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Abstract

Introduction

In spite of general agreement that cross-cultural research is needed in the health area, most existing investigations of children's development of health and illness-related concepts have involved samples from developed countries. The study examined the development of the concepts of health and illness as a function of subject's age, socio-economic status (SES), gender and grade level in a Brazilian sample of 96 elementary and junior high school students.

Methods

Subjects were interviewed individually and their ideas of health and illness were assessed through open-ended questions. Participants' answers were transcribed verbatim and subjected to content analysis.

Results

Chi-square analyses revealed significant age, school grade and SES-related differences in participants' concepts of health and illness.

Discussion and Conclusion

The themes employed by subjects to define both health and illness were broadly consistent with those found by previous research. The study showed a predictable relationship between subject's age and school grade level and increasingly more highly differentiated and multidimensional concepts of health and illness. This investigation suggests that, for the most part, cross-cultural similarities in children's concepts of health and illness may be more striking than the differences.

Research. Disease. Cross-cultural comparison. Health-disease process. Health education.

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Resumo

Introdução

Apesar de diversas pesquisas indicarem a necessidade de investigações transculturais na área de saúde, a maioria dos estudos existentes sobre o desenvolvimento de conceitos de saúde e doença em crianças e adultos foram realizados com amostras de países desenvolvidos. Assim, foi realizada uma pesquisa com o objetivo de investigar o impacto das variáveis idade, série escolar, nível socioeconômico e sexo na formação dos conceitos de saúde e doença em escolares brasileiros de primeiro grau.

Método

Os sujeitos foram entrevistados individualmente, num total de 96, e suas idéias sobre saúde e doença foram medidas por questões abertas. Suas respostas foram transcritas na íntegra e estudadas por análise de conteúdo.

Resultados

Provas de Chi-quadrado revelaram diferenças significativas nos conceitos de saúde e doença dos participantes em relação à idade, série escolar e nível socioeconômico.

Discussão e Conclusão

Os temas empregados pela amostra para definir saúde e doença foram consistentes com os encontrados nas pesquisas provenientes de outros países. Na medida em que a idade e a série escolar aumentam, os conceitos de saúde e doença tornam-se mais diferenciados e multidimensionais. As semelhanças entre culturas na conceitualização de saúde e doença mostraram-se muito mais intrigantes do que as diferenças.

Pesquisa. Doença. Comparação transcultural. Processo saúde-doença. Educação em saúde.

INTRODUCTION

The frequency of studies dealing with children's concepts of health and illness has increased recently (Natapoff^{13,14} 1978, 1982; Natapoff & Essoska¹⁵, 1989), the most important reason for this probably being the potential usefulness of information from such studies for a variety of health education initiatives (Green & Bird⁸, 1986).

Most of the research investigating children's concepts of health and illness have concentrated on examining age and cognitive developmental differences in children's conceptualizations of health and illness. Using a predominantly Piagetian approach, this research has concluded that children of different ages tend to define health and illness-related concepts in terms of ideas which follow a normative sequence of cognitive developmental changes (Kalnins & Love⁹, 1982; Bibace & Walsh⁵, 1980). Such studies have shown that children's concepts of health shift from behavioral and concrete indicators (e.g., engagement in health practices) towards descriptions of more abstract and generalized states (e.g., feeling good).

Similarly, conceptualizations of illness appear to become more abstract with age, although in this area more pronounced across-age similarities have also been observed. That is, while definitions of illness

as lack of ability to do required and desired activities are usually found to increase in accordance with age and progress at school (Apple², 1960; Natapoff¹³, 1978), the presence of symptoms and feeling states are the most frequent delimiters of illness at all ages (Campbell⁷, 1965; Natapoff¹³, 1978).

The nature of conceptualizations of illness has also been examined through non-Piagetian approaches. For example, studies employing the Illness Representation Approach (Skelton & Croyle¹⁹, 1991; Troccoli et al.²⁰, 1992) have shown that illness is mentally represented by laypersons in terms of five major structural components: a) "Identity" (presence of an observable symptom and a label), b) "Consequence" (concerns regarding the immediate and long term consequences of the problem), c) "Time-Line" (notions of its temporal course), d) "Cause" (attribution to causes) and, e) "Cure" (identification of ways by which a cure can be obtained). However, developmental studies using this approach are lacking.

In general, the studies that have explored children's health and illness-related ideas have tended to focus on either health or illness, rather than examining both concepts within the same study (Campbell⁷, 1975; Natapoff¹³, 1978; Schall et al.¹⁷, (1987); Natapoff & Essoska¹⁵, 1989; Boruchovitch et al.⁶ (1991). In addition, the investigations in this

area have involved children in developed countries. Thus, as pointed out by Skelton & Croyle¹⁹ (1991), there is a need for studies examining these issues in samples of children in developing countries.

The present study represents an addition to the literature by analyzing the development of conceptualizations of both health and illness in a sample of children of six to fourteen years of age. The children included live in a developing country: Brazil. Thus, the study provides data for cross-cultural comparison with previously reported findings based on samples from developed countries.

The subjects answers to questions on their conceptualizations of health and illness were given a score in accordance with a set of qualitatively defined answer categories. The specific definitions of these categories, described in detail below, were based on scoring approaches employed in previous research.

In the data analysis several approaches were used. The conceptualizations of health and illness were examined in terms of the Piagetian model focusing on the level of abstractness reflected in each answer category. The children's definitions of health were in addition examined for their fit with the three approaches to defining health used in related research, the so called medical model, the World Health Organization (WHO) model, and the ecological model (Balog³, 1978). Finally, the children's definitions of illness were analyzed in terms of their representation of the five components described by the Illness Representation Approach referred to above. The qualitative characteristics of the children's conceptualizations were analyzed as a function of the child's age, grade level, gender and socio-economic status.

METHOD

Subjects

The sample consisted of 96 randomly selected students from 32 classes in two Brazilian schools (one public and one private) of the northern area of Rio de Janeiro county. The sample was selected to include approximately equal numbers of children in the following three age groups: six and seven years (33%), eight to 11 years inclusive (35%) and 12 to 14 years inclusive (32%). Fifty percent of the sample was male. In order to ensure representation of both low social-economic status (SES) and Middle SES background in the sample, the subjects were selected from two school settings. The sub-sample (53%) drawn from a public school was of low SES background. The school serves poor areas such as Macacos, S. João and Pau Bandeira. The private school sub-sample was of middle SES background. Tijuca and Rio Comprido are among the neighborhoods served by the private school.

Instrumentation and Procedures

The subjects' concepts of health and illness were collected by the first author using open-ended questions, e.g., "What is illness"? Further prompting was used when appropriate. The subjects were assured of complete confidentiality and it was made clear that the information collected would be used for research purposes only.

Coding of Subjects' Answers

Subjects' answers were transcribed verbatim and subjected to content analysis. Coding systems (consisting of categories) and scoring rules for placement of an answer in a given category were created for each of the questions. Coding systems were initially developed based on half of the sample's answers and were subsequently applied to the data from the whole sample. In the conceptualizations of the coding categories attempts have been made to incorporate relevant coding systems described in previous studies (Campbell⁷, 1965; Natapoff¹⁴, 1982; Millstein & Irwin¹², 1987; Schall et al.¹⁷ (1987); Boruchovitch, et al.⁶ (1991)).

The following four paired categories were developed for screening the answers to the two questions "What is health?" and "What is illness?", respectively: 1) "Engagement/Lack of engagement in health preventive-maintenance practices", 2) "Not being sick/Not being healthy", 3) "Ability/Inability to do the required and desired activities", and 4) "Positive/Negative feeling states and moods". A "Do not know" category was also included in the coding system. For instance, a given answer would be placed in the category "Engagement in preventive-maintenance practices", if in this answer, health was described in terms of actions which reflect what people usually do to be healthy (concrete and specified actions performed or intentionally not performed by subjects in order to be healthy - e.g. health is to eat well). For additional information regarding the coding systems, see Appendixes A and B.

The subjects' definitions of health were also coded in terms of the degree to which they presented a fit with any of the health definitions referred to by Balog³ (1978) as the Medical Model, the WHO Model and the Ecological Model. Answers which defined health as an absence of symptoms or problems were categorized as reflecting the disease-free state described by the Medical model. Responses which emphasized the ability to do the "required and desired activities" were categorized as expressing the functional perspective of the Ecologic Model (i.e., health as the adequate functional capacity which allows individuals to carry out their duties and desired activities). Answers which defined health in terms of positive feeling states and moods were categorized as representing the WHO model with its emphasis on general well-being. Answers which fell into the "Engagement in preventive-maintenance practices" or in the "Do not know" categories were considered as not representative of any model, and therefore were categorized as "No Model".

In addition to being coded in terms of the four answer categories described above (i.e. lack of engagement in health preventive-maintenance practices, inability to do the required and desired activities and negative feeling states), the subjects' definitions of illness were also scored on the basis of the illness components suggested by the Illness Representation Approach. That is, the definitions were grouped as a function of their reference to "Identity", "Cause", "Consequence", "Time-line" and "Cure". Due to their similarity in content, answers in which illness was associated with the presence of symptoms were categorized as addressing the "identity" component. Responses which emphasized the lack of health preventive-maintenance practices were categorized as referring to the "cause" component. Answers which defined illness in terms of an inability to do the required and desired activities were categorized as expressing the "consequence" component. No additional correspondence was found.

The coding categories employed in this investigation represent a set of different and mutually exclusive themes. Subjects were allowed to give multiple answers to the questions posed; but only one answer in each category was recorded for each child. That is, if a child gave three responses falling into the Engagement in preventive-maintenance practices category, it was coded as one answer in that category. Only if a subject employed more than one theme in answering a given question would it be recorded as multiple answers. As a consequence of this scoring method, the number of answers analyzed for both definitions (health and illness) exceeds the number of subjects included. A thematic diversity score for each definition was assigned to the subjects on the basis of whether or not their answers involved single or multiple themes.

Reliability of the Coding Procedures

A sub-sample of answers was coded by three independent raters. The reliability of the coding systems was analyzed by correlating their scores. Inter-rater reliability was 95% for the health concept question and 90% for the illness concept question. Raters were unaware of any information regarding subject's age, school grade level, gender and socio-economic status during the coding process.

RESULTS

The Concept of Health

Of a total of 125 (100%) answers, the most frequent definitions of health were in terms of "Positive feelings" (40.8%) and "Engagement in health preventive-maintenance practices" (26.4%). Though less frequently, ideas of health as "Not being sick" (13.6%) and as an "Ability to do required and desired activities" (9.6%) also emerged. Chi-square analyses were carried out to investigate age, school grade level, SES and gender-related differences in subjects': (a) concepts of health, (b) use of multiple themes to define health, and (c) concepts of health which represented a fit with any of the major health models.

SES showed a significant relationship with themes used to define health (Table 1). $\chi^2(4, N = 125) = 11.36, p < .05$. Subjects from the middle class background were more likely to define health in terms of themes involving feelings than were their low SES counterparts. No significant associations were found between health concept answers and age, school grade level or gender.

The use of multiple ideas to define health increased significantly as a function of age $\chi^2(2, N = 96) = 12.85, p < .05$, and of higher school grade $\chi^2(2, N = 96) = 10.88, p < .05$ (Table 2). Neither gender nor SES was significantly associated with using multiple themes to define health.

Analysis of the data presented in Table 3 indicate that higher age was associated with a tendency for children to define health in terms that corresponded to at least one of the three models described in the health literature, $\chi^2(6, N = 125) = 18.31, p < .01$. Similarly, overlap with these models increased as a function of increasing grade level, $\chi^2(6, N = 125) = 19.62, p < .01$. Neither gender nor SES related associations were found.

Table 1 - Percentage of answers to the question "What is Health?" by socio-economic status (SES).

| SES | Do not know | Health practices | Not being sick | Ability | Feelings | Total |
|--------|-------------|------------------|----------------|---------|----------|-------|
| Middle | 3.4 | 25.4 | 10.2 | 6.8 | 54.2 | 47.2 |
| Low | 15.2 | 27.3 | 16.7 | 12.1 | 28.8 | 52.8 |
| Total | 9.6 | 26.4 | 13.6 | 9.6 | 40.8 | 100.0 |

Table 2 - Percentage of single and multiple answers to the question "What is Health?" by age and by school grade level.

| Theme | Age | | | | School grade level | | | |
|----------|-----|------|-------|-----------|--------------------|--------------|----------|-------------|
| | 6-7 | 8-11 | 12-14 | Total age | Beginner | Intermediate | Advanced | Total grade |
| Single | 87 | 78 | 53 | 73 | 88 | 67 | 60 | 72 |
| Multiple | 13 | 22 | 46 | 27 | 12 | 33 | 40 | 28 |

Table 3 - Percentage of health concept answers based on the health models by age and by school grade level.

| Health models | Age | | | | School grade level | | | |
|-----------------------------------|-----|------|-------|-----------|--------------------|--------------|----------|-------------|
| | 6-7 | 8-11 | 12-14 | Total age | Beginner | Intermediate | Advanced | Total grade |
| No model | 78 | 57 | 43 | 58 | 79 | 50 | 46 | 58 |
| Medical | 5 | 17 | 25 | 14 | 5 | 17 | 18 | 14 |
| WHO | 8 | 22 | 23 | 18 | 7 | 19 | 32 | 18 |
| Ecologic (functional capacity) | 8 | 12 | 8 | 10 | 7 | 14 | 4 | 10 |

Table 4 - Percentage of answers to the question "What is Illness?" by socio-economic status (SES).

| SES | Do not know | Lack of health | Not being healthy | Inability | Feelings | Total |
|--------|-------------|----------------|-------------------|-----------|----------|-------|
| Middle | 6.3 | 18.8 | 17.2 | 12.5 | 45.3 | 45.1 |
| Low | 3.8 | 16.7 | 46.2 | 9.0 | 24.4 | 54.9 |
| Total | 4.9 | 17.6 | 33.1 | 10.6 | 33.8 | 100.0 |

The Concept of Illness

The subjects provided 142 answers defining illness. The themes most frequently represented among these answers were: "Negative feelings associated with being ill" (33.8%) and "Not being healthy" (33.1%). Definitions belonging to the categories of "Lack of engagement in preventive-maintenance practices" and "Inability to do the desired and required activities" were less frequently presented (17.6% and 10.6%, respectively).

Data in Table 4 show a significant relationship between illness concept and SES, $\chi^2(4, N = 142) = 14.39, p < .01$. While middle class subjects defined illness in terms of "Feelings", low income students associated it with the category "Not being healthy" (presence of symptoms). No significant associations were found between subjects' illness concept answers and age, school grade level and gender.

Data presented in Table 5 show a significant relationship between school grade level and the use of multiple themes to define illness, $\chi^2(3, N=142) = 12.85, p < .05$, with beginners (early grades) providing more single theme answers (70.6%), as opposed to 50.0 and 38.1% single theme answers for intermediate and advanced grade levels, respectively. Subject's age, SES and gender showed no relationships with the use of single versus multiple theme definitions.

Subjects' definitions of illness were also scored on the basis of the illness components suggested by the Illness Representation Approach. Results show that "Identity" was the illness component most frequently found (54.0%) followed by the "Cause" (17.2%) and the "Consequence" (28.7%) components. SES showed a significant relationship with the three aforementioned components (Table 6). $\chi^2(2, N = 87) = 6.78, p < .05$. Subjects from low class background were more likely to represent illness in

Table 5 - Percentage of single and multiple answers to the question "What is Illness?" by school grade level.

| School grade level | Single | Multiple | Total |
|--------------------|--------|----------|-------|
| Beginners | 70.6 | 29.4 | 35.4 |
| Intermediate | 38.1 | 61.9 | 43.8 |
| Advanced | 50.0 | 50.0 | 20.8 |
| Total | 52.0 | 47.9 | 100.0 |

Table 6 - Percentage of answers based on the illness components to the question "What is Illness?" by socio-economic status (SES).

| SES | Consequence | Identity | Cause | Total |
|--------|-------------|----------|-------|-------|
| Middle | 38.7 | 35.5 | 25.8 | 35.6 |
| Low | 23.2 | 64.3 | 12.5 | 64.4 |
| Total | 28.7 | 54.0 | 17.2 | 100.0 |

Table 7 - Intercorrelations between health and illness categories.

| Health categories | Do not know | Practices | Not sick | Ability | Feelings |
|-------------------|-------------|-----------|----------|---------|----------|
| DNK** | .135 | | | | |
| Lack practices | | .291* | | | |
| Not healthy | | | .187 | | |
| Inability | | | | .097 | |
| Feelings | | | | | .366* |

* $p < .05$

** DNK - Do not know

terms of the "Identity" component than were their middle class counterparts. Moreover, participants from the middle class background were more prone to associate illness with the "Cause" and "Consequence" components than subjects from the low SES background. No significant associations were found between the tendency for subjects to define illness in terms of the illness components and age, school grade level and gender.

Intercorrelations between the Concept of Health and the Concept of Illness

Contingency Coefficients were computed with a view further to investigating whether the concepts of health and illness are opposite ends of a single health dimension or reflect different but overlapping constructs, so as to estimate the interrelationships between the categories (themes) employed by the sample to define both health and illness. Data displayed on Table 7 reveal that among the five paired categories, only two ("Feelings" and "Health preventive-maintenance practices") were significantly intercorrelated, but these intercorrelations were relatively low.

DISCUSSION

Health was defined by subjects mostly in terms of positive "Feelings" and "Engagement in health preventive-maintenance practices". Though less frequently, ideas of health as "Not being sick" and as an "Ability to do require/desired activities" also emerged. Similarly, illness was conceptualized by the majority of the sample as "Negative feelings" and as "Not being healthy" (i.e., presence of symptoms or problems). The themes employed to define both health and illness among Brazilian subjects were broadly consistent with those found by previous research (Rashkis¹⁶, 1965; Natapoff^{13,14}, 1978, 1982; Campbell⁷, 1975; Millstein & Irwin¹², 1987).

Health

It is noteworthy that while health and illness conceptualizations based on the notions of "Engagement/Lack of engagement in health-preventive maintenance practices" have been reported in all studies dealing with children and adolescents including the present study, such views of health have rarely been expressed by adult subjects (Apple², 1960; Baumann⁴, 1961). Thus it seems that conceptualizing health in terms of such practices is associated with lower levels of cognitive maturity. The data presented in Table 3

appear to support this notion. Table 3 shows a significant association between lower subject age and grade level and a tendency for the subjects' health definitions to belong to the category referred to as "No model", i.e., as not fitting any existing model. As noted above, the "No model" label was developed by combining two of the answer categories presented in Table 1, i.e., answers referring to health practices and a smaller number of "Don't know" answers.

The association between subject's age and education and a decline in use of definitions involving concrete health maintenance practices or vague "Don't Know" answers may also be seen as giving support to the notion that development in this area resembles the progression toward increasingly more abstract thinking suggested by the Piagetian model. The finding that higher subject age and grade level were significantly associated with a tendency toward giving multiple definitions of health might also be interpreted as supporting the relevance of such a model. That is, the ability to produce more than one type of definition may be interpreted as a reflection of the child's ability to view a concept from more than one angle, i.e., to decenter, which Piaget has described as an important indicator of the cognitive developmental changes defining the transition to the concrete operational stage. Examination of Table 2 will show that the youngest group (6-7 years) who, according to Piaget's model, should be just below or at the threshold between the Pre-operational and the Concrete operational stages only in 13% of the cases showed this ability as compared with 46% of the 12-14 year-old sub-sample.

In this connection an apparent inconsistency in the presented findings deserves comment. In the first set of reported analyses, SES was found to be significantly related to the types of definition presented by the subjects (Table 1), while age and education were not, although the observed non-significant tendencies were in the direction expected. Probably, the fact that the two answer categories most strongly associated with younger age were analyzed separately rather than as a combined category accounts for these analyses' falling short of significance.

When asked to define health, children from middle SES background presented a significantly higher frequency of answers involving feeling states than did children of low SES background. As mentioned in the introduction, earlier studies have found higher age to be similarly associated with definitions of feeling states. It seems likely that the influence of exposure to education may be reflected in both of

these relationships. In contrast to the evidence provided by adult research (Baumann⁴, 1961; Laffrey^{10,11}, 1983; 1986), very few answers in this sample showed a fit with the ecologic model (functional and adaptative definitions of health). Furthermore, if analyzed separately, the relationship between the use of this particular model and age and grade level respectively, would not be significant. It is possible that the single question used to assess health definitions in this study was less conducive to expression of ideas fitting the ecological model than was the data collection approach used in other studies (Laffrey^{10,11}, 1983; 1986). Of course, the younger subject age or the cultural background of the subjects of the present study may also have contributed to the difference in findings in this area.

Illness

Results from the present investigation were also consistent with previous research evidence that there are similarities across age groups in individuals' conceptualizations of illness (Apple², 1960; Campbel¹⁷, 1975; Natapoff¹³, 1978). Concepts of illness based on the presence of symptoms and on the descriptions of feeling states were most frequently used to define illness across all age and grade levels in this sample.

The association between the SES status of the subjects and their definitions of illness was found to be similar to the association discussed above between SES and definitions of health. In both cases children from middle SES background tended to use more definitions describing feeling states. However, previous studies of American samples have reported a comparatively lower frequency of feeling state definitions and a higher frequency of illness definitions involving descriptions of symptom in middle SES subjects. These findings have been replicated in studies of adults as well as of children (Bauman⁴, 1961; Natapoff^{13,14}, 1978; 1982). The reason for the discrepant result of this study cannot be determined on the basis of the available evidence.

The conceptual similarity between three of the answer categories used by subjects of this study to define illness (Not being healthy, Lack of health preventive/maintenance practices, Inability to do required and desired things) and three of the components proposed by the Illness Representation

Approach (Identity, Cause and Consequence) provided some support for the notion that the components suggested by this approach are indeed part of children's mental representation of illness. However, since the proportion of answers in which illness was expressed in terms of negative feelings was actually greater than the proportion falling into any other category (Table 4), the findings suggest that the Illness Representation Approach would present a better fit with children's conceptualizations if an additional feeling component were added to the model.

Finally, the analysis of the patterns of the intercorrelations between themes employed, respectively, to define health and illness also reinforced previous research conclusions by confirming (Millstein & Irwin¹², 1987) not only that health and illness are distinct though related concepts, but also that health is generally conceptualized as more than the mere absence of illness, and illness is defined in ways which encompass more than the exclusive presence of problems.

CONCLUSION

For the most part, this investigation suggested that there are more cross-cultural similarities than differences in children's conceptualizations of health and illness. However, additional cross-cultural evidence is needed to further substantiate this finding, especially studies examining cross-cultural samples controlled for SES and Age. The study showed a predictable relationship between subject's age and school grade level and increasingly more differentiated, multidimensional and adult-like concepts of health and illness.

In terms of health promotion efforts, approaches which focus solely on disease avoidance aspects might be overlooking other important health and illness dimensions which children possess. Given that definitions of health in terms of both "Positive Feelings" (i.e., how people feel as a consequence of being healthy) and "Engagement in Health Preventive-Maintenance Practices" (i.e., actions taken or intentionally not performed by subjects in order to be healthy) were pervasive in studies with children, such views of health may serve as important starting points for health education initiatives targeted at school-age subjects.

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APPENDIX A

Coding rules for the categories used to analyze students' answers to the questions: "What is Health?"

- 1) *Do not know/unreasonable and circular answers* - This category includes blank spaces, answers in which students mention lack of information, answers showing an inadequate comprehension of the question, answers which use the word to be defined in its own definition (e.g. Health is to have health) or answers which cannot be placed in one of the categories below.
- 2) *Engagement in preventive-maintenance practices* - This category includes answers that describe health in terms of actions which reflect what people usually do to be healthy (concrete and specified actions taken or intentionally not performed by subjects in order to be healthy - e.g. Health is to eat well; Health is not to enter dirty water; Health is to have food, hygiene and rest.
- 3) *Not being sick/absence of problems or symptoms* - This category includes answers that describe health as a lack or an absence of illness, health threats, problems or symptoms - e.g. Health is not being sick; Health is not facing any threat to life; Health is not having any health problems; Health is not having a cold.
- 4) *Ability to do the required and desired activities* - This category includes answers that describe health in terms of actions which reflect what people can do as a consequence of being healthy (descriptors of the functional capacity of a healthy condition) - e.g. Health is to be able to play; Health is being able to go outside.
- 5) *General feeling states and moods* - This category includes answers that define health either in terms of the way people feel and experience things as a consequence or as a characteristic of being healthy, or in terms of affective and somatic attributes which health can be associated with - e.g. Health is good; Health is joy; Health is to feel good to feel happy; to have courage and faith, to be strong; to have lots of energy; to be in good shape both internally and externally; to have a good immunological system.

APPENDIX B

Coding rules for the categories used to analyze students' answers to the questions: "What is Illness?"

CATEGORIES

- 1) *Do not know, unreasonable and circular answers* - This category includes blank spaces, answers in which students mention lack of information, answers showing an inadequate comprehension of the question, answers which use the word to be defined in its definition (e.g. Illness is to be ill) or answers which cannot be placed in one of the following categories below.
- 2) *Lack of preventive-maintenance practices* - This category includes answers in which a illness is associated with a lack of appropriate health actions on the part of the subjects - e.g. Illness is when you do not have a proper hygiene; Illness is not taking care of yourself properly.
- 3) *Not being healthy/presence of health problems or symptoms* - This category includes answers that describe illness in terms of the absence of good health, the presence of specific or general health problems or physical and somatic symptoms - e.g. Illness is to have a problem in the body; Illness is when a person does not have health; Illness is colds and pneumonia; Illness is a virus; Illness is when you are weak, in pain, tired, on when you lose appetite.
- 4) *Inability to do the required and desired activities* - This category includes answers that define illness through the description of behaviors which are direct indicators of alterations in the subject's functional capacity due to illness - e.g. Illness is when you stay in bed; Illness is when a person cannot run and cannot study.
- 5) *General feelings states and moods* - This category includes answers that describe illness either in terms of the way people feel or experience due to illness, or in terms of affective attributes with which illness can be associated - e.g. Illness is when you feel very bad; Illness is when you feel very sad. Illness is something very bad; Illness is something very serious, horrible, fatal.