Gender, Diet, Health and Seasonality: A Study of Preschool Children in an Island Fishing Community[1]

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The field school in Behia offered an excellent opportunity to observe the effects of seasonality on the diet and health of preschool children in the community. The annual *habagat* season brings hunger and illness to the fishing community, with children the most usual victims. Males, in particular, are hit hardest, despite greater access to food, than females. This is discussed in terms of parental favoritism and the males, naturally weaker stress buffers.

Introduction

In 1984, the Department of Anthropology of the University of the Philippines conducted its fieldschool in Behia, Magallanes, Sorsogon. This offered an excellent opportunity to conduct all the necessary field training students needed to complete their bachelor's degree. The community is small and the people extremely hospitable. Informants were easily accessible since most were usually confined to the island. Entry into the community and establishment of rapport was facilitated by the fact that I grew up near the area, spoke the same language and knew some people in the community.

We arrived at the island in early June, a time when fish were still abundant and the weather was good. The *habagat,* the seasonal southwesterly wind, began in two weeks. The waves increased in size and fishing activity, the primary source of income, practically came to a halt. I did not realize the extent of the impact of this lean season until people started selling, even begging us to buy their livestock for cash to buy rice, salt or sugar. Eventually, we ended up with more

[1]This paper is part of a bigger study (Datar 1993) based on a 20-month fieldwork between 1990 through 1991.

chickens than we wanted. We were uncomfortable with the situation because our frontyard was growing crowded with chickens while the locals' chicken reserves were depleting. But it turned out that our act was highly appreciated. We relieved them of the need to cross the rough seas to go to the mainland to sell chickens since there were no buyers in the village at that time. That year turned out to be an unusually harsh *habagat* season.

Informants reported that food intake is minimal and children suffer various illnesses during this season. There is little income and other resources are scarce. They describe their situation (or the season) as *bitay an koron*, literally "the pot is hanging" or that there is no food to cook so the earthen pot hangs empty instead of sitting on the stove. The hungry season is at this time.

Seasonal fluctuations vary in duration and intensity annually. These can be mild or harsh. According to some fishermen, the harsh *habagat* has a six year cycle. But whatever the condition of the *habagat*, the annual arrival of this season is something the people are always wary about. In most parts of the country, the people distinguish the seasons as either wet or dry; in Behia, it is either *habagat* or *amihan*. Their concern with this season is reflected in the number of terms they use for the different *habagat* winds in contrast with those coming from other directions.

The onset of *habagat* (usually the second half of June through October) is marked by waves increasing in size and peaking in August. As the size of the waves increases, fishing activity decreases. Fewer fishermen go out to sea. Generally, less fishing activity means less income. Less income means less food on the table, consequently affecting the children's health and growth.

It is during this period that children grow hungry and are susceptible to infectious diseases. It is also at this time that the government's food aid and medicines are not available because of the bad weather condition, arriving only after the habagat season. During

the good season, there is an abundant supply of food aid (dried green peas, bulgur and powdered milk) and medicine.

Seasonality

In almost every aspect of human (and nonhuman) existence, seasonality is a significant factor. There is seasonality in food supply, infectious disease, birth and mortality, birthweight, congenital defects and even mental dysfunction (Johnston 1993).

However, seasonality is not as common a topic for study as it should be because it is too complex, expensive and uncomfortable and not a usual problem for research (Huss-Ashmore et al. 1989). Seasonality studies are complicated because they are not just about seasonal fluctuations but also about other variables like food supply, disease vectors, socio-cultural and other variables that may act singly or in combination with other variables. Given this wide a scope, it certainly requires an interdisciplinary undertaking to better understand the impact of these variables on humans. It is too expensive because it is basically a longitudinal study that requires multiple visit surveys. Ideally, but practically improbable, researchers on seasonality have to be in the field for at least one complete cycle to observe the transition from one season to the other. This, however, will not guarantee actual observation of the cycles since seasonal fluctuations vary annually. Most researchers then conduct multiple visits during the entire cycle instead of observing the complete cycle.

Seasonality studies are too uncomfortable because the researcher has to be in the field not only during the "good" but also during the "bad" season. Living conditions can be harsh during a certain period of the year. Moreover, it is not seen as a researchable problem because researchers, most likely, are well buffered from its effects. However, it is disturbing and uncomfortable (at least in my case) when there is a food shortage among the people but not for the researcher.

It was these observations from the field that triggered my interest in pursuing this topic.

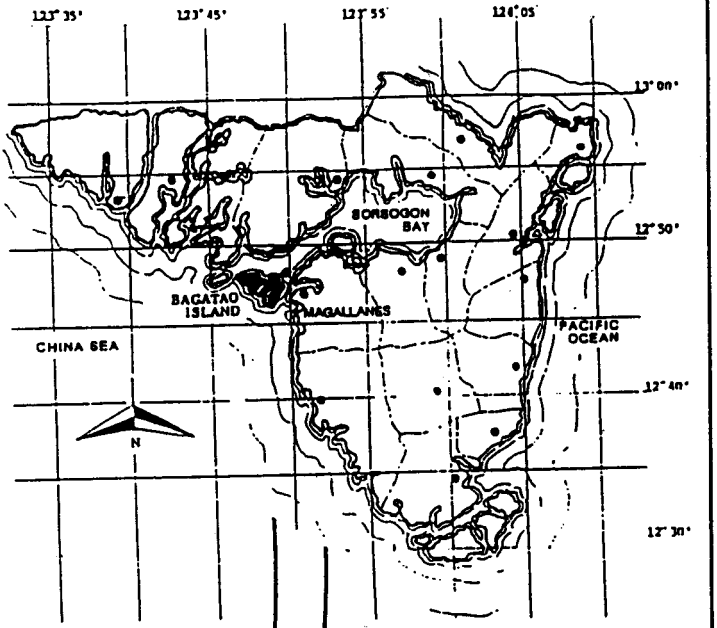
The objective of this paper is to determine the health status and growth patterns of preschool children (3-5 yrs. old) from a fishing community during the *amihan* (northeast monsoon) and the *habagat* (southwest monsoon) seasons. No one has yet done a longitudinal study of growth patterns on seasonal changes in the Philippines; there is also an absence of data on seasonal growth and morbidity of children in a fishing community anywhere in the world.

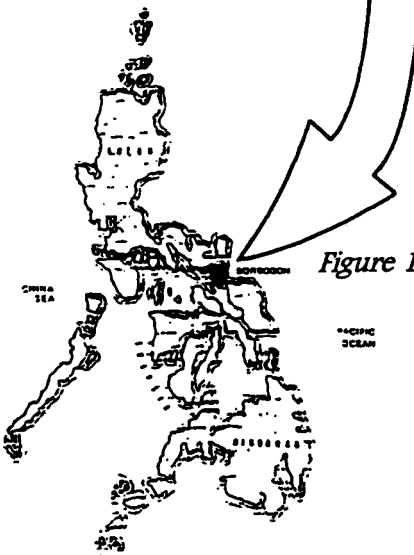
The Village

Behia is one of two *barangays* in the island of Bagatao. Bagatao Island (Figure 1) is part of the municipality of Magallanes in the province of Sorsogon. It is strategically located at the entrance of Sorsogon Bay on the western side of Magallanes.

Behia's total population of 921 is relatively young, with fifty percent below 15 years old (1990 census). After age 14, the population drops drastically due to the high migration rate to Manila among teenagers in this age bracket to look for a job. With only minimal education, females normally end up as domestic helpers in Manila households and the males as stevedores at harbors. People from Behia also marry young. Women are married as early as age 14 and the majority will have a spouse by age 22; men start later at age 17 and by age 25, most will be married.

During my first fieldwork in the area in 1984, there were only six students enrolled in high school. By 1990, there were 23, an almost fourfold increase in six years. Back in 1984, I found out that education is necessary to learn to read and write so as not to be labeled *ilitirit* or *no rid no rayt*, considered to be highly derogatory labels. Elementary education provides enough knowledge to overcome the stigma of illiteracy. After sixth grade, children (13-14 years old) are ready to work in Manila as domestic helpers or in equivalent jobs. This mentality is further encouraged by the attitudes of older siblings, cousins or friends who regularly return home every May for the *Sta. Cruz de Mayo* celebration or for the October *barangay fiesta*. They wear the latest fashion fads and bring "exciting" stories about the big city.





The Philippine Archipelago

Figure 1. The Province of Sorsogon

Sometimes, parents put pressure on the kids to help the struggling family out by working as domestic helpers and sending home a portion of their meager salary every month.

The Subjects

I always find it easier to deal with children than with adults in the field. They are candid and are a good reflection of the community. I chose preschoolers as the primary subjects of my study mainly because children are always at a disadvantage during leaner times.

This age group was chosen because they are past the rapid infant growth stage which could mask the influence of the environment and are not yet old enough to be at school. They are also old enough to understand simple instructions during anthropometric measurements. Mothers would also have an easier time recounting the diet of a preschooler than that of a school age child.

The Data

For twenty months, I studied the diet, health and growth of 100 preschool children. I conducted monthly anthropometric measurements (height, weight, arm circumference, skinfolds etc.), 24-hr diet recalls(food eaten in one day) and 2-week morbidity recalls (illness in two weeks). For twenty months, I also collected daily local weather data like temperature, humidity, pressure, wind speed and direction and rain.

The Results

Compared with healthy Filipino children in general, the children of Behia are leaner and shorter. Compared with children from the same age bracket from an exclusive school in Manila, they are in an even worse condition.

My study also showed that more children fall ill from December to February, past the lean season, correlating highly with cold temperatures. There is no obvious gender difference when it comes to morbidity.

While there is no apparent significant difference between the number of males and females falling ill, the males do lose more days due to illness. It takes longer for males to recuperate than females from the same illness (e.g. flu). It has been observed that the males' response to severe environmental stressors such as undernutrition and disease are greater than that of the females (Stinson 1992).

Males, in general, consume more food (energy, protein, carbohydrates and fat) than females both during the *amihan* and the *habagat* seasons. There is also a marked difference in the intake of food between the two seasons by both sexes (Figures 2,3,4,5). The intake is higher during the amihan season and lower during the habagat season. During the habagat months, in the absence of fish during mealtimes, children will eat with cooking oil, soy sauce or sugar poured over their rice.

It was not surprising to learn that the children were eating less during the lean *habagat* season. Almost everyone has to be content with whatever food (if any) is on the table during this period. The significant advantage in food intake of males over females during both *habagat* and *amihan* seasons was unexpected. Interviews and observations revealed that parents do not favor one offspring over the other because of gender. Some parents in Behia concede favoring a particular offspring but denied that it was based on gender. Non-gender biased favoritism seems to be true. Contrary to what other researchers found in other parts of the country(Florentino et al. 1986), there is no conscious knowledge of giving more food to males than females during meal times in Behia.

My ethnographic data suggests that playing favorites is more prevalent than gender based bias. Among lowland Filipinos, males are not preferentially treated during mealtimes. They do not eat before the females nor are they given larger shares. When social conditions during mealtimes appear equal, a possible explanation is that the males eat faster than the females thereby getting more before the food runs

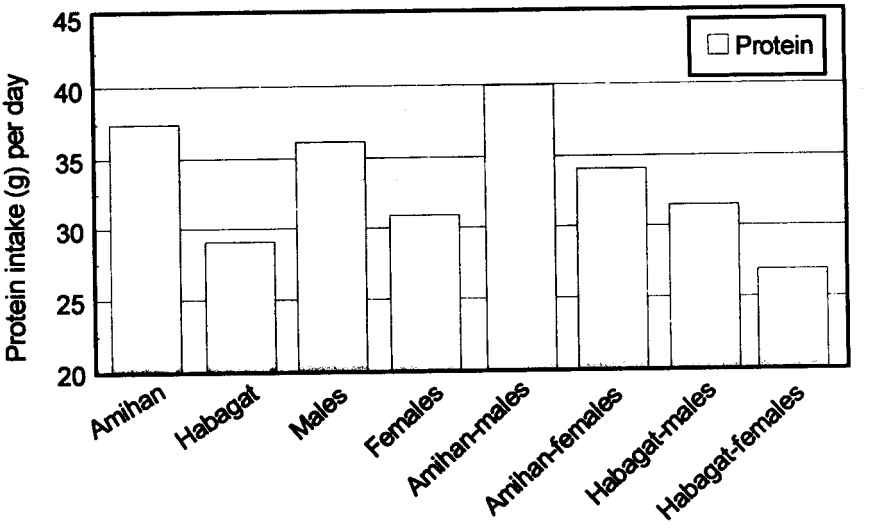


Figure 2. Protein intake among preschoolers in Behia during *amihan* and *habagat.*

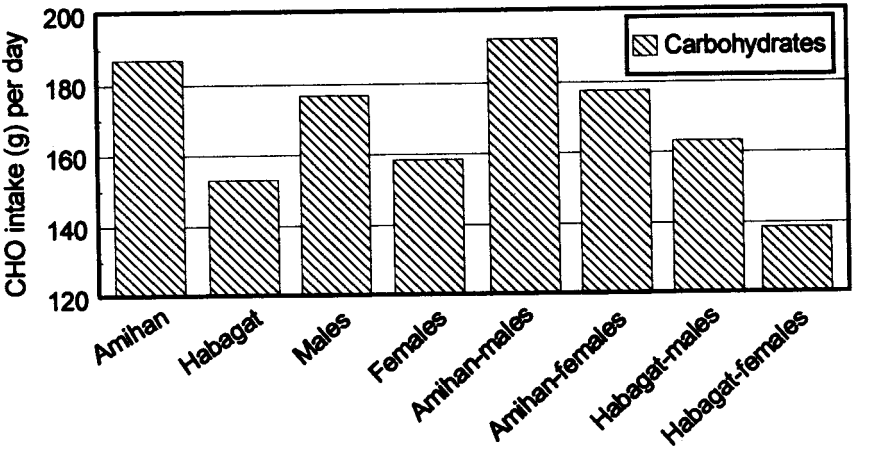


Figure 3. Carbohydrates intake among preschoolers of Behia during *amihan* and *habagat* seasons.

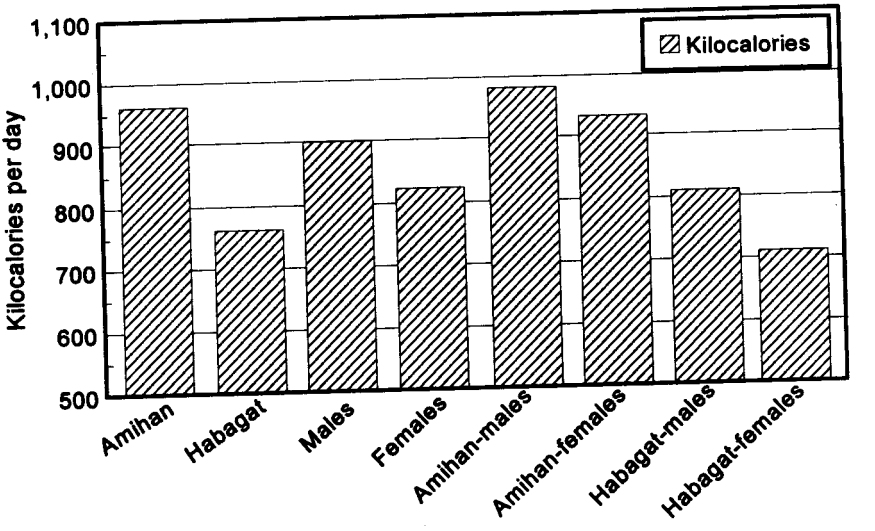


Figure 4. Calorie intake among preschoolers in Behia during *amihan* and *habagat*.

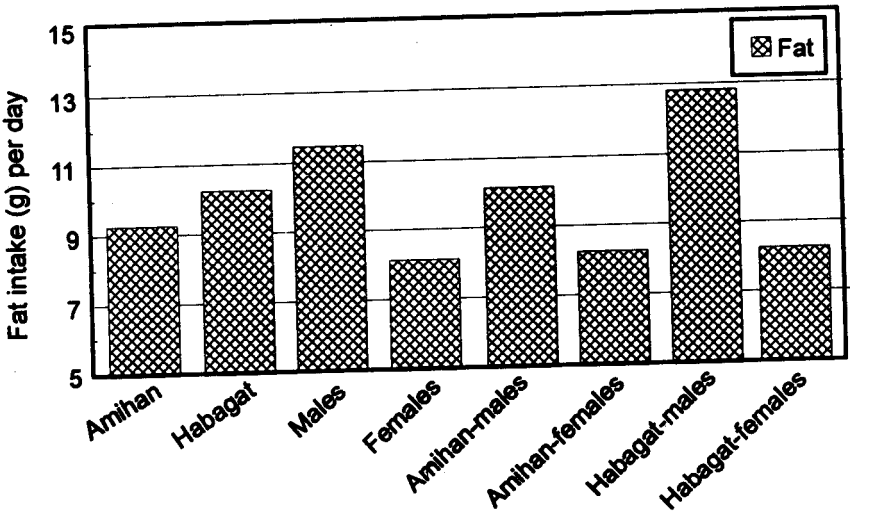


Figure 5. Fat intake among preschoolers of Behia during *amihan* and *habagat* seasons.

out. At this age, neither the males nor the females consider themselves superior to the other.

My data clearly showed the difference in food intake between males and females. Behia males eat more than the females. When growth data was analyzed, females were no more wasted or stunted than the males. Comparison of height and weight increments showed no obvious advantage by the males. The males' nutritional advantage was not actually translated to growth. Their energy expenditure is very different so it is not surprising that females eat less, expend less energy and still have comparable growth curves. Additionally, this might be due to the more superior natural buffers of females from nutritional stress or disease load.

From an evolutionary perspective, the basis for sex biases in parental expenditure is clearly stated by Clutton-Brock (1991:209):

> *Where resources allocated to offspring of one sex provide a greater return in terms of parental fitness, parents might be expected to invest more heavily in that sex.*

How will this higher investment in males provide a greater return in terms of parental fitness? Males as the weaker sex have been observed to be more affected by environmental stressors. My illness data tends to support this observation. Although the morbidity between the males and the females did not differ significantly, males recuperated more slowly than females. Investing less on males would mean longer illness episodes. In a household, the longer a child's illness, the more hours will be lost by other members taking care of the ill child. Among Behia households, mothers spend more hours caring for the ill child. More resources are also allocated to the ill child (e.g., better food and medicine). When children share in the household chores or other responsibilities, illness means that the other siblings or the parents have to assume the ill child's responsibilities. Because of this, buffering the weaker sex from the effects of a stressor is not only beneficial to the

child but also to the other members of the household, most especially the mothers.

The important point of this study is that males and females are different. Their biological requirements and responses to stressors are different. However, these differences do not mean they are not equal. The more we ignore these differences, the more we commit an injustice towards both sexes. These differences do not justify the preferential treatment sons receive simply because they are the "weaker sex," nor will it justify neglect of daughters simply because they can survive with far less attention and resources.

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