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How measure children well being using a capability approach? An application to Indian data through a Multiple Indicators Multiple Causes model

(Incomplete and very preliminary version
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Introduction

"A fifth of Britain's children lived in poverty in the 1990's, a rate more than twice as high as in France or the Netherlands and five times higher than in Norway or Sweden. And while child poverty has remained stable or risen only slightly in most industrial nations over the last 20 years, it tripled in Britain." (UNICEF 2000).

The measure of child poverty, to which the previous quotation from UNICEF refers, is a relative measure: children are poor if their households have an equivalent disposable income less than 50% of the overall median. It is a measure of dispersion around the median among OECD countries. If we look at Table 1 from the above mentioned Unicef report we observe that the bottom four places are occupied by the United Kingdom, Italy, the United States and Mexico.

In the league table of Absolute poverty (% of children living in households with incomes below the US official poverty line converted in national countries with PPP) the bottom four places are occupied by Spain the Czech Republic , Hungary and Poland. (Table 2 of the same Unicef report)

The issues regarding the measurement of poverty have not been resolved yet at a theoretical level. Accepting the notion of relative poverty means accepting that poverty is worsening even if absolute standards of living are rising. Or viceversa.

In the last 30 years many different approaches to measure poverty have been put forward: head-count ratio, income gap indeces, distribution-sensitive measures (Foster, Greer, Thorbecke index), the capabilities approach of Amartya Sen, basic needs approach (Rowntree's and Orshansky's indeces), social exclusion (Adelman, Ashworth and Middleton 2000), Participatory Poverty Assessments (Robb 1999)
(see paper of Comin and Kuklys " Is Poverty Simply About Poor Individuals"

As I have shown above, the relative measure of dispersion around a median cannot provide a good comparison among countries even if we concentrate on OECD countries. They provide measures of inequality.
We can therefore say that inequality among children in UK is higher than in other OECD countries. But It seems misleading and if used by politicians manipulatory, the provision of table in which *child poverty* is ranked among countries.
It is basically another way to say that inequality is higher in UK or the States compared to Scandinavian countries.

This paper is an attempt to conceptualise children well being with a capability approach using the procedure suggested by I. Robeyns in her paper "Sen's Capability Approach and Gender Inequality". The five selection criteria (explicit formulation, methodological justification, sensitivity to contest, different levels of generality and exhaustion and non reduction) are used to select the indicators of children well being. Once the concept of children well being will be defined, the paper will try to measure children well being using a multiple indicator multiple causes.

The existence of multiple, inter-related indicators to measure Children's Well being raises the question of how to combine them in empirical research. The MIMIC approach developed in this paper is one approach to this problem.
Confronted with the problem of determining the impact of *causes* of child well being, the most basic strategy is to choose a single indicator we believe is the closest (teenager's pregnancy for example) to the unobserved construct (child well being), and ignore both measurement error and information on the remaining indicators.
Nevertheless in this paper we wish to use the richness of the capability approach and we wish to use the information in all indicators selected. In our approach we assume that each of the indicators is a component of child well being; and child well being is an unobserved variable that is linked to the observable indicators.
The principal advantage of this approach is that it does not rely on exact measurement of child well being. Each indicator represents a noisy signal of child well being in a specific age interval.
This modelling strategy has been extensively used in psychometrics and more recently in econometrics (see for example Raiser, M., Di Tommaso, M.L, and Weeks M. 2000), and is founded upon the specification of a system of equations which specify the relationship between a set of unobservable latent variables, a set of observable endogenous indicators and a set of observable exogenous variables.
This approach builds upon the early work of Joreskog and Goldeberger (1975) and Zellner (1970) and has been formalised in the LISREL (Linear Structural Relationships) model of a set of linear structural equations.

The econometric estimates are based on unit record data from a survey of 33,000 *rural* households in 16 states of India. This survey was carried out by the National Council of Applied Economic Research (NCAER) over January-June 1994 and most of the data from the survey pertains to the year prior to the survey, that is to 1993-94.

The definition of child well-being

This paper is an attempt to conceptualise children well being with a capability approach using the procedure suggested by I. Robeyns in her paper "Sen's Capability Approach and Gender Inequality".

In her paper Robeyns provides an important methodology to endorse a list of capabilities in order to assess gender inequality in Western countries. She provides an exhaustive list of criteria to be implemented in order to endorse a list of capabilities in the case of gender inequality.
In this paper I will argue that also in the case of children well being, it is important to use that methodology in order to provide a general frame where the specific measures of child well being can be set against.

Endorsing a specific list of capabilities in the case of children well being in developing countries and in particular in India is different than endorsing a list for adults.

Nussbaum (2003) argues that the capabilities approach should not only include the capabilities of the people who are in need (tipically children or elderly) but the capability approach should endorse a theory of social justice where the subjects are not anymore only "fully cooperating members of society over a complete life"[2] .

" So I believe we need to delve deeper, redesigning the political conception of the person, bringing the rational and the animal into a more intimate relation with one another, and acknowledging that there are many types of dignity in the world, including the dignity of mentally disabled children and adults, the dignity of the senile demented elderly, and the dignity of babies at the breast.
……
We thus need to adopt a political conception of the person that is more an Aristotelian than Kantian, one that sees the person from the start as both capable and needy – " in need of a rich plurality of life-activities " to use a Marx's phrase, whose availability will be the measure of well-being."[3]

In order therefore to conceptualise children well-being in India I would consider children as subjects. In the language of rights, children rights have been established for a long time. But in the case of capabilities I am not aware of any conceptualisation. The basic idea of this section is therefore that it is possible to look at the list of capabilities proposed by Martha Nussbaum with particular attention to children as the subjects of those capabilities.

The criterium of explicit formulation.

[2] Rawls 1980, pag 546, citation taken from Nussbaum 2003.
[3] Nussbaum 2003 pag 29-30.

What is the explicit list in the case of Indian Children? The list put forward by Nussbaum (see Nussbaum 2003) for adults does actually already contain all the elements of an explicit list for children in developing countries also taking into account gender issues related to girls.
I will argue that only 3 of the elements of that list are not applicable when we consider children as subjects.

1. Life; "Being able to have good health, not dying prematurely, or before one's life is so reduced as to be not worth living."

This is a very important characteristics for children; so for instance we would argue that the practice of gender selective birth prevents the capability of living for those children (most often girls) who were not able to be live.
Looking at indicator of children mortality over the world we are also able to see how children born in developing countries have much higher mortality rates than children born in developed countries.
In particular Indian children mortality rates are higher than the near China or Sri Lanka. Infant mortality in India is equal to 70 per 100,000 live births respects to 33 in China or 17 in Sri Lanka on average over the period 1996-2000; Under-5 mortality in the same period was equal to 98 in India, 41 in China, 19 in Sri Lanka per 100,000 live births (Human Development Report 2001, table taken from Swaminathan M.S. (2001) pg.17).

2. Bodily Health; "Being able to have good health, including reproductive health; to be adequately nourished; to have adequate shelter".

This capability is obviously a very important one for most children in this study; we will see in the data section the percentage of children who suffer for malnutrition or stunting, or lack of proper shelter or of water in the house or of proper medical care (see for instance Swaminathan M.S. 2001, Smith L.C., Haddad L., 2000).

3. Bodily Integrity. "Being able to move freely from place to place; to be secure against violent assault, including sexual assault and domestic violence; having opportunities for sexual satisfaction and for choice in matters of reproduction."

The capability of moving freely in the territory is often denied to Indian children under two respects: girls are not able to move freely on the territory often on the base of religious based gender discrimination; but both boys and girls do find difficult to move freely in the village to go to school because of the division of the territory on a religious ground and the location of the school (see Borooah V and Iyer S 2002). Security for children in terms of domestic violence and sexual assault are also important issues in the case of Indian children (**add references)**.
If we define as children boys and girls up to the age of 16 then the issues of sexual satisfaction and choice in matters of reproduction are also relevant especially regarding the system of arranged marriages and dowries.

4. Senses Imagination and thought

"Being able to use the senses, to imagine, think, and reason and do these things in a "truly human" way informed and cultivated by an adequate education, including by no means limited to, literacy and basic material skills. "

Rates of enrolment to school and attedance to school vary in India for different castes, different religious group and with gender (see Boroah and Iyer 2000).

5. Emotions. “Being able to have attachment to things and people outside ourselves;to love, to grieve, to experience longing, gratitude, and justified anger. Not having one’s emotional development blighted for fear and anxiety.”

This is a capability that can be extende to children and actually constitute the necessary condition for the development of human beings. (add references to evolutionary psychology).

6. Affilation. In Nussbaum list this capability has two aspects. The first one regards the liberty of association and of political speech. The second one regards self-respect and non-humiliation; being able to be treated as a dignified being whose worth is equal to that of others.

The second aspects can be applied to children and in particular in India where issues of religion caste and gender create the basis for lack of self-respect and of humiliation.

7. Play.

If play is important for adults it is essential for children. Nevertheless, the opportunity cost for playing is very high for families with low income. If children are regarded as an economic resource for the family, increasing the family income, then the opportunity cost is very high . The capability of playing for children is therefore threatened by child labour.
In the Indian case, a study of rural Karnataka found that children spent four hours per days on household and directly productive work; furthermore there was a gender division in the household with greater household work being performed by girls, and directly productive work done by boys. (Kulkarni and Kanbargi 1983)

The other 3 capabilities on Nussbaum list seem more difficult to apply to children: Other Species, control over one’s environment, practical reason

The criterium of methodological justification

Q2) which method are we using?

(to be written)

The criterium of Sensitivity to context:

There are two main objectives of this paper. I will argue that when a particular measure to promote children well being is introduced (for instance increase in mothers' education), it is relevant to understand both the effect of that measure on a single indicator of child well being (for instance malnutrition) and on the compounded measure of child well being.
Another possible use of this approach to child well-being is to explore through an exploratory fatctor analysis the correlation among the various indicators of well being and eventually to build compounded measures of child well being inorder to make comparison through times and countries.

(to be completed)

The criterium of different levels of generality

Ideally which kind of data set I would need?
For each of the capabilities listed above, a series of possible different indicators are suggested here.

Life: Ratio of females to males
Missing women indicator
Infant mortality
Under 5 mortality

(to be completed).

Bodily Health: Malnutrition
Stunting
Low birth weight
Anthropometric indicators
Weight/Height
Height/Age
Weight/Age
Iron deficiency Anemia

The criterium of exhaustion and non-reduction.

(The list should include all important elements and they should not be reduced.)

(To be completed)

Modelling Children's Well Being

The existence of multiple, inter-related indicators to measure Children's Well being raises the question of how to combine them in empirical research. The MIMIC approach developed in this paper is one approach to this problem.
Confronted with the problem of determining the impact of *causes* of child well being, the most basic strategy is to choose a single indicator we believe is the closest (teenager's pregnancy for example) to the unobserved construct (child well being), and ignore both measurement error and information on the remaining indicators.

Alternately we could use the information in all indicators by creating a synthetic variable, such as a simple mean indicator. Based upon a set of casual factors the resulting Ordinary Least Squares model represents perhaps the most restrictive model given the neglect of measurement error, the reduction of an m x 1 vector of indicators to a scalar quantity.
In our approach we assume that each of the indicators is a component of child well being; and child well being is an unobserved variable that is linked to the observable indicators.

The principal advantage of this approach is that it does not rely on exact measurement of child well being. Each indicator represents a noisy signal of child well being in a specific age interval.

This modelling strategy has been extensively used in psychometrics and more recently in econometrics (see for example Raiser, M., Di Tommaso, M.L, and Weeks M. 2000), and is founded upon the specification of a system of equations which specify the relationship between a set of unobservable latent variables, a set of observable endogenous indicators and a set of observable exogenous variables.

This approach builds upon the early work of Joreskog and Goldeberger (1975) and Zellner (1970) and has been formalised in the LISREL (Linear Structural Relationships) model of a set of linear structural equations.

Excellent review of the literature is to be found in Bentler and Weeks (1980) and Aignes, Hsiao, Kapteyn, and Wansbeek (1984). The Multiple Indicators and Multiple Causes (MIMIC) approach allows us to think of this model as comprising two parts: a structural equation for children well being and a measurement equation that takes into account that there is no single variable called well-being.

Each of the above groups of child outcomes are indicators of child well being at different stage of children development. This approach allow us to have an estimate of the influence of a variety of variables both monetary and non-monetary on child well being at different age intervals.

The MIMIC Approach

In examining the relative merits of our modelling strategy we first introduce notation.

We let

$Y^O = (Y_1^O, Y_2^O, Y_3^O, \ldots\ldots Y_m^O)$

and $Y^C = (Y_1^C, Y_2^C, Y_3^C, \ldots\ldots Y_m^C)$

denote, respectevily $m \times 1$ vectors of ordinal and continuous indicators; $Y_i^O = (1, \ldots\ldots, v_i), i = 1, \ldots\ldots\ldots m,$ where v represents the number of ordered categories and Y^C represents the latent counterparts to Y^O where Ψ denotes the one to one mapping between the vector of latent variables and the ordinal indicators. We will use Y^* to denote an unobserved latent construct.

Our argument for choosing the MIMIC specification rests upon the belief that the parameters which are delivered by this approach represent the fundamental objects of interest. In *single* indicator models, each observed measure, here elements of the vector Y^O , is considered a single indicator of a matching unobserved construct, elements of Y^C, such that the moments of interest can be written as $E(Y^O \Psi Y^C \mid x)$

In contrast multiple indicator models (Muthen 1979) link multiple observed measures to a reduced dimension of underlying latent variables. In this instance a single indicator model is not appropriate since the moments we wish to estimate are of the form $E(Y^* \mid Y^O \Psi Y^C, x)$ rather than $E(Y^O \Psi Y^C \mid x)$

By focussing upon the distinction between these two sets of moments, we can show the principal differences between a MIMIC specification and more standard regression-based approaches.

First we note that both MIMIC specification and more standard regression-based appoaches (for example, multivariate probit analogues of SUR models[4]) utilise information in all the m indicators. However, the MIMIC model proposed here [5] presupposes the existence of two measurement equations: an inner equation where each qualitative indicator, say Y_j^O is linked to its corresponding continuos counterpart Y_j^C; and an outer equation, the standard factor model, providing a mapping from the

[4] Multivariate extensions of the binary probit models date from the seminal bivariate probit model first introduced by Ashford and Sowden(1970). For recent examples see Bock and Gibbons (1996), and Gibbons (1996), and Golob and Regan (1998).

[5] Given the ordinal nature of our observed measures, the form of the MIMIC model proposed here is nonlinear and hs been referred to by Wansbeek and Meijer (2000) as the LISCOMP model.

multiple indicators collected in Y^O to a single unobserved latent construct, Y^*. In contrast discrete versions of SUR, although admitting dependence across observed indicators, are single indicator models,and as a result, do not entertain the existence of, for example, an underlying common factor such as well being.

In this respect the parameters estimated from the set of moments $E(Y^O \mid Y^C \mid x)$ are not the fundamental parameters of interest[6]. In our application we are not interested in the impact of individual characteristics on each of the dimensions of Well Being.

We have few priors on which to base hypothesis testing with respect to individual dimensions (for instance there is no reason to expect that mother literacy will affect weight for age or children enrolment at school).

We construct a system of equations which specify the relationship between a set of unobservable latent variables Y^*, a set of observable endogeneous ordinal indicators Y^O, and a set of observable exogenoeus variables X. This approach builds upon the early work of Joreskog and Goldberger (1975) and Zellner (1970). Excellent review of the literature are to be found in Bentler and Weeks (1980) and Aigner, Hsiao, Kapteyn, and Wansbeek (1984), and a text by Wansbeek and Meijer (2000).

Model Specification

The structure of the model is as follows:

$$Y = \gamma y^* + \varepsilon, \quad j = 1,.....,m$$

where

$$Y = (Y_1, Y_2, Y_3, ...Y_m) \qquad (1)$$

is a $m \times 1$ vector with each element representing an independent indicator of children well being, denoted Y^*. $\gamma = (\gamma_1, \gamma_2, \gamma_3.....\gamma_j)$ denotes a $m \times 1$ parameter vector of factor loadings, with each element representing the expected change in the

[6] A welcome by-product of the MIMIC approach is that instead of estimating m regression equations for the set of indicators, we estimate the parameters of a single structural equation. Ignoring covariance terms, and assuming that **x** represents a (s x 1)vector of causes, we have a total of m + s estimable parameters. This compares with a total of m x s parameters and estimate a system of equations over the m indicators

respective indicators following a one unit change in the latent variable. $?$ is a $m?1$ vector of measurement errors, with $?_?$ denote the covariance matrix.

In addition we posit that children's Well Being is linearly determined by a vector of observable exogeneous variables $x ? ?x_1, x_2, ...x_s, ?$ and a stochastic error $?$ giving,

$$Y^* ? x'? ? ? \qquad (2)$$

where $?$ is a $s?1$ vector of parameters.

Examining (1) and (2) we may think of our model as comprised of two parts: (2) is the structural (or state) equation and (1) is the measurement equation reflecting that the observed measurements are imperfect indicators. The structural equation specifies the casual relationship between the observed exogeneous causes and children well being. Since Y^* is unobserved, it is not possible to recover direct estimates of the structural parameters $?$. Combining (1) and (2) the reduced form representation is written as

$$y ? ?x ? v$$

where $? ? ?^{Y}?'$ is the $m?s$ reduced form coefficient matrix and $v ? ?^{Y}? ? ?$ is the reduced form disturbance.

Identification issue and treatment of ordinal indicators

Look at Raiser, M., Di Tommaso, M.L, and Weeks M. 2000

Data

The econometric estimates are based on unit record data from a survey of 33,000 *rural* households - encompassing 195,000 individuals - which were spread over 1,765 villages, in 195 districts, in 16 states of India. This survey - commissioned by the Indian Planning Commission and funded by a consortium of United Nations agencies - was carried out by the National Council of Applied Economic Research (NCAER) over January-June 1994 and most of the data from the survey pertains to the year prior to the survey, that is to 1993-94. Details of the survey - hereafter referred to as the NCAER Survey - are to be found in Shariff (1999).

The data provide anthropometric measures (height-for-age and weight-for-age) for each of the children and relates this information to *inter alia*: the household circumstances of the children, including the quality of the living conditions of the household and the birth orders of the children; the state of health of the mothers, with particular reference to anaemia; the quality of the relevant infra-structure available to the households in which the children lived, with particular reference to the quality of the water supply and the availability of hospitals and mother-and-child

centres (known in India as *anganwadis*); and the degree of 'food security' that the children's households enjoyed.
Lying *outside* the caste system are those regarded by 'caste Hindus' (that is, by Hindus *within* the caste system) as 'outcasts' in the sense of being 'untouchable': that is, persons with whom physical contact - most usually taken to be acceptance of food or water - is polluting or unclean. Approximately, 17% of India's 1 billion people fall into the category of being 'untouchable'. In occupational terms, members of this caste would perform – and continue to perform - the dirtiest and most lowliest of tasks: burials and disposal of carcasses; scavenging; the removal of excreta.

RESULTS

The main regression results are presented in Table 3. The top of the table presents regression coefficients for different specification of the structural equation.
The second panel presents estimates of the "loadings" for each of the components of children Well being in the measurement equation. The bottom panel presents R-square statistics for each sub-components separately.
We report 3 specifications: The second differs from the first because the variable "birth order" has been excluded in order to check the possibility of increasing the significance of "size of the household"; but the estimates did not change at all. In the third specification we have included an income variable. That is income deciles.

Specification 3 is the preferred one because of the inclusion of income deciles; as a consequence of the introduction of this variable, land ownership becomes less significant. This could be due to multicollinearity among these variables.
Literacy of the parents is a very important variable in explaining children's well being.
Being a girl is a disadvantage in terms of well being.
The index of productive asset is not significant. Nevertheless 2000 observation in our sample record a zero for this index. This could have contributed to the low significance of this variable.
The index of unproductive assets on the contrary is significant (only 873 observation in our sample have a zero value.
Not being the owner of the land cultivated by the family has a negative impact on children's well being. As well belonging to the "untouchable" has a negative impact on well being.

The second part of table 3 reports the estimated "loadings" for each of the components of children's well being in the measurement equation i.e. the vector $?^{Y}$.
They represent the expected change in the indicator given one unit change in the latent variable. For example the expected change in enrolment to school given one unit change in children well being is equal to –1.06. The sign is due to the particular definition we have followed for this variable that is equal 1 if enrolled or equal 2 if never enrolled.
The same would apply to work status of the children.

As far as the Squared Multiple correlation for Y variables is concerned, it indicates the what extent the common factor account for the variance of each indicator or how closely the model fits each indicator. In these estimates, the indicator whose variance is most explained by the common factor is enrolment into school.

Table 1: Definition of the variables

Size of the household: number of adults and children living in the household.

Sex: dummy variable =1 if male; =2 if female.

Birth order: Order of birth of the child.

Height for Age: Height minus Median Height for that age divided by the age and sex specific standard deviation. The dummy variable used here is equal zero if this index is less than -3 (i.e. severe stunting); =1 otherwise.

Weight for Age: Weight minus Median Weight for that age divided by the age and sex specific standard deviation. The dummy variable used here is equal zero if this index is less than -3 (i.e. severe malnutrition); =1 otherwise.

Productive Asset Index: Sewing Machine 2, Tubewell 10, Generator set 5, Thresher 3, Winnower 3, Bullock cart 4, Cycle rickshaw 3, Tractor 10.

Unproductive Asset Index: Bicycle 1, Bio-gas plant 3, Motor-cycle 3, Car 10, Radio 1, Television 4, VCR/VCP 5, Air cooler 3 Fan 1.

Land owner: =1 if the household owns the land; =2 otherwise.
Enrolment: =1 if the child has ever been enrolled at school; =2 never enrolled.

Scheduled Castes ('Untouchables' 'Dalits'):= 1 if belongs to this category; 0 otherwise.

Scheduled Tribes ('Untouchables' 'Dalits'):= 1 if belongs to this category; 0 otherwise.

Work status =1 if child worked: child not enrolled at school, or enrolled but discontinued from school, for work-related ('feminist' definition) reasons; =0, otherwise.

Father literacy=1 if literate; =0 otherwise.

Mother literacy=1 if literate; =0 otherwise.

Table 2:Descriptive Statistics

(number of obs=3000)

Selection rules: a random sample of 3000 children from the Central States of India (Bihar, Madhya Pradesh, Rajasthan, Uttar Pradesh) whose age is above 6.

Variable	Mean	St. Dev.	Max.	Min.
Size of the Household	7.926	3.55	2	29
Sex	1.450	.50	1	2
Birth Order	4.618	12.20	1	99
Height for Age	0.640		0	1
Weight for Age	0.986		0	1
Income decile	5.81		1	10
Productive Asset Index	2.701	5.45	0	40
Unproductive Asset Index	1.705	2.48	0	30
Land Ownership	1.25	.43	1	2
Enrolment into school	1.403	.49	1	2
Work Status	0.023	.15	0	1
Scheduled Tribe	.146	.35	0	1
Scheduled Cast	.227	.42	0	1
Father literacy	.527	.49	0	1
Mother literacy	.165	.37	0	1

Table 3: MIMIC MODEL OF CHIDREN'S WELL BEING

Regression Coefficients of the structural equation: ?

	Specification 1	**Specification 2**	**Specification 3**
Size of the household	0.018	0.018	0.0108
	(0.017)	0.017)	(0.0170)
Land ownership	-0.039*	-0.039*	-0.0306
	(0.020)	(0.020)	(0.0192)
Father Literacy	0.140*	0.140*	0.1378*
	(0.048)	(0.048)	(0.0471)
Mother Literacy	0.138*	0.138*	0.1388*
	(0.047)*	(0.047)*	(0.0474)
Sex	-0.144	-0.144*	-0.1475*
	(0.049)	(0.049)	(0.0495)
Birth Order	0.002		
	(0.016)		
Productive Asset	0.026	0.026	0.0209
	(0.018)	(0.018)	(0.0182
Unproductive Asset	0.071*	0.071*	0.0662*
	(0.028)	(0.028)	(0.0270)
Scheduled Tribe	-0.071*	-0.071*	-0.0722*
	(0.029)	(0.029)	(0.0298)
Scheduled Cast	-0.083*	-0.083*	-0.0837*
	(0.032)	(0.032)	(0.0327)
Household Income (deciles)			0.0477*
			(0.0230)

Standard errors in parenthesis.
* Significant at 5%.

Table 3 continued: MIMIC MODEL OF CHIDREN'S WELL BEING

Estimates of the "loadings" for each of the components of children Well being in the measurement equation $?^{Y}$

	Specification 1	Specification 2	Specification 3
Height for Age	0.1032	0.1029	0.1050
Weight for Age	0.1308*	0.1307*	0.1374*
	(0.0523)	(0.0524)	(0.0541)
Enrolment into school	-1.0580*	-1.0583*	-1.0269*
	(0.3419)	(0.3427)	(0.3294)
Work status	-0.5188*	-0.5187*	-0.5344*
	(0.1660)	(0.1664	(0.1704)

Squared Multiple correlation for Y variables

Height for Age	0.0053	0.0053	0.0055
Weight for Age	0.0086	0.0085	0.0094
Enrolment into school	0.5597	0.5600	0.5273
Work status	0.1346	0.1345	0.1428

Standard errors in parenthesis.
* Significant at 5%.

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