and were self-employed ( $I = 30.0$  percent) (Table 3). It is noteworthy that the index value estimates are substantial and within the range as or slightly higher than the national estimates for most E.U. countries known to have relative high levels of segregation and for Japan (Emerek and others 2003; Grusky and England 2004). However, since the index is not margin-free and can be influenced by occupational classification and distribution, direct comparison of index estimates should be viewed with caution. Also, we focused on the youth population while most studies have not specifically analyzed this age group.

With the presence of occupational gender segregation, it is interesting to see how the labor force is distributed by gender in each occupation or to know which occupations are gender-biased. Table 4 shows clerical and sales occupation groups are female-dominated; farming, fishing, hunting, mining and transportation-related occupations are male-dominated while administrative, executive, managerial, professional, crafts and production, and service and sports occupational groups are gender-integrated jobs. The classifications of these major occupational groups, although not exactly the same, are similar to results indicated by previous studies and somehow follow stereotypical expectations posited by the gender/feminist theorists (ADB 2004; Anker 1997; Grusky and England 2004; Watts 1995).

TABLE 3. 1 index values by selected characteristics: 2005

Group	Index	N
In school:		
No	.2783	878
Yes	.4130	46
Residence:		
Rural	.3433	286
Urban	.2848	638
Self-employed:		
No	.2743	812
Yes	.3004	112
All	.2787	924

\*based on 2-3 digit occupation codes; sample distributed in 126 occupations

TABLE 4. Gender distribution by occupational group (n=924)

Occupational group	Male	Female	n
Administrative, executive, managerial, professional	47.06	52.94	51
Clerical*	28.71	71.29	101
sales*	45.67	54.33	127
Farming, fishing ,hunting, mining*	95.65	4.35	23
Transportation, communication services*	92.31	7.69	78
crafts, production	56.42	43.58	413
Service, sports	60.31	39.69	131
All	55.95	44.05	924

\*difference in proportions between total proportion per gender versus occupational group proportion  $p < .05$

Looking at the distribution of males and females by occupational gender-type, we observed that the majority (65 percent of males, 64 percent of females) was working in integrated occupations; interestingly, only about 1.7 percent of females were in male-dominated occupations while about 17 percent of males were in female-dominated occupations (Table 5). This shows that females are more likely to be concentrated in specific occupational groups than males and supports the dual market theory as regards to 'crowding' of females. Given the types of occupational groups that were classified as male dominant, it is not surprising that the youth in male-dominated occupations were more likely to be out of school, rural resident, and self-employed. Only about seven percent of urban youth workers were in farming, fishing, hunting, mining, or transportation-related occupations (Table 6); moreover, this proportion was concentrated on the last group as public utility (motorized and non-motorized) vehicle drivers and to a lesser extent as stevedores. Also, the observations that: (1) almost all workers in male-dominated occupations were males and, (2) these occupations were more likely in rural areas and held by the self-employed, may be driving the higher  $I_p$  index among these groups.

TABLE 5. Gender distribution by occupation gender type, 2005 (n=924)

Occupation gender-type	Male %	Female %	ALL %
Integrated	64.99	63.64	64.39
Female dominated	16.83	34.64	24.68
Male dominated	18.18	1.72	10.93
N	517	407	924

\*difference in proportions between total proportion per gender versus occupational group proportion  $p < .05$

TABLE 6. Percent distribution according to occupation gender type, by selected characteristics, 2005 (n=924)

Occupation gender-type	In school (%)		Residence (%)		Self-employed (%)		ALL (%)
	No	Yes	Rural	Urban	No	Yes	
Integrated	65.26	47.83	62.94	65.05	69.21	29.46	64.39
Female dominated	23.69	43.48	17.13	28.06	24.14	28.57	24.68
Male dominated	11.05	8.70	19.93	6.90	6.65	41.96	10.93
n	878	46	286	638	812	112	924

### Supply and demand side characteristics associated with occupational gender type

Question 1: What supply and demand side characteristics were significantly associated with being in a female-dominated job versus an integrated job among the youth? (Table 7)

For both genders combined, respondents with more years of formal schooling and those living in urban communities were significantly more likely to be in female-dominated than integrated occupations (Odds ratios (OR) 1.13 and 1.55, respectively). When stratified by gender, this pattern is observed only among females but not males. The only supply side characteristic that significantly influenced males to choose female-dominated over gender-integrated occupations was schooling at the time of the survey (OR 2.65).

Including demand side variables did not substantially influence the significant effects of number of years of education and urban residence. Among the supply side characteristics, skills and physical exertion requirements are negatively associated with being in a female-dominated occupation. Although we observed the same direction of effects for males, these associations were not statistically significant.

Question 2: What supply and demand side characteristics were significantly associated with being in a male-dominated job versus an integrated job among the youth? (Table 7)

Opposite to what was observed above, number of years of education and urban residence decreased the likelihood of having a male-dominated job versus an integrated job; for males, being in school and being married were also significant factors (OR 2.64, 2.02, respectively). Living in urban areas decreased the odds of having a male-dominated job over an integrated job by as much as 22 percent.

Similar to the first occupational gender type contrast, demand side variables had independent effects on occupational choice and did not significantly attenuate the effects of supply side characteristics. Compared to integrated jobs, male-dominated jobs were more likely chosen because of job (in)availability, more likely to require physical exertion and less likely to have higher educational requirement.

The exclusion of self-employed respondents from the analyses did not change the direction of the relationships among supply and demand side characteristics and occupational gender type. In general, for the supply side variables, the associations involving the education variables were strengthened while that of urban residence was slightly decreased. For the demand side variables, the negative associations between education and physical exertion requirements with the odds of choosing a male-dominated job over an integrated job were weakened.



TABLE 7. Odds ratio (ORs) comparing having a gender-dominated job versus integrated job (reference)

Predictors	Both genders (n=924)		Males (517)		Females (407)	
	Model 1*	Model 2*	Model 1*	Model 2*	Model 1*	Model 2*
<b>Female dominated versus integrated (reference)</b>						
<b>SUPPLY SIDE VARIABLES</b>						
No. of years of education	1.13**	1.10**	1.01	1.00	1.24**	1.22**
In school	1.76 <sup>†</sup>	1.81 <sup>†</sup>	2.65**	2.33 <sup>†</sup>	1.57	1.64
Living with mother	1.04	0.96	1.04	0.98	0.94	0.86
Married	0.98	0.97	1.22	1.32	0.84	0.83
Urban residence	1.55**	1.54**	0.79	0.77	2.90**	2.99**
Work experience	1.01	0.99	0.85	0.85	1.11	1.10
Found job by him/herself	1.04	1.00	0.90	0.88	1.19	1.20
<b>DEMAND SIDE VARIABLES</b>						
Only job available		1.04		1.34		0.73
Require HS graduate		1.06		1.17		0.87
Require work experience		0.52**		0.63		0.52**
Need physical exertion		0.59**		0.66		0.59
Full time		1.09		0.74		1.64
Log Likelihood						
<b>Male dominated versus integrated (reference)</b>						
<b>SUPPLY SIDE VARIABLES</b>						
No. of years of education	0.82**	0.92**	0.85	0.93	n/a	n/a
In school	2.57	2.76	2.64**	2.66	n/a	n/a
Living with mother	1.20	1.19	1.31	1.39	n/a	n/a
Married	1.23	1.10	2.08**	2.08**	n/a	n/a
Urban residence	0.35**	0.37**	0.22**	0.23**	n/a	n/a
Work experience	0.94	0.87	0.78	0.76	n/a	n/a
Found job by him/herself	1.16	1.66**	1.00	1.39	n/a	n/a

## DEMAND SIDE VARIABLES

Only job available		1.74**		1.93**		n/a
Require HS graduate		0.19**		0.13**		n/a
Require work experience		1.30		1.36		n/a
Need physical exertion		2.11**		1.25		n/a
Full time		0.93		0.61		n/a
Log Likelihood	-752.96	-717.07	-425.59	-402.99	-268.12	-260.69
		(24)				
LR chi2 (df)	103.10	174.88	68.97	114.18	53.69	68.55
	(14)		(14)	(24)	(14)	(24)
Prob > chi2	0.00	0.00	0.00	0.00	0.00	0.00

\* Model 1: Includes supply side predictors only; Model 2: Includes supply and demand side predictors.

\*\* p-value < .05; + p-value < .10

n/a only 7 females in male dominated-occupations

TABLE 8. Odds ratio (ORs) comparing having a gender-dominated job versus integrated job (reference), self-employed excluded

Predictors	Both genders (n = 812)		Males (436)		Females (376)	
	Model 1*	Model 2*	Model 1*	Model 2*	Model 1*	Model 2*

## Female dominated versus integrated (ref)

## SUPPLY SIDE VARIABLES

No. of years of education	1.17**	1.12**	1.05	1.01	1.26**	1.24**
In school	1.75	1.93 <sup>+</sup>	2.73**	3.12**	1.70	1.56
Living with mother	1.23	1.12	1.44	1.26	1.02	0.98
Married	0.88	0.88	1.45	1.43	0.64	0.61
Urban residence	1.39 <sup>+</sup>	1.39	0.61 <sup>+</sup>	0.62	2.76**	2.80**
Work experience	1.06	1.04	0.79	0.77	1.26	1.26
Found job by him/herself	0.97	0.86	0.79	0.68	1.06	1.07

## DEMAND SIDE VARIABLES

Only job available		1.10		1.42		0.77
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Require HS graduate	1.25	1.48	0.92
Require work experience	0.59**	0.79	0.57 <sup>†</sup>
Need physical exertion	0.51**	0.62	0.49**
Full time	1.12	1.14	1.23

**Male dominated versus integrated (ref)**

## SUPPLY SIDE VARIABLES

No. of years of education	0.81**	0.86**	0.82**	0.86**	n/a	n/a
In school	3.18	2.75	3.68	3.26	n/a	n/a
Living with mother	1.05	1.11	1.16	1.26	n/a	n/a
Married	0.60	0.60	0.95	1.12	n/a	n/a
Urban residence	0.53**	0.55 <sup>†</sup>	0.34**	0.34**	n/a	n/a
Work experience	0.93	0.95	0.86	0.94	n/a	n/a
Found job by him/herself	0.95	1.28	0.71	0.98	n/a	n/a

## DEMAND SIDE VARIABLES

Only job available		1.55		1.97 <sup>†</sup>		n/a
Require HS graduate		0.40**		0.28**		n/a
Require work experience		0.79		0.95		n/a
Need physical exertion		1.20		0.79		n/a
Full time		0.62		0.45**		n/a
Log Likelihood	-593.74	-576.24	-310.13	-298.87	-240.04	-231.28
LR chi2(df)	76.07 (14)	111.07 (24)	42.22 (14)	64.74 (24)	58.70 (14)	76.21 (24)
Prob > chi2	0.00	0.00	0.00	0.00	0.00	0.00

\* Model 1: Includes supply side predictors only; Model 2: Includes supply and demand side predictors.

\*\* p-value < .05; <sup>†</sup> p-value < .10

n/a only 6 females in male-dominated occupations

Restricting the analysis to those in gender-biased occupations, Table 9 presents the odds of being in male-dominated jobs compared to the odds in female-dominated jobs by gender. Regression results showed that among males, urban residence (OR .27) and educational requirements (OR .11) significantly decreased the odds of being in male-dominated jobs; among females, the odds of having male-dominated jobs was positively associated with finding the job herself. Note that few females in male-dominated occupations affected the precision of the regression estimates involving females only

TABLE 9. Odds ratio (ORs) comparing having a female-dominated job versus male-dominated job (reference)

Predictors	ALL		Excluding self-employed	
	Males (181)	Females (148)	Males (116)	Females (87)
<b>SUPPLY SIDE VARIABLES</b>				
No. of years of education	0.92	0.82	0.85 <sup>+</sup>	1.01
In school	1.15	—	1.07	—
Living with mother	1.53	0.80	0.91	0.34
Married	1.49	0.54	0.68	0.75
Urban residence	0.27**	1.46	0.63	1.90
Work experience	0.77	0.30	1.23	0.40
Found job by him/herself	1.88	7.71 <sup>+</sup>	2.01	3.96
<b>DEMAND SIDE VARIABLES</b>				
Only job available	1.17	0.46	1.21	0.25
Require HS graduate	0.11**	3.81	0.19**	—
Require work experience	1.90	2.21	0.99	0.81
Need physical exertion	1.56	0.97	1.00	—
Full time	0.98	—	0.51	—
Log Likelihood	-96.13	-23.55	-63.01	-19.49
LR chi2(df)	58.38(12)	9.28 (10)	31.31 (12)	4.67 (8)
Prob > chi2	0.00	0.50	0.00	0.79

\*\* p-value < .05; <sup>+</sup> p-value < .10

— no estimates, category predicts failure perfectly

In sum, compared to being in other occupational gender types, the odds of being in female-dominated occupations were higher among those who were more educated and those living in urban areas, and lower among those who require previous work experience and moderate/heavy physical exertion. Gender-segregated occupations, especially male-dominated occupations, were more likely chosen because they were the only jobs available for the youth (based on their own self-report) and because these jobs were less likely to require completion of high school education.

#### Association between occupational gender type and wage rates

Hourly wage rates among the youth have a very wide range of variation, owing mostly to self employment wages – mean wage rate (standard deviation) for self-employed was P50.10

(136.94), while that of the employee was P26.30 (33.79). Accordingly, the log of wage rate (earnings/hour) is used in the multivariate analysis.

Examining mean wage rates per occupational gender type, we found that mean wage rates for male-dominated occupations were higher than female-dominated and integrated occupations. This pattern of wage differentials persisted after excluding the self-employed.

TABLE 10. Wage per hour (pesos) by gender type occupation, by sex

Occupation gender type	Both genders		Males		Females	
	mean	s.d.*	mean	s.d.*	mean	s.d.*
<b>ALL EMPLOYED</b>						
Integrated	26.84	30.94	27.47	29.42	26.01	32.84
Female dominated	31.19	49.95	30.27	30.83	31.75	58.83
Male dominated	38.48	138.41	38.87	143.46	33.21	16.72
TOTAL	29.18	57.61	30.02	66.69	28.12	43.48
<b>EXCLUDING SELF-EMPLOYED</b>						
Integrated	25.49	29.34	26.70	29.07	23.88	29.69
Female dominated	27.34	45.74	23.68	13.94	29.29	55.67
Male dominated	30.92	25.09	30.13	26.13	37.23	14.13
TOTAL	26.30	33.79	26.61	26.95	25.93	40.34

\* s.d. = standard deviation

Table 11 presents the results of the multivariate regression models. After adjusting for education, work experience and place of residence, the Heckman selection corrected model showed that compared to integrated occupations, male-dominated occupations had higher wage rate, especially when the self-employed were excluded (regression coefficient male-dominated occupation versus integrated occupation: .295,  $p < .05$ ). Integrated and female-dominated jobs had comparable wage rates. The difference between male-dominated occupation wage rate and that of female-dominated occupation was about P1.40 (regression coefficient male dominated occupation versus female dominated occupation: .333,  $p < .05$ ). To put the wage differences into context, the minimum hourly wage rate in metro Cebu at the time of the survey was about P25.00. Additionally adjusting for gender yielded similar results – male-dominated occupations excluding the self-employed have significantly higher wage rate than the other occupation groups (regression coefficient male dominated occupation versus integrated occupation: .237,  $p < .05$ ).

TABLE 11. Regression coefficients on wage rate

Occupation gender type	Log Wage/hr (pesos)			
	Model 1 <sup>*1</sup>		Model 2 <sup>**2</sup>	
	Coefficient	p-value	Coefficient	p-value
<b>ALL EMPLOYED</b>				
Integrated	reference	Reference	reference	reference
Female dominated	.012	.829	.048	.404
Male dominated	.080	.323	.010	.899
<b>EXCLUDING SELF-EMPLOYED</b>				
Integrated	reference	Reference	reference	reference
Female dominated	-.039	.491	.006	.921
Male dominated	.295	.002	.237	.013

\*adjusted for education, previous work experience, and urban residence

\*\* adjusted for gender, education, previous work experience, and urban residence

<sup>1</sup> For all employed: Log likelihood = -2259.53, Prob > chi2 = 0.001, Wald chi2(6) = 22.82;

Excluding self-employed: Log likelihood = -2062.63, Prob > chi2 = 0.000, Wald chi2(6) = 54.77

<sup>2</sup> For all employed: Log likelihood = -2246.29, Prob > chi2 = 0.000, Wald chi2(7) = 48.92;

Excluding self-employed: Log likelihood = -2050.97, Prob > chi2 = 0.000, Wald chi2(6) = 80.68

## Conclusions

Although this study is mostly descriptive, we examined a serious labor concern in a significant segment of the population. We found that occupational gender segregation exists among Filipino youth and it is significantly associated with (1) human capital, place of residence, and job requirements; and (2) wage rate inequality, even after controlling for human capital.

Examining the demand and supply side characteristics allowed us to assess which theories more closely explain occupational segregation by gender among the Filipino youth. No single theory can explain occupational gender segregation in our sample; occupational choice was driven by conditions associated with parts of the major theories. The theory least compatible with occupational choice in our sample is the neoclassical theory. We found that the neoclassical theory argument wherein male-dominated jobs have higher wages because of greater human capital does not hold. In our sample, workers in female-dominated occupations were most likely to have more years of schooling while workers in male-dominated occupations were least likely to have more years of schooling. On the supply side, male-dominated jobs were the least likely to require a high school diploma. There is however some evidence supporting the compensating differentials model, a complementary of the neoclassical model – women tend to concentrate on jobs that do not require heavy physical exertion. Nonetheless,

controlling for physical exertion requirements did not change the wage rate inequality results (data not shown) – male-dominated jobs still had higher wage rate than female or integrated jobs. As stated, the distribution of males and females across the occupation gender types may lend support to the dual market model of overcrowding. Lastly, focusing on the gender-biased occupations, the concentration of males on stereotypically male occupations (driving, farming, fishing, etc) and women on stereotypically female occupations (clerical jobs) can lend support to the gender/feminist theory.

To conclude, our findings suggest that policies aiming to reduce gender wage gap should continue to be concerned with reducing occupational gender segregation; and to reduce occupational gender segregation, policies should not only aim at improving the human capital investments (i.e., education) or productivity of women but also aim at changing gender stereotypes in the labor market.

This study characterized occupational segregation by gender and its association with wage rate differentials among young adults that may be holding transitional jobs. The next challenge therefore is for future studies to examine occupational mobility and assess if this study's findings will persist throughout the later stages of their career and life course.

### Notes

- 1 The Karmel and MacLachlan Index is one of the many indices used to measure occupational gender segregation (i.e. Index of Dissimilarity, Charles' Structural Log Index, Gini Index). We chose to use the Karmel and MacLachlan Index since we intend to follow-up this population and examine the trend in occupational gender segregation over time. The Karmel and MacLachlan Index has properties that make it more suitable for time-series analysis of horizontal segregation. The index can be decomposed to reveal margin-free components (particularly its composition effects) and can be extended to capture the influence of different occupational groups to the level and change in the segregation index. Being margin-free means that changes in the magnitude of the index over time are independent of the interrelated changes in the overall shares of employment by gender and occupational structure (Karmel and MacLachlan 1988; Watts 1997, Watts 1998, Watts 1998b). Karmel and MacLachlan 1988 and Watts 1998 provide details on Karmel and MacLachlan Index decomposition that we will employ in future analyses.
- 2 Integrated occupations set as reference category because we are interested in knowing how different are the characteristics of individuals that take on segregated occupations compared to those that are integrated occupations.

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# Revisiting Social Acceptance of Homosexuality Among Filipino Youth: Some Theoretical and Methodological Implications

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## Abstract

**T**his paper aims to explore the issue of social acceptance of homosexuality in the Philippines both qualitatively as evidenced by systematically examining emerging themes in the literature, and quantitatively by using data from the Young Adults Fertility and Sexuality Survey of 2002. While in general, “homosexual acceptance” among the young Filipino population is reported to be as high as 50.9 percent, the paper demonstrates that when acceptance is qualified with the activities that characterize homosexual practice – men dating men, women dating women and, sexual attraction to the same sex – the result presents that only 13.5 percent of the young people approve both the homosexual person and the practice of homosexuality. Conceptually, it presents that acceptance of homosexuality must be extended from the acceptance of the homosexual person into incorporating the acceptance of homosexual practice.

## Introduction

Human sexuality involves the norms and circumstances that govern the expression of sexual relations between individuals. Sexuality has been seen as a fact of nature, with sexologists such as Masters and Johnson (1966) focusing on the biology and physiology of sex. Since

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sexuality is assumed to be at the core of human beings (i.e., as sexual beings), it is seen as a driving force that motivates humans to action particularly on the drive to procreate thereby stressing a heterosexual norm (Scidman 2003).

This proclivity to underscore the hetero-normative definition of sexuality was a product of the early Sexology movement in Europe that tended to promote the idea that any sexual expression that deviated from the heterosexual aim was abnormal. Noted sexologist Von Krafft Ebings' *Psychopathia Sexualis* (1889), listed homosexuality along with 200 other disorders as abnormal (Hartwich 1959). Freud's revolutionary psychoanalytic approach to sexuality, albeit medical, has led to a distinction between one person's gender and his sexuality. Freud rejected the previous idea that homosexuality was caused by the inheritance of female characteristics by males, or by the possession of a hermaphrodite mind (Westphal and, Ulrich n.d.) and argued that the direction the sexual drive takes has no necessary relationship to inherited sexual characteristics. He theorized that all children are born polymorphously perverse - their sexual desires can be drawn toward any object - and it is their childhood experiences that cause their sex drive to be directed to members of the opposite or the same sex. Since Freud rejected hereditarian theories of the causes of homosexuality, he also rejected the notion that homosexuals or inverts are necessarily feminine. According to Freud, whether a boy grows up to have a masculine or feminine personality has nothing to do with the direction of his sexual desire. Thus, depending on his upbringing, a boy can develop into an effeminate heterosexual, a masculine homosexual, or some other combination of gender and sexuality (Freud, 1905).

The Kinsey Reports (1948) further opened the theorizing on homosexuality by introducing that homosexuality is also present in American society with 10 percent of American men admitting to be homosexuals for at least three years in their lives and four percent admitting to be homosexuals. Homosexuality according to Kinsey was then another option or outlet for the sexual drive, thus no person is generally different in constitution. Individuals, as Kinsey argued, follow a six point scale on whether a person prefers not even a twinge for homosexual outlet (point 0) to purely a homosexual outlet (point six) and further posits that men move in these categories on a continuum between homosexual and heterosexual at some point during their lifetimes.

Along with these developments in homosexuality theorizing in the West came the counterpart stream in the political and social cause for the homosexuals. It may be construed that whatever the prevailing ideologies on how homosexuality is viewed - whether in the medical or psychoanalytic level - influence on how society accepts homosexuality. Any discourse at the scientific level indeterminately affects the social and the political standing of homosexuals or vice versa. Homosexual movements can either be a response or affirmation or countermeasure to prevailing discourses on homosexuality.

Homosexual acceptance is mainly a product of these movements coming from the virtual outlawing of homosexual acts prior to 1860 to moving in to mainstream starting in the revolutionary times of the 1970s. When viewed systematically, homosexuality is seen as a continuously evolving concept whose abstraction is constantly challenged and shaped by its relations with its environment, such relations include: the society where it is practiced, the dominant culture persisting in the society, and the institutions that either recognize or suppress and repress its existence. The interplay of these forces, both the sociopolitical-legal considerations and institutional actors create and re-create homosexual identity and character which in turn yield to the social acceptance of homosexuality over time.

Homosexuality is proving to be a fertile ground with newly evolving concepts proposed in the Queer Theory body of literature. General concepts such as the homosexual-heterosexual continuum are further expanded in the introduction of concepts or classifications such as pansexual (involves no particular sexual preference, i.e., may have sexual relations with any gender), autosexual (someone who prefers masturbation over partnered sex), and even asexual (someone who does not experience sexual attraction at all).

The ability to understand and explain the dynamics of these forces that impinge on the definition of homosexuality at the macro level, will help individuals propagate a better understanding of the concepts regarding homosexual orientation and behavior. Such is most useful when one is in constant challenge to assert individuality especially in the (post) modern globalized world. Considering all these, adolescence becomes a vital stage as it is the transition period between childhood and adulthood. The period is fraught with the simultaneous interplay of changes within the biological and emotional makeup of the child. Adolescence proves to be the time where boundaries are challenged and preferences stated in all aspects of his life including sexual identity. The need to provide understanding assures better coping for the adolescent.

It is the view of this paper to highlight and re-analyze homosexual acceptance among the Filipino youth using data from the 2002 Young Adult Fertility and Sexuality Study (YAFS3). It also attempts to organize existing literature to provide a clear and realistic picture of the social acceptance of homosexuality by the Filipino young adults and identify the gaps to be filled by future research.

### **Study Objectives**

This paper examines the concept of homosexuality acceptance at the theoretical and methodological level. It seeks to raise concern about the character of the concepts related to how homosexuality is actually viewed by young Filipinos.

Conceptually it seeks to present the various facets of homosexuality as viewed by adolescents and draw the line on what is actually accepted and what is only acceptable. It aims to highlight the nuance between acceptance and acceptability via the framework of how sexuality is constructed by the Filipino youth. Particularly, it will examine how the adolescents accept a homosexual person vis-à-vis accepts a person who just happens to be a homosexual.

As a background, it will put some discussion on the status of social institutions most perceived to create or influence the views on homosexuality such as religion, culture, media, and the law. The roles of these institutions provide some clue as to how a general opinion of homosexuality is constructed in the Philippine setting through the following questions:

1. What is the role of religion, particularly the Catholic Church in the Philippines, in shaping the status of homosexuality?
2. What are the cultural concepts that influence homosexuality and its acceptance in the Philippines?
3. How is homosexuality represented in the media? What are the prevailing stereotypes that characterize homosexuals?
4. What are the legislative initiatives being undertaken that define homosexuality in the Philippines? How is it being received?

More importantly, this paper seeks to revisit and analyze quantitatively the level of acceptability and acceptance of homosexuality among the young people in the Philippines using nationally representative data. Specifically it seeks to:

1. Provide the level of homosexual acceptance among adolescents in the Philippines using YAFSS3 data and analyze its meaning; and
2. Reinterpret the level of homosexual acceptance by juxtaposing this acceptance variable per se versus other variables that may represent acceptance and/or approval of practice of homosexuality.

## Data and Methodology

The theoretical or qualitative analysis part of this paper utilizes available literature on homosexuality and its acceptance, both international and local. A thematic approach of documentary analysis is employed.

On the other hand, the methodological analysis used the YAFSS3 data set as its source of quantitative data. YAFSS3 is a national survey which represents the most recent effort to better understand the knowledge, attitudes and behaviors of Filipino adolescents in matters related to their gender, sexuality and reproductive health. It is also a pioneer in the addition of homosexuality as a survey component on a national scale. This data set was collected by

the Demographic Research and Development Foundation and the University of the Philippines Population Institute in partnership with academic institutions in all parts of the country, and with funding support from the David and Lucile Packard Foundation.

The YAFSS3 fieldwork resulted into a total of 19,728 respondents from 15,463 household in 894 sample barangays nationwide within the 15-27 age range. The survey employed a two-stage, self-weighting design with regions as main domains and large provinces as separate domains.

From the YAFSS3 data set, four variables were examined – acceptability of homosexuals to the respondent, approval of men dating men, approval of women dating women and approval of sexual attraction to the same sex. The respondents were asked “How about you, are homosexuals acceptable to you, in general?” and the answer includes the following categories: Yes, Gay only (male homosexual), Lesbian only (female homosexual), Bisexual only and No. For this analysis, all the first four answers were considered a positive response (Yes).

For the attitude towards homosexual dating by sex, the straight-forward question asked of the young people were “Do you approve of men dating men?” and “Do you approve of women dating other women” with a positive answer of a ‘Yes’ or a negative answer of a ‘No’. A measure to check approval of homosexual dating regardless of sex was created from these two dating variables, wherein a ‘Yes’ response to both questions was coded as ‘Yes’. While a single ‘Yes’ answer to both questions and a ‘No’ response to both question were coded as ‘No’.

For the attitude towards homosexual sex roles, the question used was “It is alright to be sexually attracted to the same sex?” with the following categories as answers – Strongly agree, Agree, Neither agree nor disagree, Disagree, Strongly disagree. For purposes of simplicity, Strongly agree and agree were collapsed into the “Approve” category, the Disagree and Strongly disagree were put together as “Disapprove” category and renaming Neither agree nor disagree into “Neither”.

An overall variable to measure practice of homosexuality was created from three base variables – approve men dating men, approve women dating women, and approve sexual attraction to the same sex. This is represented as a dichotomous variable coded as 1 for ‘yes’, they approve the practice of homosexuality (positive response to any of the three variables) and 0 for ‘no’, they disapprove it (negative answer to all of the three base variables).

Cross-classification using the Chi-squared test was employed in evaluating the significant differentials in the acceptability of homosexuals against the practice of homosexuality. For deeper analysis, redistributing the percentages using the total sample size or total n of case as base was employed to give a clear picture of the size of the young people who really accept a homosexual person as against the size of those who find acceptable a person who happens to be a homosexual.

Further, a new variable was also created to represent the sex of those who said 'Yes' in the acceptability of homosexuals after which it was cross-tabulated with the created practice of homosexuality variable. This was done to determine if there is a significant difference in the approval of the practice of homosexuality between males and females who said that they accept homosexuals in general.

While there was an attempt to employ a multivariate logistic regression analysis to ascertain the socio-economic-demographic factors that influence the acceptance of the practice of homosexuality, unstable models were generated because of the uneven distribution of most of the identified variables being studied. Hence, they were not included in the analysis.

## Discussion of Findings

### Revisiting Homosexuality

Homosexuality is a recent Western concept (Foucault, 1980) unique among the conceptualization of male-male sexual bonds of other cultures in several ways. Where the western concept of homosexuality assumes a life-long predisposition, other cultures have typically construed male-male sexual bonds as temporary phases, as in the initiation rites of tribes in New Guinea or ancient Crete, or age-based relationships, as in ancient Greece.

An even more profound uniqueness of the Western concept of homosexuality is revealed when it is contrasted with how male-male sexual and romantic bonds were treated in Imperial China where several male emperors were known to have had male harems and favorite male concubines, and also where male prostitution (for male clients) was prevalent up to the end of the Qing Dynasty. The reason why there was no word for homosexuality in Chinese was because it was never seen as a defining or integral part of a person's identity. Male-male sexual and romantic bonds were construed as relationships between two people as opposed to a psychological essence that defined either person. Moreover, these same-sex bonds were seen as a perfectly acceptable and natural way of life in Imperial China (Hinsch, 1992).

Homosexuality has been viewed in different ways throughout the years and has been characterized primarily by the prevailing institutions within the society. Societies differ in the extent on how much homosexuality (or some form of same-sex intimate relationship) is sanctioned or rejected. The framework such as the cultural milieu including the moral and religious criteria where homosexuality is viewed, the social and political environment specifically the legal definition where it is protected and/or sanctioned, and the forces such as media that propagate and instill ideas on how it is understood, contribute to the overall acceptance of homosexuality.

In the Philippines, there is a very broad definition of homosexuality. Anyone who does not fit into the hetero-normative ideal of being male or female will be categorized as

homosexual, a *bakla*. To simplify things, the Filipino includes distinct concepts under the homosexual umbrella. Among the concepts included in this general meaning are physicality, gender identity, sexual orientation and sexual roles. Interspersed with these concepts are the general categorizations of homosexuals by the young Filipino.

In a series of focus group discussions and key informant in-depth interviews, Cruz (2006) posits a multi-tiered approach to homosexual definition that starts with the gender identity of a person; if the person presents himself/herself opposite to the assigned physical make-up, then he is considered as a homosexual – a flaunting and flamboyant homosexual. For the male homosexuals of this category they are the *parloristas* or *beauconeras*, those who work in beauty salons and are the ones joining gay beauty pageants. They are characterized as males mimicking a woman by using feminine clothing, sporting long hair and painted nails, talking and acting like a female. *Butch* or *tombutch* are the terms for homosexual females under this categorization.

There are also persons who are comfortable with their assigned biological self and they do not present themselves as the opposite sex but they are romantically and sexually attracted to the same sex with little traces of characteristics of the opposite sex. They are branded as full-blown homosexuals or gays and soft-butch or lesbians.

If the sexuality of a person cannot be determined by his/her appearance and personality, the next tier to be evaluated is the role he/she engages in during sexual intercourse for the person to be considered a homosexual. There are males who belong to the category of *paminta* (coming from the root word, *pa-men*, a homosexual acting like a man) who defies the first two tiers of homosexual definition. Their female counterparts are the *lipsticks* or *femmes* who are females who still present themselves as females but are romantically and sexually attracted to females. This category is equivalent to the western concept of the 'closeted' gay. For males, if he takes on the passive role (or penetratee) willingly then he will be considered a homosexual but this categorization is defied when the male takes on this role in exchange for money or any favor.

Another categorization of sexual orientation is the bisexual, who is defined as someone who can get romantically and sexually attracted to members of both the opposite and the same sex.

### Homosexuality in Culture

In early Greek civilization for example, pederasty was a relationship and bond – whether sexual or chaste – between an adolescent boy and an adult man outside of his immediate family. Pederasty was seen as an effective means of population control, education, and crime reduction by directing love and sexual desire into non-procreative channels. Military pederasty on the other hand was encouraged as a means to improve troop morale, bravery, and overall



fighting. Pederasty as a practice may be also seen in Japan, Europe, Africa and the Pacific Islands. The practice is not however present in the Philippines or in any of its minority groups.

In the pre-colonial Philippines however, Spanish conquistadors saw gender crossing and transvestism as an early feature in the pre-colonial societies. Local men dressed up in women's apparel and acting like women were called, among other things, *bayoguin*, *bayok*, *agi-ngin*, *arog*, *bido* and *binabae*. They were significant not only because they crossed male and female gender lines. To the Spaniards, they were astonishing, even threatening, as they were respected leaders and figures of authority. To their native communities they were *babaylan* or *catalonan*: religious functionaries and shamans, intermediaries between the visible and invisible worlds to whom even the local ruler (*datu*) deferred (Garcia, n.d.).

In the presence of westernization upon the succession of colonial rulers, the concept of masculinity was given primacy inside the Filipino's subscription to a patriarchal culture. Manly characteristics such as being *malakas*, *matipuno*, *malaki ang katawan*, *maskulado* and, *mahusog* (Jimenez et al. 1998 cited in Aguilar, 2006) were exhorted. As males are considered the more superior of the sexes, the image and extent of what being macho means needs constant projection. Machismo takes then the form of virility, and the capacity to impregnate a woman thus becomes the foremost measure (Aguilar 2006). Deviation from this kind of test of manhood leads to serious questions regarding one's sexual orientation. Notice then that given the aforementioned conditions, the construction of homosexuality in Philippine culture is measured by resistance or deviations from norms set at the physical level, and later at the normal sexual partnerships favoring procreation.

### Homosexuality and Religion

The relationship between homosexuality and religion varies greatly across time and place, within and between different religions and sects, and regarding different forms of homosexuality and bisexuality. Currently, authoritative bodies and doctrines of the world's largest religions generally view homosexuality negatively, from quietly discouraging homosexual activity, to explicitly forbidding same-sex sexual practices among adherents and actively opposing social acceptance of homosexuality. Some teach that homosexual orientation itself is sinful, while others assert that only the sexual act is a sin.

The dynamic interaction between homosexuality and religion has forever been subject to various interpretations in relation to homosexual acceptance. Religious doctrine is decided upon either by direct interpretation of authoritative books (Bible, Qur'an, Torah) or by church traditions. Primarily, the correct interpretation of these passages is governed and defined by groups in the religion's hierarchy. Among the dharmic religions that originated in India, including Hinduism, Buddhism, Jainism and Sikhism, teachings regarding homosexuality

are less clear than among the Abrahamic traditions. Unlike in western religions, homosexuality is rarely discussed. However, most contemporary religious authorities in the various dharmic traditions view homosexuality negatively, and when it is discussed, it is discouraged or actively forbidden. On the other hand most Abrahamic Religions such as Judaism, Islam, and Christianity, traditionally forbid sexual relations between men and teach that such behavior is sinful.

The introduction of Christianity/Catholicism was an agent in the redefinition of sexuality and the systematic marginalization of homosexuals in history. Throughout Filipino history, the political powers have been submissive to the Catholic Church. The Church is determined to maintain its hold on important aspects of civil life, such as education, the availability of contraception and abortion, and even the registration of major events in the lives of the people like birth, marriage, child adoption, and death (Leyson, n.d.). A very conservative interpretation of Catholic decrees about sexuality and marriage have been inscribed in the minds of the Filipino people, in a way that has proven difficult to alter or delete. Outstanding among these are the Church's views on the social roles of males and females, its insistence that any form of masturbation or premarital intercourse is sinful, and condemnation of homosexuality as unnatural behavior. Under the Catholic view, homosexual acts are intrinsically disordered. They are contrary to the natural law. They close the sexual act to the gift of life. They do not proceed from a genuine affective and sexual complementarity (Catechism of the Catholic Church, 1997). Recently, the Catholic Bishops Conference of the Philippines has explicitly banned the entry of homosexuals into the Holy Orders stressing that while effeminate traits are condoned, actual practicing homosexuals do harm to others through their victims. They do harm to the Church (Philippine Star 2004).

### Homosexuality in Media

Apart from the role of the cultural milieu that impinges upon the construction of homosexual views, media is seen as a great propagator of ideas, having explicit capacity of advocacy and implicit ability to frame political issues. Popular representation of homosexuality in mass media cannot be overly emphasized in its power. In the homosexual situation of the Philippines that appeared in the *Encyclopedia of Homosexuality* (New York: Garland Publishing, 1990), Frederick Whitam concluded that the Philippines enjoy a reputation as one of the contemporary societies that is most tolerant of homosexuality, as among other things homosexual characters in Philippine media (movies and television) elicit "claps and shouts of approval" from the many children in the audience. The development of gay cinema in the Philippines at least is marked by parallelism with how society developed acceptance for gays and gay culture. In the early history of Philippine Gay Cinema, actors appeared in films as transvestites. They were funny, comical, and ludicrous. The concept of *muberista*, transvestite, crossdressers, *tallada*, *stooke* and *binabae* were introduced in these decades. Though the films of Dolphy were waggish, they put the gay people in a jesting and farcical situation which was

taken as humiliation somehow for the concept "*pangangantiyaw sa mga binabae*." The roles of homosexuals typified by Dolphy's *Facifica Falayfay* to slapstick driven comedy of the early '90s have relegated the role of the homosexual to precisely a jesting character. Garcia (1996) reasserts particular gay, mass-media characters that evoke "claps and shouts of approval" do so because they portray ridiculously uproarious roles whose entertainment value singularly derives from their gender anomaly, as well as other equally obtrusive things: neither man nor woman; coward; unreal; *bakla*, precisely.

In the 1970's portrayal was far different from the 1950s and 1960s. The gays portrayed in the '70s were in the closet whose story lines tended to delve on the serious and dramatic. It brought more trauma for it mirrored the embarrassing and unacceptable orates which were death, crime, broken family, and threats. In the 1980s, Roderick Paulate emerged as a screaming faggot in many of his films. Some of the films delved on the closet guy representation, while some portrayed the "handsome guy exploiter" theme. It was a combination of the '50s-'60s and the '70s surfing the issue of guilt and acceptance. The '90s was the period when acceptance became light. The outing of the *bakla* was manifested and the concept of sisterhood was established. Filipino gay films address issues close to heart; sexual repression, marginalization, acceptance (crime and guilt) and the issue of coming out.

Even within the history of gay-themed cinema, the complexities of the gay character are slowly being fulfilled. In the advent of independent cinema, storylines opened up new explorations on the homosexual theme, from being an agent of comedy to becoming sophisticated protagonists that scuffle with serious situations and dilemmas. Whereas earlier movies delve into the sexual practices and choices of homosexuals, as in Brocka's *Macho Dancer* (1988) and Chionglo's trilogy of macho dancers movies, the newer themes veered away from sex and included among other things the life and love travails of homosexuals, giving us a clearer and more holistic representation of the gay Filipino. Critically acclaimed movies like *Ang Pagdadalaga ni Maximo Oliveros* have created new perspectives in the examination of homosexual life, particularly the irony of being a homosexual in an albeit hard-line macho family. It is rather important to note in this case that it is the advancement of technology in the production of cinematic art, and not necessarily the increased acceptance of homosexuality, that has created more space for themes that tackle real and personal homosexual issues, rather than consumer-driven homosexual characters for entertainment's sake.

While freedom to tackle homosexual issues in cinema is compromised because of the State's instrument for control (i.e., the Movie, Television Review and Classification Board), the long standing primacy of the print media in the guarantee of freedom of the press is highly accorded. The presence of any formal state instrumentality to censor print material is virtually inexistent. However, the Philippines' obscenity law, ambiguous as it may seem, becomes the overarching constraint that may compromise expression. Technically speaking,

these obscenity laws prohibit the publication of pornographic materials and the confiscation of which remains within the State's domain. Otherwise, no independent body can exercise any power over these publications.

In an analysis of the rise and fall of the Philippine Gay Magazine publication phenomenon, Lim (2005) identifies the lack of advertisers, and the presence of more daring competition that has led to the demise of the legitimate gay lifestyle publications. While readership remains high, any magazine must rely to some form of advertising support to expand its operations or at least, remain in publication. Lim cites the case of *Valentino* that other than condoms and sex-related products, no advertiser would want to get associated with homosexual-themed magazine. Adding to that fact is the presence of severe competition that highlighted only the *Valentino's* sexual content. In an effort to capture the bigger market share, competition was based on which magazine could present more skin which on most occasions bordered on the pornographic; leaving authorities to use the obscenity law as response to control.

The entry of a serious gay-themed publication such as *Valentino* has received high acceptance as seen from its high readership rates. However market forces, particularly the desire for more profit on the part of advertisers who would put their funds elsewhere than gay magazines; the hardcore competition that took the risk to go beyond the legal aspects of publishing which created a new underground market and economy; and the actual implementation of obscenity laws remain serious forces that impinge on the survival and ultimately, acceptance of gay publications.

Whereas print and broadcast media have at some point, a probability to be censored, the dawn of the Information Age has resulted in an alternative form of expression and transmission of varying ideas. In effect, while the economies of the world are slowly being integrated into one schema, so has the exchange of cultural norms and ideas been made easy with connectivity to the World Wide Web. The emergence of blogs and the relative ease of putting up personal websites have created avenues for discussion of almost every conceivable topic one is interested in without prejudice to the content. Moreover, the possibility of providing instant comments from the reader to the writer ensures a steady exchange of thoughts. Similarly, social networking sites allow a certain user to connect with friends and similar minded peers. Certain sites such as *guys4men*, *dudesnude*, *downlink* and *manjam* cater mainly to the lesbian/gay/bisexual/transgender (LGBT) community. As it is, the internet provides a powerful tool to force into dialogue divergent views as well as convergent views on LGBT issues which can help mold the young people's perception, attitudes and behavior.

### **Homosexuality and the Law**

The process of legalization of homosexual acts may be seen as the easiest indicator or barometer of how much a society has become liberal or restrictive of its views. The legal

status of homosexuality varies greatly around the world. Homosexual sex acts may be illegal, especially under sodomy laws, and where they are legal, the age of consent often differs from country to country. In some cases, homosexuals are prosecuted under vaguely-worded “public decency” /vagrancy law and morality laws.

Legal recognition of same-sex relationships also varies greatly. Legal privileges pertaining to different-sex relationships that may be extended to same-sex couples include parenting, adoption and access to reproductive technologies; immigration; spousal benefits for employees such as pensions, health funds and other services; family leave; medical rights, including hospital visitation, notification and power of attorney; inheritance when a partner dies without leaving a will; and social security and tax benefits. Same-sex couples without legal recognition may also lack access to domestic violence services, as well as mediation and arbitration over custody and property when relationships end. Some regions have laws specifically excluding same-sex couples from particular rights such as adoption.

Several countries impose the death penalty for homosexual acts. As of 2006, these include Mauritania, Sudan, Iran, Saudi Arabia, United Arab Emirates, Yemen, Pakistan and Chechnya under the Sharia law and some regions in Nigeria and Somalia. Homosexual acts between consenting adults are known to be illegal in about 70 out of the 195 countries of the world; in 40 of these, only male-male sex is outlawed. (Homosexuality Laws cited from wikipedia.org).

While there is no explicit law that penalizes homosexual acts, most often, generic provisions like grave scandal under the Revised Penal Code may be used. This lack of a clear policy statement regarding the rights of homosexuals has necessitated legislative initiatives from sympathetic groups. The first bill that sought to recognize the LGBT community as a sector was filed by the Late Congressman Reynaldo Calalay (District 1 of Quezon City) in 1995. The bill allowed for the participation of the LGBT sector in the party-list elections. The various LGBT organizations and individuals consulted for the Calalay bill started discussions on the creation of LEGACY, or the Lesbian and Gay Citizens Alliance. The Alliance did not materialize.

In 1998, Akbayan Citizens' Action Party, a party-list organization competing for the 1998 elections, consulted members of the LGBT community to develop a party LGBT agenda. It is the first political party in the Philippines that has included an LGBT agenda in its platform for governance. The consultation has also been instrumental in the creation of the first LGBT lobby group. Discussions among several LGBT organizations and individuals began to create the Lesbian and Gay Legislative Advocacy Network, or LAGABLAB in 1999. “The Lesbian and Gay Rights Act of 1999”, a bill by Rep. Bellaflor Angara-Castillo, was filed in Congress. The bill, the first of its kind because of its comprehensive coverage (it includes domestic partnership), received several criticisms from the community, particularly

LAGABLAB, because of its flaws and because of the authors' failure to incorporate LAGABLAB proposed revisions. LAGABLAB joined the public demonstration against Estrada's second SONA. The Anti-Discrimination Bill of 2000, a product of several months of discussions in LAGABLAB, was filed through Senator Miriam Santiago (People's Reform Party) and Akbayan Rep. Etta Rosales. The bill would prohibit discrimination in the private and public sector on the basis on sexual orientation. LAGABLAB, along with Amnesty International-*Pilipinas*, the International Gay and Lesbian Human Rights Commission (IGLHRC), Lesbian Advocates in the Philippines (LEAP) and other supportive organizations and individuals launched the "Stop Discrimination Now" Campaign to boost lobbying efforts and get the attention of Philippine legislators to approve the Anti-Discrimination Bill 6416. In 2004, civil rights bill passed in Congress, but failed in the Senate.

The same lack of a relevant law for recognizing the LGBT rights have caused the denial of the appeal of a post-operative transsexual woman from updating her name and gender status in the Civil Registry. In its ruling, the Supreme Court pronounced that, "while the petitioner may have succeeded in altering his body and appearance through the intervention of modern surgery, no law authorizes the change of entry as to sex in the civil registry for that reason. There is no special law in the country governing sex reassignment and its effect" (Supreme Court G.R. No. 174689, 2007).

In view of these (under)developments, the acceptance of homosexuality in the Philippines is severely undermined owing to the fact that the law does not simply recognize certain rights that must be accorded to the homosexual person. While the law is permitting in the case of display of homosexual behavior, it provides gray area on what constitutes grave scandal thus allowing popular taste to describe and constrict what is allowable. The continued and repeated denial of initiatives that have been sought for the legitimization of homosexual rights may provide as an indicator of how homosexuality is accepted in Philippine society. The deeply ingrained patriarchal nature of our institutions and the effective force of fundamentalist religious ideology have confounded the issue of basic human rights into a question of politics and mores.

### **Acceptance of Homosexuality versus Homosexual Acceptability**

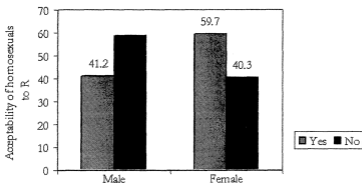
According to the 2002 Pew Global Attitudes Project, about 64 percent of the Filipinos reported that homosexuality should be accepted by society (cited in [www.en.wikipedia.org/wiki/Societal\\_attitudes\\_towards\\_homosexuality](http://www.en.wikipedia.org/wiki/Societal_attitudes_towards_homosexuality)). And also gauging from the results of the YAFSS3, there seems to be a general tolerance among the Filipino adolescents for homosexuals. When asked if "homosexuals are acceptable to them in general," half (50.9 percent) of the respondents aged 15-24 gave their approval (Table 1).

TABLE 1. Percent distribution of respondents according to the variables under study

Variable	Percent
<b>ACCEPTABILITY OF HOMOSEXUALS TO R</b>	
Yes	50.9
No	49.1
N of case = 16,884	
<b>APPROVE MEN DATING MEN</b>	
Yes	10.8
No	89.2
N of case = 16,837	
<b>APPROVE WOMEN DATING WOMEN</b>	
Yes	12.4
No	87.6
N of case = 16,837	
<b>APPROVE SAME-SEX DATING FOR BOTH MALE AND FEMALE</b>	
Yes	9.6
No	90.4
N of case = 16,837	
<b>APPROVE SEXUAL ATTRACTION TO THE SAME SEX</b>	
Approve	11.1
Neither	8.8
Disapprove	80.1
N of case = 16,837	
<b>APPROVE OF PRACTICE OF HOMOSEXUALITY</b>	
Yes	21.1
No	78.9
N of case = 16,837	

Results indicate a significant difference in the acceptability of homosexuals by sex with females (59.7 percent) being more accepting of homosexuals in general compared to males (41.2 percent) as exhibited by Figure 1.

FIGURE 1. Acceptability of Homosexuals to the Respondent  
by Sex



N of case (Male = 7,989; Female = 8,894) p-value < 0.01

This finding is consistent with previous empirical studies done on attitudes toward homosexuals with results that say male's attitudes toward homosexuals tend to be more negative than those of females (D'Augelli & Hershberger, 1995; D'Augelli & Rose, 1990; Glassner & Owen, 1976; Herek, 1988; Herek & Capitanio, 1995; Herek & Ghunt, 1993; Kite, 1984; Kite & Whitley, 1996, 1998; Kurdek, 1988; Luhrs, Crawford, & Goldberg, 1992; Pratte, 1993; Whitley & Kite, 1995 cited in Schellenberg, 1999). This result may also be supported by the discourse that because socially constructed concepts of appropriate male behavior (or masculinity) are more narrowly defined than concepts of appropriate female behavior (or femininity), departures from the hetero-normative ideals tend to be judged more harshly by male than by female, and for male than for female homosexuals (Feinman, 1981; Hort, Fagot, & Leinbach, 1990; Martin, 1990 as cited in Schellenberg, 1999).

Examining the approval of the young people to men dating men, the study finds that only 10.8 percent answered positively, and a significant difference can be observed in the answers by sex, with more males (11.8 percent) compared to females (9.8 percent) answering yes. On the other hand, 12.4 percent of the adolescents approve of women dating female with no significant difference in the answers between males and females.

With the review of the attitudes of the youth towards same-sex dating, included in the analysis is the new same-sex dating variable which examines the approval of both men dating men and women dating women, wherein, about one in 10 adolescents approve of both men dating men and women dating women, with males (10.2 percent) significantly more approving than females (9.1 percent).



Another variable being assessed is the approval of the youth to same-sex sexual attraction, with 11.1 percent positively approving, of which, there are significantly more females approving (12 percent) than males (10.1 percent). Interestingly, about 9.0 percent neither approves nor disapproves of same-sex sexual attraction with eight out of 10 disapproving it. It seems that those who neither approves nor disapproves of same-sex sexual attraction still want a clearer definition of sexual attraction to help them put into context their replies.

TABLE 2. Cross-tabulation of the variables under study by sex

Variables	Male	Female
<b>ACCEPTABILITY OF HOMOSEXUALS TO R**</b>		
Yes	41.2	59.7
No	58.8	40.3
n of case (Male=7,989, Female=8,894)		
<b>APPROVE MEN DATING MEN**</b>		
Yes	11.8	9.8
No	88.2	90.2
n of case (Male=7,968, Female=8,869)		
<b>APPROVE WOMEN DATING WOMEN</b>		
Yes	12.8	12.2
No	87.2	87.8
n of case (Male=7,968, Female=8,869)		
<b>APPROVE SAME-SEX DATING FOR BOTH MALE AND FEMALE*</b>		
Yes	10.2	9.1
No	89.8	90.9
n of case (Male=7,968, Female=8,869)		
<b>APPROVE SEXUAL ATTRACTION TO THE SAME SEX**</b>		
Approve	10.1	12.0
Neither	8.7	8.8
Disapprove	81.2	79.1
n of case (Male=7,968, Female=8,869)		
<b>APPROVE OF PRACTICE OF HOMOSEXUALITY</b>		
Yes	20.8	21.3
No	79.2	78.7
n of case (Male=7,968, Female=8,869)		

Note: \* p-value < 0.05, \*\* p-value < 0.01

A large proportion of the youth at 85.6 percent who accept a homosexual in general reportedly do not approve men dating men as presented in Table 3.

TABLE 3. Cross-tabulation of approval of men dating men by the acceptability of homosexuals to R of both sexes and as controlled by sex

Acceptability of homosexuals to R	Approve men dating men		
	Yes	No	N of case
<b>BOTH SEXES**</b>			
Yes	14.4	85.6	8565
No	7.0	93.0	8244
<b>MALE**</b>			
Yes	17.9	82.1	3276
No	7.7	92.3	4671
<b>FEMALE**</b>			
Yes	12.3	87.7	5289
No	6.2	93.8	3573

Note: \* p-value < 0.05, \*\*p-value < 0.01

Consistently, from among those who said they do not accept a homosexual in general, a little more than nine out of 10 also do not approve of men dating men. Comparing the results by sex, from among the adolescents who have a positive attitude towards a homosexual a great majority at four out five males and about nine out of 10 females disapprove of men dating men.

As regards approval of women dating women, from among the respondents who said they accept a homosexual, 83.8 percent change their stand by disapproving of it and from among those who said they do not accept a homosexual, nine out of 10 consistently disapprove of it. From among the males who accept homosexuals, 82.0 percent do not approve of women dating women and from among the females who accept homosexuals, 84.9 percent disapprove of the same. A big share at a little over 90 percent of those who do not accept homosexual in general, regardless of sex, also do not approve of women dating women.

A deeper look of same-sex dating shows that from among the young people who accept homosexuals, only about 13 percent signified their approval to it for both sexes. A vast majority at 94 percent of those who said they do not accept homosexual also do not approve of both men dating men and women dating women.

TABLE 4. Cross-tabulation of approval of sexual attraction to the same sex by the acceptability of homosexuals to R of both sexes and as controlled by sex

Acceptability of homosexuals to R	Approve sexual attraction to the same sex			
	Approve	Neither	Disapprove	N of case
<b>BOTH SEXES**</b>				
Yes	14.3	10.5	75.2	8565
No	7.8	7.0	85.2	8244
<b>MALE**</b>				
Yes	14.3	11.1	74.6	3276
No	7.2	6.9	85.9	4671
<b>FEMALE**</b>				
Yes	14.4	10.1	75.6	5289
No	8.6	7.1	84.3	3573

Note: \* p-value &lt; 0.05, \*\*p-value &lt; 0.01

TABLE 5. Cross-tabulation of approval of same-sex dating of both male and female by the acceptability of homosexuals to R of both sexes and as controlled by sex

Acceptability of homosexuals to R	Approve same-sex dating for both male and female		
	Yes	No	N of case
<b>BOTH SEXES**</b>			
Yes	12.9	87.1	8565
No	6.3	93.7	8244
<b>MALE**</b>			
Yes	15.1	84.9	3276
No	6.9	93.1	4671
<b>FEMALE**</b>			
Yes	11.5	88.5	5289
No	5.5	94.5	3573

Note: \* p-value &lt; 0.05, \*\*p-value &lt; 0.01

On the other hand, among those who accept homosexuals, 14.3 percent approve of sexual attraction to the same sex while from among those who do not accept, 85.2 percent disapprove as well of same-sex sexual attraction. Almost the same results can be observed after controlling for sex as can be gleaned from Table 6.

TABLE 6. Cross-tabulation of approval of sexual attraction to the same sex by the acceptability of homosexuals to R of both sexes and as controlled by sex

Acceptability of homosexuals to R	Approve sexual attraction to the same sex			N of case
	Approve	Neither	Disapprove	
<b>BOTH SEXES**</b>				
Yes	14.3	10.5	75.2	8565
No	7.8	7.0	85.2	8244
<b>MALE**</b>				
Yes	14.3	11.1	74.6	3276
No	7.2	6.9	85.9	4671
<b>FEMALE**</b>				
Yes	14.4	10.1	75.6	5289
No	8.6	7.1	84.3	3573

Note: \* p-value < 0.05, \*\*p-value < 0.01

Looking at the percent distribution of the aforementioned cross-tabulated variables based on the total sample size of 16,809, only 3.4 percent accept homosexuals in general and also approve of men dating men (Table 7).

TABLE 7. Cross-tabulation of approval of men dating men by the acceptability of homosexuals to R of both sexes and as controlled by sex (recomputed as a percentage of the total n of case)

Acceptability of homosexuals to R	Approve men dating men		N of case
	Yes	No	
<b>BOTH SEXES**</b>			16,809
Yes	3.4	45.6	
No	7.4	43.6	
<b>MALE**</b>			7,947
Yes	7.4	33.8	
No	4.5	54.3	
<b>FEMALE**</b>			8,862
Yes	7.3	52.4	
No	2.5	37.8	

Meanwhile, 4.2 percent of the total sample size accept a homosexual and approves of women dating women while about two-fifth do not accept homosexuals and also disapproves of women dating women. Three percent of the young people reported an approving response towards a homosexual and same-sex dating for both male and female (Table 8).

TABLE 8. Cross-tabulation of approval of women dating women by the acceptability of homosexuals to R of both sexes and as controlled by sex (recomputed as a percentage of the total n of case)

Acceptability of homosexuals to R	Approve women dating women		
	Yes	No	N of case
<b>BOTH SEXES**</b>			16,809
Yes	4.2	44.8	
No	8.3	42.7	
<b>MALE**</b>			7,947
Yes	7.4	33.8	
No	5.4	53.4	
<b>FEMALE**</b>			8,862
Yes	9.0	50.7	
No	3.2	37.1	

Two-fifth of them reported a disapproving response toward homosexuals and same-sex dating for both male and female. Those who reported that a homosexual is acceptable to them in general and they approve same-sex sexual attraction comprise 7.3 percent of the young people interviewed. Two out of five showed a disapproving stance toward homosexuals and sexual attraction to the same sex.

Breaking down the results by sex, based on the total cases for males (7,968) and females (8,869), 7.4 percent and 7.3 percent respectively, have positive attitude towards both a homosexual and men dating men. On the other hand, 7.4 percent of males and 9.0 percent of females accept homosexuals and at the same time approves of female dating female. Comparatively, 6.2 percent of males and 6.8 percent of females accept homosexuals and at the same time approve of same-sex dating for both sexes. In contrast, a little over half (54.8 percent) of males and one-third (38.1percent) of females have a negative attitude towards both a homosexual and same-sex dating for both male and female.

TABLE 9. Cross-tabulation of approval of same-sex dating of both male and female by the acceptability of homosexuals to R of both sexes and as controlled by sex (recomputed as a percentage of the total n of case)

Acceptability of homosexuals to R	Approve same sex dating for both male and female		
	Yes	No	N of case
<b>BOTH SEXES**</b>			16,809
Yes	3.1	45.9	
No	6.6	44.4	
<b>MALE**</b>			7,947
Yes	6.2	35.0	
No	4.0	54.8	
<b>FEMALE**</b>			8,862
Yes	6.8	52.9	
No	2.2	38.1	

About only 6.0 percent of males and 9.0 percent of females accept homosexuals and also approves of same-sex sexual attraction, while half (50.5 percent) of males and about one-third (34.0 percent) of females have a disapproving position toward both a homosexual and sexual attraction to the same sex. Among the males and females, 11.6 percent and 15.1 percent respectively, accept both homosexuals and homosexuality practice. Distinctively, half (49.5 percent) of males and about one-third (34.2 percent) of females said they disapprove both of homosexuals and the practice of homosexuality.

TABLE 10. Cross-tabulation of approval of sexual attraction to the same sex by the acceptability of homosexuals to R of both sexes and as controlled by sex (recomputed as a percentage of the total n of case)

Acceptability of homosexuals to R	Approve sexual attraction to the same sex			N of case
	Approve	Neither	Disapprove	
<b>BOTH SEXES**</b>				16,809
Yes	7.3	5.3	38.3	
No	3.8	3.4	41.9	
<b>MALE**</b>				7,947
Yes	5.9	4.6	30.7	
No	4.2	4.1	50.5	
<b>FEMALE**</b>				8,862
Yes	8.6	6.0	45.1	
No	3.5	2.8	34.0	

After aggregating the three approval of homosexuality practice variables – men dating men, women dating women, sexual attraction to the same sex – into one variable, the result shows that one out of five young people approves of the practice of homosexuality. There is no significant difference between the approval of practice of homosexuality between males and females.

Generally, among the adolescents who accept homosexuals, one out of four claims to approve of homosexual practice. Some 85 percent of those who do not accept homosexuals also disapprove of homosexual practice. In the interim, among the males who accept homosexuals, almost three out of 10 approve of homosexual practice while among those who do not accept homosexuals, 84.2 percent remains to disapprove its practice. One-fourth of females who accept homosexuals on the other hand, approve of the practice of homosexuality, and from among those who do not accept homosexuals, 85 percent disapprove of homosexuality practice.

TABLE 11. Cross-tabulation of approval of practice of homosexuality by the acceptability of homosexuals to R of both sexes and as controlled by sex

Acceptability of homosexuals to R	Approve of practice of homosexuality		
	Yes	No	N of case
<b>BOTH SEXES**</b>			
Yes	26.4	73.6	8565
No	15.5	84.5	8244
<b>MALE**</b>			
Yes	28.2	71.8	3276
No	13.8	84.2	4671
<b>FEMALE**</b>			
Yes	25.4	74.6	5289
No	15.2	84.8	3573

Note: \* p-value < 0.05, \*\* p-value < 0.01

Recalculating the percent distribution based on the total sample size, of the youth respondents, only 13.5 percent find homosexuals acceptable and also approve of the practice of homosexuality (Table 12). Thirty seven percent of them accept homosexuals in general but disapprove of the practice of homosexuality. And, four out of 10 showed their disapproval for both homosexuals and the practice of homosexuality. Table 13 shows that from among those who accept homosexuals, there are more males who approve of the practice of homosexuality.

TABLE 12. Cross-tabulation of approval of practice of homosexuality by the acceptability of homosexuals to R of both sexes and as controlled by sex (recomputed as a percentage of the total n of case)

Acceptability of homosexuals to R	Approve of practice of homosexuality		
	Yes	No	N of case
<b>BOTH SEXES**</b>			<b>16,809</b>
Yes	<b>13.5</b>	37.5	
No	7.6	<b>41.4</b>	
<b>MALE** 7,947</b>			
Yes	<b>11.6</b>	29.6	
No	9.3	<b>49.5</b>	
<b>Female**</b>			<b>8,862</b>
Yes	<b>15.1</b>	44.6	
No	6.1	<b>34.2</b>	

TABLE 13. Cross-tabulation of the approval of practice of homosexuality by sex of the respondents who said 'yes' in the acceptability of homosexuals to the respondent

Sex of those who said 'yes' in the acceptability of homosexuals**	Approve of practice of homosexuality	
	Yes	No
<b>MALE</b>	<b>28.2</b>	71.8
<b>FEMALE</b>	25.4	<b>74.6</b>

N of case (Male = 3,276, Female = 5289); \*\*p-value < 0.01

## Conclusions and Recommendations

Efforts toward the mainstreaming of ideas relating to homosexuality have been made underway with the advancement of crisscrossing socio-political-economic factors. In the light of the modernizing approach to understanding homosexuality, studies must veer away from the psychiatric perspective of analyzing its etiology. Far more important questions are as to how social institutions have remained in control of the status of the homosexual; how these forms of continued marginalization are proliferated, and in the way, find how these processes can be confronted.

Conceptually, this paper has attempted to demonstrate that the adolescent Filipinos' idea of homosexuality varies. In the attempt to complete the picture of the homosexual by attaching



his practices, the level of “acceptance” within the Filipinos has dropped. It is this paper’s attempt to put forward that acceptance is different from mere acceptability. Acceptability of the homosexuality of a person rests solely on the “possibility to be accepted”, that is, a homosexual may be accepted for reasons other than his homosexuality as defined by his homosexual activities. A society’s acceptance takes into account not merely a topical and physical representation of a homosexual but also the practices that characterize his personality.

Quantitatively, the paper also suggests that when the practice of homosexuality is included in the equation, the level of acceptance of the Filipino youth towards homosexuality (the person and his/her activities) changes. It was viewed that the ‘real’ acceptance - both the person and his/her practice - was only demonstrated by 13.5 percent of the adolescents. The other 37.5 percent who accept the homosexuals but do not approve of the practice of homosexuality seem to represent the religious dogma of the Catholic Church, which is “love the sinner but not the sin.” Still, a significant proportion at over 40 percent do not accept homosexuals and disapprove of the practice of homosexuality which may be anchored on the social stigma attached to being a homosexual.

It can be observed that the practice of homosexuality considered in this paper consists of superficial practices attached to being a homosexual as these are the only factors that can be supported by the available data set. Nevertheless, the quantitative findings still emphasize the point that the level of acceptance will adjust to its real level when the practice factors are incorporated, even with the limitation of the data.

With these things in mind, the following are recommended:

1. A baseline data should be collected to help analyze homosexuality and the social institutions influencing it and the gaps in the existing literature should be filled by future researches and papers along this matter;
2. Qualitative studies focused on gender and sexuality among the young people should be undertaken as preparatory work in comprehending the reality behind their attitudes towards homosexuality;
3. Future surveys/studies should include other appropriate questions in capturing all the dimensions of sexuality in general and homosexuality in particular to present a more realistic level of homosexuality acceptance; and
4. Review of existing attitudinal scales towards homosexuality and developing new attitudinal scales towards homosexuality that will be fitting for the Philippine setting,

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# The Emergence of Multigenerational Households: The Role of Early Union<sup>1</sup>

Clarinda Lusterio-Berja<sup>\*</sup>

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## Abstract

**R**ecent demographic and social trends in the Philippines bring about the formation of various non-nuclear household arrangements. The Young Adult Fertility and Sexuality Survey III (YAFSS3) reveals that 22 percent of young Filipinos (15-27 years old) are in a multigenerational co-residence and 35 percent of them in early union. The data also show that young people in multigenerational households are disadvantaged in terms of education, employment, parents' characteristics and risk behaviors compared to their counterparts in nuclear households. In this study, the emergence of multigenerational co-residence is seen as a family survival strategy in responding to various socio-demographic and economic pressures specifically early unions, teenage pregnancy and solo parenthood. It describes the condition of youth in multigenerational co-residence compared to those in nuclear households. It also examines the relationship between multigenerational co-residence and youth developmental outcomes (i.e., education and employment) as well as risk behaviors (i.e., substance abuse and early sex) and probes whether parents' early union lead to children's early union. Utilizing the individual and household data from the YAFSS3, the study employs a two-stage analysis to determine whether multigenerational co-residence is contributing to the success or failure of the youth's transition. The findings center on the importance of multigenerational co-residence in shaping the educational and social experiences of young people and ensuring that the youth are safe, secure and stable within these household arrangements.

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## Introduction

Multigenerational households are commonly found in many developing countries, particularly in Asia where families are characterized as closely knit. This household structure allows families to come together to face the many trials of life, such as raising a child, caring for elders, single parenthood, and high cost of living and housing. This kind of living arrangement shows the transformation of a household into extended homes as a result of changes, as well as transitions within the family and consequently, its relationship to the larger kin group. For example, the increasing participation of women in the labor force results in changing gender roles from being a homemaker to a more active economic contributor to the family's coffer. The diminished time spent by mothers in looking after the household leads to reliance to older family members, particularly the grandparents.

Some societies encourage multigenerational living because of the primary role of the family in the child's socialization. The parents and other adult members of the family instill in the child the norms, values, beliefs, and patterns of behavior expected in society. In the Philippines, multigenerational living continues despite the decline in household size and the rise in single-person households observed in the last decades. Estimates from the 2002 Young Adult Fertility and Sexuality Study 3 (YAFSS3) show that one out of five households is multigenerational and unexpectedly, there are more of this in urban (particularly in Metro Manila) than in rural areas (Berja, 2003).

Earlier studies about multigenerational households attribute the decline in this type of co-residence to preferences of the elderly (Shanas; 1968 cited by Ruggles, 1998). This is not reflected however in the case of developing countries where preferences of the younger generation figure as an important factor as well. In some countries, the rise in education and job status of the younger generation have eroded the economic incentives of multigenerational co-residence. For others, this set-up remains a refuge for those in difficult life situations.

In this study, the emergence of multigenerational households are seen as a family survival strategy, particularly as a response to various socio-demographic and economic pressures brought about by early union, teenage pregnancy and solo parenthood.

The study aims to describe, as well as compare, the conditions of the youth population in multigenerational and nonmultigenerational households. It also identifies the factors that predispose young people to different living arrangements. In particular, it probes the role of early union of children and the role of parents in the emergence of this kind of living arrangement.

## Methodology

### Data

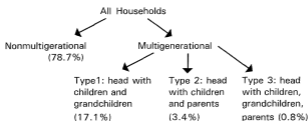
This study utilizes data from the YAFSS3, the third of a series of youth surveys covering 16 administrative regions of the Philippines. The YAFSS3 has a total respondents of 19,747 young people, ages 15-27 years old. Aside from the individual survey, household data were also generated from 15,401 sample households and community data from 903 *barangays*.

### Variables and measures

The study identifies multigenerational households using the relationship to household head, type of family (whether the household member belongs to the first up to the sixth family nucleus or whether he or she does not have family nucleus), age and marital status variables in the household record. The characteristics of young people as well as their household heads are described in each of the co-residence types.

Multigenerational household is defined as a household consisting of “three or more generations of parents and their families.” The typical multigenerational household in the Philippines would fall into one of two types of family structures as shown in Figure 1 below. The first type includes families with the household head, his or her children, and grandchildren. The second type includes a household head, his/her own children and his/her own parents. Very few households would fall into the third type, which consists of the household head, his/her own children and grandchildren and his/her own parents.

FIGURE 1. Co-residential arrangements



In the first type of multigenerational household, the children marry young and thus the household head carries the burden of providing financial and other support to both his/her children and grandchildren. In cases where the children are employed, the grandparent or

other older relative usually provides the day care for the young children. In such cases, these older relatives may feel some strains on their health and emotional state because of their age and physical state. In some households, the siblings of the young parent also have their share in day care for the young children.

In the second type, the household head provides caring for their parent/older relative. The household head is the one strained by the responsibility of providing for the food, shelter and medical needs of their parent/older relative in addition to the daily demands of raising their own children.

In the third type, dependency burden of the household head is coming from both the young and the old members of the household.

### Method of analysis

A multinomial logistic regression (MLR) model was estimated to test the effects of early union on multigenerational co-residence. The outcome categories in the dependent variable are: (1) household extended by grandchildren of household head; (2) household extended by parents of household head; and (3) nonmultigenerational household. The nonmultigenerational household serves as reference category. The independent variables include: early union, work, education, age, sex, parents's early union, stability of parent's union, parent's work, urbanity and poverty status. Thus, logit 1 refers to the logistic regression that compares households extended by grandchildren vs. nonmultigenerational households while logit 2 compares households extended by parents of household head vs. nonmultigenerational households.

$$\begin{aligned} \text{Logit 1} &= \log (\text{probability (extended by grandchildren | X)}) / \text{probability} \\ &\quad (\text{nonmultigenerational | X}) \\ &= b_{10} + b_{11} X_{11} + b_{12} X_{12} + \dots + b_{1k} X_{1k} \end{aligned}$$

$$\begin{aligned} \text{Logit 2} &= \log (\text{probability (extended by parents | X)}) / \text{probability} \\ &\quad (\text{nonmultigenerational | X}) \\ &= b_{20} + b_{21} X_{21} + b_{22} X_{22} + \dots + b_{2k} X_{2k} \end{aligned}$$

### Results

Data from the YAFSS3 reveal that multigenerational households represent about 20 percent of households with young people ages 15-24 years old in the Philippines. There are more households extended by grandchildren and/or son- and daughter-in-law than those extended by parents of the household head (17.1 percent and 4.2 percent respectively).

This suggests that the young people remain dependent on their parents even as they form a family of their own. Those who marry at a young age continue to seek parent's support and remain in their parent's house. The rest of multigenerational households provide support for the elderly. Providing care for the family elders at home is still a common practice among Filipino families.

### Household size and composition

To further describe multigenerational households, the average household size and the composition of households in terms of their relationship with the household head were estimated. The results are presented in Table 1 below.

TABLE 1. Household Composition

Relationship to household head	Percent
Head	17.1
Spouse	14.2
Son/Daughter	52.7
Son-/daughter-in-law	2.4
Grandson/Granddaughter-in-law	6.3
Parent/Parent-in-law	1.0
Other relatives	4.8
Not related	1.5
<b>TOTAL</b>	<b>100.0</b>
<b>N of cases</b>	<b>90,830</b>

As expected, the non-multigenerational households have fewer household members than multigenerational household (5.57 vs. 7.75).

In the Philippines, the size and composition of household changes at different stages of the family life cycle. For instance, a newly married couple that decides to stay temporarily with parents of either spouse will belong to an extended family household during their early-married life. They later on move out to establish their own household and this continues during the childbearing and child rearing stage. The household becomes extended again when a married child and his/her spouse or other relatives join the couple. When all the married children have gone, the couple is left with unmarried children and becomes nuclear again.



Data also imply that majority of Filipino households are nuclear – composed primarily of husband, wife and children. The others are either bilaterally extended which includes the families of the husband and wife or vertically extended with the children's family including the son-/daughter- in-law and grandchildren. Vertical extension is more prevalent compared to the horizontal extension.

The regional distribution presented in Table 2 shows the highest proportion (29.2 percent) of multigenerational household in the National Capital Region (which is 100 percent urban).

TABLE 2. Type of Multigenerational Residence by Region

Region	Nonmulti-Generational	With children and grandchildren of household head (Type 1)	With children and parents of household head (Type 2)	Total Percent	Number of cases
Ilocos	76.7	19.2	4.1	100.0	917
Cagayan Valley	82.8	13.2	4.0	100.0	325
Central Luzon	83.2	14.1	2.7	100.0	1,459
Southern Tagalog	83.2	13.7	3.1	100.0	2,783
Bicol	73.7	22.2	4.1	100.0	1,022
Western Visayas	82.9	13.1	4.0	100.0	1,210
Central Visayas	75.9	19.7	4.4	100.0	1,490
Eastern Visayas	75.3	19.9	4.9	100.0	700
Western Mindanao	85.9	11.3	2.8	100.0	433
Northern Mindanao	80.6	16.8	2.6	100.0	844
Southern Mindanao	79.9	17.1	3.1	100.0	1,236
Central Mindanao	80.9	12.5	6.6	100.0	512
ARMM	82.5	12.1	5.4	100.0	314
CAR	77.0	19.0	3.9	100.0	305
CARAGA	75.8	17.8	6.4	100.0	534
NCR	71.8	21.7	6.5	100.0	2,880
<b>TOTAL</b>	<b>78.7</b>	<b>17.1</b>	<b>4.3</b>	<b>100.0</b>	<b>16,964</b>

While it is expected that urban areas tend to be more nuclear, the gravitation of rural people to urban centers being the center of economic activity leads to its congestion. The economic cost of building and/or owning a house is also difficult for younger couples.

Western Mindanao has the lowest proportion of multigenerational household. Similar distribution is reflected in the other regions in Mindanao where multigenerational co-residence is low but extension by aged parents is above the national average. This implies that although households in Mindanao are predominantly nonmultigenerational, they still tend to provide care and emotional support to their elders rather than keep their young married children and grandchildren. One possible explanation would be the ease of building houses especially for young couples in these predominantly rural areas compared to the cities.

The nuclearity of households in rural areas does not necessarily imply waning kinship structure. Castillo (1979) described the Filipino family as "residentially nuclear but functionally extended." In a sense, this points she described the modal household in the Philippines as nuclear but the family relationship continues to be extended. Kinsmen, particularly in the rural areas identify with each other, assist one another, and participate in joint activities even if they do not share a common residence.

### **Characteristics of household heads**

Table 3 summarizes the characteristics of household heads by type of household. It shows that males predominantly head nonmultigenerational households. More females than males head Type 1 households (28 percent vs. 15 percent). Type 2 multigenerational households showed no difference in the gender of household heads.

As expected, the older household heads are found in multigenerational households. The younger ones are usually in nonmultigenerational households while about half of those who are already in their retirement age (65 and over) head a multigenerational household. Interestingly, there are relatively larger proportions of the younger heads in the Type 2 households.

A large majority of the households are headed by married people regardless of household type, although relatively larger proportions of those in dissolved unions (separated/divorced and widows) are found in both types of multigenerational households. A possible explanation to this observation is the Filipino tradition that bequeaths household headship to the oldest family member regardless of his or her economic contribution to the family.

In terms of education, it appears that heads of nonmultigenerational households and Type 2 households tend to be better off than those in Type 1 set-up since there is higher proportion of those who reached high school and college in those households compared to their counterparts.

TABLE 3. Characteristics of Household Heads by Type of Household

	Nonmulti-Generational	With children and grandchildren of household head (Type 1)	With children and parents of household head (Type 2)	Total Percent	Number of cases
<b>SEX</b>					
Male	80.3	15.4	4.3	100.0	14,607
Female	68.0	28.0	4.1	100.0	2,359
<b>AGE GROUP</b>					
15-24	95.0	0.0	5.0	100.0	926
25-34	92.6	0.9	6.5	100.0	1,265
35-44	88.8	6.1	5.1	100.0	4,297
45-54	77.2	18.5	4.3	100.0	6,604
55-64	65.4	32.0	2.6	100.0	2,625
65 & over	52.5	45.5	2.0	100.0	1,246
<b>MARITAL STATUS</b>					
Never married	95.9	1.0	3.0	100.0	492
Currently married	80.6	15.5	3.9	100.0	13,674
Living-in	85.3	11.0	3.6	100.0	797
Separated/Divorced	65.0	25.9	9.1	100.0	351
Widow	56.3	36.8	6.9	100.0	1,567
<b>EDUCATION</b>					
No schooling	74.6	22.9	2.5	100.0	568
Elementary	75.2	22.2	2.6	100.0	6,175
High School/ Vocational	81.1	14.9	4.0	100.0	6,458
College	80.6	11.8	7.6	100.0	3,763

### Characteristics of youth population

Table 4 describes the youth in multigenerational households and compares them with those in non-multigenerational households.

Results show that there are more females than males in Type 1 households (28 percent vs. 15 percent). The males are more likely to be in nonmultigenerational and Type 2 households (80 percent vs. 68 percent and 4.3 percent vs. 4.1 percent, respectively).

As expected, the younger ones are found in nonmultigenerational households (82 percent vs. 74 percent) while Type 1 multigenerational households tend to have the older cohort of youth population (14 percent vs. 22 percent). Again, no age-difference was found among those in Type 2 residence.

Education showed very little difference among young people across all three types of co-residence. Those in multigenerational co-residence seem to be better off than those in nonmultigenerational household in terms of education. There is slightly higher proportion of those in multigenerational set-up who had at least high school education than those without it (17.3 percent vs. 16.9 percent).

Table 4. Characteristics of Respondents by Types of Household

	Nonmulti-Generational	With children and grandchildren of household head (Type 1)	With children and parents of household head (Type 2)	Total Percent	Number of cases
<b>SEX</b>					
Male	79.9	15.6	4.4	100.0	8,042
Female	77.4	18.5	4.1	100.0	8,923
<b>AGE GROUP</b>					
15-19	81.8	14.0	4.3	100.0	10,236
20-24	73.8	21.9	4.3	100.0	6,728
<b>EDUCATION</b>					
W/ high school	78.1	17.3	4.6	100.0	10,076
W/o high school	79.4	16.9	3.7	100.0	6,824
<b>EMPLOYMENT</b>					
Working	77.2	17.5	5.3	100.0	4,673
Not working	79.2	17.0	3.8	100.0	12,290
<b>EARLY UNION (GOT MARRIED BEFORE AGE 20)</b>					
Yes	66.4	30.0	3.7	100.0	1,412
No	79.7	16.0	4.3	100.0	15,552
<b>FATHER GOT MARRIED EARLY</b>					
Yes	76.4	19.7	3.9	100.0	2,322
No	79.2	16.8	4.0	100.0	10,173

MOTHER GOT MARRIED EARLY					
Yes	77.2	19.5	3.3	100.0	5,766
No	79.6	15.7	4.7	100.0	6,984
FATHER IS WORKING OVERSEAS					
Yes	82.6	11.1	6.3	100.0	253
No	78.5	17.2	4.2	100.0	16,713
MOTHER IS WORKING OVERSEAS					
Yes	80.6	10.2	9.2	100.0	196
No	78.6	17.2	4.2	100.0	16,768
PARENTS LIVING TOGETHER					
Yes	80.8	15.6	3.6	100.0	12,933
No	73.4	20.7	5.9	100.0	2,523
URBANITY					
Urban	76.8	18.4	4.8	100.0	8,810
Rural	80.5	15.7	3.7	100.0	8,155
POVERTY					
Poor	83.4	13.0	3.6	100.0	6,180
Non-poor	75.8	19.5	4.7	100.0	10,553
TOTAL	78.7	17.1	4.3	100.0	16,964

Conversely, there is slightly higher proportion of those without high school education than those with high school education among the youth in nonmultigenerational households (79.4 percent vs. 78.1 percent).

There is also slightly higher proportion of unemployed youth in nonmultigenerational households (79 percent vs. 77 percent). On the other hand, higher proportion of economically active youth is in Type 2 multigenerational households (5.3 percent vs. 3.8 percent). The Type 1 household did not show any difference in employment of youth.

Those who got married before age 20 have greater predisposition to be in Type 1 multigenerational household compared to those who did not marry early (30 percent vs. 16 percent). Conversely, in nonmultigenerational households (66 percent vs. 80 percent), there is lower proportion of those who married early. There is no difference among those in Type 2 households.

As expected, there are more adolescents whose fathers and mothers married early that are found in Type 1 multigenerational households (19.7 vs. 16.8 percent and 19.5 percent vs. 15.7 percent). Since the parents married early, they have greater probability of having married children and grandchildren living with them. Those who did not marry early tend to be in the nonmultigenerational or Type 2 households.

Those whose fathers work overseas are more likely to be in nonmultigenerational households. In Type 1 households, the fathers are less likely to be working overseas. On the contrary, Type 2 households exhibited slightly higher proportion of fathers working abroad (6.3 percent vs. 4.2 percent). The difference in proportion is even larger for mothers working overseas (9.2 percent vs. 4.2 percent). Again, this shows that in the absence of a mother, the grandmother takes on the responsibility of child rearing so the family becomes extended at least while the mother (or the father) is away.

Those whose parents are not together tend to be in multigenerational co-residence (20.7 percent vs. 15.6 percent in Type 1 and 5.7 percent vs. 3.6 percent in Type 2). A possible explanation is the tendency, particularly among female parents, to seek support from her family of origin when her marriage is dissolved (Zablan, et al, 1996).

In urban areas, there is growing tendency to form multigenerational co-residence. About 18.4 percent of urban young population and only 15.7 percent rural youth live in Type 1 households. Similarly, there is 4.8 percent youth population in urban and only 3.7 percent in rural in Type 2 households. The nonmultigenerational households have lower proportion of urban than rural dwellers (76.8 percent vs. 80.5 percent).

There is higher proportion of poor than nonpoor in nonmultigenerational households (83 percent vs. 76 percent). The opposite was observed in both types of multigenerational households where more nonpoor than poor youth were found (19.5 percent vs. 13 percent for Type 1 and 4.7 percent vs. 3.6 percent for Type 2).

### **Factors that influence multigenerational co-residence**

The grandchildren of the household head extend the bigger proportion of multigenerational co-residence in the Philippines. Results of the MLR model summarized in Table 5 identify who are more likely to be in this living arrangement. The MLR coefficients reveals that those who got married before the age of 20, with a mother who married early, older, unemployed, nonpoor, urban residents, with parents still living together are more likely to be in Type 1 multigenerational co-residence.

The odds of forming a co-residence of household head with his/her children and grandchildren are highest for those who got married early (i.e., before age 20). They are two times more likely to be in this living arrangement than in nonmultigenerational set-up. As expected, increasing age of the youth shows a positive association with Type 1 households.

Interestingly, those who live in urban areas are more likely to be in this living arrangement. One explanation for the higher likelihood of Type 1 living arrangement is that those in the city find it more difficult and costly to put up a separate dwelling unit while in rural area there is enough space and a simple dwelling unit made up of light materials will do for a newly married couple.

In terms of socioeconomic status, those without high school education are more likely to be in Type 1 households. These young people are in a disadvantaged situation since education provides them skills and the opportunity of getting good jobs in order to perform their family role and become productive members of the society.

Although they have low education, they belong to nonpoor households. It seems that low education is balanced off by being in nonpoor households although it could not be safely assumed that they are not in a disadvantaged situation.

The negative association of Type 1 households with parents living together demonstrates the influence of parents on children's predisposition to be in such living arrangement. This implies failure in early marriages which could be associated with earlier findings that those whose mothers married early tend to be in multigenerational set-up.

The other type of household, which is extended by parents of the household head (Type 2) comprise only a fifth of all multigenerational co-residences. In this type of living arrangement, young married son or daughter heads the household and the parent(s) of the head extends the household. Who are more likely to be in this multigenerational co-residence? Five factors figured as significantly determining Type 2 co-residence as also shown in Table 5. The model indicates that those with a mother who married early, with parents in dissolved union, with mother working abroad, those without high school education, and nonpoor are more likely to be in Type 2 (household head with children and parents of household head) multigenerational co-residence.

In the logit 2 model, the odds of forming a co-residence extended by grandparents are highest for those whose mothers work overseas. The parents of the household head, usually the grandmother joins the household to give support in terms of childcare so that their children will be able to work abroad and make economic provisions for their grandchildren.

Unlike in the first model, education did not show significant effect in forming Type 2 living arrangement. However, employment appeared to have positive association with Type 2 household. This partly explains the finding that these households are mostly headed by young married couples.

The young people in Type 2 households seem better off than other youth since they are employed and they belong to households considered as nonpoor. But again, this does not mean that they are not in disadvantaged position. In fact, these young people bear the

responsibility of providing for the economic needs of both their children and parents.

Similar to those in Type 1 households, if the parents are living together, it is less likely that they are in Type 2 living arrangement. Here, the stability of parents' union seemingly appears as a protective factor to early marriage and congruently being in a Type 2 household.

Table 5. Parameter Estimates of the Multinomial Logistic Regression Model

	Household extended by Grandchildren of Household Head vs. Nonmultigenerational household				Household extended by Parents of Household Head vs. Nonmultigenerational household			
	B	Std. Error	Sig.	Exp (B)	B	Std. Error	Sig.	Exp (B)
Intercept	-3.818	.242	.000		-1.907	.466	.000	
Age	.119	.010	.000	1.126	-.015	.020	.460	.985
Urban	.113	.054	.035	1.120	.083	.103	.418	1.087
Male	.009	.055	.871	1.009	-.015	.103	.885	.985
Not Working	.095	.060	.115	1.100	-.457	.110	.000	.633
Without high school education	.232	.060	.000	1.261	-.134	.117	.252	.875
Early union	.740	.088	.000	2.096	.183	.213	.390	1.201
Father married early	.106	.069	.124	1.111	.140	.138	.313	1.150
Mother married early	.220	.056	.000	1.246	-.264	.110	.017	.768
Father works overseas	.014	.217	.948	1.014	.378	.329	.251	1.459
Mother works overseas	-.350	.283	.216	.705	.711	.329	.031	2.035
Poor household	-.605	.062	.000	.546	-.264	.114	.021	.768
Parents are together	-.289	.069	.000	.749	-.446	.131	.001	.840

<sup>a</sup> The reference category is: nonmultigenerational.



## Discussion

Completing education, entering the labor force, starting a family, having children and setting up one's own home – these formed the track that many young Filipinos followed in the past. But many social, economic and structural disruptions have made this transition difficult to achieve.

The study found that early union predisposes young people to be in Type 1 multigenerational set-up. This event is coupled with early pregnancy, dropping out of school and unemployment. In this set-up, the economic burden is mostly assumed by the household head. If the household head is unable to provide them with financial support, they need to be employed to support themselves and their children. In this case, they would also need somebody to take care of their children while they are at work.

Childcare support is provided mostly by the grandmother and sometimes shared by members of the households. The same is true in the case of Type 2 households, although the difference is that the young married children take the double burden of the young and the old in the family.

Households are reconfigured to accommodate family members who need support for childcare and other demands of urban life particularly among young people. Ironically, the changing economic realities and migration have to some degree dislocated and strained the bedrock of intergenerational relationships. The increased amount of time spent by both men and women in the workplace has challenged the traditional capacity of the family to provide the totality of care for all its members in the home.

It is evident in this study that when the mother works overseas, grandparents assume most of the childcare and childrearing responsibilities. Consequently, the large intergenerational gap between young people and the elderly and the missing middle generation is likely to strain family relationships.

Mother's early marriage was found to be a predisposing factor in both types of multigenerational living arrangement. Unlike the mother's, father's early union showed insignificant effect in forming multigenerational households.

Parental role is also shown by the significant effect of parents' own living arrangement, (if the parents are still living together) on household formation of young people. If family members seek the support from a multigenerational set-up, then the household has to be stable enough to be able to provide not only economic but also psychological and social support.

Multigenerational households are more likely to be nonpoor. Here, the poverty measure used should provide context to this finding. It is important to note that the indicator of poverty used in this study is based on household and housing characteristics and characteristics of household head, and excludes the poverty status of the respondent per se. However, in

this study, education and employment status serve as proxy measures of poverty status of the young. As mentioned earlier, being in a nonpoor household does not necessarily connote that they are not in a disadvantaged position.

## Conclusion

By and large, the multigenerational co-residence as it is found in the Philippines appears as a coping strategy to face family trials and poverty situation brought about by early unions. For Type 1 co-residence, those who married early seek economic and child care support from the household head. For Type 2 co-residence, the household head gains child care support from their parents so he/she can be economically productive. In turn, they give support to their parents as well.

While multi-generational living is encouraged by many societies that emphasize intergenerational solidarity, several issues have yet to be addressed particularly in the case of the Philippines where multigenerational co-residence appears as a symptom of problems that confront the Filipino family.

- 1) Multigenerational co-residence is more common in highly urbanized areas than in rural areas. In urban areas, limited space and housing facilities pull family members and extended kin together to share limited resources in order to survive urban life.
- 2) Multigenerational co-residence contains dissolved nuclear family. This could possibly impact on the shaping of young minds growing up without the conventional family set-up. Family roles must be well-defined to prevent strains in intergenerational relationships.
- 3) The efforts of family members of multiple generations living in one household show family responsibility. But, while family members are willing to step in as care givers, not all of them are equipped to provide the care and services that children and older relatives require. Sometimes, child care is already too physically demanding for the older relative but circumstances force him/her to do such task.
- 4) For some young people, multigenerational co-residence can be considered as an option especially among those who intend to get married early and have children. This has pressing demographic impact since daughters already start reproducing while their mothers are still in their reproductive years. Young people who start family life early are pulled out from school and faced with unemployment problem. In turn, they put pressure on multigenerational co-residence.

Given all these, it is important to examine conditions of multigenerational households to ensure that the youth, as well as the other members of the family, are safe, secure and stable within these household arrangements. Multigenerational should be a preference, not only of the household head and the elderly but more importantly, the youth.

### Note

- 1 Paper prepared for the 7th International Conference on Philippine Studies organized by the International Institute for Asian Studies (IIAS), June 16-19, 2004, Leiden, The Netherlands.

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# Active Life Expectancy of Filipino Older People<sup>1</sup>

Grace T. Cruz\*

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## Abstract

**U**sing data from the 1996 Philippine Elderly Study, the study presents results which provide a baseline estimate of the Active Life Expectancy (ALE) among Filipino older people 60 years and over. The study employs a functional health approach which measures health in terms of the respondent's ability to perform normal everyday activities of daily living. Findings demonstrate a significant gender pattern in ALE with the females more likely to outlive their male counterparts although they can expect to live a greater part of that life in a state of physical disability.

## Background

Population aging refers to the increasing number and proportion of people in the older age groups. By United Nations (U.N.) definition, a population is considered aging when the proportion of older people is seven percent or over. U.N. tabulations normally define older people to include those at least 60 or 65 years old. In the Philippines older persons refer to those aged 60 years and over.

The aging of the world's population has assumed significance in recent years particularly in countries that have gone farthest in the demographic transition. The unprecedented high level and tempo of aging observed in many countries have spelled tremendous implications on the bigger socio-cultural and economic milieu, particularly in the area of health care and

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health financing, which explain the amount of research attention that this demographic phenomenon is receiving today.

The contours of population aging have been defined by demographic and epidemiologic transitions. Sustained declines in fertility and mortality levels experienced by many economically developed societies have resulted in the maturation in age structure that resulted in a dramatic rise in the number and proportion of the older sector of the population. Such population dynamic is intimately linked with the shifts in disease patterns. In particular, the mortality transition has been characterized mainly by a long-term shift in disease patterns whereby pandemics of infections as the leading causes of death and diseases have been gradually replaced by degenerative diseases (Omran, 1971<sup>3</sup>).

The 20th century saw a continuing shift in morbidity patterns that brought about further declines in mortality than earlier anticipated by Omran (1971). This mortality decline, which was mostly concentrated in the older age groups, made significant impact on the size of the population at the advanced ages. Using data from the United States, Olshansky and Ault (1986) noticed a rapid mortality decline in advanced ages that was caused by the postponement of ages at which degenerative diseases tended to lead to death. This development extended life expectancy at birth beyond seven decades which, in the 1970s, was believed to be close to the biological limit of human life. To emphasize this remarkable achievement in epidemiologic history, Olshansky and Ault (1986) proposed a fourth stage to the transition, the 'Age of Delayed Degenerative Diseases.' The new stage signals the period of a redistribution in degenerative diseases accompanying the shift in the age of death with the causes (degenerative) remaining essentially the same.

In many countries where population aging has reached significant levels, a central policy concern is the potential conflict between achieving longer life and improving the quality of life (van de Water, 1933 in Crimmins, 2003). A controversial issue in this regard is the question of whether declining mortality at advanced ages will result in additional years of health or additional years of disability at the oldest ages. Indeed, developments in the demographic and epidemiologic transitions that have added more years to life have now resulted in uncertainties about the level of health of the population. Some have argued that increasing life expectancy may ironically be producing 'longer life and worsening health' (Verbrugge, 1984) which means having more people with ill health who are likely to be consumers of health care services and products (Gruenberg, 1977). This pessimistic view is the so-called 'expansion of morbidity hypothesis' (Gruenberg, 1977; Kramer, 1980; Olshansky et al., 1991). The latter runs counter to a more optimistic view, the 'compression of morbidity hypothesis' (Fries, 1980, 1989) which anticipates an improving state of health. This theory suggests that future increases in life expectancy will not necessarily mean increased prevalence of illness and disability but will in fact, eventually lead to improvement in the quality of life of older people. With the task of eliminating premature causes of death already largely

accomplished, chronic illnesses are expected to occur only during the last few years of life. Healthy life will be prolonged at a rate greater than that of total years of life and consequently, the fraction of total life that is healthy will increase (Rogers et al, 1990).

The uncertainty of the aging-health nexus has elevated health as a central issue in the aging discourse and has accordingly given rise to new methodological approaches which include among others, health expectancy (H.E.). H.E. typically refers to the average number of years an individual can expect to live in a given health state (Mathers, Robine and Wikins, 1994). The concept of H.E. resulted from a broadening in the conceptualization of health from a metric of length of life as a measure of health status to a quality of life perspective. The measure seeks to assess the quality of remaining life by determining number of years lived in health states such as a state without disability, with disability, handicap or any other form of impairment. An attractive feature of H.E. is that it combines the fundamental dimensions of health (mortality, morbidity and disability) into a summary indicator to provide information on the length of life (adding years to life) and the healthfulness of life (adding life to years). It involves the development of indicators that provide important tools for understanding how health states and length of life change in actual population and whether there has been an expansion or contraction of healthy life (Crimmins, 2003) as life expectancy rises. They also provide the means to assess which individual-level factors are likely to be associated with better health at older ages (Manton et al., 1997; Manton and Gu, 2001).

H.E. is a generic term used for healthy life expectancy and is alternately called 'Active Life Expectancy' (ALE). ALE is a type of H.E. which measures active or independent life and makes use of Activities of Daily Living (ADL) and Instrumental Activities of Daily Living (IADL) as measures of health status (Katz et al., 1963, Lawton and Brody, 1969, Verbrugge and Jette, 1994). Conceptually, ADL and IADL are indicators of disability since they measure ability to provide personal hygiene and self care such as bathing and toileting (ADL) and basic activities necessary to reside independently in the community such as marketing, housekeeping and meal preparation (IADL). Ability to perform ADL and IADL activities have been widely used as indicators of health in many research on older population (Crimmins, 1996).

This paper seeks to estimate the ALE among Filipino older people 60 years and over and to assess gender differences, if any. This will establish the benchmark estimates of ALE of older people in the country

## Data and Methodology

The study was based on data from the 1996 Philippine Elderly Survey (PES), the first nationally representative sample of older people aged 50 years and over in the country. PES was conducted using a multi-stage stratified cluster sampling design which resulted in a total of 2285 interviews with respondents, aged 50 years and over living in households. The

response rate was 95 percent (Hermalin, et al., 1998). The 1996 PES was part of a bigger project, 'Comparative Study of Elderly in Four Asian countries' which included the Philippines, Singapore, Taiwan and Thailand and was designed to investigate how rapid demographic change in these societies has affected the elderly. It collected a whole range of characteristics of older people including their health which is the main focus of this study.

The paper defines health in terms of its social dimension which considers a person's ability to perform certain social functions and proficiency in social existence. In particular, the study adopted a functional health definition, measuring health in terms of two conceptual domains: personal care (ADL) and independent living (IADL). ADL and IADL measures have become standard variables in elderly research just like age, sex, marital status and income and have been increasingly used in measuring the quality of life and functional states (Spitzer, 1987). The advantage of using ADLs over other health indicators is that these are more specific and concrete, thus avoiding situational or contextual difference among survey respondents. ADLs were also found to be good predictors of a wide range of health-related behaviors (Weiner et al, 1990). However, they do not measure the full range of activities necessary for independent living. Thus, IADL measures were developed to fill in the gap (Lawton and Brody, 1969).

In the 1996 PES, elderly respondents were asked if they had any difficulty doing any of the four ADL or five IADL activities because of health reasons. ADL activities include self-care tasks such walking around the house, eating, putting on clothes/dressing, and taking a bath/going to bathroom. IADL indicators which measure the ability to assume independent living include preparing one's own meal, shopping for groceries or personal items, managing own money, doing light housework like doing dishes, straightening up or light cleaning, using transportation to get to places beyond walking distance. These indicators were used to define the functional health status of the older person. A person was considered inactive if he or she could not perform at least one of the ADL or IADL activities by himself or herself because of health reason. Thus, a healthy state means no functioning ability problem, i.e., without any ADL or IADL difficulty.

ALE was derived using the prevalence-based Life Table or the Sullivan Method. Calculation of the Sullivan Health Expectancy required data on the age and sex-specific disability rate of the older population (obtained from the 1996 PES) and the age-specific mortality data by sex derived from the 1995 computed life table of the country. The 1995 life table is utilized because life table for 1996 (i.e., the year the survey was conducted) is not available.

The following life table functions were used in the computation of ALE:

- $l_x$  the number of survivors at age  $x$
- $L_x$  the number of person years lived in the age interval  $x, x+5$
- $e_x$  the total life expectancy at age  $x$

Although the proportion of older people living in institutions in the country is negligible, the computation of ALE took this factor into account so as not to bias the estimates. A consideration of the institutional population was also meant to reconcile the disability prevalence which was taken from a community-based survey (i.e, excluding those living in institutions) and the life-table estimates which covered the entire population (i.e, including those in institutions). Estimates of the institutionalized elderly were calculated from the one percent sample of the 1995 census.

One limitation of the Sullivan method is that the method requires life tables by the specific subgroups of the population. The Sullivan method is often used to compute health expectancy by sex, partly because life tables by sex are available in most of the countries in the world. In some countries, life tables are also available by ethnicity or by region. However, it is very rare to find life tables by level of education or by urban/rural. A more detailed discussion of the Sullivan method can be found in Jagger (1999) and Saito et al (1999). Sample spreadsheets for computing health expectancy is also available from the REVES website ([http://euroreves.ined.fr/euroreves/methods/\\_sulliv2.xls](http://euroreves.ined.fr/euroreves/methods/_sulliv2.xls)).

## Results

### Aging in the Philippines

Prior to the discussion of the results, a brief overview of the aging situation in the country is provided to contextualize the study findings.

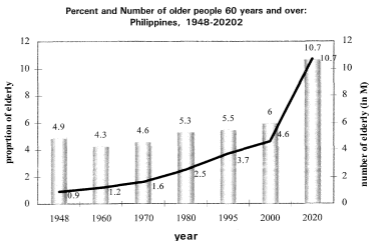
The level and rate of aging in the Philippines is low and slow in comparison with that of other countries which have experienced more dramatic demographic transitions like Germany and Japan where almost a fourth of their population belong to the older age groups. The 2000 census counted a total of 4.6 million older Filipino, comprising six percent of the country's population as shown in Figure1. While aging prevalence in the Philippines may be relatively low, this is expected to assume prominence in the future with the numbers reaching a double-digit mark in 2020 under the assumption of a moderate fertility and mortality decline (Cruz, 2005). This future scenario is likewise suggested by the fast rate of growth of the older population sector, which already exceeds that of the general population, making it the fastest growing sector in the country's population today.

The aging of the Philippine population can be traced to the declines in fertility, infant and child mortality and the general improvement in the overall level of health, which have led to further extensions in life. While increase in life expectancy has been a norm in almost all countries of the world, this varies across age, sex, education and racial groups of the population. In the Philippines, large strides have been achieved in extending life expectancy. At present, a female can expect to live 72.2 years at birth and 66.9 years for the males



representing about 10 years gain from their counterparts in the 70s (Table 1). Both the probability of reaching old age and the chance of survival among those who reached old age have increased in recent years. Gender differentials also show that older females have a greater chance of gaining years of life compared to the males. Between 1970 and 1995 older females gained 2.2 years as compared to 0.5 years among the males so that in 1995 a woman who survived to age 60 can expect to live 19.3 more years on the average, as compared to 16.8 years for the average male. The very slight change in remaining life among those who survived to their 60s compared to the overall life expectancy at birth implies that these life gains benefited mostly the younger segment of the population. This also explains the relatively slow pace of aging in the country. This is opposed to the pattern in low mortality countries where improvements in life expectancy, mainly caused by increased longevity experienced by the older sector of the population, are accounted for by the overall mortality reductions from chronic diseases at older ages.

FIGURE 1: Trends in Size and Growth of Older Population, Philippines, 1948-2020



Source: Census data for censuses 1948-2000. NSO population projections for 2020.

TABLE 1: Life Expectancy at Birth and at Age 60 by Sex: Philippines, 1970-2002

Year/period	Life expectancy at birth			Life expectancy at age 60		
	Male	Female	Gender Difference	Male	Female	Gender Difference
1970	57.3	61.5	4.2	16.3	17.1	0.8
1980	59.7	65.1	5.4	16.5	18.2	1.7
1990	62.2	67.4	5.2	17.0	19.0	2.0
1995	64.4	67.8	5.2	16.8	19.3	2.5
2002	66.9	72.2	5.3			

Source: Flieger, Wilhelm, SVD, J. V. Cabilon "Life Table Estimates" HFDP Monograph 5, MY, 1994 (1970 ns 1990) NSO, 2002 (from NSCB website: <http://www.nscb.gov.ph/stats/wmfact.htm>)

### ADL and IADL Difficulties

Table 2 shows the level of disability using a measure which combines all four ADL and five IADL activities. A respondent is considered as having a disability if there is difficulty performing any one of these nine activities. Results show a high level of disability, with 28.2 percent admitting to have experienced some difficulty in doing any of the nine activities.

Findings also underscore the well-known age and sex grading of disability with females and those in the advanced ages generally showing elevated levels of functional deficits (Figure 2). By the time they reach 70 years, the prevalence level is a high 42 percent or more than twice that reported by those in their 60s. The increasing level of disability with advancing age means that under current conditions, the disability burden of the population will continue to increase as population ages.

FIGURE 2: Percent with at least One ADL or IADL Difficulty, by Age and Sex: 1996 PES

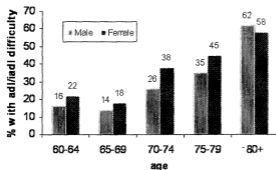


TABLE 2: Disability Prevalence Rates Among Filipino Older People 60 Years and Over by Selected Background Characteristics: 1996 PES

Background Characteristics	Male	Female	Both Sexes
% with at least one ADL or IADL difficulty	23.8	31.5	28.2 (357)
<b>Age</b>			
60-69	14.8**	19.7**	17.6** (128)
70+	36.9	45.5	42.0 (231)
<b>Education</b>			
No Schooling	34.3**	37.3**	35.8** ( 87)
Elementary	22.8	32.6	28.6 (215)
High School or higher	17.5	22.4	20.2 ( 54)
<b>Literacy</b>			
Can not read	28.2	38.7**	34.4** (114)
Can read	22.5	28.7	26.1 (243)
<b>Marital Status</b>			
Currently married	19.0**	30.3	23.8** (163)
Never married/separated/divorced	15.4	32.0	28.6 (18)
Widowed	39.5	32.0	33.8 (173)
<b>Work Status</b>			
Working	11.5**	16.7**	13.6** (67)
Not working	37.9	37.0	37.2 (290)
<b>Living Arrangement</b>			
Living alone	17.4*	31.9	26.1 (18)
Living with spouse only	6.4	39.6	24.0 (24)
Living with children	26.7	31.2	29.3 (253)
Other types of living arrangement	24.2	28.6	26.7 (62)

\*Significant at  $p = 0.05$  \*\* Significant at  $p = 0.01$

(note: the significance level provided in the last column refers to the sex differences across the various background variables while the significance levels provided in columns 2 and 3 refer to the significance across background variable categories for males and females, respectively. The chi-square test for independence was the basis for the statistical test of significance.)

### ADL/IADL Disability Across Subgroups

Bivariate results of disability by various background variables suggest the prominence of educational variation in health status. Using the chi-square test for independence, results show a significant negative relationship between education and disability with about a fifth of those in the highest educational attainment reporting some functional disability as compared to 30.5 percent among those with educational attainment lower than high school. Using an alternative measure of education, literacy or the ability to read a simple message, being literate is also associated with lower reported levels of disability compared with their illiterate counterparts. The better health status of those with higher educational preparation may be an effect of generally better economic opportunities among the better educated as well as better access to information and services that result in better health practices and outcomes.

In terms of work status, results show that those currently working are less likely to report experiencing functional difficulty than those not currently working. This finding must be interpreted with caution however since it is also possible that some elderly may be working because they are healthy and in the same manner, being unhealthy could hinder one's chances for work. Males show wider health discrepancy in disability by work status compared with the females. Males who are not working are three times more likely to have a disability compared to the currently working. The corresponding ratio is 2.2 for the females. This gender differential may be explained by cultural expectations where males are considered the breadwinners of the family and so are expected to continue working until they retire or are overtaken by disability. In addition, the low level of social security coverage in the country (which is tied up with employment in the formal sector at least during the dates of the survey) can be considered a factor why men continue to work even at old ages. The high proportion of males who work beyond 65 also indicates the high proportion working in the informal sector where there is no formal retirement age and thus exit from the labor force is likely due to health-related reasons. Females on the other hand are less likely to work regardless of their health status.

Differentials in health state by marital status and living arrangement manifest distinct gender differentials. No perceptible difference in functional health is apparent among the females regardless of their marital status whereas for the males, marital disruption due to the death of spouse is associated with significant levels of disability. About four out of 10 widowers reported functional health problems, which are twice the level observed among the currently married. This implies that marital status is more likely to be a discriminating variable for males but not for females. Generally however, it is the widowed who displayed the highest level of functional disability.

Contrasting picture between the genders is also noted in terms of living arrangement with those living with their children likely to experience the highest levels of disability. It is

not clear however whether those who are unhealthy chose to live with their children or in an extended household because they need care. The finding is more pronounced among females than males. The most unhealthy females are more likely to be living with their spouse only while the most unhealthy males are living with their children.

### Active Life Expectancy (ALE)

What do the foregoing levels of functional disability mean in terms of the quality of the remaining years of older Filipinos? The answer is demonstrated by Active Life Expectancy (ALE), which examines the proportion of remaining life lived without disability. Unlike the traditional life table method which only indicates the duration of remaining years of life, ALE decomposes the remaining life into years spent in inactive and active states, an indicator of quality of life.

Table 3 shows the number and proportion of remaining life in an inactive state by age and sex using the Sullivan Method. Results indicate that a considerable proportion of the older people's remaining life is lived in inactive state with significant gender disparity. Females have an advantage in terms of the number remaining years lived but they experience greater disability compared to the males. This is indicated in the greater number and proportion of remaining years lived in disability, a finding consistent with what has long been established by gerontologists in advanced aging societies. Figure 3 clearly shows this gender disparity. Sixty-year-old males for example can expect to live for 17 more years on the average compared to 19 years for females. However, the latter can anticipate to live a third of their remaining years in disability compared to about a fourth for the former. Seventy-five years of age appears to be a threshold point beyond which surviving women can expect significantly higher level of health burden with a greater part of their remaining years (52%) expected to be lived in an unhealthy state. The males are a bit better off as they are likely to postpone this experience at a later age.

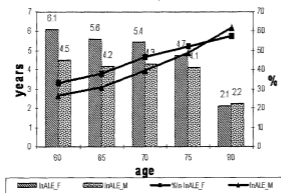
Interestingly, the gender disparity in the proportion of remaining life in inactive state does not endure, with a crossover towards the end of the life cycle. Results show that at age 80, a reversal in pattern occurs with the relative proportion of the remaining life lived in an inactive state among males exceeding that of the females. This is consistent with the age pattern of mortality in the country, which also shows a sex reversal in mortality pattern with the males generally surpassing the females' death rate in all ages except in the in the 80+ age bracket (Cruz, 2005). This is likewise evident in the mortality sex ratio of 76 for the 80+ age group compared to 112 in the previous age bracket. All these factors tend to suggest the possibility of a real health crossover in extreme old age. This finding also suggests the possible changing gender differential in mortality, morbidity and ALE patterns across the different stages of the life cycle. Data show that males have an advantage in ALE (i.e.,

proportion of life lived without disability) during the onset of aging but shift to a disadvantageous position in the advanced stages of the aging process. This is the effect of the apparent twist in mortality and morbidity patterns marked by a decline in mortality and a surge in disability at the extreme age group.

TABLE 3: Active Life Expectancy (ALE) by Age and Sex, 1996 PES

Age and Sex	Status/Life Expectancy (in years)			% of remaining life lived in an inactive state
	Total	Active	Inactive	
<b>Male</b>				
60	16.8	12.3	4.3	26.7
65	13.7	9.4	4.2	31.0
70	10.9	6.6	4.3	39.5
75	8.4	4.3	4.1	48.6
80	3.5	1.3	2.2	62.1
<b>Female</b>				
60	19.0	12.6	6.4	33.7
65	15.4	9.6	5.8	37.8
70	12.0	6.4	5.6	46.8
75	9.0	4.4	4.7	52.0
80	3.6	1.5	2.1	57.7

FIGURE 3: Proportion and of remaining life in inactive state by age and sex: Sullivan method, 1996 PES



\* InALE\_F : inactive life expectancy for females  
InALE\_M : inactive life expectancy for males

## Discussion and Conclusion

The study has established the baseline information on the active life expectancy (ALE) among Filipino older people 60 years and over using the first nationally representative sample data on older people in the country. The study employed a functional health approach which measured health in terms of the ability to perform normal everyday activities of daily living (i.e. ADL and IADL indicators). Being a novel approach in assessing elderly health and given the early stage of elderly research in the country, it is not surprising that only two previous explorations in ALE have been done in the country prior to the study. These include an inter-country comparison in health expectancy using ADL indicators provided in the 1984 WHO data (Lamb, 1999) and the self-assessed health measure using the 1996 PES (Ofstedal, Zimmer, Cruz, Chan and Lin, 2004). Both studies made use of the Sullivan method to measure ALE. However the former study (i.e., WHO study) does not provide a nationally representative estimate.

Findings demonstrate that while female older people live longer lives, they are more likely to spend longer years and a higher proportion of their remaining life in an inactive state. Results also indicate the increasing level of disability with advancing age, again with the females generally at the disadvantage. This implies that as we anticipate future expansions in the size of the older population and as older people continue to experience increasing longevity, we can expect a corresponding rise in the projected number with disability, more for females than males.

An expected rise in the number of older people who are unable to perform everyday activities has significant implications at various levels. At the macro level, it translates to an expected increase in the demand for health services which at present the government is ill equipped to handle given not only the budgetary constraints but also the competing demands from the younger sector of the population who constitute the major bulk of the country's population. Results of the 1996 PES reveal that only 9.4 per cent have access to some social security benefit which is significantly lopsided in favor of those with high educational attainment (i.e., at least high school).

With the low government priority given to the older sector of the population, the burden of care for the elderly including financial as well and non-material types of support will have to be managed by the family. However, changing family structure brought about by migration, including rural-urban and overseas labor migration have somehow threatened the ability of the family to care for its older members. This is in the light of the increasing international migration pressure on women (i.e., high demand for female labor migrants) who are the traditional care givers of the older people. The situation is likewise exacerbated by the massive outflow of trained and experienced health workers which has led to marked distortions in health care delivery (Asis, 2007).

Poverty is another factor that may get in the way of the family's ability to care for its elderly members. This is particularly salient in the context of recent estimates confirming the country's poor economic condition with about 34 per cent of the population currently estimated to be living below poverty line in 2000 (Orbeta, 2002). While Filipinos are generally known for their strong filial obligation, poverty can erode the middle generation's capacity to provide economic and health assistance for the older generation. Studies confirm the significance of resource availability as a determinant of intergenerational support with families having fewer socio-economic resources less likely to be involved in kin support (Hogan et al., 1993). Furthermore, this economic situation and the need to provide for the basic needs of the family may force older members to continue working despite their age and ill health.

On the other hand, investments in human capital as indicated in the improving education profile of the country presents a window of opportunity that may help avoid the possible negative scenarios associated with the aging of the population. Recent studies show that better educated elderly will be in a better health status and will be better able to provide for their support at old age (Lutz, 2007). Improvements in the education composition of the future elderly population will lead to much lower increases in disability than one could expect without improvement in education.

Results of the 1996 PES underscore the promising impact of this so called 'education bonus' on the well-being of the future generation of older Filipinos. Improving education profile of the incoming generation of older Filipinos has been shown to be associated with a more active involvement in the labor force and entry in new occupation domains (Cruz, forthcoming). Already, data show traces of increased level of older women's participation in the professional and administrative posts which traditionally, are associated with the males. Concomitant with their improving economic condition is a gain in their health condition marked by their increasing longevity. This suggests that educating our current generation of young people is a long-term investment to ensure a future generation of active and economically better-off older people. Clearly education is key in maintaining a 'virtuous cycle' (Lutz, 2007) that promises a greater healthy life expectancy among the future generations of older Filipino people.

At the same time, one should not ignore the role of healthy lifestyle such as exercise in any future intervention program designed to increase active life expectancy among older people in the Philippines. Moreover, the cumulative negative effects that health risk behaviors such as smoking and drinking at early ages pose on the later health and mortality patterns make it imperative to treat aging health from a life course perspective rather than the usual age-specific approach. This also recognizes the need to incorporate elderly health policies to those benefiting the younger sectors of the population and recognizing the primacy of preventive rather than a curative approach to aging health. The passage of the Tobacco Regulation Act in the country which seeks to absolutely ban smoking in public places and penalizes tobacco sale to minors (Ubac, 2003) is an important step towards this direction.



## Notes

- 1 Paper presented at the 10th National Convention on Statistics held at EDSA Shangri-La Hotel, Mandaluyong City, Philippines, October 1-2, 2007.
- 2 Omran defined three major successive stages of epidemiologic transition namely: 1) the age of pestilence and famine where the major cause of death is attributed to infectious diseases, malnutrition and maternity complications; 2) the age of receding pandemics; and 3) the age of degenerative and man-made diseases.

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# A History of the University of the Philippines Population Institute

Mercedes B. Concepcion\*

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## The Beginnings

**I**n early 1955, Dr. Philip M. Hauser, founder of the University of Chicago's Population Research Center, one of the world's leading centers for the study of demography, visited the Philippines upon the invitation of Dr. Meredith B. Givens, Principal Statistical Advisor, University of the Philippines Statistical Training Centre (UPSTC). He addressed the members of the Philippine Statistical Association at one of its monthly meetings. I was then a Research Assistant, the first Filipino to have been appointed to the UPSTC's research staff upon my arrival from training in Biostatistics in Australia on a Colombo Plan fellowship. A few months later I met Dr. Hauser again, this time at the Seminar on Population Problems of Asia and the Far East organized by the U.N. (U.N.) in Bandung, Indonesia in November 1955. Historically, it was the first seminar on the subject of population organized by the U.N.

The well-known demographers at the time – Dr. Pascal K. Whelpton, Director of the U.N. Population Division in charge of the seminar; Dr. C. Chandrasekaran who did the well-known Mysore Population Study of India; Dr. Dudley Kirk of the Population Council, Inc.; Dr. Irene Taeuber of Princeton University; Dr. John Durand of the U.N. Population Division; Dr. Marshal C. Balfour of the Rockefeller Foundation; Dr. Hauser – were all in attendance. The Philippine delegation to the seminar was headed by Dr. Enrique T. Virata, then U.P. Executive Vice-President, with Dr. Eliseo Perez, Deputy Director of the Bureau of Census and Statistics (now National Statistics Office), as member. Dr. Victor C. Valenzuela, Professor of Public Health, U.P. School of Hygiene, and I had been awarded Junior Fellowships by the International Social Science Council to attend the seminar along with some 18 others from

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Asia. Among them was Dr. Toshio Kuroda of Japan's Ministry of Health and Welfare. Several, now well-known, personalities in the field of demography from Asia made their debut at the Bandung seminar.

The seminar was the first to focus attention on increasing population trends within the region covered by the Economic Commission for Asia and the Far East (ECAFE), now Economic and Social Commission for Asia and the Pacific (ESCAP). The seminar participants realized that the rising population growth rates largely negated or probably even retarded the effects of national socio-economic programs that provided an environment conducive to lowering birth rates. An important outcome of the seminar was a recommendation that the U.N. take the initiative in setting up a regional demographic training and research centre in the ECAFE region. Consequently, the Demographic Training and Research Centre (DTRC) was established in 1956 at Chembur, Bombay, India. The Centre was jointly operated by the U.N. and the Government of India. Its first Director was Dr. C. Chandrasekaran.

In the spring quarter of 1958, the Population Council, Inc. awarded the author, then a research instructor at the UPSTC, with a fellowship for advanced study in demography at the University of Chicago's Department of Sociology. After one quarter of academic courses, Dr. Hauser recommended to Dr. Virata that the author be allowed to pursue a Ph.D. in Sociology, on paid leave. Thus, she completed the academic requirements for the Ph.D. by the summer of 1960. In December 1960, the author was recalled to the UPSTC to take over the work of the visiting professorial lecturer in demographic statistics who was returning to Australia on completion of her assignment. Special arrangements were made for the author to undertake her dissertation work in the Philippines with periodic advice being given by mail by the Department of Sociology faculty. In June 1963, the author obtained her Ph.D. in Sociology in absentia from the University of Chicago.

In November 1962, the Ford Foundation sent out a population survey mission to East and Southeast Asia composed of Dr. Hauser, Dr. Dudley Kirk and Dr. Oscar Harkavy of the Economic Affairs Program of the Ford Foundation. The mission visited the Philippines to look into the feasibility of establishing a demographic center or a population institute at U.P. Dr. Virata, then Acting Director of the UPSTC, was very receptive to the idea, provided that the University be given time to train a number of people for the work to be undertaken and provided further that it receive sufficient financial support both from the Philippine government and from outside sources such as the U.N. and private foundations. He promised the mission members that during the ensuing year he would try to assess how long it would take the University to carry out the preparatory steps in order that a population institute be established in the Manila campus or in Diliman. Dr. Virata's optimism in the U.P.'s ability to establish a population institute, provided sufficient financial support was available, was due to the fact that the country as a whole was better prepared to organize the institute as far as

trained personnel was concerned than in 1953 when the U.P. agreed with the U.N. to establish a Statistical Training Centre with U.N. financial support. In 1962, there were about six persons who had had formal training in demography, one of them at the Ph.D. level, and the others with demographic training either in the United States or at the Bombay Demographic Training and Research Centre. No such similarly trained people in statistics were available when the UPSTC started operations in June 1954. Dr. Virata also informed the Ford mission members that assistance would be needed during the preparatory period in the form of research grants and funds for graduate fellowships.

After the mission's departure, Dr. Virata took several implementing steps aimed at the eventual establishment of the population institute. Dr. Elvira M. Pascual, M.A. Demography from the University of Chicago, was appointed as early as February 1963 as a research instructor in the UPSTC to assist the author in the analysis of census data. In the meantime, Dr. Virata discovered that Dr. Telesforo Luna of the U.P. Geography Department was interested in demography and accordingly, he was invited to join the group being prepared for the activities of the institute. Concurrently, Dr. Virata arranged with Dr. Ricardo Pascual, Dean of the Graduate School, that a master's degree in demography be offered in the Graduate School of Arts and Sciences and that the administration of the degree be given to a committee on demography since there was no department of demography in that school.

On 15 May 1963, Acting U.P. President Virata, in Memorandum No.368, established a committee in demography in the Graduate School of Arts and Sciences composed of representatives from each of the following disciplines: sociology, demography, economics, geography and social psychology. Membership in this committee was for two years, renewable for a similar term upon recommendation of the Dean of the Graduate School and upon approval of the University President. The committee was to recommend matters pertaining to faculty development, research, fellowships and scholarships. Following a series of meetings, the committee formulated and recommended the adoption of the requirements for an M.A. (Demography) program. Such a program was approved by the University Council at its 221<sup>st</sup> meeting held in September 1963. There was reason to believe that such a program would attract students, gain the cooperation of official agencies and attract appreciable public interest and support. The committee was to function until the time when the Population Institute will have developed its full complement of staff.

The Population Council, Inc. on the other hand, granted the UPSTC the sum of \$3,000.00 for the analysis of census data and another \$7,500.00 for a study of vital statistics and fertility in the municipality of Imus, Cavite. These research grants were utilized for on-the-job training of the personnel intended for the institute.

With the foregoing steps, Dr. Virata felt that the basis had been laid for the establishment of a population institute and that it was time that preparations be made to reach an agreement between various foundations and the U.P. with government assistance for setting up a

population institute, both for the training of personnel and for research on the country's population problems. Dr. Virata saw that the time was ripe for a formal agreement to be concluded between the Philippine Government represented by the U.P. and the foundations in order to assure continuation of financial support for the institute until such time that the foundations would stop their support. This arrangement would permit the creation of a permanent budget for the institute to ensure continuity of its activities on government support alone. A favorable situation existed for this plan in 1963 because the national budget for fiscal year 1964 had an item for counterpart purposes to meet foundation grants.

Dr. Virata suggested to then U.P. President Carlos P. Romulo that the Population Council or the Ford Foundation be requested to send a short-term consultant at the end of 1963 or early 1964 principally to assist the U.P. in drafting an agreement that would be presented to the Government and the Foundations for final approval. Dr. Virata suggested that Dr. Hauser be tapped for this assignment since the latter had indicated a desire and a willingness to participate in formulating the plans for the institute.

### **The Establishment of the Population Institute**

The establishment of the Population Institute as a unit of the U.P. was approved by the Board of Regents on 20 November 1964 with the following objectives: (1) provide at least nine graduates with demographic training, during the first three years of its operation; (2) produce a comprehensive analysis of characteristics and trends of the Philippine population; and (3) initiate a program of research on matters significant for planning and program purposes.

The Institute, with initial four-year support from the Ford Foundation, operated as a regular unit of the University through its director in consultation with an executive committee on general policy matters and an advisory committee in demography on academic matters. After the first four years of funding the Institute's faculty development, scholarship program and library, the Ford Foundation extended its financial support for no more than four years, on a matching-grant basis.

The Population Institute was headed by a director responsible for the administration of the training program and the direction of the Institute's research program. As the Institute developed there was provision for an associate director to serve as a deputy to the director and as acting director in the director's absence.

The Institute's professional personnel, appointed by the director, consisted of research associates and teaching faculty, both of whom undertook research and teaching functions as may be required. Research associates had to have an M.A., preferably in demography or in a related discipline. Senior research associates had to have Ph.D. degrees in demography or

in a related discipline. Research assistants were appointed as needed and consisted in the main of graduates majoring in demography or in related disciplines. All members of the Institute professional personnel and staff performed their Institute functions as assigned and directed by the Institute director.

At the outset and in accordance with grants-on-hand and pre-established arrangements, the professional personnel comprised the following:

Acting Director	Dr. Mercedes B. Concepcion
Principal Research Associate	Dr. William F. Pratt
Research Associate	Mrs. Elvira M. Pascual
Visiting Professor of Demography	Dr. Frank W. Lorimer

In addition, Dr. Hauser served as consultant to the Population Institute during the term of the Ford Foundation grant in accordance with agreed-upon relationships with the University of Chicago.

Because of the limited personnel at the initial stage and the prospect that one or more research associates might be sent abroad for further training, a proposal for a second senior research associate was submitted to the Ford Foundation and subsequently approved. This person was expected to assist in the demographic training of local personnel as well as contribute to the research program during the initial years of the Institute.

At the outset, the Director was assisted by an executive committee and a committee in demography. The executive committee consisted of Dr. Enrique T. Virata, university professor, as chairman; the UPPI director, Dr. Mercedes B. Concepcion and a representative of the University of Chicago to be designated by the consultant, Dr. Hauser. The committee's function was to consider general policy matters affecting the Institute and to review and approve research proposals.

The committee in demography served to advise the UPPI director on matters relating to the establishment of training programs including the M.A. degree program in demography and on other academic matters. After the first four years of operation, this committee ceased to function.

### **The Training Program**

The Population Institute is responsible, in cooperation with appropriate departments of the U.P., for administering a training program in population studies leading to the M.A. degree in demography. The program is inter-disciplinary and assures the production of demographic personnel with backgrounds in such relevant fields as economics, sociology, social psychology, geography, anthropology, statistics and other areas as may be desirable.

The program, in addition to turning out persons with demographic training equipped to contribute to demographic work in government and other agencies, would serve as a basis for discovering exceptionally qualified students who merit further training, including Ph.D. training, at universities abroad.

In addition to the academic program, the Population Institute also administered an in-service training program, the purpose of which was to provide government personnel with specific types of demographic skills.

### Research Program

The demographic personnel of the UPSTC were already engaged in significant demographic research projects at the time of the Institute's establishment. Such research projects provided an excellent basis for the organization of further research activities and included the following projects:

1. An analysis of the demographic and socio-economic characteristics of a sample of the population enumerated in 1960 (supported by the Population Council, Inc.).
2. A study of the completeness of registration of vital events in two Philippine municipalities, namely, Imus, Cavite and Calasiao, Pangasinan (the first supported by the Population Council, Inc. and the second by the U.P. Social Science Research Council).

A major obligation of UPPI was to develop, design, and administer such research programs in demography to assist government in planning, economic, educational, and other activities in respect to which policy and program must necessarily deal with population size, distribution, composition, and components of population change. UPPI was to serve as the focal point for the analysis of demographic information and the dissemination of knowledge in this field to the government and to the Filipino people. Moreover, the Institute was to be the major unit for academic research in demography at the U.P. It was to assist the country's other educational and research institutions in the development and conduct of demographic programs; and in the design and conduct of evaluative research on any population action-programs undertaken by government or other suitable agencies.

The research program consisted of the following activities:

1. The development of a monograph on the Philippine population involving a critical analysis and development of available data and a preliminary survey, in cooperation with other U.P. units, of relations between population trends and some other major trends in Philippine society. The results of this analysis, organized in the light of historical development and future prospects, would be published.
2. Cooperation with the Bureau of the Census and Statistics in the design of special tabulations and comprehensive analyses of the data obtained on subjects designed to



increase the country's demographic knowledge and to serve specific purposes of policy and administration. Such projects would go beyond established census and statistical programs.

3. Expansion of studies of completeness of registration and enumeration of vital events of the type described above and of studies relating to conditions and factors affecting Philippine fertility.
4. The development of studies relating to conditions and factors affecting migration and mortality in the Philippines to complement studies on fertility.
5. The undertaking of experimental studies to provide a basis for the design and installation of a national sample vital registration and statistical system.
6. The exploration of methodological problems relating to current Philippine population estimates and projections. .

### **Consultative and Advisory Services**

There was increasing awareness within the country of the importance of considering population factors in relation to government, economic and social policy and program. However, the scarcity of demographic personnel had made it difficult for government agencies and others to obtain demographic consultative and advisory services. UPPI was to provide such services as desired.

At the same time, the Institute would take steps to secure the collaboration and assistance of other agencies contributing significantly to the population field. In particular, it would make full use of the many resources available at U.P. For example, the Statistical Training Centre would provide consultative services on sampling and evaluation of survey results. The Institute of Economic Development and Research would provide advice on the interrelationship between population and economic development. Similarly, the Institute of Hygiene and the College of Agriculture would contribute through their studies of communities. The Institute of Asian Studies and the Community Development Research Council were two other units whose specialized studies would be utilized in the overall research scheme.

It was necessary to keep in close contact with national government agencies interested in population studies. These agencies included the National Economic Council (now the National Economic and Development Authority or NEDA), the Program Implementation Agency (now the Presidential Management Staff), the National Science Development Board (now the Department of Science and Technology or DOST), the Disease Intelligence Center of the Department of Health and the Bureau of the Census and Statistics (now National Statistics Office or NSO).

Finally, contact was made with qualified persons and institutions outside the country, to be discussed in the sections below.

### **Physical Plant**

Suitable space was to be provided for the Institute at the Diliman campus, including general furnishings for office and research work. It was envisaged that the Institute would form part of the Public Affairs Complex composed of such units as the College of Public Administration, the Institute of Mass Communication, the College of Social Work and Community Development and the Statistical Training Centre. During all or part of its first year of operation pending the construction of the Institute's permanent office, comparable facilities were provided at the Rizal Hall of the Manila campus where the Statistical Center was also located.

Owing to lack of financial resources, the plan for a separate building for the Population Institute as part of the Public Affairs Complex never materialized. In 1985, the U.P. administration required all graduate units to be located in the Diliman campus to make way for the transfer of the College of Pharmacy to the Manila campus. Hence, the Population Institute was provided permanent space at Palma Hall in Diliman and allotted part of the space occupied by the College of Pharmacy.

### **Technical Assistance Support**

During the initial stage of the Institute's existence, local personnel had to be developed even while initiating a research program. With a limited number of trained Filipino demographers available, the Institute would have to depend on foreign personnel and consultants at the outset. Such foreign demographic personnel would help train local demographers to make the Institute self-sustaining as soon as possible as well as to undertake research. To help make the Institute self-sufficient in demographic personnel, qualified local personnel including the members of the Institute's professional staff were to be sent abroad for further training.

Among the sources of technical assistance support were the U.N. and its specialized agencies and the Population Council, Inc., in addition to the special arrangements with the University of Chicago as described in a later section.

At the time of its establishment, the Population Institute was fortunate to have the services of Dr. Frank W. Lorimer, visiting professor of demography at the U.P., through the generosity of the Population Council, Inc. In addition to teaching courses in demography in the Department of Sociology which contribute to the M.A. in Demography, Prof. Lorimer also consented to be available for the UPPT's research program. By mutual agreement, he also served as visiting professor of demography at the Institute. In this capacity, Prof. Lorimer prepared a monograph on Philippine population trends as indicated in the Institute's research program.

## Relationship with the University of Chicago

Supporting services from the University of Chicago (U.C.) through its Population Research and Training Center were tapped for strengthening work in demography in the Philippines. Under the cooperative agreement between the U.P. and the U.C., such assistance involved the following:

1. Training -
  - a. Availability for consultation on matters relating to the curricula and requirements for the graduate degree.
  - b. Provision for exchange of personnel including arrangements for visiting faculty from the U.C. and other institutions and visits of staff from the UPPI to the U.C. or other suitable demographic institutions as may be indicated.
  - c. Cooperation with the Institute in helping to make available all training materials produced by the U.C. and elsewhere.
  - d. Admission of qualified students from the U.P. for the Ph.D. program in sociology (demography) at the U.C. or other suitable universities; also assistance in obtaining fellowships, scholarships, and other research assistantships, as may be necessary for the training of U.P. students at the U.C. or other suitable institutions.
2. Research -
  - a. Availability for such cooperative undertakings as may seem desirable at the initiative of either party.
  - b. Availability for consultations on research progress of UPPI, including assistance in the design of research and formulation of proposals for obtaining research.

The Population Research and Training Center (PRTC) at the U.C. would send a senior demographer to visit the Institute once each year during the initial phase for at least a two-week period for consultation and discussion of the Institute's training and research program and plans for its future work. More frequent visits as may be requested by the Institute and as may be financed could be arranged. Finally, the PRTC Director, Dr. Hauser, agreed to serve as liaison with UPPI for any other services that it may desire at the U.C. such as the Community and Family Study Center or at other universities or institutions in the United States.

## Library

An adequate working library for books, periodicals, government documents and other materials for the Institute's training and research progress would be required. At the time of the Institute's establishment, the Statistical Training Centre had a small collection of demographic materials. Although these materials could be obtained either on loan or donation from the Centre library, most items needed to be provided specifically for the Institute. The Ford

Foundation support provided an item for subscriptions to relevant periodicals, purchase of books and training materials and procurement of national census publications.

### **Academic and other Programs**

The degree of Master of Arts (Demography) requires completion of at least 30 units of graduate work of which 24 should be in formal academic courses. The remaining six units should be credited for the master's thesis.

Five courses are basic in the program and required of all students: Demography 211 (Demographic Statistics), Demography 212 (Population Studies), Sociology 260 (Demography) or Geography 226 (Cultural Geography), Demography 295 (Special Topics in Demography), and Social Science 201 (Statistics for the Behavioral Sciences). Other courses would be selected from cognate fields depending on the student's interest and subject to approval by the program adviser.

In 1965, two students were formally enrolled in the program and a third person was completing degree work in Statistics with the intention of pursuing the M.A. program in demography.

### **Staff Development**

In 1964, the Institute counted with three persons trained in demography. One had a Ph.D., the second an M.A. in this field, and the third had had a year's training at the DTRC in Chembur, India. However, these three merely formed the nucleus of a staff contemplated to increase in number as promising students were sent for foreign training at the doctoral level.

### **In-Service Training**

A series of lectures and classroom discussions were arranged to acquaint outside agencies with the need for special training in population studies and for disseminating the Institute's demographic research and training program.

An integrated program incorporating the following aspects was basic to the production of trained workers at government level:

- Demographic history and problems;
- General statistical methods;
- Basic data of demography and their collection;
- Techniques of demographic analysis; and
- Inter-relationships of demographic, economic and social phenomena.

The in-service training was designed to cover a period of six to eight weeks during the summer, involving a total of 180 hours of work. A major portion of the in-service training would be devoted to discussion of individual problems supplemented by reading and practical work on data gathered by the different agencies.

Participants were to be chosen from among the intermediate staff of the census bureau, office of vital and health statistics, social welfare and economic development agencies, and the junior faculty members of colleges and universities – particularly their departments of sociology and economics – that had working relationships with policy-making bodies.

The Institute undertook a total of 12 in-service training sessions from 1965 to 1976.

## Conferences

UPPI's program included at least one conference in late 1965 to explore the resources and needs of the country with respect to demographic analysis, and to develop the professional capacities of persons who had already acquired proficiency in the field. The participants would include upper-echelon government officials concerned with questions to which demographic studies were directly relevant as well as leading experts in economics, sociology, anthropology, geography and public health.

The First Conference on Population was convened under the sponsorship of the UPPI and the Population Council, Inc. on 22 November 1965. U.P. President Carlos P. Romulo opened the conference followed by Prof. Hauser. Dr. C. Chandrasekaran, Regional Adviser on Population Policies and Programmes based at ESCAP was invited to speak on Population Programmes in ECAFE Countries. The director of the University of Singapore's Economic Research Center, Dr. You Poh Seng, spoke on Determinants of Population Growth while Visiting Professor Frank W. Lorimer presented a paper on Demographic Responses to Changing Technology. The second part of the program featured UPPI Director Mercedes B. Concepcion who presented the Demographic Factors in Philippine Development while Dr. Rosa Linda Tidalgo, U.P. School of Economics, summarized her paper on Output, Capital, Labor and Population Projections from the Supply Side. The third section consisted of papers by Visiting Associate Professor William F. Pratt on School Enrollment Projections and by Dr. Wilfrido Reyes, U.P. Institute of Hygiene, on Philippine Population Growth and Health Development. The last portion of the program featured Prof. Hauser who spoke on Research Problems in Demography. The closing address on Trends and Prospects of Population Growth was given by Dr. Juan Salcedo, Jr., Chairman, National Science Development Board (NSDB). The papers and discussions were published under the title First Conference on Population.

On 27-29 November 1967, a Second Conference on Population was held at the National Science and Development Board (NSDB). This conference was co-sponsored by UPPI, NSDB and the Ford Foundation. The U.N. Development Programme (UNDP) Resident Representative, Mr. Warren Cornwell, addressed the Conference on the topic: Population and Progress: On Rice and Men. Director Concepcion spoke on Population Growth Implications in the 1970s while Ms. Adriana C. Regudo and Visiting Assistant Professor Edmund M. Murphy presented their paper on Philippine Population in the 1970s. Director Carmen L.L. Intengan, Food and Nutrition Institute, discussed The Food Needs in the Seventies while Dr. Leon A. Mears, Visiting Professor, U.P. School of Economics UPSE), presented the Problems of Equating Rice Supply and Demand in the 1970s. The International Labour Office's consultants, Mr. Bernardino A. Perez and Mr. M. L. Gupta, spoke on Labor Force Trends and Employment Targets while UPSE Visiting Professors Jeffrey G. Williamson and Don J. DeVoretz discussed Education as an Asset in the Philippine Economy. The latter then presented A Dynamic Programming Model for the Philippine Educational Sector followed by Undersecretary of Education Dr. Onofre D. Corpuz who talked on Education in the Seventies. The sole paper on urbanization was that of Visiting Assistant Professor Gerry E. Hendershot who addressed The Challenges to Urbanization in the Seventies. The topic of Health and Medical Services in the Seventies was dealt with by Prof. Melchor L. Jacinto, U.P. School of Hygiene. The paper, Prospects of a Fertility Decline in the Seventies, was co-authored by Director Concepcion and Dr. Hendershot. Dr. Thomas R. McHale, Executive Vice-President of Victorias Milling Corporation, presented his thoughts on The Philippines in the Seventies: The Problem of Population Growth and Economic Development. Dr. Paulino Garcia, NSDB Chairman, closed the conference with his address on the Growth of Our Population and Growth of Our Nation. The proceedings of this second conference were also published.

A third Conference on Population was held on 11-12 December 1969. Unfortunately, the program and proceedings of this Conference were mislaid during the transfer of the Institute from Manila to Diliman in 1985. A partial list of the presentors was obtained which included Fr. Georges Piron, CICM, Assistant Professor, Department of Economics, De la Salle University, who presented a paper entitled, The 1968 National Demographic Survey – Some Findings on Mobility; Population Institute Research Associate Zelda C. Zablan, whose paper dealt with IUCD Retention Rates Among Family Planning Patients at the Philippine General Hospital; Dr. M.L. Gupta, Manpower Assessment and Planning Expert, National Manpower and Youth Council, who reported his findings on the Present State and Anticipated Supplies of Engineers in the Philippines in the Seventies; Dr. Gerry E. Hendershot, Department of Sociology, Vanderbilt University, Nashville, Tennessee, who spoke on the Characteristics of Migrants to Manila and Other Urban Places from Two Rural Communities and Dr. Cristina P.Parel, U.P. Statistical Center Director, who shared her paper on Employment of

Scientific and Technological Manpower in the Philippines. Understandably, the Third Conference was never published.

The conferences accomplished two things: they reviewed the demographic studies being undertaken or were being planned; and they discussed technical questions that had arisen or were expected to arise in the course of the participants' work. The Institute staff undertook the preparation and circulation of pertinent materials for discussion in these conferences, served as resource persons on technical matters, recorded the discussions taking place and summarized the proceedings for publication.

### **Basic Demographic Analysis**

Demographic research already initiated at the UPSTC that was carried forward by the UPPI included an analysis of the demographic and socio-economic characteristics of a sample of the 1960 population made possible by a grant from the Population Council, Inc. Socio-economic differentials in fertility indicated by the 1960 Census of Population, following the procedures applied to the 1956 and 1958 data from the Philippine Social Surveys of Households (PSSH), were also studied. In addition, the characteristics of migrants (as of 1960) by region of destination were also studied. Field studies dealing with the fertility and vital statistics of two Philippine municipalities (Imus, Cavite and Calasiao, Pangasinan) were aimed at the measurement and explanation of relations between fertility and certain social factors.

These field studies – intended to serve as preliminary inquiries into the interrelationship between fertility and other characteristics of a cross-section of Filipino married women – were supported by the Population Council, Inc. and the U.P. Social Science Research Council. These pilot projects provided valuable training aids for future workers in the field.

Information on child-woman ratios was collected in the 1956 and 1958 rounds of the PSSH and in the 1960 Census on Population on a sample basis. Age-specific rates were calculated from these data in order to check the consistency of the vital registration records.

The number of children born and the number surviving by age of mother were recorded for the May 1956 and May 1958 PSSH rounds as well as in the 10 percent sample of the 1960 Census of Population. Ratios of children living to children born could be used to estimate the death rates as a supplement to scanty mortality information from other sources. The general level and age-pattern of mortality so derived were compared with the mortality level and age-pattern of death rates obtained from vital registration data.

The consistency of various demographic indexes was tested using quasi-stable population models derived by Coale and associates at Princeton. Such models provided a firmer basis for estimating current population trends and preparing population projections on alternative hypotheses.

## Monograph on the Population of the Philippines

A brief but comprehensive report on the demography of the Philippines was needed for the use of policy and decision-making agencies in both public and private sectors. Previous studies on the Philippine population like the U.N. **Population Growth and Manpower in the Philippines** and various dissertations and theses served as the nucleus of the report. Available data from the 1960 Population Census on fertility, migration and the labor force together with the population projections prepared by the Bureau of the Census and Statistics were reviewed and revised for incorporation in the report. Such a report was presented during the First Conference on Population in 1965.

## National Demographic Surveys

In 1968, the Institute in collaboration with the Bureau of the Census and Statistics, began a series of quinquennial surveys of fertility and other demographic variables as well as the family planning knowledge, attitudes and practice (KAP) of a representative sample of married women 15-49 years of age. These surveys came to be widely known as the National Demographic Surveys (NDSs). From then on, the surveys rounds in 1973, 1978 (done as part of the World Fertility Survey program), 1983, 1988 and 1993 were carried out in cooperation with the BCS. In 1998 the NDS expanded to include questions on the health of mother and child as part of international program known as the Demographic and Health Surveys. Thus, the NDS became the National Demographic and Health Survey (NDHS) funded by USAID and administered by Macro International. The UPPI did not have any part in this project except to act as consultant to the National Statistics Office. Another NDHS round was undertaken in 2003 with some of the faculty of the UPPI writing the chapters of the report. The results of the 1998 and 2003 NDHSs have been published.

The World Fertility Survey, an international program of fertility and contraceptive knowledge, practice and use, began in the early 1970s under the auspices of the International Statistical Institute (ISI) with the collaboration of the U.N. (UN), the US Agency for International Development (USAID) and the International Union for the Scientific Study of Population (IUSSP). At the invitation of the ISI, the Philippines participated in the WFS by launching the Republic of the Philippines Fertility Survey (RPFS) in May 1978, with major financial support from USAID and the Philippine Government, to ascertain national and sub-national levels of fertility and family planning KAP. A WFS technical staff member, Dr. Alphonse MacDonald, was appointed Country Coordinator for the RPFS. Dr. Tito A. Mijares, NCSO Director, and Dr. Mercedes B. Concepcion, UPPI Director, served as Project Director and Co-Project Director, respectively. The NCSO and UPPI staffs participated in the survey questionnaire design, training, fieldwork, analysis of data, and writing of the First Country Report. The RPFS report was published in December 1979, in time for the General Meeting of the ISI which was held in Manila.



In addition to the NDSs and NDHSs, the National Acceptor Survey (NAS) was conducted in three biennial rounds (1972, 1974, and 1976). It was aimed at tracking the achievements of the national family planning program which was established to implement the population policy by virtue of Republic Act 6365 known as the Population Act, signed by President Marcos on 16 August 1971. The focus was the level of new family planning or contraception acceptance, continuation of contraception, effectiveness of contraception in terms of use-effectiveness and fertility effects, and over-reporting of family planning acceptance in response to the rapidly growing population growth. USAID funded the NASs, which were conducted in collaboration between UPPI and the Commission on Population (POPCOM). The UPPI staff was led by Drs. John E. Laing, James Phillip, and later joined by Drs. Zelda C. Zablan and Josefina V. Cabigon. On the POPCOM side were Mrs Aurora Go, Dr. Tim Warner, and Ms. Rica Llorente. Field work and coding were carried out by Consumer Pulse, Inc. headed by Ms. Rosario Chew and her staff, Mrs. Mercy Abad and Mrs. Darrah Estrada. Ms. Nellie Mangubat took charge of the data processing. Final reports of these NASs were published as books or monographs and most of the findings were published in various international publications such as the *Studies in Family Planning*.

The national family planning program's new thrust, The Total Integrated Development Approach (TIDA), initiated in 1976 in seven selected pilot provinces, led to the cooperative research project known as the Seven Provinces Study (SPS). The study aimed to evaluate the program's impact on current fertility levels and on contraceptive prevalence in these seven provinces. Three research centers – UPPI, the Office of Population Studies (OPS) of the University of San Carlos in Cebu, the Research Institute for Mindanao Culture (RIMCU) of the Mindanao Center for Population Studies (MCPS) in Cagayan de Oro – collaborated in this endeavor. Funding was provided by POPCOM. The selected pilot provinces were Laguna, Nueva Ecija and Pangasinan in Luzon, Capiz, Leyte del Sur and Negros Oriental in the Visayas, and Misamis Oriental in Mindanao. The first three provinces were assigned to UPPI, the next three to OPS while RIMCU was responsible for Misamis Oriental. The SPS underwent two rounds, one in January-March 1976, the second a year later.

The Davao Research and Development Foundation joined the above-named three research centers in carrying out the annual Area Fertility Surveys (AFS), an expansion of the SPS. The five regions selected for the study consisted of Central Luzon, Western Visayas, Northern Mindanao, Southern Mindanao and Metro Manila. Reports submitted using the AFS data from 1977 to 1980 covered levels, trends, differentials and determinants of fertility and contraceptive prevalence.

Owing to the fact that the greatest proportion of births was contributed by women in the age group 15-24 years, in 1982 UPPI undertook a study of the fertility levels, beliefs and attitudes of the girls belonging to this age group. The Young Adult Fertility Survey (YAFS), as it was called, collected information on the sexual practices and contraceptive knowledge

of a nationally representative group of young women aged 15-24 years (excluding Muslims) for policy and program purposes. Another round was conducted in 1994, this time including both males and females but still excluding Muslim youth. The third YAFS round was done in 2002 with emphasis on the sexuality of young adults. This round included the Muslim youth and the age group of all national respondents extended to age 27. The survey results served as bases for sex education programs of the Department of Education and for advocacy campaigns being undertaken by the POPCOM.

### **Population Institute Graduates**

The first M.A. Demography was awarded to Mr. Peter Smith who obtained his degree in 1966. Mr. Smith later obtained a Ph.D. in Sociology from the University of Chicago and served as Visiting faculty at UPPI in October 1970. In 1968, three students – Trinidad S. Osteria, Antonio Pacheco and Milagros Ranoa – were granted the degree of M.A. Demography during the U.P. commencement exercises. Except for Mr. Pacheco, the two ladies went on to pursue doctoral degrees in Johns Hopkins University (JHU) and the University of Chicago (U.C.), respectively. Three other M.A. students graduated the following year, one of them, Ms. Zelda C. Zablan, joined the UPPI faculty after graduate studies at JHU and the Universite de Paris I. The second Institute Director, Dr. Corazon M. Raymundo, obtained her M.A. Demography in 1972 and was sent as a UNFPA and Harvard Fellow for doctoral studies at Harvard University. Ms. Lita J. Domingo (M.A. Demography, 1974) became a UPPI faculty member after receiving her doctorate degree from Harvard University. Other faculty members, Imelda Z. Feranil (M.A. Demography, 1975), Josefina V. Cabigon (M.A. Demography, 1976), Eliseo de Guzman (M.A. Demography, 1979), Nimfa Ogena (M.A. Demography, 1984) and Aurora E. Perez (M.A. Demography, 1984) went for doctoral studies abroad with the exception of Professors Feranil and de Guzman.

Among the 137 graduates of the Institute, 127 were awarded their M.A. Demography while the remainder (10) pursued a Master in Population Studies. About a tenth of the graduates (13) were from Afghanistan, Lao People's Democratic Republic, Pakistan, Bangladesh, Viet Nam, Korea, Japan, Malaysia, the Maldives, Nepal and the United States.

### **Proposed Transfer of the Demography Program and Attachment of the Population Institute to the College of Arts and Sciences**

The University authorities convened a Committee to Review Academic Programs (CRAP) in August 1981 to review the various programs with a view to streamlining University operations. The committee was chaired by Dean Jose Encarnacion, Jr., UPSE. As a result of the committee's findings, the chair recommended the abolition of the M.A.

Demography degree and the reclassification of the Population Institute into a research unit of the College of Arts and Sciences (CAS). As a result of the UPPI faculty's position paper submitted in January 1982, Dean Encarnacion reconsidered his earlier recommendation and instead proposed the establishment of a Department of Demography (to offer an M.A. degree in Demography) under the CAS and the Population Institute (to undertake research and extension service activities) attached to the CAS. Despite the submission of a second position paper on the academic, budgetary and organizational implications of the establishment of a Department of Demography and the Population Institute attachment to the CAS, the Board of Regents approved the CRAP recommendations during its 955<sup>th</sup> meeting on 25 November 1982 to be effective 1 January 1983. Hence on its 18<sup>th</sup> year of existence, the Population Institute was "hung, drawn and quartered". However, the Department of Demography was never established. The Population Institute was treated as a department of the College while at the same time serving as a research institute with a budget for the faculty and staff.

## UPPI's Involvement with the Government

### Population Policy and Program

On 12 December 1968, then Executive Secretary to the Philippine President Rafael Salas convened a group interested in some aspects of population at the U.P. Institute of Public Administration. He proposed to set up a Commission on Population that would study all aspects of the population situation and recommend to the Philippine President policies and programs related to economic and social development. The Population Institute was tasked to serve as the Secretariat.

The following month, a second meeting took place when the group was informed that a draft of the Executive Order setting up the Population Commission was being considered by President Marcos. This draft was prepared by the Institute with the assistance of the then National Economic Council (now NEDA) and the Presidential Economic Staff (PES). At the same time working committees were set up on: (1) education, information and communication; (2) medicine; (3) religion and culture; and (4) population and economics. These committees discussed program proposals geared toward the Commission's objectives. On 19 February 1969, President Marcos signed Executive Order No. 171 establishing a Commission on Population with the following objectives:

1. Undertake, promote and publish studies and investigations on the Philippine population in all its aspects;
2. Assemble and disseminate technical and scientific information relating to medical, social, economic and cultural phenomena as these affect or are affected by population;

3. Formulate policy and program recommendations on population as it relates to economic and social development;
4. Formulate research and study programs and projects and assign these to such individuals or organizations as the Commission may deem appropriate; and
5. Perform such other duties as proper authorities may from time to time direct the Commission to undertake.

The Commission consisted of the secretaries the Departments of Education, of Health, and of Social Welfare; the chairman of the National Economic Council; the U.P. President; the presidents of the Catholic Bishops Conference of the Philippines, the National Council of Churches and the Muslim Association of the Philippines; the directors of the Bureau of Census and Statistics, Disease Intelligence Center, the Asian Social Institute and the Institute for the Study of Human Reproduction; and the deans or directors of the College of Medicine, the Institute of Hygiene, the Institute of Mass Communication, the Population Institute and the School of Economics, all units of the U.P.; the president of the Philippine Medical Association, the executive director of the Association of the Philippine Medical Colleges; the president of the Family Planning Association of the Philippines and the president of the Planned Parenthood Movement of the Philippines. The Population Institute was designated as the secretariat with the director acting as executive director of the technical staff.

The Commission concluded that reducing population growth was an urgent national need and recommended to President Marcos that a policy on reducing the high rate of population growth be formulated and that family planning be made part of a broad educational program oriented toward the harmonious development of the individual personality, the family and the nation. On 6 December 1969, President Marcos approved the Commission's statement on population policy and program.

A new Commission on Population was set up by Executive Order No. 233 on 15 May 1970 which repealed Executive Order No. 171, series of 1969. The secretaries of education and of social welfare were appointed by President Marcos as commission chairman and chairman of its executive committee, respectively. On 15 June 1970, the executive committee of the Commission designated Dr. Conrado Ll. Lorenzo, Jr., a former Population Council bio-medical fellow, as Executive Director.

Republic Act 6365 known as the Population Act, signed by President Marcos on 16 August 1971, established a national policy on population. The Philippine Congress declared "that for the purpose of furthering national development, increasing the share of each Filipino in the fruits of economic progress and meeting the grave social and economic challenge of a high rate of population growth, a national program of family planning which respects the religious beliefs of the individuals involved shall be undertaken".

To carry out the purpose of RA 6365, a 12-member Commission on Population was created in the Office of the President. The functions and duties of the Commission were essentially identical with those of the previous Commission set up by Executive Order No. 233.

With the proclamation of martial law in September 1972, RA 6365 was revised by Presidential Decree No.79, issued on 8 December 1972, which explicitly involved both public and private sectors in a national program of family planning that respects the religious beliefs and values of the individuals involved.

On 31 March 1973, another Presidential Decree, No. 166, was issued amending the revised Population Act of 1971. The amendment gave the private sector representation in the formulation of policies relevant to family planning. Thus, two members from the private sector were added to the original composition of the Board of Commissioners for the Commission on Population.

### **Special Training**

From 1996 onward, the faculty engaged in various training sessions for a variety of audiences ranging from social science teachers to local government officials, from POPCOM regional directors and staff to Iranian educators and Vietnamese planners, from the DOST Sectoral Task Group to the Social Security System (SSS) officials. The training involved (1) policy operations, data management and utilization for several batches of local government officials; (2) situation analysis and data collection methods for health personnel at different service levels; (3) alternative demographic projection methodologies for SSS officers; (4) six courses on demographic data appreciation for Local Government Units (LGUs); (5) basic concepts, measures and projections of mortality and morbidity and their uses in planning for local planners; (6) population education for the Iranian educators; (7) management and research training for the Vietnamese planners; and (8) assessment of LGU commitment and support to family planning and to the Philippine Population Management Program (PPMP). In addition, faculty members pilot-tested the organization and strengthening of the Local Council for the Protection of children in Sorsogon, Leyte, Ifugao, Tawi-Tawi, Basilan and Metro Manila; and trained field interviewers for a community survey of Pangasinan. The staff also participated in disseminating the findings of the YAFS II and III to regional audiences. The Institute faculty also cooperated with the NSO in disseminating the results of the 2003 NDHS to various regional audiences.

Junior faculty and staff underwent training on the newest computer programs and archiving, the local area network, and the application of SPSS to survey data and analysis.

Forty-three years have passed since the formal establishment of the Population Institute as a unit of the University of the Philippines. During these years, the Institute has become the

major source of demographic research results and the formation of a cadre of demographers who are spread throughout the government and private agencies. The Institute still does not have a building of its own. Despite this lack, it has managed to gain a reputation not only locally but regionally as well. Its faculty and staff are involved in major demographic pursuits and are consulted whenever questions on Philippine population characteristics and projections arise.



## Selected Abstracts of Master's Theses for M.A. in Demography, University of the Philippines Population Institute

**Agustin, Sonny S. 2007. Sibling Effect of Dropping Out of School  
Among Adolescents. Master's Thesis. University of the Philippines.  
Diliman, Quezon City**

THIS STUDY examines the effect of the number of sibling and preceding sibling interval on the dropping out of school behavior of a cohort of adolescent children from the third (1998-1999) and fourth (2002) follow-up surveys of the Cebu Longitudinal Health and Nutrition Study, a multi-purpose panel study of mother-child pairs in Metro Cebu. The effect of the number of sibling and the preceding sibling interval on school dropout through the allocation of various resources is analyzed through cross-tabulations and chi-square analysis and also through sequential logistic regression. The resources are grouped into four: 1) material family resources (type of school, book ownership); 2) non-material family resources (mother's parenting style, level of enforced family bonding); 3) cognitive resources (level of educational aspiration, attainment expectation with regards to the educational aspiration); and 4) non-family resources (club/organization membership, number of close female friends). Analysis is done separately by sex.

The cross-tabulations show that the number of siblings has a direct influence on male school dropout, and that the preceding sibling interval influences school dropout indirectly through the allocation of various resources. However, the study also finds that the number of sibling indirectly affects male school dropout through the type of school, the level of enforced family bonding, the level of educational aspiration, and club/organization membership. Furthermore, the number of siblings affects female school dropping out through the type of school, book ownership, the level of enforced family bonding, and club organization membership. As for the preceding sibling interval, it is found to affect male school dropout through the type of school, and club/organization membership, and female school dropout through the type of school, book ownership and club/organization membership. In these instances, having many siblings and close sibling spacing are observed to limit the amount and quality of allocated resources, a disadvantage which in turn makes

children more likely to drop out of school. The main determinants of male school dropout are found to be household wealth, the level of educational aspiration, club/organization membership while the main determinants of female school dropout are household wealth, type of school, book ownership and club/organization membership.

**Reyes, Dhona S. 2005. Generation of the Philippine Working Life Tables: Some Methodological Considerations. Master's Thesis. University of the Philippines. Diliman, Quezon City**

THIS STUDY seeks to investigate the changes and patterns of the Philippine labor force through the construction of working life tables. Calculation of the working life tables for males and females in the Philippines using available estimates of the life table functions by Flieger and Cabigon (May 1994) and the hybrid labor force participation rates (Labor Force Survey and census activity rates) for 1970 and 1990 provides life expectancies by work status (active or inactive). These are indicators that simultaneously deal with quantity by measuring the number of years lived by a hypothetical cohort in the labor force. An estimate of the working life shows the potential contribution to the economy of those active individuals in the labor force. The method used for calculating the working life tables separately for males and females in the Philippines for 1970 and 1990 in this study is based on the U.N. Manual on the Methods for Analyzing Census Data on Economic Activities of the Population.

Findings in the labor force participation rates show that the age pattern of activity rates estimated using the census or the labor force survey data generally depicts a generally observed inverted U-shape.

Determining the potential contribution of the labor force with the use of working life tables for males and females through the quantification of the working life expectancy, this study finds that Filipino males had higher working life expectancy compared to Filipino females at all ages within the 20-year period under study. This was due to the predominant participation of males in the labor force in all ages compared with their female counterparts. The index of potential growth in the labor force of Filipino workers also declined. From 1970 to 1990, the median age of entry and retirement among Filipino males and females increased. However their median age of death declined. Moreover, the average number of working years lived by a Filipino worker under a given schedule of age-specific activity rates declined while among Filipino female workers, it increased.

From this study, the researcher recommends that refinements in methodology in constructing working life tables for males and females will depend necessarily on available input data. Since values on censuses and surveys are useful inputs in deriving estimates on the



working life tables, it is therefore important that census and labor force survey procedure and its enumeration be given focus for improvement so that truncation of data can be avoided.

**Parcon, Cristabel Rose F. 2005. The Social Network of the Filipino Older People. Master's Thesis. University of the Philippines. Diliman, Quezon City**

THE OBJECTIVES of this study are to understand the dynamics of the social network of the Filipino older persons in terms of its structure and content, and to determine the influence of the socio-economic and demographic characteristics of the elderly on their network types. This study utilizes the 1996 Philippine Elderly Survey of the University of the Philippines Population Institute (UPPI).

Due to data limitation, the social network of the elderly is limited to their spouse, children, parents, siblings, and grandchildren. The network structure is examined by size, composition, and geographic dispersion of network members, while the network content is analyzed by the frequency of interaction between the elderly and their network members and their support intensity. The study focuses on the frequency of interaction and support of exchanges but measuring the quality of these interactions and exchanges is beyond the scope of this study. For this purpose, the study creates two indices of social network, both considering the aspects of network structure and content. These are: 1) support relations, defined by the support intensity and composition of the network; and 2) family embeddedness, characterized by the geographic dispersion and interaction between the elderly and the network members.

Cross-tabulations are done to determine the differences in the network features and network types by background characteristics of the elderly. Multinomial logistic regression is employed to establish the determinants of the social network of the older people, and then the odds were converted into proportions using the MCA Table. Results show that the young-old, male high school educated and healthy elderly have better and more favorable network types compared to their respective counterparts. The place of residence of the elderly does not affect their support relations and family embeddedness types.

**Landicho, Nancy. 2006. Recent Pregnancies of Filipino Mothers: the Link between Maternal Health Status and Health Care Utilization. Master's Thesis. University of the Philippines. Diliman, Quezon City**

THE OBJECTIVE of this study is to examine quantitatively the link between maternal health care utilization and maternal health status of Filipino women using the 1993 Philippine

Safe Motherhood Survey. It aims to examine such link on the last pregnancies of mothers occurring in the last three years before they were interviewed. The health status during the pregnancy, childbirth, and postpartum are derived by separating women who experienced obstetric complications with those who did not. In each reproductive stage, if the mother experienced an obstetric complication, she is classified under the category with complications. Health care utilization during pregnancy, childbirth, and postpartum period are identified as prenatal, delivery, and postpartum care services respectively. Using the recommendations set by the World Health Organization and the Department of Health, the study further categorizes those women who followed the recommended health care services and those who did not according to each of the health care utilization indicators.

The study focuses on exploring the prevalent pattern displayed by Filipino mothers in utilizing prenatal, delivery, and postnatal health care services – was it the experience of being unwell or experiencing obstetric complications which compelled the women to seek health care services or was it their utilization of health care services that prevented them from experiencing such obstetric complication?

Bivariate analyses are done to identify the socio-demographic and attitudinal variables which had a significant effect on the health care use and health status of women. Multivariate analysis using logistic regression is employed to establish the determinants of maternal health status and health care utilization taken separately, as well as to establish the link between the two by considering one the dependent and the other the independent variable. The study uses two models: 1) the full model, taking all the hypothesized predictors, and 2) the parsimonious model, taking only the emerging significant predictors in the full model, and using the forward conditional method in the SPSS. The study uses the parsimonious model as the basis for interpreting the effects of the emerging significant predictors on maternal health status and health care utilization.

The results confirm the positive and significant influence of the mother's level of education and their residential location on all the maternal health care utilization variables. The study finds that for the health status, pregnancy wantedness has a direct and inverse effect, respectively, on the possibility of not having any obstetric complications during pregnancy and childbirth. Urban women are more likely to experience obstetric complications than their rural counterpart. Finally, the maternal health care-seeking behavior of the women in this study indicates a pattern of being curative rather than preventive.

# Guidelines for Authors

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The **Philippine Population Review** accepts articles related to population, reproductive health, and other developmental issues. Articles could be in any of the following formats:

1. Research articles are empirical analyses of research studies, program evaluations as well as academic exercises on population, reproductive health, and development issues;
2. Research notes explore methodological and theoretical issues in population, reproductive health, and development research;
3. Commentaries are analytical comments on specific issue, policy or program related to population, reproductive health, and development; and
4. Review of researches, books and bibliographic essays on population, reproductive health, and development matters.

## **Manuscript preparation and submission**

For prospective authors, please submit one copy of the manuscript and an electronic file in MS Word format.

1. Attach a separate sheet indicating the manuscript's title and the name(s) of the author(s), their institutional affiliations, and complete contact addresses.
2. Articles should be double spaced and with all pages numbered.
3. Place all tables and charts on separate sheets at the end of the text. All charts should be provided with data points for easy replication.

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