# IMPROVING HEALTH: HOW THE CAPABILITY APPROACH HELPS IN TWO WEST AFRICAN CASE STUDIES.

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## Abstract

West Africa stands out as the region with some of the worst health and mortality indices as well as scoring poorly on other measures such as the Human Development Index. There are nonetheless sharp differentials in health and well-being by urban/rural residence, educated or not, young and old. That is, some inequalities are structural in origin. There are however, inequalities which have a more local origin, depending on household and family level factors that affect, for example, access to health services and the effective use of opportunities for income generation and improvements in well-being.

After a discussion of some concepts underlying the description of individual and population health states, we use two case studies based on several years of West African field work – women's health in Accra and the welfare of young people in Bamako – to illustrate how adoption of the capability framework can encourage development policies and projects to address some of the household and family level factors in addition to dealing with the structural barriers to the improvement of human capabilities. In the examples we address both practical and conceptual issues in dealing with the links between health and development using the capability lens.

## Key words

Health, mortality, women's health, young people's health, health capabilities and functionings, West Africa, Ghana, Mali.

## Introduction: Challenges of the Capability Approach to health analysis and planning

The capability framework presents a challenge to current development policies and programming since it proposes a shift from a paradigm based on 'offers' (e.g. service provision), implemented through pre-defined goals and intended outcomes, to a demand-side paradigm centred on people's real needs (1). This is especially true of health interventions, policies and programmes. In spite of a recent fundamental transformation of the vision of health from a focus on the presence or absence of illness to a focus on broader 'well-being', health systems still spend more on curative than preventive medicine. There is, however, a growing recognition of the inadequacy of providing health services alone since a high quality and equitable health care system is only one among several determinants of health (2, 3). In essence, the Capability Approach in development planning for health implies the promotion of the conditions which enable people to have the freedom to achieve good health. A priority for health planners is to be able to identify factors promoting these freedoms as well as those acting as barriers to improvement.

The adoption of a Capability Approach also opens up the debate on the analysis of differentials in health in a population in several ways. Conceptually, the Capability Approach insists that no single indicator can successfully capture the dimensions of human well-being. One perspective is to consider health 'at the heart of inter-locking deprivations' (1) but at the same time, there is wide recognition of both the intrinsic and the instrumental aspects of health. The Capability Approach, however, provides little practical help in the prioritisation of one indicator over another beyond the 10-point check list of central capabilities proposed by Nussbaum (4). From first principles, however, we might assume that being able to survive a normal length of life and to remain in bodily health throughout that life assume greater importance than other concerns such as affiliation, concern for other species or control over one's environment. Practically, however, it seems almost impossible to discuss health-related functionings without collapsing some of the myriad indicators of health into summary indices. In the medical model, the preferred analytic approach is to rank order causes and conditions of mortality and morbidity in terms of their lethality. Even this epidemiological scoring system has to be tempered by considerations of sustainability, equity, efficiency and effectiveness (5, 6). Variations in this classification system allow for the combined use of mortality and morbidity to construct widely used population-based measures built on the concept of disability-adjusted life years, DALYs, as well as other metrics such as Years of Life Lost due to premature death (YLL), Years Lost due to Disability (YLD) and Health-adjusted Life Expectancies (HALE). Different versions of this ranking system to measure the importance of different causes of illness and death on survival in a healthy state have become the dominant paradigm for population-level health state assessments (see the WHO website on the global burden of disease for full details - http://www.who.int/topics/global_burden_of_disease/en/. The major problem with all such measures is that their focus is on functionings at a population level rather than the determining conversion factors and the resulting capabilities.

A second large conceptual challenge revolves around the differences between Sen's approach that stresses the importance of the general concept of "freedoms" and the more empirical approach proposed by Nussbaum that leads itself more naturally to the construction of indicators (7). Nussbaum adopts a more juridical approach that links the concept of capabilities back to the rights-based movement. The aim is thus providing "basic entitlement for all" and at the same time respecting "the many ways citizens choose to live», that is to say without any compromise on the basic capabilities (8). Sen, on the other hand, prefers to treat freedoms as overall goods that should be specified in each context. The selection of indicators and priority setting require therefore a refined knowledge of the context.

The third issue that complicates the adoption of the Capability Approach analysis to health trends, differentials and inequalities and hence to health interventions, concerns the distinction between internal and external individual characteristics, i.e. stable or variable conversion factors. Actions cannot act directly on internal factors - such as sex and age as well as disabilities or genetic diseases – but can promote conditions that alleviate the different types of discriminations and obstacle to well-being including health functioning. Whilst Sen, Nussbaum and others stress the importance of over-investment in those with disabilities, physical and mental, in order to raise their functioning to levels enjoyed by the rest of the population, there are some features of people's initial characteristics which are difficult to manage, however large the investment. Think of cases of people who suffer from major genetic defects or even milder sickle cell traits which with current technology are impossible to reverse or mitigate. These innate differentials seem to be of a different nature from other social or economic endowments which may be much more amenable to treatment as a result of say, education or job-training.

A further central issue and the major one in the analysis of disparities, is how to consider the role that the person herself plays, i.e. her ability to use and transform *for her own sake* the resources available. The quality of the context, including the physical and social resources, but also the availability of medical infrastructure, is at the centre of the debate in public health policies but insufficient to explain health differentials. The reasons why people enjoying apparently the same opportunities end up with unequal well-being are less often debated. This dimension of individual agency is at the heart of the Capability Approach, forcing the consideration of the social and cultural context within which health is assessed and the political framework within which both public and private health services are provided. This is usually taken in account through the distinction between endowments and conversion factors, the respective importance of different types of conversion factors, as well as an explicit consideration of the role of individual preferences.

Finally, accounting for health differentials in terms of the plethora of variables ranging from endowments, capabilities and functionings raises some difficult issues. In the case of broad measures such as capabilities, well-being or preference, there are clearly many factors

operating at different levels (individual, household, community, and nation) and no single well accepted theory linking these outcomes with possible causal factors. From a statistical or an econometric standpoint, there are complex feedback loops and many instances of confounding that make a clear path analysis possible. There is a large body of science and empirical research that specifies in quite detailed ways the connections between certain diseases and conditions and causal elements, whether they be microbial or larger scale affects such as exposure to common risks. In explaining differentials in health outcomes (functionings) between individuals or the communities, the case is quite different. The Capability Approach to health differentials therefore demands that we put aside some of the knowledge stemming from medical science and epidemiology which provides to the biomedical community a plausible explanation for many of the health differentials observed.

In this paper, we cannot resolve all the theoretical issues referred to above but what we do is, through the use of two separate case studies, illustrate ways in which a conventional analysis of health state differentials can be adapted to encompass more of the conceptual issues underlying the Capability Approach. It provides a framework to consider the respective roles of the resources of the context and factors that enable a person to use these resources to enjoy a good health. More broadly, the aim is to consider in which measure individual goals and preference and collective goals and norms are reinforcing each other: do institutional goals and norms, such as expressed though available amenities and value systems, enhance individual capabilities to "live the life they have reason to value" (7).

We present here two cases to illustrate how we have made operational the Capability Approach using information not specifically collected with the capability framework in mind[1]. We postulate that self-assessed health, viewed as the meanings that the individual gives to his/her health situation, is the appropriate outcome to consider the joint effects of individual and contextual factors of inequalities. We further elaborate the capability framework by choosing the best proxies that allows us to review the different trajectories that people take, given similar background social context (endowments) and the individual set of opportunities (capabilities) modulated by their personal and family characteristics (conversion factors) and the degree in which the capabilities end up in different health states (functionings).

The paper deals with some initial definitional questions and describes the process required to locate variables from studies and surveys not initially designed to use the Capability Approach. The importance of this work is that in the main, there is a wealth of survey data available to the scientific and professional community, but very few studies of health and health differentials conceived from the start with the capability framework. As a result,

[1] These analysis are part of a project supported by the Swiss Network for International Studies (SNIS) : Enhancing the capabilities of the most vulnerable : a pilot project on inequalities in human development in Bamako and Accra.

most analysts have to face the challenge of dealing with data sources which were not custom designed from the outset to assess capabilities in health domain.

As conceived by Sen, the Capability framework is a flexible tool. The choice of the best proxies relies on the research question and, when using data not designed in purpose, the available variables. We illustrate this in the health domain with two examples:

- Testing the influence of the standard of living on the health of women in Accra. The aim is to distinguish the effect of the socio-economic status (SES) of the zone of residence from wealth disparities among families in the same zone, i.e. relative wealth. In this case, SES and family wealth are considered as endowments.
- Analyzing agency in the health of young people in Bamako, in particular access to health services and the impact of use on health related behavior. In this case, the place of residence is considered as a proxy for endowments and family wealth is one among conversion factors.

## Data sources

The first set of data that we use for this exploration is a household survey conducted in 2008/9 among 2814 households in Accra, Ghana called the Women's Health Study of Accra, Wave II (WHSA-II). The survey intended to expand our understanding of the impact of health on poverty and development and to provide new empirical information on the epidemiology and demography of health and mortality in women and children in a major African city. The WHSA-II household questionnaire consists of 25 sections in addition to a household roster and details of the dwelling's characteristics. The sections were chosen to address major health issues as well as new topics of interest to policy makers and government programs. In this analysis we primarily focus on health and well-being as defined by the Medical Outcomes Study (MOS) short form (SF-36) – a series of 36 questions that measure functional health and well-being from as perceived and reported by the person interviewed (9,10).

The SF-36 questions are used to construct composite measures of self-reported health and quality of life, emphasizing eight different domains of health – physical functioning, bodily pain, role limitations due to physical health, role limitations due to emotional problems, emotional well-being, energy/fatigue, social functioning, and general health perceptions. The 8 specific domains naturally fall into two larger domains – general health and mental health. The scheme also includes a single item that provides an indication of perceived changes in health – health transition. For comparisons between the domains and between different populations, the raw scores are often standardized using population-based norms, producing norm-based scores related to the values in the reference population. Here we focus on the raw scores since we are not comparing the Accra women with women elsewhere in Africa or beyond.

The second set of data concerns the health and health-seeking behaviour of youths in Bamako. We use here the data from the main survey of the so-called project *Chantier Jeunes* [2] that studied the factors of vulnerability associated with the transition to adulthood. The survey was conducted in 2002 in three low to middle income districts of Bamako, Mali, providing a gradient in terms of infrastructure and overall wealth. In all, 1819 young people were surveyed, distributed equally by gender and cross three age groups, corresponding to steps towards adulthood (adolescents, youth and young adults)[3]. It includes 544 variables in eight modules: life events, schooling/occupation, place of residence, characteristics of the household head, family events and health events. Background information comprises occupation, health and reproductive health, time use during a non-working day (Saturday), domestic circumstances (household and social networks) as well as socio-economic characteristics.

In the Bamako case, to measure health, we rely on self-reported health information, on the incidence of health events and on reports on health-seeking behaviour. We identify those who experienced at least one illness episode or injury during the five years before the survey and those who used the modern health care system. We consider separately episodes of acute fever (possible malaria) as one of the major reported health challenges with distinct determinants involving both environmental and behavioural factors. Moreover, we include past health history as it bears on recent health status.

## Applying the Capability Approach: two case studies

An important first step in the analysis is the representation of key concepts in the Capability Approach in terms of the original variables available in the survey data. This requires us to define the research questions and then to identify the best proxies for the key variables in the data. We have already presented above how health states were conceptualized and measured in each survey. The task is now to distinguish between health as an achievement (functionings) and health as the freedom to achieve (capabilities). This issue is treated in a different way in each of the cases as the available data lead us to draw distinctions between endowment and different types of conversion factors. The cases help to illustrate that the capability model is not just a series of static concepts but is a flexible framework for analysis.

[2] A partnership between the University of Bamako and the University of Geneva. The collection of data was supported by a joint program of the National Swiss Fund for Scientific Research and the Swiss Development cooperation for research partnership between Swiss and Third-World researchers (Grant 107013 – 109843).

[3] As these life steps are passed through earlier by girls, age limits have been adapted in accordance: 12-15 years and 15-19 years respectively for female and male adolescents, 16-19 and 20-24 four youth and 20-24 / 25-29 for young adults.

## Case Study 1: Women's Health in Accra

The wide variety of health measures makes it possible to consider differentials in health and determinants of health at different levels and so to some extent the classification in every analysis is somewhat arbitrary. Nonetheless, Figure 1 summarizes the preferred conceptual framework. The functionings are on the right-hand side, both physical and mental and have been derived from the factor analysis of the individual domain scores using the SF 36 instrument.

| Endowments | Conversion factors | Capabilities | Selection/Preferences | Functioning |
|---|---|---|---|---|
| **Context**<br>SES<br>**Household**<br>Wealth | **Cultural/Social**<br>Ethnicity<br>Region of birth<br>**Household**<br>Head of household<br>**Individual**<br>Age<br>Education<br>Marital status<br>Occupation<br># pregnancies<br>Goes where if sick<br>NHIS | Possible range for Physical health<br><br>Possible range for Mental health | | Physical health (PH)<br><br>Mental health (MH) |

Figure 1. Elements of the Capability Model as applied to women's health in Accra.

### Endowments

The endowments include the characteristics and resources of the surrounding environment and in our study are represented by the socio-economic status (SES) and household wealth. SES is a variable based on the 2000 census and describes the geographical sub-divisions of the city, using neighbourhood, building and population characteristics to distinguish different districts. Four SES variables describe the level of development, infrastructure and educational attainment, dividing the city into low class, lower middle class, upper middle class and high class areas. The SES is seen as a contextual endowment.

The wealth index is used as a proxy for household income and is considered a household endowment. The index is constructed using housing characteristics and household possessions (durable goods)(11). Using the distribution of the wealth score (-1.92 to 2.53) two equal size groups were created – poorer and richer.

Using the contextual and household groups we create 4 endowment groups based on household and neighbourhood features to determine the mix of resources available to the women in the survey (Figure 2).

| | SES: low + low middle class | SES: upper middle + high class |
|---|---|---|
| **Wealth group 1: poorer** | Endowment group 1: poorer in poorer areas | Endowment group 2: poorer in richer areas |
| **Wealth group 2: richer** | Endowment group 3: richer in poorer areas | Endowment group 4: richer in richer areas |

Figure 2. Endowment groups classified by wealth and socio-economic status (SES).

### Conversion factors

The conversion factors are all characteristics specific to a certain individual and they relate to personal, household, cultural/social choices and decisions made or achieved to reach the current state. The cultural/social, household and individual conversion factors available in the dataset are shown in Table 1.

Table 1. Conversion factors by endowment group. See endnote (a) for full details of variables and definitions.

| | Endowment group 1 | Endowment group 2 | Endowment group 3 | Endowment group 4 | All |
|---|---|---|---|---|---|
| | n=965 | n=442 | n=461 | n=946 | n=2814 |
| **Cultural/Social** | | | | | |
| **Ethnicity** | | | | | |
| **Akan** | 24.77 | 33.94 | 25.16 | 42.39 | 32.2 |
| **Ewe** | 11.71 | 19.00 | 11.50 | 13.74 | 13.5 |
| **Other** | 18.55 | 9.95 | 18.87 | 6.24 | 13.11 |
| **Ga** | 44.97 | 37.10 | 44.47 | 37.63 | 41.19 |
| **Region of birth Accra** | | | | | |
| **No** | 37.62 | 51.81 | 33.84 | 44.71 | 41.61 |
| **Yes** | 62.38 | 48.19 | 66.16 | 55.29 | 58.39 |
| **Household** | | | | | |
| **HH Head** | | | | | |
| **No** | 58.96 | 56.11 | 68.33 | 65.96 | 62.40 |
| **Yes** | 41.04 | 43.89 | 31.67 | 34.04 | 37.60 |
| **Individual** | | | | | |
| **Education** | | | | | |
| **None** | 33.78 | 26.70 | 12.15 | 12.37 | 21.93 |
| **Primary** | 16.37 | 12.90 | 13.23 | 7.51 | 12.33 |
| **JSS** | 37.20 | 43.44 | 41.87 | 37.63 | 39.09 |
| **SSS + Higher** | 12.64 | 16.97 | 32.75 | 42.49 | 26.65 |
| **Marital Status** | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| **Married** | 48.81 | 49.32 | 55.75 | 49.26 | 50.18 |
| **Not married** | 51.19 | 50.68 | 44.25 | 50.74 | 49.82 |
| **Goes where when sick** | | | | | |
| **Nowhere** | 7.88 | 9.50 | 7.16 | 7.72 | 7.96 |
| **Non-medical** | 16.48 | 12.22 | 11.50 | 6.13 | 11.51 |
| **Medical** | 75.65 | 78.28 | 81.34 | 86.15 | 80.53 |
| **NHIS currently enrolled** | | | | | |
| **Yes** | 27.49 | 31.00 | 36.17 | 43.01 | 34.60 |
| **No** | 72.51 | 69.00 | 63.83 | 56.99 | 65.20 |
| **Age group** | | | | | |
| **1** | 27.67 | 26.24 | 31.67 | 26.96 | 27.86 |
| **2** | 20.52 | 24.43 | 25.16 | 20.40 | 21.86 |
| **3** | 25.60 | 27.83 | 24.08 | 24.95 | 25.48 |
| **4** | 26.22 | 21.49 | 19.09 | 27.70 | 24.80 |
| **Occupation** | | | | | |
| **formal** | 4.46 | 4.09 | 9.98 | 14.74 | 8.76 |
| **informal** | 63.52 | 67.27 | 59.87 | 54.83 | 60.59 |
| **unemployed able** | 13.89 | 13.41 | 15.40 | 9.54 | 12.60 |
| **unemployed unable** | 18.13 | 15.23 | 14.75 | 20.89 | 18.05 |
| **Number of pregnancies** | | | | | |
| **0** | 10.47 | 10.88 | 13.23 | 17.76 | 13.44 |
| **1-3** | 30.88 | 36.73 | 40.13 | 37.74 | 35.62 |
| **4-7** | 42.07 | 40.82 | 34.92 | 35.62 | 38.54 |
| **8+** | 16.58 | 11.56 | 11.71 | 8.88 | 12.41 |

**See Endnote [a].**

## Capabilities

The capabilities in the current model are expressed as the possible range of Physical and Mental health functionings shown in Table 2. The values have little intrinsic value since they are factor scores from the principal component analysis and therefore have only meaning in a relative sense.

Table 2. Capability set factor scores by endowment group.

| | **Endowment group 1** | **Endowment group 2** | **Endowment group 3** | **Endowment group 4** |
|---|---|---|---|---|
| | n=965 | n=442 | n=461 | n=946 |
| **Physical health** | | | | |
| **min** | -3.53420 | -3.29618 | -3.09608 | -3.31916 |
| **max** | 1.30161 | 1.30161 | 1.30161 | 1.30161 |
| **mean** | -0.11087 | 0.04619 | 0.04723 | 0.06833 |
| **Mental health** | | | | |
| **min** | -4.58235 | -3.44744 | -3.88987 | -4.26433 |
| **max** | 1.53574 | 1.53574 | 1.53574 | 1.53574 |
| **mean** | -0.14823 | -0.04495 | 0.11643 | 0.11585 |

### Selection/Preferences

There are no variables that measure selection/preferences in the WHSA-II dataset. An additional qualitative study is being prepared to address that issue, particularly around the issue of obesity preferences for certain body sizes.

### Functioning set

For the purposes of the analysis and to simplify interpretation, a single physical health measure was constructed using factor analysis on the domain scores for physical health – physical functioning, bodily pain, limitation of physical roles and general health. Similarly, a mental health indicator was constructed using the mental health domain scores – limitation of emotional roles, emotional well-being, energy/fatigue and social functioning.

## Results

### Predictors/determinants of functioning within groups

The full results of the linear regression exploring the relationship between the conversion factors as defined above and functioning (physical and mental), stratified by the four endowment groups, are presented in Appendix 1. Figures 3 and 4 summarize the salient relationships. We find that the cultural/social and household conversion factors are not significantly associated with physical health. Further, the cultural/social and household conversion factors are also not significantly associated with mental health, except for Ewe women from richer families living in poorer areas than Ga women in the same endowment group. Ewe women have a significantly smaller chance of scoring high on the MH score. Women with no education, compared to women with junior secondary school education, have a decreased chance of scoring higher on the physical health score. Poorer women living in poorer areas and richer women living in richer areas who have no or only primary education have significantly lower chances of scoring higher on the mental health score compared to women from those area with junior secondary school education.

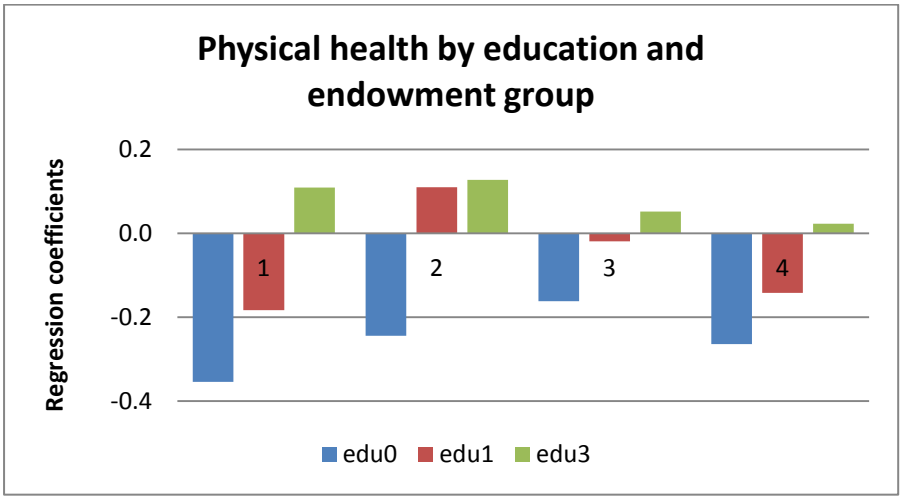


Figure 3. Physical health by education and endowment group.

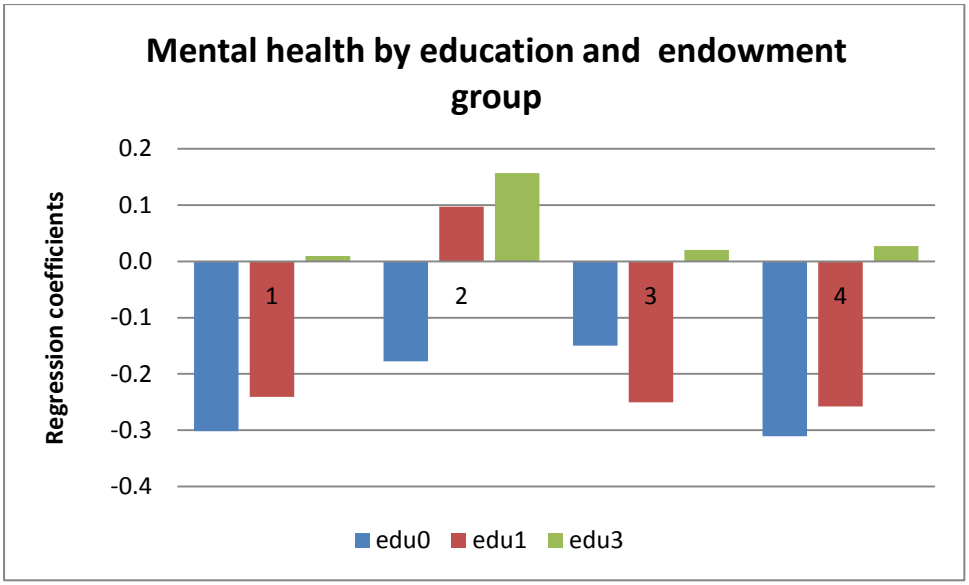


Figure 4. Mental health by education and endowment group

These figures show that married women from richer families in poorer areas have an increased chance of scoring higher on the PH score compared to women from the same areas not married (Figure 5). Women who do not seek care when sick compared to those who go to a medical facility have a significantly higher chance of scoring higher on the physical health score. Women who go to non-medical facilities when sick have a significantly higher chance of scoring higher on the mental health score compared to those who go to medical facilities when sick (Figure 6). Overall, age is an important predictor for physical health but not important for mental health. The biggest positive effect of age on physical health is experienced by younger wealthier women living in poor areas, while the biggest negative effect affects the oldest age group of richer women living in richer areas (Figure 5).

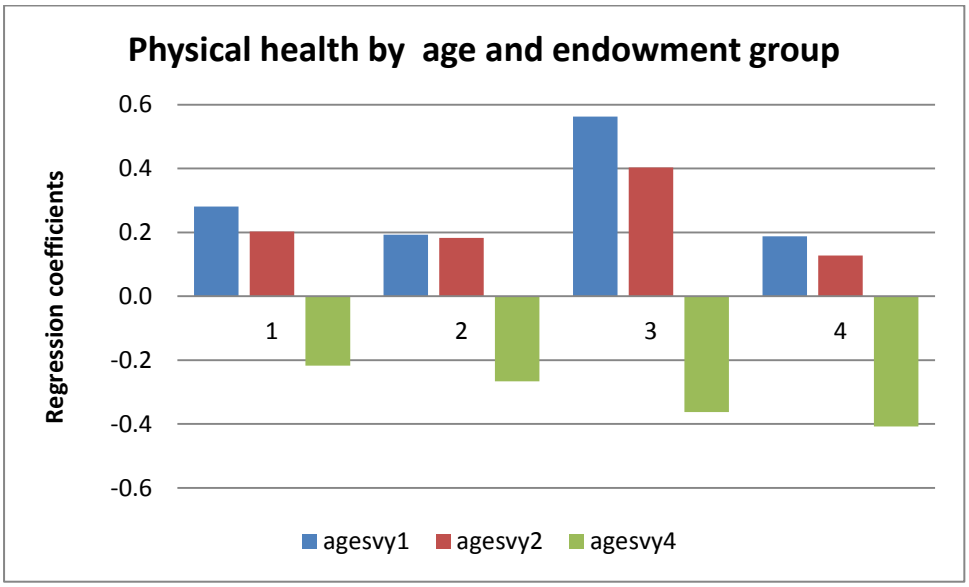


Figure 5. Physical health by age group endowment group.

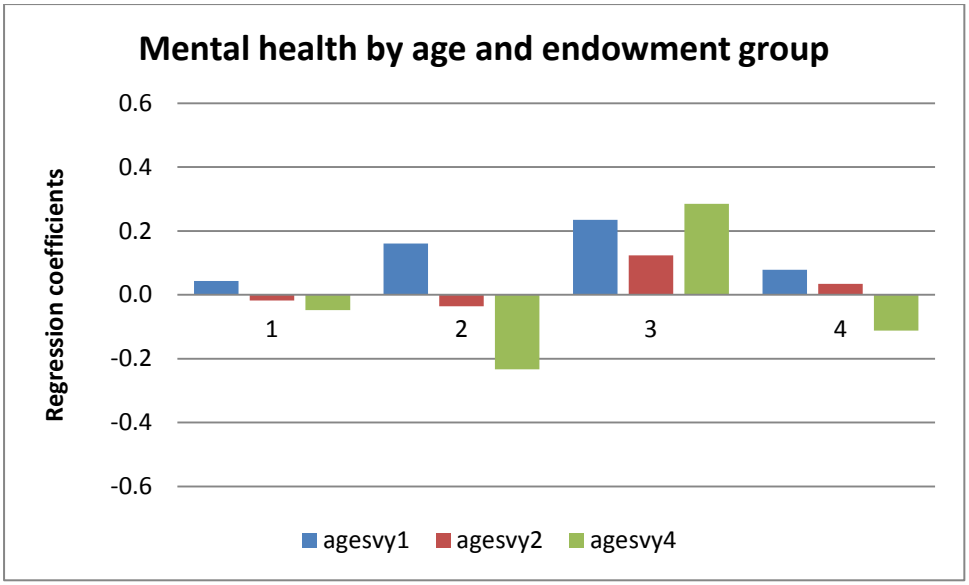


Figure 6. Mental health by age group endowment group

Unemployed women from all endowment groups have significantly lower chances of scoring higher on both the physical and mental health scale compared to women who have informal jobs. Poorer women from richer neighbourhoods who have no children, compared to women with 1-3 children from the same areas, have significantly higher chance of scoring higher on both the Physical and Mental health scale (Figures 7 and 8).

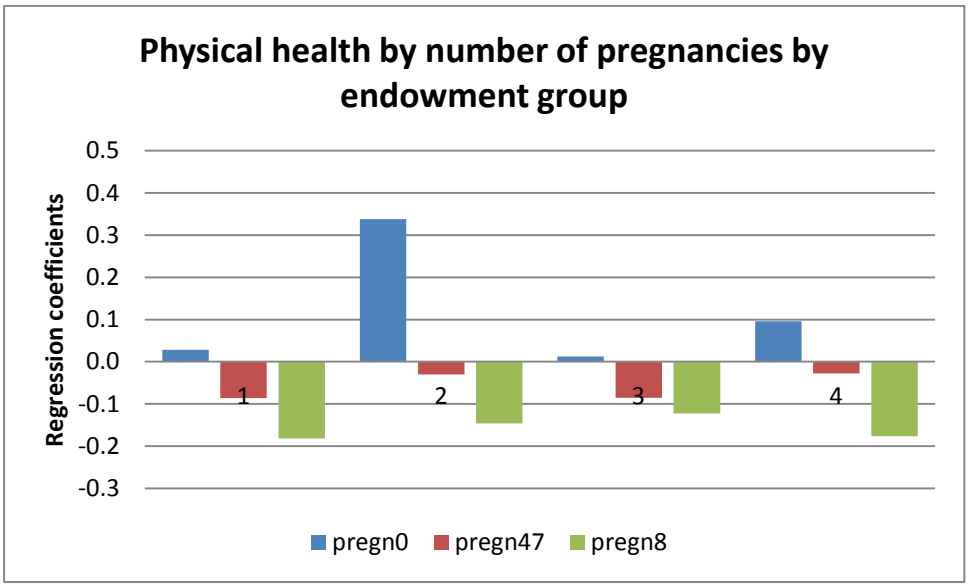


Figure 7. Physical health by number of pregnancies and endowment group

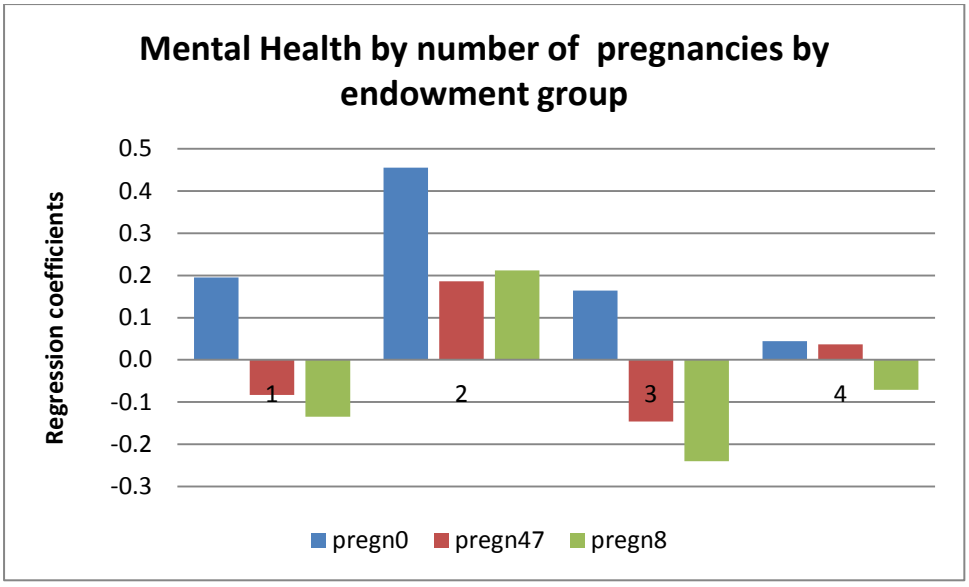


Figure 8. Mental health by number of pregnancies and endowment group

### Predictors/determinants of functioning between groups

Using the GLM procedure with a contrast option, we explore the differences in functioning (physical and mental) between the four endowment groups. The results of the analysis are presented in Table 3.

Table 3. Comparing functioning between groups

| | | Physical health | | | | Mental health | | | |
|---|---|---|---|---|---|---|---|---|---|
| Contrast | DF | Contrast SS | Mean Square | F Value | Pr > F | Contrast SS | Mean Square | F Value | Pr > F |
| 1 v 2 | 1 | 3.6408 | 3.6408 | 5.64 | 0.0176* | 1.3854 | 1.3854 | 1.66 | 0.1978 |
| 1 v 3 | 1 | 0.0435 | 0.0435 | 0.07 | 0.7951 | 6.7262 | 6.7262 | 8.06 | 0.0046* |
| 1 v 4 | 1 | 6.1563 | 6.1563 | 9.54 | 0.0020* | 14.5817 | 14.5817 | 17.47 | <.0001* |
| 2 v 3 | 1 | 2.2033 | 2.2033 | 3.42 | 0.0647 | 1.4265 | 1.4265 | 1.71 | 0.1912 |
| 2 v 4 | 1 | 0.0521 | 0.0521 | 0.08 | 0.7763 | 4.4514 | 4.4514 | 5.33 | 0.0210* |
| 3 v 4 | 1 | 3.8622 | 3.8622 | 5.99 | 0.0145* | 0.5799 | 0.5799 | 0.69 | 0.4047 |

* Significant at 0.05 level

The results show that there are different patterns that determine the interactions between context and household endowments and the differences between endowment groups for Physical and Mental health (Figures 7 and 8). The directionality of the differences suggests that SES or context endowment is important determinant for Physical health when comparing endowment groups, while wealth or household endowment is important for Mental Health (Figure 9).

**Physical health** **Mental health**


Figure 9. Directionality of significant differences between groups for Physical and Mental health.

### Discussion: the Accra case.

Some of the important findings that result from the analysis include the differences in the predictors for functionings – physical and mental health. Looking at differences within groups, cultural/social and household conversion factors have almost no significant effect on Physical and Mental health. For individual conversion factors, age is a significant predictor for Physical health but does not have such a strong effect on Mental health. The effect of no children in some of the endowment groups is associated with better Physical and Mental health, while not surprisingly unemployment for women who are unable to work has very strong negative effect on both Physical and Mental health. Thus, different factors that have distinctive effects on Physical and Mental health, i.e. SES has an influence on Physical health while wealth influences Mental health more strongly.

## Case study 2: The health challenge among Bamako young people

### Capability Model

Youth is thought of as a period of relatively healthy life but subject to risky behaviours, some with long-term detrimental consequences. Therefore, health is viewed here not as an endowment but as one dimension of well-being, closely related to life styles and behaviour. Self-reporting health, as a synthesis of objective conditions and the social meaning of these conditions at a certain moment and in a certain context, appears to be an appropriate measure, although not easy to interpret. For this population, the Capability Approach seems particularly helpful inasmuch as it includes individual agency as a transversal dimension and

proposes a way to structure the different factors of inequality, especially resources of the context versus personal characteristics.

We proceed here in two steps. First we analyse the varying role of different factors on both health outcomes and the use of the modern health system. The main point is to distinguish between the role of the resource context, including the available health infrastructure, in effect the 'offer' side and that of socio-cultural, family and individual resources that affect demand. The latter are conceived as resources enhancing individual agency in achieving good health. In a second step, we contribute to the debate on the role of the health system (3, 13) by examining the effect of the recourse to the modern health services on the subsequent health situation. In other words, we test whether the use of the health system is enhancing the health achievement and in which measure it could therefore be considered as one dimension of the capability set (Figure 10).

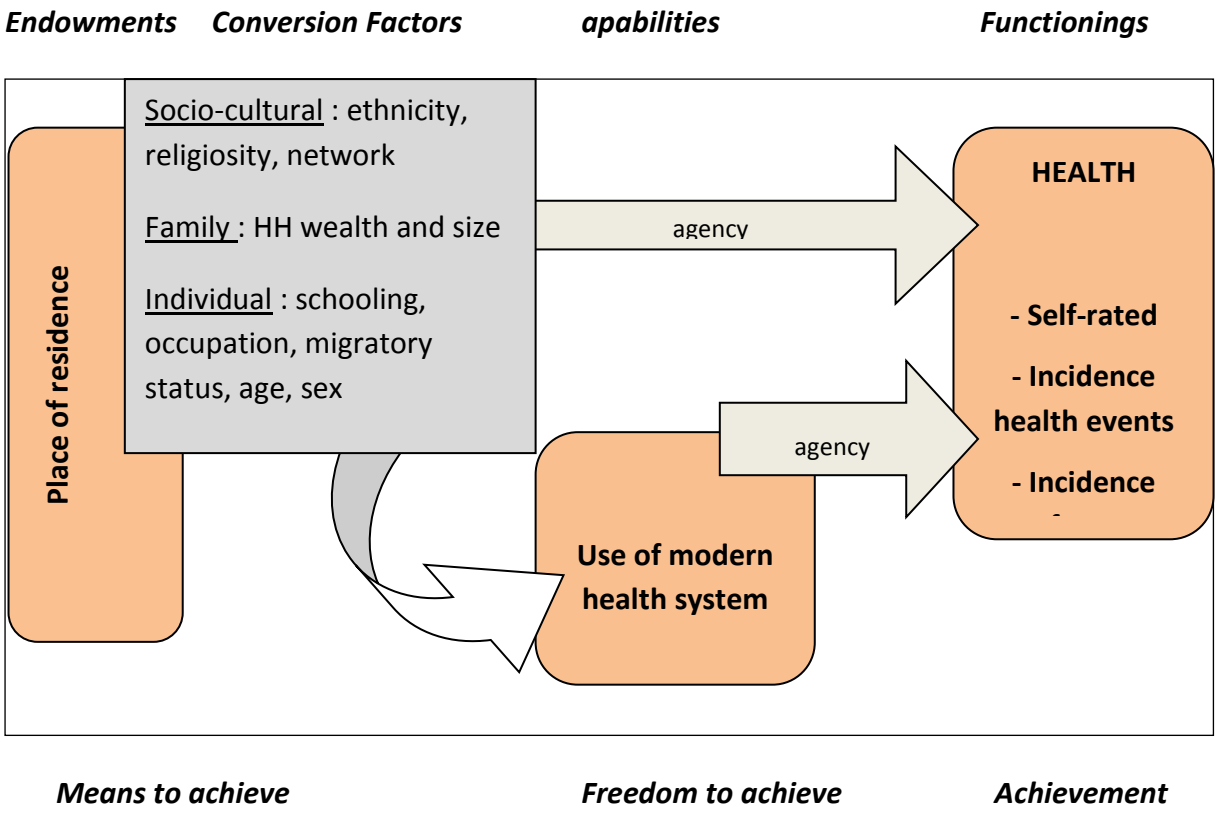


Figure 10. A conceptual model of endowments, conversion factors, capabilities and functionings for the health of the youth of Bamako.

Adapted from Robeyns (2005).

## Health of young people in Bamako: achievement and capabilities

### The achieved health situation assessed using histories and current self-reported health status.

The low incidence of health events declared in the biographies and the high levels of self-rated health confirm that youth is a largely healthy period of life. Half of the young people (49.7%) had no health problems in the preceding five years, with 42.3% reporting one problem and only 8 % with more than one problem. Surprisingly, 67.5% said they had never had an episode of acute fever (malaria?) with 31.9% reporting a single episode and only 0.5% with more than one episode. More than half said they were in very good health and only 1.7% reported poor health (average and bad). Given these results, in our analysis less healthy young people are defined as those with at least one health problem or illness episode in the five years before the survey and those who declared not to be in very good health (mediocre hereafter).

The self-reports are puzzling since more than half of those reporting two or more health problems nonetheless considered themselves in very good health (Table 4). The same pattern although less pronounced is seen with reference to fever. One conclusion to be drawn from Table 4 is that neither illness nor specific conditions such as fever necessarily impact self-reported health at he time of the survey unless they have lasting consequences.

Table 4. Number of health problems and acute fever episodes by self-rated health.

| Self-rated health | Total reported number of : | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Health problems | | | | Fever episodes | | | |
| | 0 | 1 | 2 | 3+ | 0 | 1 | 2+ | Total |
| very good | 391 | 449 | 136 | 17 | 695 | 293 | 5 | 993 |
| | 72.9% | 47.5% | 48.7% | 40.5% | 57.0% | 51.0% | 55.6% | 55.1% |
| good | 107 | 261 | 76 | 15 | 306 | 152 | 1 | 459 |
| | 20.0% | 27.6% | 27.2% | 35.7% | 25.1% | 26.5% | 11.1% | 25.5% |
| average - bad | 38 | 235 | 67 | 10 | 218 | 129 | 3 | 350 |
| | 7.1% | 24.9% | 24.0% | 23.8% | 17.9% | 22.5% | 33.3% | 19.4% |
| Total | 536 | 945 | 279 | 42 | 1219 | 574 | 9 | 1802 |
| | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| $Chi^2$ P = 0.000 | | | | | $Chi^2$ P = 0.07 | | | |

### Health opportunities: recourse to the modern health system.

Looking at reports of health care sought in the 5 years before the interviews, we see that more than half of the young people (55.7% - 47% of men and 61.5% of women) had indeed made use of the modern health services. The effect of age is not strong but level of education plays a significant role (Table 5).

Table 5. Use of the modern health care system by age and education for illness episodes occurring in the 5 years before the survey.

| | Age | % use modern health system | | Schooling | % use modern health system |
|---|---|---|---|---|---|
| Men | 15-19 | 43.3 | Men (15-24 y.) | None | 35.4 |
| | 20-24 | 41.1 | | Primary | 40 |
| | 25+ | 43.6 | | Secondary and more | **46.6** |
| Women | <16 | 55.2 | Women (15-24) | None | 51.8 |
| | 16-19 | 56.8 | | Primary | 60.6 |
| | 20+ | 58.1 | | Secondary and more | **61.6** |

### The role of the resources of the context and of individual characteristics on unequal health situation and access to health centers

Using logistic regression, we analyse the relative influence of a series of features considered as proxies for endowments and conversion factors. We measure the specific effect of each of the factors, controlling for the other factors included in the statistic model, on each of the four health indicators used here. We postulate that each measures a different aspect of health. Episodes of acute fever will provide information more related to environmental health and preventive behaviour than overall incidence which, in turn, probably better expresses differences in individual resources. Preferences as well as the influence of the socio-cultural surroundings will play an important role in self-reported health, a measure with an important subjective side. The use of services adds an information about service availability, but also measures the capacity and willingness to use them. Here, we only summarise the main findings; more detailed results can be found in Appendix 2 and in Sauvain-Dugerdil et Lerch, 2012 (12).

### The resource context (endowments)

The analysis confirms that the place of residence is a significant determinant of the health status of young people, even after controlling for socio-cultural characteristics, family and individual features, but a complex one. The results are consistent with the sanitation gradient. For women, episodes of fever appear to occur less frequently in Bandiagara Coura and Niarela than in Sicoroni, the least healthy district. By contrast, we do not find the simple and positive relationship between health and standard of living in the three neighbourhoods. It seems that the health effects are attenuated by differences in health behaviour. The young men of Niarela, the wealthiest quarter, have the poorest health. The differences seem to be due to lifestyle, in that the better off young men living in a neighbourhood offering shops and bars of different kinds have adopted lifestyle less favourable for the health.

Life style factors also affect the health of women: service use during an episode of illness is highest in the poorest district, Bandiagara Coura. Notably, the gap widens when we introduce controls for education and employment status. Apparently, the characteristics of the population compensate for the lack of services in the district. It seems that this lack of services has encouraged women to move to other neighbourhoods where they already have knowledge of where the services are to be found as a result of their commercial activities.

## Individual characteristics: resource or obstacle to agency

### Socio-cultural factors

The cultural dimension is measured here using ethnicity and religious practice. Ethnicity appears to play a role even in the urban context. The effect is however significant only among young men. Those from non-pastoral ethnic groups in the North report better health regarding the incidence of health problems and episodes of acute fever. These young men may have some additional resistance to infection as a result of their life in a malarial environment. Since the majority of the population is Muslim, we use the degree of religiosity rather than religion *per se*. Amongst young men, those who are more religious seem to have adopted a healthier lifestyle.

### The role of the support network

The support network is captured through the characteristics of the household - standard of living and size - and a measure of the density of the social networks. There was a slight positive correlation between health and family wealth for men with the reverse effect for young women. Links with the household size is weak, but men with an extensive network of relationships appear to be stimulated to recourse to modern medicine.

### Individual-level factors

### Education and employment status

For boys, education seems to reduce the proportion reporting poorer health, but overall, for both sexes, the effect of education takes the form of a U. Young people who have studied for a short time are more likely to seek help from the health services, but they are in poorer health and experience more episodes of fever than those who had no schooling or more years at school. These results corroborate the thesis about the complexity of the impact of schooling: curtailed school attendance may predispose young people to risky behaviour, an effect reduced when staying longer at school and acquiring more life skills. For both genders, however, working outside the home increases the incidence of acute fevers, particularly amongst young men. Those with a professional occupation are much more likely to make use of the available health services.

### Migration status

For men, the incidence of health problems declines for those not brought up in Bamako. This finding is in line with the reduced risk of illness among certain ethnic groups. Concerning access to care, immigrants are less privileged but the effect is not significant.

### The age of entry into adulthood

For both genders, age has little effect on the decision to seek health care, so it is difficult to identify the difficulties of young people face in accessing health services. On the other hand, subjective health assessment declines with age, particularly amongst young women. For men however, we see a small decline in the incidence of health problems and febrile episodes with increasing age. The youngest have adopted less healthy behaviours that are older peers who seem to have a more perceptive view of their own health.

For women, the effects of age are confounded with the problems associated with pregnancy. Having pregnancy during the period of observation did not change their self-assessed health although pregnancy led to an increase in health problems and to a lesser extent in febrile episodes.

### Influence of past illness experience

An important factor that influences current health is their earlier health history (Figure 11). All other things being equal, having had a prior health problem reduces the risk of illness. It seems that health problems do not accumulate at the individual level, thus explaining the low prevalence of illness amongst the young people interviewed[4]. On the other hand, the previous illness history affects negatively the use of modern health services. Having dealt **with a previous health problem seems to discourage men from using the services during** subsequent illness episode. A previous use of the modern health services increases the risk of subsequent illness episode among the young women and, in both sexes, it reduces a subsequent use.

This analysis shows complex effects of the use of health services on subsequent health. A first contact with the modern health system appears to increase subsequent health problems but decreases further use of the services, what may indicate a tendency to self-medicate for minor health problems.

[4] Amongst young people having had a health problem 75% only knew of one problem and 98% reported only one episode of acute fever

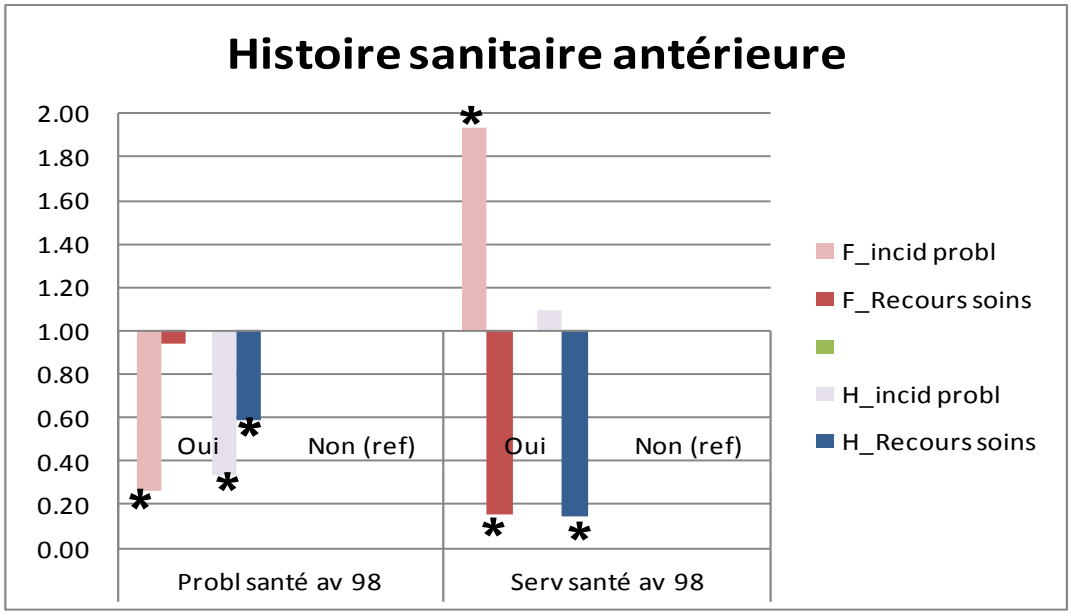


Figure 7. Impact of previous health history on current health and recourse to health care services.

Note: Logistic regression on the incidence of health problems and of use of modern services during the five last years, controlled for all other characteristics: relative risks - Exp (B) - when had or not a previous health problem and when had or not used the modern health system during a previous problem.

## Discussion: the Bamako case.

The health of the young people strongly linked with the behaviours features of social change and the joint health and urbanisation transitions. The survey results point to the holistic view of health shared by the youth. The history of previous illnesses and current health status reflect the multidimensional aspects of health linking both the concept of illness and of well-being. This makes the analysis of health differentials extremely complex. The capability framework seems to provide a promising route to distinguishing the factors of inequality in the freedom to live in good health and its accomplishment. Despite of the reliance on secondary data from enquiries undertaken for other purposes, we've been able to identify some of the salient factors determining health levels and differentials amongst the youth of Bamako. The size of the sample and nature of the data prevent further more sophisticated statistical analysis. Nonetheless, the Capability Approach has helped identify groups more vulnerable than others and the factors which reinforce the capacity of people to translate their potentialities into well-being. From this point of view, policies and programmes that reduce the negative factors and increase the positive factors are clearly needed.

From this Bamako analysis, we find that, despite the general good health of young people, entry into adulthood is risky - for young women starting child-bearing and for young men entering the labour market. Women seem more vulnerable to environmental risks. Men are

often attracted by life styles acquired through social networks or their work environment. For the young urbanites not in the worst situations, economic resources do not seem to be the major barrier to achieving good health. On the contrary, a certain level of comfort seems to be associated to behaviours that are dangerous to health and to produce differentials in terms of access and use of the available health services. Contact outside of the household, such as access to school, seemed to allow young women to acquire the competencies which enable them to access modern health services. In both sexes, this window on the world however also implies increased risks whenever not compensated by a solid education. Using the modern health system appears to be more a matter of the moment than a real concern for health. A more detailed analysis shows also that a previous contact of women with the health services improves the subsequent health only among those with higher human and economic resources. It seems thus to increase health inequalities.

## General discussion

In this paper, we have applied the capability lens to analyse the differentials in self-assessed health through two case studies. The first limitation is the reliance on secondary data. Second, and more broadly, the analysis begs a number of questions about the definition of endowments, conversion factors and functionings in the context of health. As Ariana and Naveed point out, there has been a dearth of discussion in the academic literature about the definition of health capabilities(14). They lay emphasis on the difference between achieved functionings which are readily measureable and broader notions of potential functionings. They are also ambivalent about the use of weights to distinguish "elementary functionings" from more "complex functionings" such as self-respect.

Clearly, we are at the stage of experimenting with different approaches to employing the Capability Approach to understanding health differentials and inequities and approaches which complement the one above may be necessary.

In spite of these limitations, our analysis highlights the usefulness of the Capability Approach, this even when applied on secondary data. It offers not only keys for a comprehensive thinking of health policy in the line of the recommendations of the WHO Commission on the Social Determinants of Health, but also tools to structure its implementation. Through four targets, we present hereafter a number of ways in which the kind of analysis presented here for Accra and Bamako might inform health interventions and broader development programs designed to improve health in low-income countries.

➔ **Target 1. Enhance individual agency through increased personal resources (education, occupation and wealth).** Our results confirm that after controlling for other contextual, socio-cultural and family factors, education still has a specific effect on health outcomes.

Among Accra women, whatever their wealth situation (endowment groups), education and being professionally active correlate positively with health attainment. Yet, as the case of Bamako youth illustrates, there are complex effects of education, occupation and wealth. Education seems less relevant for young men than young women; occupation may also be a risk factor. Thus for young people, more so than schooling itself, the acquisition of life skills seems essential to avoid behaviours detrimental to health.

➔ **Target 2. Provide supportive environment to vulnerable sectors of the population.** Endogenous problems - such as handicaps, but also the specific needs in different stages in life - cannot be solved, but appropriate policies and programs can reduce their effects. Our analyses highlight thus the increased vulnerability of older Accra women, but also in both case studies the adverse impact of motherhood on women health. Among young Bamako boys the entry into the labour market appears also to be a more vulnerable stage in life. More generally, the case of the Bamako youth confirms that young people deserve specific considerations giving special emphasis on preventing the adoption of risky behaviour.

➔ **Target 3. Infrastructure to improve the quality of the neighbourhood.** Our results show that, even after controlling for characteristics of the population, the surroundings per se have a significant influence on health outcomes. This is the case in Bamako where the level of sanitation plays a role and in Accra where some neighbourhoods are advantageous with regards to health (15, 16). Yet, the impact is a complex one. In Accra, the wealth of the neighbourhood correlates with physical health but less with mental health; in Bamako, the degree of sanitation appears to affect young women's but not young men's health. In turn, young men seem to develop more risky behaviour when living in the wealthier sector, offering more infrastructures, including leisure opportunities.

➔ **Target 4. Health services that attract people and meet their needs.** The availability of health infrastructure and even more quality care, is without doubt a basic necessity. Yet our results confirm that use of the services has not become a systematic behaviour. Among Accra women, it is rather frequent but more among wealthier households and apparently restricted to more serious health problems[5]. Among Bamako youth it is much less frequent, not a characteristic of the better off[6], and for both sexes associated with contacts out of the household, i.e. having been to school and being professionally active; moreover, a first contact with the modern system diminishes the probability to use them at a subsequent health problem and does not erase inequalities of access. Therefore, in this type of population, under the present circumstances, it does not seem to be legitimate to consider the use of services as a capability, i.e. a dimension of the freedom to achieve good health.

[5] Rate of use of medical infrastructure when sick is high (81%), but correlated with the household wealth and those who have recourse to medical services when sick have poorer health scores.

[6] The opposite is even true among young women where the access is higher among the poorest, living in the poorest sector

## Apendix 1. Predictors/determinants of functioning within groups. Women Health Accra

| | PH_factor | | | | MH_factor | | | |
|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| Variable | Parameter Estimate | | | | Parameter Estimate | | | |
| Intercept | 0.077 | -0.260 | -0.255 | 0.156 | 0.066 | -0.081 | 0.054 | 0.021 |
| subm2 | -0.126 | 0.995 | -0.197 | 0.184 | -0.319 | 0.546 | -0.292 | 0.246 |
| subm3 | 0.073 | 0.190 | -0.041 | -0.009 | 0.826* | 0.202 | 0.392 | 0.242 |
| subm4 | 0.077 | 0.180 | 0.181 | -0.023 | 0.399* | 0.202 | 0.285 | 0.150 |
| subm5 | 0.337* | 0.523* | 0.133 | 0.377* | 0.323* | 0.291* | 0.057 | 0.427* |
| subm6 | 0.031 | 0.045 | -0.065 | -0.119 | 0.027 | -0.114 | 0.058 | -0.164* |
| ethn1 | -0.013 | -0.011 | 0.185 | 0.004 | 0.014 | -0.066 | -0.022 | 0.066 |
| ethn2 | -0.196 | -0.082 | -0.050 | 0.017 | -0.059 | -0.045 | -0.332* | -0.030 |
| ethn3 | -0.055 | -0.189 | -0.065 | -0.009 | 0.001 | -0.017 | 0.076 | -0.011 |
| region_acc | 0.053 | -0.121 | 0.011 | -0.083 | 0.044 | -0.155 | -0.165 | 0.055 |
| HHhead | -0.032 | 0.093 | 0.142 | -0.144* | 0.053 | 0.117 | -0.030 | -0.041 |
| edu0 | -0.355* | -0.244* | -0.162 | -0.264* | -0.302* | -0.178 | -0.149 | -0.311* |
| edu1 | -0.184* | 0.110 | -0.019 | -0.142 | -0.241* | 0.097 | -0.251 | -0.258* |
| edu3 | 0.109 | 0.128 | 0.052 | 0.023 | 0.009 | 0.157 | 0.021 | 0.027 |
| ms1 | 0.035 | 0.024 | 0.210* | -0.004 | 0.009 | 0.002 | 0.184 | 0.052 |
| goes0 | 0.360* | 0.358* | 0.281 | 0.222* | 0.198 | 0.428* | 0.064 | 0.084 |
| goes1 | 0.102 | 0.083 | -0.003 | 0.076 | 0.259* | 0.277* | -0.042 | 0.259* |
| NHIS | -0.037 | 0.167* | -0.029 | 0.111* | -0.089 | -0.067 | 0.059 | 0.044 |
| agesvy1 | 0.281* | 0.193 | 0.563* | 0.187* | 0.043 | 0.160 | 0.235 | 0.079 |
| agesvy2 | 0.203* | 0.183 | 0.404* | 0.127 | -0.017 | -0.035 | 0.123 | 0.034 |
| agesvy4 | -0.217* | -0.267* | -0.362* | -0.407* | -0.048 | -0.233 | 0.285 | -0.112 |
| occ_form | -0.017 | -0.017 | 0.018 | 0.029 | -0.106 | -0.117 | 0.029 | 0.133 |
| occ_unempl1 | -0.079 | -0.074 | -0.084 | -0.215 | -0.293* | 0.043 | -0.336* | -0.247* |
| occ_unempl2 | -0.737* | -0.907* | -0.460* | -0.699* | -0.609* | -0.484* | -0.515* | -0.550* |
| pregn0 | 0.0283 | 0.338* | 0.012 | 0.095 | 0.195 | 0.456* | 0.164 | 0.044 |
| pregn47 | -0.087 | -0.030 | -0.085 | -0.028 | -0.083 | 0.186 | -0.146 | 0.037 |
| pregn8 | -0.182 | -0.146 | -0.123 | -0.177 | -0.135 | 0.212 | -0.240 | -0.071 |

* significant at 0.05 level

## Appendix 2. Differentials in health outcome and in use of services. Bamako young people.

### Logistic regression.

| | | | FEMMES (N= 940) | | | | HOMMES (N= 877) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Exp(B) | | | | | | | |
| | | | Eval médiocre | Incid probl | Episode fièvre | Recours soins | Eval médiocr | Incid probl | Episode fièvre | Recours soins |
| RESSOURCES DU CONTEXTE | Résidence | BandiagaraCoura | 1.26 | 0.79 | 0.59 ** | 1.74 ** | 0.78 | 0.93 | 0.67 | 0.94 |
| | | Sicoroni (ref) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| | | Niarela | 0.67 | 0.77 | 0.59 ** | 1.23 | 1.09 | 1.52 ** | 1.14 | 0.91 |
| FACTEURS SOCIO-CULTURELS | Ethnie | Eleveurs Nord | 0.96 | 1.16 | 0.93 | 1.13 | 1.39 | 1.13 | 1.12 | 1.15 |
| | | Non éleveurs - Nord | 0.86 | 1.12 | 0.92 | 0.95 | 0.70 | 0.62 ** | 0.43 ** | 0.74 |
| | | Bambara (ref) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| | | Autres | 1.22 | 1.31 | 1.24 | 1.37 | 1.36 | 0.96 | 0.65 | 1.06 |
| | Religiosité | Non / irrégu (ref) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| | | Pratique régulière | 0.80 | 0.87 | 0.79 | 1.00 | 1.12 | 0.70 ** | 0.76 | 1.12 |
| FACTEURS FAMILIAUX | Réseau | Moins dense (ref) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| | | Plus dense | 0.77 | 1.02 | 1.06 | 0.87 | 1.04 | 1.00 | 1.02 | 1.70 ** |
| | Niveau de vie | plus bas | 0.96 | 1.02 | 0.79 | 1.53 * | 1.34 | 1.26 | 1.30 | 0.83 |
| | | moyen (ref) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| | | plus haut | 1.23 | 1.70 *** | 1.13 | 1.05 | 0.77 | 0.81 | 1.05 | 0.88 |
| | Taille ménage | 1-6 personnes | 1.07 | 0.97 | 1.13 | 1.06 | 1.34 | 1.12 | 0.99 | 1.12 |
| | | 7-10 pers (ref) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| | | 11 et plus | 1.03 | 1.12 | 1.08 | 1.02 | 0.93 | 1.14 | 0.99 | 0.64 |
| FACTEURS INDIVIDUELS | Scolarisation | Aucune | 1.13 | 1.12 | 0.78 | 0.51 ** | 1.47 | 0.89 | 0.49 ** | 0.48 ** |
| | | Jusqu'au CEP (ref) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| | | > CEP | 0.87 | 0.84 | 0.67 ** | 0.84 | 0.96 | 0.93 | 0.71 | 0.75 |
| | Occupation | Etudiant | 1.38 | 1.23 | 1.38 | 1.33 | 1.09 | 0.75 | 0.80 | 0.92 |
| | | Non actif (ref) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| | | Prof. Actif | 1.29 | 1.01 | 1.35 | 1.77 * | 1.18 | 0.71 | 2.11 ** | 2.25 * |
| | Statut migrant | Immigrant | 0.96 | 1.01 | 1.16 | 0.87 | 1.31 | 0.76 * | 0.43 *** | 0.68 |
| | | Tjs à Bamako (ref) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| | Age | ado | 0.60 ** | 0.82 | 0.83 | 1.01 | 1.15 | 1.41 * | 1.26 | 1.14 |
| | | jeune (ref) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| | | jeune adulte | 1.52 ** | 0.89 | 0.69 ** | 1.07 | 1.51 * | 0.61 *** | 0.55 ** | 1.22 |
| | Maternité dps 98 | Oui | 1.08 | 1.51 ** | 1.33 | 1.14 | | | | |
| | | Non (ref) | 1 | 1 | 1 | 1 | | | | |

Exp β : ***P<.001, ** P<.05, * P<.01)

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## END NOTES

[a] All conversion variables are presented below with their relevant groupings. The following points are worth noting:

- The largest ethnic group represented in the sample is Ga (41%) with Akan and Ewe to follow (32.2% and 13.5% respectively). All other ethnic groups reported in the survey are grouped in the 'other' category, which represents 13.1 % of the sample.
- The household head variable tells us if the index woman was a household head at the time of the interview.
- The education variable, completed level of education, was divided into 4 groups – no education, primary, junior secondary school, senior secondary and higher.
- The 'married' category in marital status includes all women who identified themselves as married or living with a man (as if married); 'Not married' includes widowed, divorced, separated, never married
- 'Goes where when sick' is a variable used for a proxy to determine use of health services, with the largest majority of women reporting that they go to a medical facility (80.1%) which includes hospitals, clinics, health centres. Non-medical facilities include pharmacies, chemical shops, church, spiritualist, and self-medication (11.5%).
- Information on enrolment in the National health insurance scheme (NHIS) shows that 35% of women reported that they are currently enrolled, while the remaining 65% report that they are not part of the scheme.
- Age group was determined by the sample selection.
- Occupation shows that the majority of the women in the survey (60.6%) report that they have and informal occupation – street vendors, hawkers, food preparers, market traders; The women who have a formal waged or salaried occupation represent 8.8% of the sample; and those who are unemployed (both able and unable) represent 30.7% of the sample. Those who report they are unemployed and unable to work are most probably the older women in the sample.
- Number of pregnancies reflects what the interviewed woman reported when asked to list her pregnancy history and the categories are none (13.4%), 1 to 3 pregnancies (35.6%), 4 to 7 pregnancies (38.5%) and more than 8 pregnancies (12.4%).