

Framework on Alternative Resource Index for Unobtainable Actual income: A Case for Primary School Learners

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Abstract

This paper focuses on the methodology involved in obtaining economic resource index from nine-year-old or third-grade learners who could not give accurate or estimated income information of their families. Instead of direct income information, the research instrument used a formulation of a resource index encompassing elements that a child can observe in her or his immediate surroundings, such as material possessions, parents' occupation, and housing conditions. The research instrument was tailored-fit for the very young respondents to easily answer the two response choices of “yes” and “no” corresponding to the commonly observable items in the resource index' tri-components of material possession, parents' occupation, and housing condition. The process detailed the scoring guidelines for categorizing the respondents' family economic resources into three levels: high, average, and low.

Keywords: Unobtainable Actual Income, Alternative Resource Index, Primary School Learners, Economic Capital

Introduction

Sociological inquiries that look into the respondents' socioeconomic characteristics usually include income as one of the investigated variables. Quantitative research regards income as one of the ratio variables characterized with flexibility amongst the measurement levels where the application of sophisticated statistical treatments comes with ease. As a numeric variable, income's response values (i.e., 20,000 PHP and 18,000 PHP) possess the recode capability from ratio into either an interval (i.e., 15,000 – 20,000 PHP) or an ordinal (i.e., low, average, high) or a nominal (i.e., low or high) level, if the research methodology so requires. Whether income is a numeric variable (ratio or interval) or becomes recoded into a categorical variable (ordinal or nominal), social science research usually situates income at the predictors' side of conceptual frameworks (Babbie, 2013), depicting it as most often a possible determining factor or a probable cause of a particular behavior or state of being. For instance, a study using the longitudinal health and nutrition surveys in Cebu, Philippines, looked into income's effect on body mass index among women (Colchero et al., 2008). Also, a study used low-income ethnically diverse children's engagement as a predictor of school readiness above preschool classroom quality in the United States (Sabol et al., 2017).

Income represents monetary earnings possibly derived from work or investments that get people stratified as either rich or poor. The “haves” and the “have nots” of society under capitalism's dominion, catapulting income as one important dimension of inequality. How an individual or family income provides comfort or discomfort in day-to-day living is observable in society. The American National Health Statistics (2009) recorded those with higher income to have a longer life expectancy and better health (Macionis, 2012). The numerous disadvantages of low income include the likelihood of lower-income people living in unsafe and unhealthy conditions, near air-polluting factories, or in substandard

housing. There is also the possibility of holding dangerous jobs and lacking sufficient, good-quality food (Brinkerhoff, 2011).

Data on income enriches the discussion of research results, especially when there are explorations or testing of possible significant relationships among included research parameters or statistics. Even at the descriptive level analysis, the univariate income presentation provides a good glimpse of an individual or a group's economic state. In the Philippines, the government's data on average annual income at the family level shows a fraction still left, which can be stored for savings after deduction of the expenses. With adjustments for the inflation between the year 2015 and the year 2018 using the year 2012 prices, on the one hand, the average annual family income in the year 2018 is valued at two hundred sixty-seven (267) thousand in Philippine Peso at the year 2012 prices. On the other hand, the average annual family expenditure in 2018 is valued at to hundred and three (203) thousand pesos (PSA, 2020).

Obtaining income responses from adult respondents is as easy as the inclusion of the item on the questionnaire where the respondents write the response on a blank space provided. In an interview, the interviewer reads and asks the same item to the adult respondents, and the interviewer writes the response on the space provided. In many cases, though, the respondent gives income information as an estimated value, not the exact amount. Consequently, "estimated monthly income" is the income variable's usual label.

In other instances, instead of primary data, researchers may use secondary data available from institutional databases. In a study that dealt with child socioeconomic position in the birth cohort (Pizzi et al., 2020), the researchers came up with a standardized, cross-cohort comparable income indicator from an institutional database. The same goes with a study that looked into family and neighborhood socioeconomic changes and their interaction with childhood obesity and physical activity (Kim et al., 2020). Another study used data from a national, cross-sectional study of children in determining how socioeconomic status (parents' education

and income) indirectly relates to children's academic achievement through parents' beliefs and behaviors (Davis-Kean, 2005). These studies involving children obtained family income data through existing databases, not from the parents, not children themselves.

Reviewed literature showed a dearth of studies on obtaining primary data from young children regarding their respective family economic status. This paper's significance primarily lies in its contribution to filling this methodological research gap. Researchers may be able to use the alternative resource index for unobtainable actual income among children and other similarly situated respondents. Not necessarily involving the parents at home and the young learners in the school setting to obtain the necessary socioeconomic data would entail cost-effective, time-saving, and simpler logistics in the data collection phase, for having very young children, or nine-year old third-grade learners, as respondents necessitate a special way to obtain data on family income.

In the main study on Filipino children's garbage management, which is the source of this article, among the variables is family income, which operationalized Bourdieu's economic capital. Based on Bourdieu's theory of practice, the play's variables are the concepts of fields, habitus, and capitals. For the aims of this exposition, the discussion will primarily tackle the part of the capital. Bourdieu's concept of capitals encompasses economic, social, cultural, and symbolic aspects. This paper focuses particularly on economic capital and the process of obtaining data on the unobtainable family income that the variable 'economic resource' represents.

Materials and Methods

Before delving into the process involved in coming up with the resource index, it is imperative to mention the data collection procedures. Since the respondents are children, there was strict observance of appropriate ethical considerations.

Data Source and Data Gathering Instrument. This study's primary data source was from the survey interview schedules answered by the respondents administered in focus group interviews (Merton, 1987; Lee, 2010), wherein the researcher dictated the questions to the respondents in a classroom setting. This ensures that quality data is obtained and the chances of some important details getting missed during the data-gathering exercise are minimized. The approach also allowed respondents to learn during the process. More importantly, the data-gathering technique allowed the researcher to answer clarificatory questions from the respondents.

This approach ensured the respondents' classroom participation as they answered each item together at approximately the same pacing. Only the respondents in the classroom participated in the activity without distractions from learners in other classes. Key informant interviews were also conducted.

Procedure. The data gathering period for the main study spanned six (6) weeks. The first week was spent on rounding schools to obtain the school principal's specified schedule and the classroom teacher. Two (2) weeks were utilized for the classroom group interviews and three (3) weeks for the specific key-informant interviews. Respondents just resumed classes from their 2018 Christmas break. Hence, school principals suggested for second-week class interviews' administration for maximum attendance.

Protocols relevant to the ethical administration of survey interviews included:

1. I was obtaining permission to implement the research among the identified schools from the Schools Division Superintendent of the Department of Education (DepEd) in the city of Iligan. The communication had an attached document containing the proposed guidelines and procedures for implementing the research, particularly specifying the need to protect the child respondents before, during, and after the survey (entitled Proposed implementing guidelines and procedures following DepEd's Child Protection Policy or CPP). With the superintendent's approval, the Division Office's Records Section furnished the researcher with the list of schools in Iligan City that with the corresponding population and principals' names for the subsequent communication.
2. I was relaying the obtained permission from the Schools Division Superintendent to the Principals of the selected public elementary schools to ensure their support and cooperation in attaining the study's data gathering requirements. The letter indicated the survey protocols following the researcher's guidelines and procedures to the DepEd following its CPP program. The guidelines included (a) appropriate venue of the survey administration; (b) the need to obtain both parental and learner consent as a prerequisite for research participation; (c) the required time duration for the conduct of the survey; and (d) the request to coordinate the schedule of the survey with the homeroom advisers.
3. She was requesting assistance from the homeroom adviser, emphasizing the importance of securing all learner respondents' cooperation. The official letter particularly solicited their support in the distribution and collection of parental consent forms prior to the scheduled date and time of the survey administration. Before the

survey's actual conduct, the researcher gave the teacher advisers a brief orientation about the study and survey administration's scheduled date and timehools. Only learners expressing voluntary consent (in addition to their parental consent) were able to participate in the survey, with the assurance of utmost confidentiality treatment of the data. Importantly, the learners filled out the survey instruments without the teachers inside the classroom to assure learners' responses.

4. Immediate retrieval of the interview schedules was conducted after the survey administration with a thorough review to check the accuracy and completeness of the answers provided. At the end of the activity, the learners received modest snacks in recognition of their voluntary participation.

Validity and Reliability of the Instrument

The survey interview schedule contains index and scale items developed for this particular research endeavor. The literature reviewed has revealed numerous studies conducted using Bourdieu's Theory of Practice, but not on research on waste management that employs Bourdieu's Theory of Practice, particularly among published researches. Hence, the research instrument contains items specifically crafted for the main research to obtain the necessary data to answer the research objectives. The research instrument was validated with three (3) groups of people (peers, learners' teachers, and researcher's teachers) deemed knowledgeable about the topic and could help threshing out unnecessary items and give sound suggestions for improvement to establish *face validity*. The outcomes served as basis for revising some questions and deleting some items, which may be confusing to the respondents.

A pilot test of the instrument was done on four (4) third grade students in a public school with three (3) Visayan- and one (1) Mèranao speaking school children, considering the increasing number of Mèranao

migrants in Iligan City as a result of the Marawi Siege in 2017 (UNHCR Philippines, 2018). The pilot test aimed to determine the time consumed by schoolchildren in answering the whole instrument and the clarity and understandability of each item in the instrument. The *reliability* of the question items comprising the scale was assessed about its internal consistency as measured by the Cronbach alpha (α) with at least .7 and above values of the coefficients (Babbie, 2014; Bonett & Wright, 2014). There was a pre-test of the instrument to schoolchildren in a nearby municipality of Lanao del Norte.

The Resources Index Variable

Owing to the very young respondents' inability to provide accurate data on family income, an index composed of material possession, parents' occupation, and housing condition was constructed. Then referred to as Resources Index has these following components:

- a) *Material possession*. This includes ten (10) essential household items which acquisition ranges from easy to difficult. These things are observable to the respondent inside the house of residence.
- b) Parents' occupation. This specifically describes whether the parents are working or not working for compensation or salary.
- c) Housing condition. This contains fifteen (15) items about the materials used for the house, with five items each for the roof, floor, and wall with a corresponding gradated score of one (1) for light materials to five (5) for strong materials. Based on the perfect score of fifteen (15), the housing condition may be classified as either light (1-5), average (6-10), or strong (11-15).

Composition of the Resources Index Variable in the Research Instrument

Of the six (6) blocks composed of the Interview Schedule used for the main research, the variable Resources was under Block B. The following items were included under the three components of the index.

BLOCK B. Resources. Instruction: Let us describe your family's economic resources by putting a checkmark on the space that corresponds to your answer based on what you observe at home.			
B1.1	Family possessions <i>(please put a checkmark on the space provided for each of your answers as to the things you have at home)</i>	<input type="checkbox"/> gasul <input type="checkbox"/> cooking stove <input type="checkbox"/> electric fan <input type="checkbox"/> cellular phone <input type="checkbox"/> television (TV) <input type="checkbox"/> sound system for music <input type="checkbox"/> others (pls specify)	<input type="checkbox"/> washing machine <input type="checkbox"/> electric water pump and tank <input type="checkbox"/> laptop/desktop computer <input type="checkbox"/> refrigerator <input type="checkbox"/> air conditioner <input type="checkbox"/> others (pls specify)
B2.1	Does your father have work that earns him money?	<input type="checkbox"/> yes, my father has work that gives him money <input type="checkbox"/> no, my father has no work	
B2.2	Does your mother have work that gives her money?	<input type="checkbox"/> yes, my mother has work that gives her money <input type="checkbox"/> no, my mother has no work	
B3.1	Any of these could be the materials used for the roof of the house where you live.	<input type="checkbox"/> swamp palm (<i>nipa</i>) <input type="checkbox"/> bamboo <input type="checkbox"/> pure wood	<input type="checkbox"/> galvanized steel <input type="checkbox"/> metal sheets

	<i>(please put a checkmark on the space provided for each of your answers)</i>		___ others (pls specify) _____
B3.2	Any of these could be the materials used for the floors of the house where you live. <i>(please put a checkmark on the space provided for each of your answers)</i>	___ swamp palm (<i>nipa</i>) ___ bamboo ___ pure wood	___ wood and cement ___ all cement ___ others (pls specify) _____
B3.3	Any of these could be the materials used for the walls of the house where you live. <i>(please put a checkmark on the space provided for each of your answers)</i>	___ swamp palm (<i>nipa</i>) ___ bamboo ___ pure wood	___ wood and cement ___ hollow blocks (cement) ___ others (pls specify) _____

Mode of Analysis, Statistical Procedure

The main research had statistical computations from univariate to multivariate levels; however, this paper's aims, applicable to the univariate presentation for the Resources as a variable, were the frequency and percentage distribution. Below are the scoring guidelines for the index.

Scoring Guidelines. The scoring and coding were primarily developed according to the scale items used to measure the study variables. All index items have answer choices of either a dichotomous or a 2-point response

format of "yes" or "no." For statistical computations, responses have assigned numerical values as one (1) for yes and zero (0) for no.

This index scoring followed what was suggested in *The Basics of Social Research*, which emphasized that despite shared characteristics with a scale, an *index* is constructed simply by accumulating scores assigned to individual indicators, as in the case of measuring prejudice, for example, by counting the number of discriminatory statements each respondent agreed with (Babbie, 2014).

Assignment of corresponding points to each element was as follows: five (5) points for work, four (4) points for housing condition, and three (3) point for material possession. The coding of responses is deemed to produce results in which high scores represent high exposure to the variable of interest.

Table 1. The Resources Index Total Score Based on the Following Accorded Points.

Resources	Point per Item	Total Number of Items	Total Points	Weight	Perfect Score
Material Possession	1	10	10	4	40
Parent's Occupation					
Working Father	2	1	3	5	15
Working Mother	1	1			
Housing condition	Materials				
Roof	1 light	5			
Floor	to	5	15	3	45
Wall	5 strong	5			
1 - 33	low level of resources				100
34 - 66	average level of resources				
67 - 100	high level of resources				

Ethical Consideration

Since the respondents are very young, it is imperative to conduct this research the observance of research ethics from the conceptualization to the report-writing stage and all the more rigidly during the data collection. An oral consent form was designed and was made an integral part of the data collection instrument, the content of which include: objectives of the study, assurance of confidentiality (no names to be mentioned in the report, no taking of picture), and request for voluntary participation in the study.

For the child respondents' protection, this research developed and integrated a CHILD PROTECTION POLICY (CPP) that contains Proposed Implementing Guidelines and Procedures relative to the conduct of a Study on Children's Waste Management Practice. The Child Protection Policy (CPP) implemented by the Department of Education (DepEd) in all educational endeavors that require schoolchildren's participation mandates the fortification of children's welfare and security against any forms of unnecessary treatment, discrimination, and potentially harmful consequences of any activity involving learners.

To manage possible risks, the data generated in the course of the research either destroyed at the end of the research or, if deemed necessary, kept securely in paper or electronic form for ten (10) years after the completion of the research.

Results and Discussion

A univariate presentation in frequency and percentage distribution shows how implementing the proposed variable “Resources” fared alongside the rest of the variables in the main research's obtained data is in Table 2. The scoring of the compositions of the resources index constitutes the respondents' level of family economic resource in Table 3.

Respondents' Economic Resource

The Economic resource covers the 320 learners' family resources that include family possessions at home, the materials used in their house, and whether their parents have work.

Family Possessions. Based on the individual frequency counts and percentages of the listed material possessions in the home, the top three things the learners observed in their house are television (94.7%), electric fan (91.3%), and cellular phone (91.3%). More than half (58.4) even have a desktop or personal computer at home, the hallmark of the information technology era.

Four (4) out of every respondent's households have air-conditioning in their house, a somewhat surprising finding considering the high electricity cost. Except for the *gas*-cooking stove, all other equipments in the list operate on electricity. One-third (35%) admitted to having an electric water pump and tank in their house. This technology exacts higher use of electricity and is considerably costly.

While rural folks worldwide have difficulty obtaining water in their community, residents in the urban areas can afford to install their personalized water pump. This ensures uninterrupted water resources in the home in the face of low-pressure flow in compromised geographical locations, as electricity does the job of pooling water towards the private tanks. Despite being dubbed as the "city of majestic waterfalls," Iligan City has areas that hitherto suffer from very low water flow or scheduled water drip (Arevalo, 2018). Hence, there are those people who have installed pressurized water tanks, and they are those who can afford to have their own private water pump.

Table 2. Distribution of Respondents’ Economic Resource, Iligan City, 2019

Economic Resource	Frequency	%
<i>Family possessions</i> (n=320)		
television (TV)	303	94.7
electric fan	292	91.3
cellular phone (celfon)	292	91.3
gas cooking stove	247	77.2
refrigerator	234	73.1
sound system for music	230	71.9
washing machine	195	60.9
laptop / desktop computer	187	58.4
air conditioner	137	42.8
electric water pump and tank	112	35.0
<i>Parents’ occupation</i> (n=320)		
Father has work	279	87.2
Mother has work	182	56.9
<i>House material</i> (n=320)		
	Mean Score	SD
	<i>Light to strong (0-5)</i>	
Roof	4.58	.87
Floors	4.49	.87
Walls	4.22	.94

Parents’ Occupation. When it comes to parents' occupation, most learners have fathers (87.2%) who have work. Also, more than half (56.9%) have their mothers with work too. This depicts of revolutionized family set-up that runs counter to that persistent social norm of the man or the father who solely takes care of the family coffers. In contrast, the woman or the mother takes care of the household activities. The finding that more than half of the mothers with work cannot be undermined as these working mothers tend to be double-burdened with having to do household chores and workplace tasks. Yet, how the children may view their parents’ gender roles had not been explored in this study.

Referred as the “industrialized center of the South,” Iligan City is home to numerous industrial plants sprawled around the various barangays within the city (PhilGIS, 2008). Though a few of these had

closed down, there are still eight remaining industrial plants with added manufacturing firms in the nearby Misamis Oriental province, with workers mostly coming from Iligan City. The influx of Méranaos from the neighboring areas during the Marawi siege in 2017 (UNHCR, 2018) added up to over three hundred thousand in the city (2015 population census), which increases the demand for primary goods and services.

House materials. The respondents have sturdy houses, as depicted in their description of the materials used. The roofs, walls, and floors have high mean scores (\bar{x} =4.22 to \bar{x} =4.58) that pertain to strong materials.

Respondents' Level of Family Economic Resource

Consolidation of the three components – family possessions, parent's occupation, and house materials – that make up the variable resources (Table 3) shows an average level of resources for over half of the learners' families (54.4%), followed by those with a high level of resources (43.1%). The scenarios above in the city, the daily backdrop of the learners' families' every move, considering the urban way of life where most daily necessities require monetary value, appear to gel well with the learners' level of family resources.

Table 3. Distribution of Respondents' Level of Family Economic Resource, Iligan City, 2019.

Levels	(Scores)	Frequency	%
High level of resources	(67 – 100)	138	43.1
Average level of resources	(34 – 66)	174	54.4
Low level of resources	(1 – 33)	8	2.5
<i>Total</i>		320	100.0
<i>Mean = 80.07</i>			
<i>Median = 83.00</i>			
<i>SD = 15.83</i>			

Bourdieu's economic capital, represented in the main research by the family's economic resource, is generally high with a mean of 80 from a total of 100 points. The majority of the families have an average (54%) to high (43%) economic resource levels. These high points come from all three aspects that make up the economic resource: family possessions, parents' occupation, and house material.

Conclusions and Recommendations

The presence of cement factories in Iligan City, like Iligan Cement Corporation and LaFarge-Republic may have likely facilitated the sturdy houses that the respondents live in. This is evident in how the respondents describe the materials used in their house from roofs, walls, and floors that depict strong materials.

The process has gone through to obtain the family's economic resource instead of income from three hundred twenty (320) grade, three schoolchildren, respondents using a resource index has achieved its goal. The very young respondents easily answered the two choices of "yes" and "no," the commonly observable items in the resource index' tri-components of material possession, parents' occupation, and housing condition. The scoring guidelines established the respondents' family economic resources' categorization into three levels: high, average, and low.

This study's outcome best serves researchers who may be confronted with difficulty in obtaining income data in empirical research. The resulting resource index that had been developed followed a rigorous, scientific process. The conducted pilot test and pre-test immensely improved the research instrument, being the core of this exposition. Moreover, consultations from colleagues exhibiting expertise in the field proved to be useful.

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