



Sex education: teachers' and future teachers' conceptions and social representations; what relevance for teachers' training?

Dominique Berger, Salah-Eddine Khzami, Didier Jourdan, Sandie Bernard,
Graça Carvalho

► To cite this version:

Dominique Berger, Salah-Eddine Khzami, Didier Jourdan, Sandie Bernard, Graça Carvalho. Sex education: teachers' and future teachers' conceptions and social representations; what relevance for teachers' training?. Colloque international du CREAD 2008: Efficacité et équité en éducation, Nov 2008, Rennes, France. hal-01098340

HAL Id: hal-01098340

<https://hal.science/hal-01098340>

Submitted on 23 Dec 2014

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

Dominique Berger¹, Salah-Eddine Khzami^{2,4}, Didier Jourdan¹, Sandie Bernard¹, Graça de Carvalho⁵

1 : EA n°4281, PAEDI, IUFM Université Claude Bernard Lyon 1, France

2 : Ecole normale supérieure, Marrakech, Maroc

4 : LIRDEF, composante didactique et socialisation, Université de Montpellier 2, France

5 : LIBEC-CIFPEC IEC, Universidade do Minho, Braga, Portugal

Sex education: teachers' and future teachers' conceptions and social representations; what relevance for teachers' training?

Education à la sexualité : représentations sociales et conceptions d'enseignants et futurs enseignants, incidences sur les pratiques et la formation ?

Abstract

This paper presents the results of a questionnaire about teachers' and pre-teachers' representations coming from 17 countries (Europe, Africa, Middle-East) include in the European FP6 Biohead-Citizen research project which aims to understand how health and sex education can contribute to improving citizenship.

School Sex Education is nowadays an important public health issue as it concerns not only youth AIDS prevention (and other sexually transmitted infections) and adolescent pregnancy prevention but also interpersonal relationships and psychosocial issues. Therefore school appears the best place to improve sex education and contributes to promote better citizenship. Questionnaire analyses the social representations and practices of teachers in several countries, focusing on their differences and associating them to controlled parameters (e.g. social context, religion, gender). In this communication we analyze data concerning teachers' and future teachers' conceptions on the topic of sex education derived from a questionnaire that was constructed and tested during the first year of the project. The questionnaire was completed by 5189 teachers and future teachers. We used statistical multivariate analyses, a method that has become standard for investigating complex data derived from many individuals that needs to be analyzed according to many variables (here we have used the responses to the questions as variables). The results show that the factors that correlate most closely with the teachers' and future teachers' conceptions are religion, the level of belief in God and the level of religious practices. It was also found that the level of teaching (primary versus secondary school) is also correlated with different conceptions on sex education. Detailed results will be presented and discussed.

Résumé

Cette communication présente les résultats de questionnaires recueillis auprès d'enseignants et futurs enseignants de 17 pays (Europe, Afrique et moyen-orient) dans le cadre du projet Biohead Citizen. Il s'agit d'identifier les différences de conception des enseignants sur l'éducation à la sexualité et de mettre en exergue les facteurs les influençant. L'éducation à la sexualité fait partie des missions confiées aux institutions scolaires. Elle concerne non seulement la santé publique à travers la prévention des infections sexuellement transmissibles, la prévention des grossesses précoces mais également la question de l'égalité de genre, des violences sexuelles, des rapports interpersonnels, du développement psychoaffectif et a des implications sociales conséquentes. L'école apparaît comme le lieu privilégié d'accès aux informations et aux connaissances scientifiques qui permettent de connaître et de comprendre les différentes dimensions de la sexualité. L'éducation à la sexualité vise aussi à susciter la réflexion des élèves et à les aider à développer des attitudes de responsabilité individuelle, familiale et sociale en partant de leurs conceptions et de leurs connaissances. Elle s'inscrit dans la construction du sujet, de l'élève et du citoyen et contribue à favoriser une meilleure citoyenneté.

Le questionnaire a été renseigné par 5189 enseignants et futurs enseignants. Nous avons procédé par analyses en composantes principales qui ont montré l'importance des variables personnelles (genre, niveau de formation, niveau d'enseignement, discipline et statut) et l'incidence des variables sociales (pays, religion, niveau de croyance et de pratique religieuse) qui conduisent à des positions parfois très opposées sur l'enseignement et les contenus de l'éducation à la sexualité, sur l'égalité des sexes, sur les droits des personnes et sur la prévention. Certaines conceptions apparaissent comme des obstacles importants à la mise en place d'éducation à la sexualité et à la promotion de la santé. Les conceptions diffèrent significativement d'un pays à un autre mais également en fonction des convictions religieuses et du niveau de croyance des enseignants. Se pose alors la question des pratiques d'enseignement et de la formation des enseignants que nous discuterons.

MOTS-CLÉS : Didactique des sciences, éducation à la santé, éducation à la sexualité, conceptions, valeurs, enseignants, primaire, secondaire.

1. INTRODUCTION

This study is included in the Biohead-Citizen research project « Biology, Health and Environmental Education for better Citizenship » (FP6, CIT2-CT2004-506015, Carvalho et al. 2004). One of its two axes aims to analyze in service teachers or pre-service teachers' conceptions. We will present the results coming from 12 countries on the reproductive health education /sex education [RHE/SE].

Our objective is firstly to identify the teachers' conception variation, in each country and between countries. Are these conceptions linked with knowledge, with beliefs, philosophical or/and political issues? What is the role of local and social practices in each country? How are the interactions between "knowledge", "values" and "social practices" (Clément, 2004)? In fine, what are the in service teachers or pre-service teachers' conceptions on RHE/SE and on the impact of RHE/SE would be promote better citizenship. We aim to build training programmes on teachers' knowledge of and attitude towards reproductive health education /sexuality education [RHE/SE].

2. SCIENTIFIC BACKGROUND

Sex education, sometimes called sexuality education or sex and relationships education, is the process of acquiring information and forming attitudes and beliefs about sex, sexual identity, relationships and intimacy. It is also about developing young people's skills so that they make informed choices about their behavior, and feel confident and competent about acting on these choices. It is widely accepted that young people have a right to sex education, partly because it is a means by which they are helped to protect themselves against abuse, exploitation, unintended pregnancies, sexually transmitted diseases and HIV/AIDS.

Human sexuality is not enclosing in the life transmission and includes four important dimensions:

- Anatomy and biology with sex physiology, procreation and survival mankind
- Social dimension with cultural influence, social norms and rules and theirs political, juridical and religious incidences
- Psychological dimension with gender issue, the personality's construction and self esteem.
- Affective and relational dimension with feelings (love, desire), points of view and emotions...

Sexuality presents a multidimensional aspect and concern deeply humans in the interweaving between sexuality, social influences, cognitive and affective development. So sexuality can be reduce in a dichotomy biology/psychology and involve in same time psycho-affective and biological maturation and social learning.

Sexuality education seeks both to reduce the risks of potentially negative outcomes from sexual behavior like unwanted or unplanned pregnancies and infection with sexually transmitted diseases, and to enhance the quality of relationships. It is also about developing young people's ability to make decisions over their entire lifetime. Sex education that works, by which we mean that it is effective is sexuality education that contributes to this overall aim.

Although most interventions on Sex education concern teenagers (see ref in Kirby, 2002) or young adults (Ergene and al., 2005), the WHO texts insist on the necessity for implementing early sexuality education, particularly in primary schools (WHO, 1999; 2004a). Many authors underline the importance of the educational dimension of this: "the action must be integrated into a global life-education strategy; the way it is spoken of must be adapted to the situation, the parents' involvement, as they are the first resource for the children, must be as great as possible, and the educators must come from different fields" (AFLS, 1993).

It is necessary, in order to go beyond a prescriptive approach, and adopt a decidedly educational perspective, to implement a learner-centred approach (Develay, 1993), taking into account the children's peculiarities, expectations, needs, and also their own representations (Fischer, 2001). In this way, taking into account pupils' representations is an important part of the learning process. The interest of taking them into account in an HIV/AIDS or sex education programme for children under twelve has already been underlined (Fassler and al., 1989; Ferron and al., 1989; Thomas, 1991; Sly and al., 1992; Schaalma, Kok and Peters, 1993; Shonfeld and al., 1993; Kelly, 1995; WHO, 1999 ; 2004a ; 2004b).

The model on which these propositions was based assumes that learners build knowledge from their own lives. They learn through their mental representations, which depend on each person's social and biological experience, and individual disposition. Learning is a highly active mental process which works in an integrative mode in the conflict between what the learner has in his mind and what he can find and understand through his conceptions about his environment. When a learner makes a new model, all his mental models must be rebuilt in an interaction between the pre-existent representation and outside information (Giordan, 2000). Sex education requires the teacher to take into account the pupils' representations and to help them build other more relevant

ones. Moreover, the child's environment must be taken into account in the programme as children's representations are not only based on what they learn at school, but also on all the other aspects of a child's life (Downie, Tannahill and Tannahill, 1996).

Representations are to be taken as coherent models used by learners and teachers to reason when faced with a problematic situation (Jodelet, 1991; Farr, 1997). The building of these is rather complex and depends on values and beliefs shared by a social group and which give rise to a common outlook manifest during social interactions. As these representations are linked to the subject's emotional responses, the cultural and social group he belongs to, and constitute a decisive element in his relationship with the world, they are resistant to change. Representations are closely linked to behavior (Abric, 1997) and they could be considered as being a good target, as it is well known that knowledge is easy to change, but behaviors are much more challenging. Thus if a study aiming at impacting these representations is to be relevant, it has not only to target the transmission of knowledge, but also to take into account the social and cultural aspects of the children's and teacher's daily environment (Doise and Mugny, 1997).

Most researches are quasi-experimental designs. This method is of great evidentiary value but, due to its peculiarities, sex education also needs other designs (Victoria and al. 2004). In our context using the controlled randomized trial as a method for assessing the effects of the social representations is really difficult. The impact of representations means that using a control group is delusive, and that randomization is tricky (Tones and Tilford, 2001). This is mainly because causal chains in public health interventions are very complex. Although such an approach has its limits, several authors conclude that they are in favour of new research on teachers' representation being set up, aiming at determining exactly what content and what tools would be most suitable (Darroch J. and Silverman J. 1989 ; Heymans, 1993). Associating multidisciplinary partners in the drawing up and the implementation of the researches' programmes makes it possible to better understand the interactions between teachers' representations and social issues (believes, knowledge and practices) (Martinand, 2003; Clément, 2005). If these interactions were not considered, they would be confounding factors.

3. METHODOLOGY

Between the 19 countries of the Biohead-Citizen project, 12 give us data on RHE/SE. Four are outside Europe and widely (Tunisia, Morocco, Senegal) or in large part (Lebanon) muslim. Height countries are Europeans members (Portugal, France, Italy, Finland, Cyprus, Estonia, Hungary and Romania) and resent different characteristics: north and south, east and west Europe, catholic, protestant or orthodox culture.

In each country, we have data coming from pre (PRE) and in (IN) service teachers in primary school (P) and in secondary schools in biology (B) and national language (L) in 6 balanced data groups. The corpus include responses from 5189 questionnaires: Cyprus (CY, 322), Estonia (ES, 183), Finland (FI, 306), France (FR, 732), Hungary (HU, 334), Italy (IT, 559), Lebanon (LB, 722), Morocco (MA, 330), Portugal (PT, 351), Romania (RO, 273), Senegal (SN, 324), Tunisia (TN, 753).

3.1 Questionnaire and coding

The questionnaire was elaborated in the Biohead-Citizen Project in a common work with all the research teams and translated in national language (validate by retro-translation). It was pre-tested before implementation in each country.

Our work concerns only Sexuality education (cf. annex) and 35 questions (A2, A9, A21, A 30, A31, A36, A41, A 46, A57 to A60, A65, A85 to A90, B3, B5, B11, B13, B17 to B19, B24, B30 to B32, and B37 to B41). Responses are coding with a number scale. Questions A2, A9, A21, A 30, A31, A36, A41, B1 to B3, B5, B6, B9, B12, B13, B15 to B19, B21 to B27 are coding from 1 to 4 from « agree to totally disagree ».

Few questions are on values (e.g. A41: "*Homosexual couples should have the same rights as heterosexual couples*"), on biological knowledge (e.g. "B17: *After ovulation, the follicle changes into corpus luteum which produces high levels of progesterone and estrogens*"). More are on teaching practices, values and knowledge (e.g. B19: *Psychological and social aspects of sex education should be taught primarily by biology teachers*). Questions A57 to A59 and A65 are about abortion. Responses are coding from 1 "*In this case, abortion is morally acceptable*" to 4 "*In this case, abortion is morally unacceptable*" and in A 65 "*Abortion is acceptable*" , from 1 "*never*" to 5 "*at any moment*".

Question A 60: "*There are several behaviours that can help to decrease the spreading of AIDS world-wide. In your view, what is the behaviour you find most relevant to be considered in school sexual education?*" , is

coded from 1 "To have sex only within a stable relationship (not have several sexual partners)" to 4 "To have safer sex, for instance by using a condom in sexual intercourse".

The questions A85 to A90 and B37 to B41 are on the age teachers think the following topics should be first introduced at school by teachers and/or external specialists. Responses are coded from 1 "less than 6 years old" to 5 "never in school".

3.2 Responses' Analysis

Our hypothesis is that teachers' personal values influence their conceptions on HRE/SE. These conceptions may be linked to the school disciplinary (biology or national language), to the teaching level (primary or secondary level), to the training (in service or pre service). But the variables linked to country's context, religion or gender, are determining. What may most differentiate the conceptions of individuals with varying religions, specialities or any other feature? In fact, how to highlight the link between conceptions related to scientific knowledge or educative system in one hand and the teacher's personal, social and cultural background, namely their values on the other hand?

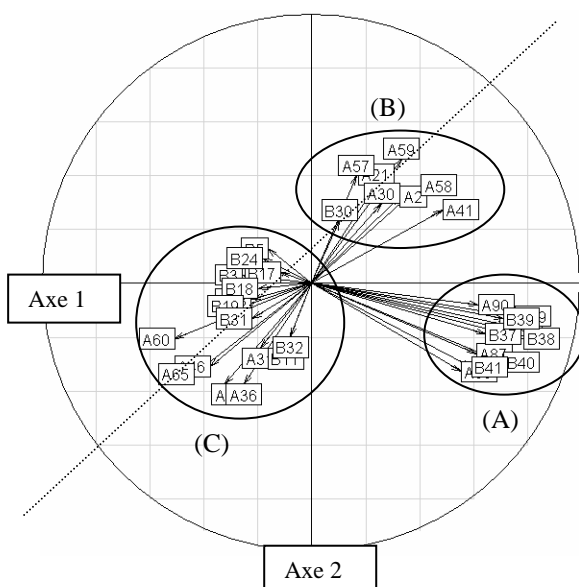
Multivariate analysis allows representing the more structuring components of individuals. These components state better individual's variance. Statistical multivariate analysis has become a standard to investigate complex data featuring the behaviour of many individuals, according to many variables (Lebart et al., 1995). Here variables are questions in a questionnaire for which we gathered answers. To analyze the HRE/ SE and teaching practices data, we use principal component analysis (PCA, Lebart et al., 1995). Variables are coding as numbers. We have done a discriminating analysis (Between group analysis, Dolédec & Chessel, 1987) in complement of PCA to show differences between groups' conceptions (country context, religion, faith and gender). We use instrumental variables in responses' structures as disciplinary (P, B, L), training (In or Pre service) and countries.

4. RESULTS AND ANALYSIS

In this results' presentation, we have chosen to don't show calculation, just graphics which are more explicit. We present the first results and just few variables. We don't propose an exhaustive study, just a skimming over to explore the new research field founded by Biohead-Citizen Project.

4.1 Global approach

Figure 1: Principal component analysis (PCA), global correlation circle



The schema shows us three distinct groups of variables. The group of questions (A) contributes strongly to axe 1 and illustrate that teachers think it is not possible to teach the social components of sexuality education to young pupils. Moreover they don't agree to teach in school before 15 years old contents as homosexuality, pedophilia, pleasure organs, abortion, incest and sex violence, orgasm and pleasure, eroticism and pornography (A85 to A90 and B37 to B41). Nevertheless, pupils found all these topics in their daily life with their peers, in the streets or in the media (press, radio, TV...).

We found a group (B) composed by questions about possibility of abortion (A57 to 59); the respondents who don't agree with abortion think also that women have not the same rights then men (A2), that it's not important to have same number women deputies than men (A30) and that women, biologically, have not same intelligence than men (A21). For them, Homosexual couples must not have the same rights then other couples... And they think also, it's the hazard who determines the sex of a baby (B30).

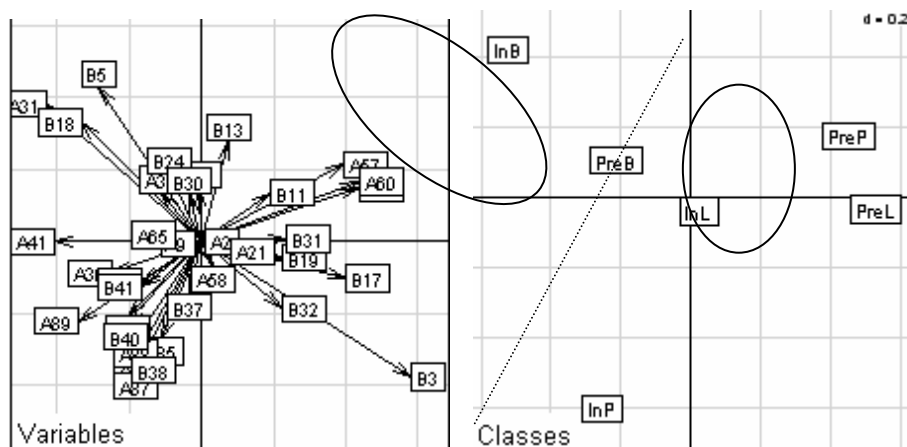
The group (C) of questions is defining the same oblique axis as the group (B), with just opposite positions: it's possible to try to choose baby sex by specific diet or medically assisted techniques (B31, B32) and who agree

with the idea that abortion would be acceptable at any time (A65); a man can be as sensitive and emotional as women (A46) and there is no biological reason which would justify inequality between men and women (A6, A36, A46). Finally the question related to safer sex (as a behavior most relevant to be considered in school sexuality education) is included in this group (C) of questions.

4.2 Training issue

The analysis (figure 3) shows us a difference between training. A PCA has been done to differentiate the six "groups of teaching" controlled in our sampling design (pre or in service, primary or secondary level, biology or letters). In fact Biology teachers (in service or pre service) have conceptions more based on knowledge and on the conviction that they can teach the whole dimensions of sexuality education (Q A31, B5, B18 B17, B22, B3 B24, B30). They think that they have to teach biological aspects of sexuality (human reproduction and ISD) and say that they are able to speak with their pupils about emotion, feelings, pleasure but they have the same difficulties as the others with safer sex (A60) and homosexual rights (A41).

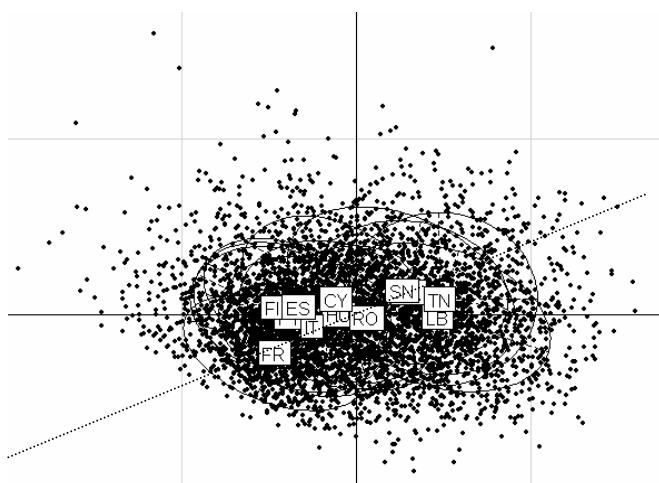
Figure 2: teachers' statute variable



In relation with the others groups, we found a clear difference between in service and pre service teachers in particular for primary teachers. The in service primary teachers are in difficulty in front of the content of sexuality education especially with social and affective issues like homosexuality, abortion, contraception, pleasure organs, paedophilia, safer sex (Questions : A 85 to A90, A 60) for example their conception is based on a false knowledge about the homosexuality origin (Question: B11).

The pre service primary teachers are in opposition with in service primary teachers and agree with safer sex, abortion, homosexual rights... and prefer teach these contents early in the curriculum.

There is an effect of age in the teachers' conceptions. Inside the three thematic groups (primary, secondary biology and secondary letters), older teachers (in service; mean age = 40 years old) are always on the upper part of the axis 2 and the younger teachers (pre service; mean age = 23 years old) are in the lower position (figure 3).



4.3 Country variable

Figure 3: interclass analysis to differentiate countries

When we link the data (fig 1) with countries variables, the schema indicate clearly the incidence of a cultural effect. We have on the first axe the distribution of the countries between two poles. At one end we have Lebanon, Tunisia,

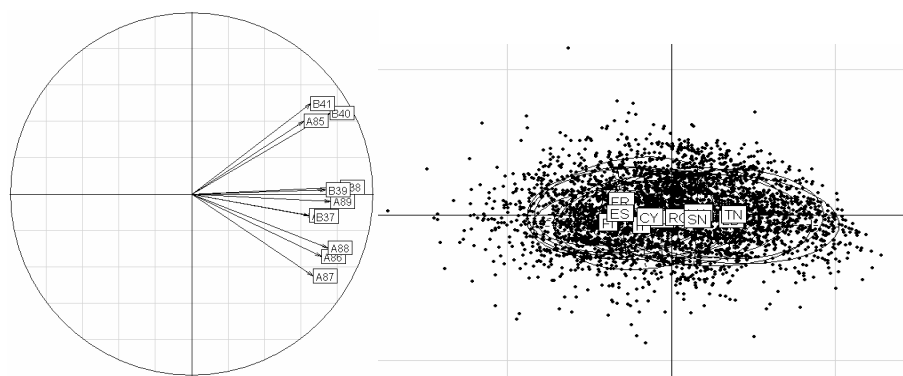
uité en éducation

Morocco and Senegal at the other end France, Finland, Portugal, Estonia and Italy, in the middle, Hungary, Romania and Cyprus. Crossing this graphic with the figure 1, we can see that there is a correlation between countries and conceptions.

The charts are linked by axes' superposition. It seems that European countries have different point of view and conceptions than south countries. News entrants in Europe are in middle position. According to figure 1, we can see that south countries have conceptions founded on inequality between men and women and about their rights and same thing about homosexual rights. They have conservative conceptions about abortion, safer sex and sexuality education. They do not agree to teach sexuality topics in primary school or in first years in secondary school before 15 years. In opposition around France (Fr), we can see the correlation with open view about abortion, equality between men and women and homosexual rights.

But we have to nuance this analysis. The opposition is also in teaching practices about topics like homosexuality, pedophilia, pleasure organs, contraception, abortion, sexual diseases (A85 to A90). France, Finland, Estonia, Portugal and Italy agree more to teach theses contents.

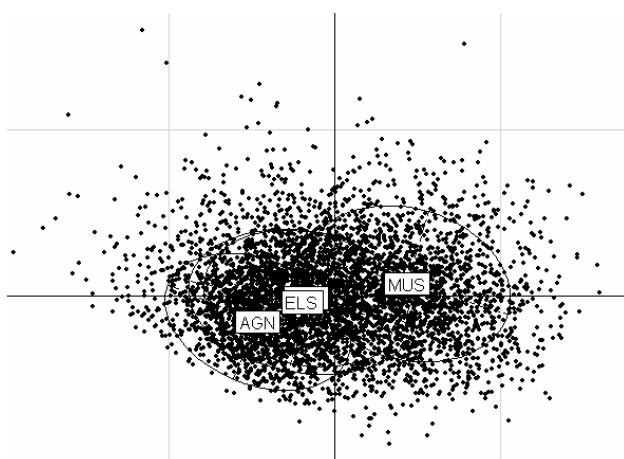
Figure 4: questions A85 to A90 and B37 to B41



The charts are explicit on these issues. We see on the left chart the distribution of theses questions on the correlation circle. Their scores are superior to 3 or 4. It seems that teachers think that the following topics should be first introduced at school by teachers not before 15 years old. The vectors show us where theses conceptions are strongly implanted. The right chart indicates the countries concerned.

The questions about social aspect of sexuality (B37 to B41; pregnancy and birth, sexual intercourses, incest and sexual violence, orgasm and sexual pleasure, eroticism and pornography) have scores near 5. The teachers clearly think that it's not their job to teach these contents. The scores are powered by south countries.

On the right charts we can see two poles. One is constituted by south countries (Tunisia, Lebanon, Morocco, and beneath Senegal) and the other one by european countries (France, Estonia, Finland, Portugal, Italy, and beneath Cyprus). New entrant's countries are in the middle (Romania, Hungary). In the right chart we can see also the large distribution of the answers reveal the conceptions' diversities.



4.4 The religious impact

Figure 5: religion distribution

The four categories (AGN, agnostic, atheist, without religion; MUS, Moslem [Sunnite, Chiite, Druze, Alevi]; ELS, other religions or believes [Jewish, Hinduist, Animist...]; CHR, [catholic, protestant, orthodox]). We have two poles on an axe with in one hand Moslem and in the other hand Agnostic. In the middle part, we found others religions and Christians. With a similar process; we have crossed religion and teachers' conceptions (cf. fig1).

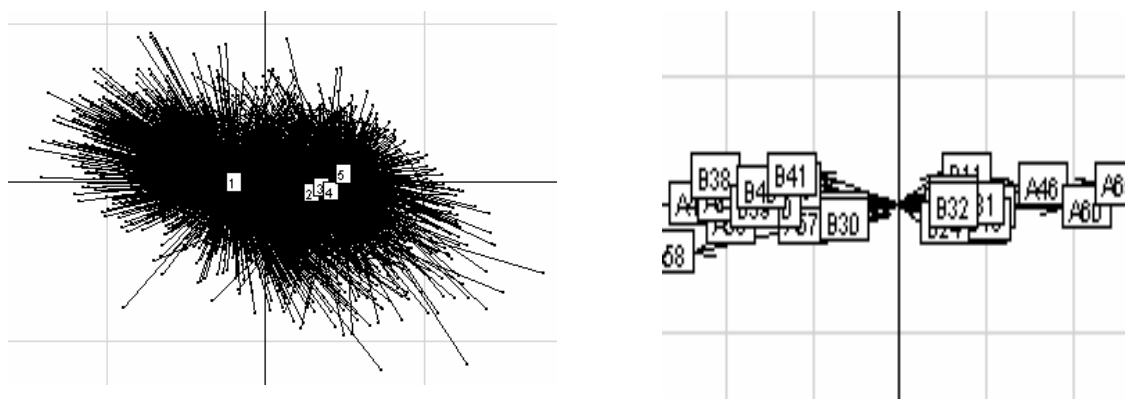
There is a strong correlation between religion

and teachers' conceptions. Agnostics and Atheists agree with the idea that abortion would be acceptable at any time (A65). They think also that a man can be as sensitive and emotional as women (A46) and there is no biological reason to inequality between men and women (A6, A36, A46).

For them, safer sex is the behavior they find most relevant to be considered in school sexuality education. They agree with rights' equality between men and women and homosexual couples. At the opposite we find Moslem. This statement needs to be qualified. So, we crossed this data with God's believe levels.

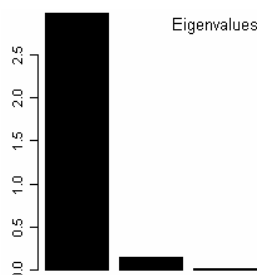
4.4 Crossing the data with God's believe levels.

Figure 6: interclass groups analysis, faith's distribution



In question P12, The responses are coded from 1 "most important" to 5 "I don't believe in God". To do that, we use a PCA which illustrate that the level of faith is an important variable more than religion's membership.

Figure 7: relative contribution of main factors (faith's level)



The variable "faith" contributes heavily to axe 1 as also shown by this graph. There is a great difference between those who have a high level in faith (1) and all the others (2, 3, 4 and 5). We note a small scale progression between 2 to 5 along axe 1.

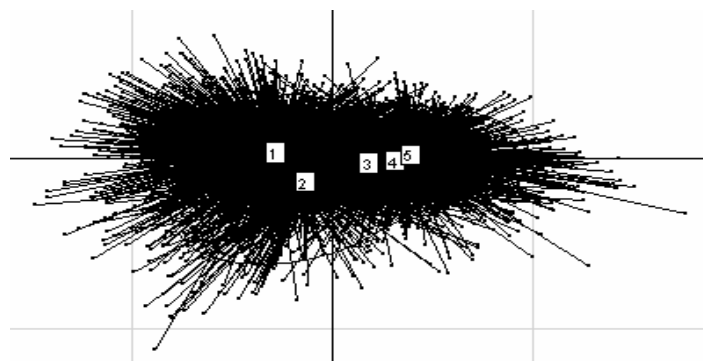
All the data are clearly oriented in two blocks. Those who believe deeply in God are positioned on conservative point of view about men and women equality about women rights and homosexual rights. They don't agree with abortion and they think that it is not to school to teach social content in sexuality education.

In the opposite, more the teachers don't believe in god more they agree with social contents of SE and think that men and women are equal, more they agree with women rights an homosexual rights. They think also it's possible to teach social contents as pedophilia, homosexuality, incest and violence, sexual intercourses... pregnancy and birth and they agree abortion at any moment.

It is also interesting to cross these data (faith level) with religion. In fact the results show us that faith' level is the most important factor which impact on teachers' conceptions. Christians with high faith's level have same kind of responses to the questionnaires than Moslem with same level.

4.5 Crossing the data with religious practices

Figure 8: interclass analysis, religious practices

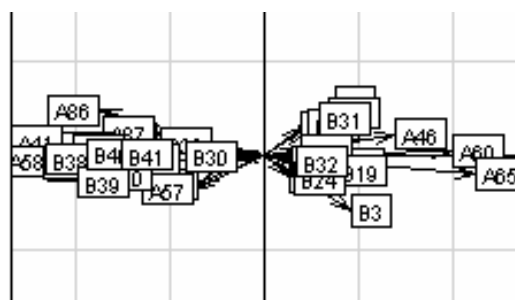


This schema shows us the evaluation of religious practices' level. The responses are coded from 1 "I practice a religion" to 5 "I don't practice a religion". The distribution near axe 1 indicate that the religious practices' factor is also relevant

In coherence with the faith level we can observe two groups. The first composed by those who declare practicing a religion (1 and 2) and the other characterized by low practices or no practice. These groups are also linked with the teachers' conceptions. We found the same orientations about

teaching practices in social components of sexuality education abortion and men and women equality and rights.

Figure 9: interclass analysis, variables' distribution



This chart linked with the previous one, indicates that issues about abortion (A65) and safer sex (A60) and homosexual couple's rights (A41) and about the biological aspect of sensitivity and emotion (A46) are the most relevant.

Teacher's who have a religious practice don't agree with abortion, homosexual couple's rights and safer sex, they don't agree also with the social contents of sexuality education (A 85-90 and B37-41). To the teaching practices, they think that psychological and social aspects of sexuality education should be taught by health professionals.

5. DISCUSSION

The implementation of early educational actions on health risk behaviors (e.g. nutrition, drugs abuse and sexually transmitted infections) can answer more effectively to the strong social demand, which has also been taken constantly by the political sector for many years in order to answer to major societal needs (WHO, 2001). Since the efficacy of the preventive policies is largely dependent of the citizens' adhesion to them, Health Education and Sexuality education turned out to be a rather important social issue. Although being a school mission, health authorities have reinforced the idea that Sexuality Education should be carried out in partnership with other social organizations involved in Health Education, in particular local organisms of the Health sector (WHO, 2006).

To study the effects of the context components and to identify the elements that interact with the sexuality learning domain has been a rather difficult task due to the lack of adequate instruments of research. It is in this field of educational determinants of the person's structuration (especially his/her self-esteem) and his/her ability to communicate, that educational actions must be taken, contributing in particular to the development of the psychosocial competencies. This involves moving beyond practices that rely mainly on classroom-based sexuality education models, to a more comprehensive, integrated approach that focuses both on child-youth attitudes and behaviors, and their environment. Sexuality is regarded as an important determinant of the personal development and wellbeing.

These first results must be considered with prudence. Deep analysis must be done to highlight precisely the variances between groups and their links with social representations and individuals' conceptions.

Forever, we have found that individuals' conceptions have a great incidence on teachers' social representations and on their practices. Recent publications (St Léger, 1998; Lister-Sharp et al. 1999; INSERM, 2001; WHO 2006) have shown that certain pedagogical activities have some positive effect, others no effect at all and yet other ones have a negative effect. This negative impact can be due not only to the quantitative increase of pupils' risk behaviors but also to the intensification of pupils' uneasy feeling or of their perception of a tension between their social/family life experience and the school prescriptions. So the teacher's conceptions are really important especially in prevention to promote health and sexual health. Sexuality Education is determined directly

by both the teaching pedagogical practices and the social context (Allensworth and Kolbe, 1987; Gold, 1994) especially in skills developments.

To be effective, sexuality education needs to include opportunities for young people to develop skills, only having information is not sufficient. The kinds of skills young people develop as part of sexuality education are linked to more general life-skills. Being able to communicate, listen, negotiate, ask for and identify sources of help and advice, are useful life-skills and can be applied in terms of sexual relationships. Effective sexuality education develops young people's skills in negotiation, decision-making, assertion and listening. Other important skills include being able to recognize pressures from other people and to resist them, deal with and challenge prejudice, seek help from adults - including parents, carers and professionals - through the families, community and health services. Sexuality education also helps young people to be able to differentiate between accurate and inaccurate information, discuss a range of moral and social issues and perspectives on sex and sexuality, including different cultural attitudes and sensitive issues like sexuality, abortion and contraception.

The first prevention level is to be in capacities to access to information (WHO). Sexual health education involves a combination of educational experiences that allows individuals to do the following:

- to acquire knowledge that is relevant to their specific sexual health issues;
- to develop the motivation and personal insight that they will need to act on the knowledge;
- to acquire the skills necessary to enhance sexual health and avoid negative sexual health outcomes;
- and to help create an environment that is conducive to sexual health.

Research consistently shows that positive sexual health outcomes are most likely to occur when sexual health education integrates knowledge, motivation and skill-building opportunities and occurs in an environment conducive to sexual health.

School-based sexuality education is an important and effective way of enhancing young people's knowledge, attitudes and behavior (Kirby, 2001, 1992). There is widespread agreement that formal education should include sexuality education and what works has been well-researched. Evidence researches suggest that effective school programmes will include the following elements:

- A focus on scientific information about human reproduction, providing accurate information about contraception and birth control;
- A basis in theories which explain what influences people's sexual choices and behavior and gender issue
- A clear, and continuously reinforced message about sexual behavior and risk reduction;

Working on psychosocial abilities, self esteem, dealing with peer and other social pressures on young people; providing opportunities to practice communication, negotiation and assertion skills;

- Uses a variety of approaches to teaching and learning that involve and engage young people and help them to personalize the information;
- Uses approaches to teaching and learning which are appropriate to young people's age, experience and cultural background;

Formal programmes with these elements have been shown to increase young people's levels of knowledge about sex and sexuality, decrease risk when they do have sex. All the elements are important and inter-related, and sexuality education needs to be supported by links to sexual health services, otherwise it is not going to be so effective. It also takes into account the messages about sexual values and behavior young people get from other sources, like friends and the media. It is also responsive to the needs of the young people themselves - whether they are girls or boys, on their own or in a single sex or mixed sex group, and what they know already, their age and experiences.

Therefore the great challenge we have done with this study, is to identify better not only the nature of the teaching practices but also the teachers' conceptions, especially in sexuality education and their links with the practices. When teacher's have a high level in believes in God, they don't agree to men and women equality, homosexual rights, abortion and safer sex. They don't agree to teach social component of sexuality education before 15 years old. Or, the early access to information is the best ways to prevent sexual violence, sexual transmitted diseases, and promote sexual health and more largely health education. Providing effective sexuality education can seem daunting because it means tackling potentially sensitive issues. However, because sex education comprises many individual activities, which take place across a wide range of settings and periods of time, there are lots of opportunities to contribute. School-based education programmes are particularly good at providing information and opportunities for skills development and attitude clarification in more formal ways, through lessons within a curriculum. So it's very important to Public Health, especially to prevent AIDS and sexual transmitted diseases and sexual violence to well know the obstacles to sexuality education's implementation.

For a long time, mainly because human societies were particularly concerned with hygiene, it was considered appropriate for schools, with their uncontested basis of universal knowledge, to convey rules for good health. Nowadays, health education and promotion is not just about encouraging children and young people to eat well and to exercise; it encompasses a much broader holistic approach (15). In both cases, school should not only be the automatic transmitter of public health policy. The educational system has to act as mediator. It cannot ignore public health issues or social demands but it has to confront such claims with its own values and missions. However, for a teacher, who has many priorities of schooling, including building literacy and numeracy skills; scientific and artistic competencies; societal, historical and cultural dimensions, and who have in fact to provide the means for all to succeed, it is not easy to have a clear view of his or her own contribution to health promotion including sex education. Defining the teacher's role is all the more important since responsibility for children's health lies primarily with the parents and that health promotion and sex education is by no means neutral. Instead, it lies at the intersection between the private and public domains, related to behavioural issues that are determined culturally and to the most intimate of personal decisions.

In the field, it is not easy to identify the school's mission in an environment marked by the power of the models transmitted by the media and the political use of religious points of view. The position of teaching staff is, therefore, difficult to maintain. The first aim of teacher training in sex education is then to help them have a clear view of their mission and its ethical limits. Before giving them methodological tools, teacher training aims at helping them build their professional identity (16).

Sex education is based on the faith in the ability of people to take charge of their own destiny. Trust in teachers and a contribution to the development of their capacity to undertake health promotion and sex education activities can be a base for international co-operation and sex education development.

Acknowledgements

This work had the financial support of the European project FP6 Biohead-Citizen CIT2-CT-2004-506015.

6. REFERENCES

- Allensworth, D. & Kolbe, L.J. (1987). The comprehensive school health program: exploring an expanded concept. *Journal School Health*, 57 (10), 409-412.
- Arwidson, P. (2001). Démarches et méthodes en éducation pour la santé des jeunes. In *4ème Journées d'assurance maladie de la CANAM, Education et prévention chez l'enfant et l'adolescent*, Paris.
- Bandura, A. (1992) self-efficacy mechanism in psychobiologic functioning, self-efficacy: thought control of action pp. 155-189 Washington: Hemisphere.
- Bernard, S. & al (2007). Sexual transmitted diseases and control of reproduction in biology textbooks. A comparative analysis in 16 countries. In proceedings of IOSTE conference 'Critical analysis of school sciences textbooks', Tunisia, 7-10 February 2007.
- Carvalho, G. et al (2007). Health education approaches in school textbooks of 16 countries: biomedical model versus health promotion. In proceedings of IOSTE conference 'Critical analysis of school sciences textbooks', Tunisia, 7-10 February 2007.
- Bury, J. (1988). Éducation pour la santé : concepts, enjeux, planifications. Bruxelles : De Boeck.
- Carvalho, G., Clément, P., Bogner, F. (2004). *Biology, Health and Environmental Education for better Citizenship*. STREP CIT2-CT-2004-506015, E.C., Brussels, FP6, Priority 7. <http://www.biohead-citizen.net>
- Clément P. (2004). Science et idéologie : exemples en didactique et épistémologie de la biologie. In actes du Colloque *Sciences, médias et société*. ENS-LSH, p.53-69 <http://sciences-medias.ens-lsh.fr>
- Deschamps, J.P. (1984). Porter un regard nouveau sur l'éducation pour la santé. *La revue du praticien*, 34, (11), 485-497.
- Dickson, R., Fullerton, D., Eastwood, A., Sheldon, T., Sharp, F et al. (1997) Effective Health Care: Preventing and reducing the adverse effects of unintended teenage pregnancies, National Health Service Centre for Reviews and Dissemination University of York.
- Dolédéc S. & Chessel D., 1987. Rythmes saisonniers et composantes stationnelles en milieu aquatique I- Description d'un plan d'observations complet par projection de variables. In *acta Oecologica, Oecologia Generalis*, 8 :3, 403-426.
- European Convention on the Exercise of Children's Rights
<http://conventions.coe.int/Treaty/EN/Treaties/Html/160.htm>
- Expertise collective INSERM (2001). Education pour la santé des jeunes, démarches et méthodes.
- Forrest, S., Strange, V., Oakley, A., and the RIPPLE team (2002) "A comparison of student evaluations of a peer-delivered sex education programme and teacher-led programme", *Sex Education*, 2(3): 195-214
- Gold, (1994). *The science base for comprehensive health education*. In P. Cortese and K. Middleton (Eds) *The comprehensive school health challenge: promoting health through education*. Santa Cruz CA ETR Editor.
- HCSP (1997). Rapport du Haut Comité de Santé Publique, Santé des enfants, santé des jeunes : rapport adressé à la conférence nationale de santé 1997 et au parlement, Editions ENSP, Collection Avis et rapports.
- Health promoting schools in Scotland.(2008) Available from: <http://www.healthpromotingschools.co.uk/index.asp>

- International Planned Parenthood Foundation www.ippf.org
- Jourdan D. (2004). La formation des acteurs de l'éducation à la santé en milieu scolaire. Toulouse: Éditions universitaires du Sud collection "École et santé"; 401 p.
- Kirby, D., Barth, R., Leland, N. and Fetro, J. (1991) Reducing the risk: a new curriculum to prevent sexual risk-taking, *Family Planning Perspectives* 23 pp.253-263
- Kirby, D., Short, L., Collins, J., Rugg, D., Kolbe, L., Howard M et al. (1994) School-based programmes to decrease sexual risk behaviours: a review of effectiveness, *Public Health Report* 109 pp.336-360
- Ministère de l'Éducation nationale (1998), circulaire N° 98-237, BOEN: n°45 du 03-12-1998, Orientations pour l'éducation à la santé à l'école et au collège. Paris, CNDP.
- Ministère de l'Éducation nationale (2003), circulaire N° 2003-027, BOEN: n°9 du 27-02-2003, L'éducation à la sexualité dans les écoles, les collèges et les lycées. Paris, CNDP.
- Ministère de la Santé et de la solidarité nationale (2001), *Plan National d'Éducation pour la Santé*, Circulaire DGS 2001/504 du 22/10/01.
- Robert C.P. & Casella G. (2004). *Monte Carlo Statistical Methods (second edition)*. Springer-Verlag, New York.
- St Leger, L. & Nutbeam, D. (1999). Evidence of Effective Health Promotion in Schools. In Boddy, D. (ed). *The Evidence of Health Promotion Effectiveness: Shaping Public Health in a New Europe*. European Union, Brussels.
- Schaalma, R., Kok, G. and Peters, L. (1993) Determinants of consistent condom use by adolescents: the impact of experience of sexual intercourse, *Health Education Research, Theory and Practice* 8 pp.255-269
- Stephenson, J M., Strange, V., Forrest, S., Oakley, A., Copas, A., Allen, E., Babiker, A., Black, S., Ali, M., Monteiro, H., Johnson, A M., and the RIPPLE study team. (2004) "Pupil-led sex education in England (RIPPLE study): cluster-randomised intervention trial", *The Lancet*, 364 (9421): 338-346
- Tones, K. et Tilford, S. (1994). *Health education, effectiveness, efficiency and equity*. London : Chapman and Hill.
- United Nations Universal Declaration of Human Rights www.un.org/rights/HRToday (accessed 15.04.02)
- United Nations Declaration on the Rights of the Child, www.un.org/rights/HRToday (accessed 15.04.02)
- United Nations General Assembly, Declaration of commitment on HIV/AIDS August 2nd 2001 www.un.org/ga/aids/docs/aress262.pdf (accessed 15.04.02)
- WHO (1997). *Promoting health through school*. Geneva.
- WHO (1999). *Preventing HIV/AIDS/STI and related discrimination : an important responsibility of health promoting schools*. WHO information series on school health. WHO Editor Geneva.
- Wight, D., Abraham, C. and Scott, S. (1998) Towards a psychosocial theoretical framework for sexual health promotion. *Health Education Research*, 13 pp.317-330

7. APPENDIX

Questions about HRSE

- A2. In a modern society, men and women should have equal rights.
 A9. Women are less intelligent than men are because their brains are smaller than men's brains are.
 A21. Biologically, women can be as intelligent as men.
 A30. It is important that there are as many women as men in parliaments.
 A31. When a couple has already had two girls, the chances that their third child be a boy are higher.
 A36. Men might be more able to think logically than women, because men might have different brain bilateral symmetry.
 A37. Religion and politics should be separated.
 A41. Homosexual couples should have the same rights as heterosexual couples.
 A46. Biologically, men cannot be as sensitive and emotional as women.

Here are stories of couples, or women, who are considering the necessity of having an abortion. If you were in these situations, would you too consider the possibility of abortion? (Tick only ONE of the four boxes for EACH situation):

A57. A couple already has one child, and the mother is at risk of dying from a complication during her pregnancy.

In this case, abortion is morally acceptable ☐ ☐ ☐ ☐ In this case, abortion is morally unacceptable

A58. A young couple in severe economic difficulty.

In this case, abortion is morally acceptable ☐ ☐ ☐ ☐ In this case, abortion is morally unacceptable

A59. A woman who has been informed of the high probability of giving birth to a severely handicapped child.

In this case, abortion is morally acceptable ☐ ☐ ☐ ☐ In this case, abortion is morally unacceptable

A60. There are several behaviours that can help to decrease the spreading of AIDS world-wide. In your view, what is the behaviour you find most relevant to be considered in school sexual education? (Tick only ONE of the four boxes)

To have sex only within a stable relationship (not have several sexual partners) ☐ ☐ ☐ ☐ To have safer sex, for instance by using a condom in sexual intercourse

Here are stories of couples, or women, who are considering the necessity of having an abortion. If you were in these situations, would you too consider the possibility of abortion? (Tick only ONE of the four boxes for EACH situation):

- A57. A couple already has one child, and the mother is at risk of dying from a complication during her pregnancy.
 A58. A young couple in severe economic difficulty.
 A59. A woman who has been informed of the high probability of giving birth to a severely handicapped child.
 A60. There are several behaviours that can help to decrease the spreading of AIDS world-wide. In your view, what is the behaviour you find most relevant to be considered in school sexual education? (Tick only ONE of the four boxes)

To have sex only within a stable relationship (not have several sexual partners) ☐ ☐ ☐ ☐ To have safer sex, for instance by using a condom in sexual intercourse

A65. Abortion is acceptable (tick only ONE answer):

Never

Up to 2 weeks after conception (*i.e.* before implantation in uterus)

Up to 12 weeks after conception (the legal period in countries where abortion is authorized).

Up to 6 months (before the foetus can survive outside the uterus)

At any moment

At what age do you think the following topics should be first introduced at school by teachers and/or external specialists? (Tick only one box in EACH line):

Topic		Less than 6 years old	Between 6 and 11 years old	Between 12 and 15 years old	More than 15 years old	Never in school
A85.	Organs of pleasure: clitoris, penis...					
A86.	Contraception and birth control					
A87.	Sexually transmitted diseases					
A88.	Abortion					
A89.	Homosexuality					
A90.	Paedophilia					

- B3. Sexually transmitted diseases should be taught primarily by biology teachers.
 B5. Sexually transmitted diseases should be taught primarily by health professionals (doctor, nurse).
 B11. There are genetic factors in parents that predispose their children to become homosexual.
 B13. When women stop taking the contraceptive pill, menstruation occurs, due to the absence of progesterone and estrogens hormones.
 B17. After ovulation, the follicle changes into corpus luteum which produces high levels of progesterone and estrogens.
 B18. Teachers avoid teaching sex education because these topics are private.
 B19. Psychological and social aspects of sex education should be taught primarily by biology teachers.
 B24. Psychological and social aspects of sex education should be taught primarily by health professionals (doctor, nurse).

Admitting that you don't have any children and that you wish to have only one child, would you do the following?

- B30. Let chance determine the sex (as usual)
 B31. Try to choose the sex of your child by a specific diet
 B32. Try to choose your child's sex by spermatozoa selection (or by other medically assisted techniques)

When do you think the following topics should be first introduced at school by teachers and/or external specialists? (tick only ONE box per line):

Topic		Less than 6 years old	Between 6 and 11 years old	Between 12 and 15 years old	More than 15 years old	Never inschool
B37.	Pregnancy and birth					
B38.	Sexual intercourse					
B39.	Incest and sexual abuse					
B40.	Orgasm and sexual pleasure					
B41.	Eroticism and pornography					