

KNOWLEDGE AND PERCEPTIONS OF POPULATION ISSUES IN SOME EUROPEAN COUNTRIES: Results from the EOPEI-surveys

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For years, population experts have considered “population education” as an important driving force in the process of consciousness-raising and understanding of changes in the population, and of alerting the population to the importance of population issues. Many of those experts suppose that the size and intensity of population phenomena will even increase in the 21st century and will have a greater impact on society, its institutions and its culture. “Awareness of interrelations between demographic, economic, social, cultural, environmental and political factors is growing.... In the 21st century demographic events and their implications will become very concrete every-day experiences for the common man and woman” (Rath, 1993).

From the observation that the impact of demographic events – such as continuing population growth in some regions, population decrease and population aging in other regions, international migration and urbanization – will be felt in daily life, some experts state that people should be encouraged to participate in discussions about the factual and moral aspects of demographic problems. In order to proceed with these discussions as objectively as possible, adequate information and education is needed. The debate should not be overshadowed by prejudices and emotionally biased perceptions (Rath, 1993). From this point of view, “population” must become an integral part of the socialisation process. The concept of “Population Education” was developed within the United Nations and was integrated in the programmes of UN bodies since the beginning of the seventies (UNFPA, 1978). It envisaged sensitizing the population to the social, economic and ecological consequences of changes in population, both in developed and in developing countries. Population changes – growth, decline, ageing and migration – usually result in problems of varying degrees for the societies in which they occur. For example, a decreasing or an ageing population can be a threat to the economic vitality of a country; or, migration from rural to urban areas may deplete rural areas of human resources while placing a strain on urban social services. Consequently, efforts were gradually being developed to disseminate research results and data on population issues to a wider audience. This tendency towards a larger diffusion of demographic knowledge was, for example, reflected in the greater attention that was being paid in pedagogical materials to population issues. Recently, the importance of population education has again been stressed in the Programme of Action adopted at the International Conference on Population and Development held in Cairo, 1994, in which a special paragraph was included on “population information, education and communication”. “More general knowledge, understanding and involvement at all levels from the individual to the international, are vital for accomplishing the aims of the Action Programme. Therefore, enhancing knowledge, awareness and involvement is a primary goal. Other goals are: the encouraging of attitudes in favour of responsible behaviour toward environment, family, sexuality, procreation and racial sensitiveness” (UNFPA, 1996; Schoenmaeckers, 1995).

Educational policies in Europe and the map of demographic teaching

The educational systems in Europe are aimed at full participation for all citizens. In recent decades, many more young people have extended their educational careers. Education is now widespread throughout society. Social inequality is being minimized, even at the levels of higher education. Due to the generous social welfare systems in most countries, economic constraints now play a minor role in families' strategies and decision-making processes with respect to educating their children. Moreover, culture is not playing a role since education is obligatory until the age of 18, or 16 in some countries, regardless of the cultural origin of the pupils. With regard to participation as such, differences between and within families are almost non-existent.

The economies and social structures of Western societies have undergone various changes since the 1950s and 1960s that have had an impact on the lives of young adults. A first major change has been the expansion of the educational system. In Europe, school enrolment is now almost universal. Although this process started more than a century ago, an impressive acceleration occurred during the 1950s in most Western European countries with a dramatic increase of participation in the educational system of young adults in their late teens and early twenties. Increases in educational enrolments were even more impressive for women than for men. The substantial increase in school-enrolment ratios in European countries is well documented. A 1990 Eurobarometer survey shows that twice as many young people between 15 and 24 had continued their education after 15, compared to 1979 (Malpas and Lambert, 1993). This clearly reflects the effects of the extension of statutory schooling in the majority of the Member States. The prolonged participation in the educational system has had various consequences for the process of family formation. The increasing number of men and women studying has been a major structural determinant of the extended period of independent non-family living after leaving home, one of the most important observations regarding the changing living arrangements of young adults. It is well documented that students not only marry later, but also delay the whole transition to adulthood (Höpflinger, 1991). Thus, the process of educational expansion has contributed to the postponement of union formation and childbearing. Marriage and children can be an impediment to one's studies, particularly for women (Liefbroer, 1999). At the aggregate level, we find a positive relationship between increased school enrolment ratios for women and higher mean ages at first birth for most European countries (Höpflinger, 1991).

The move towards prolonged education was accompanied by moves to introduce comprehensive education, which started in several European countries after the Second World War. In fact, in the early 20th century already, the liberal meritocratic model of equality of opportunity became very popular in several countries. It was believed that democratisation of educational opportunities could be achieved by using 'objectively ascertained school ability' tests as a self-evident criterion for selection, instead of the undemocratic factors of social class, economic and socio-professional background and the power of personal relations. A new impulse to secondary school reforms in Western societies was given in the golden sixties.¹ Comprehensive education mainly had three main objectives: first, a broad, general and common basic education; second, postponement of the crucial choice of studies to a later age; and third, the elimination of socio-cultural discrimination. At present, however, technological progress and economic growth have become the most dominant yardsticks for quality in education. Since the 1980s, pressures have been exerted on education to 'go back to

¹ As from 1971 in Belgium for example, educational objectives were pursued such as postponement of selection or mixed ability classrooms.

basics' and not pay too much attention to attitudes and awareness. Nowadays, the education system is constantly being evaluated in terms of its contribution to success mainly with regard to economic competition. Educational policy is ultimately extremely sensitive to the prevailing economic orientation of society, and seems to accept that economic requirements are the unquestioned norm for what has to be done in education. The presuppositions of the dominant technical and economic 'rationality' are increasingly reflected in the (hidden) core curricula of secondary education in most Western countries. They form the socialisation code inherent in the curricula which young people are required to internalise as they become integrated into their own society and culture.

What is still lacking now in the school curriculum, according to many experts, is a genuine awareness of population issues and overall, well-directed approaches to problems associated with population, family, environmental conservation, sexual health, etc. These approaches must necessarily come from those who are responsible for establishing and implementing educational policies in each country (de Vargas, 1993).

Although the teaching map in demography in Europe is rapidly changing, there is very little or no pre-university demographic education whatsoever in almost all European countries (Palomba and Righi, 1993). In the countries considered in this survey, demography is not taught as a subject in its own right at any of the pre-university teaching levels, although some aspects of the discipline are taught in the context of other disciplines such as history, geography or the sciences. Given the very high school-enrolment ratios in Europe, in-school programs play a big role in the socialisation of youngsters. Hence, a legitimate question to be asked - and which should be rousing interest on the part of demographers - is to what extent schools transfer knowledge to students on some important population facts and phenomena, and how they contribute to a reflection on and understanding of these phenomena. It must be noted, however, that not only school handbooks play a role in the pedagogical process. The school is an important, but it is not the only channel through which knowledge transfer and opinion formation takes place. Other sources of information such as the press and the Internet play an increasingly important role in the knowledge construction and opinion formation of youngsters (Gani, 1995). The importance of knowledge transfer through these channels is not to be underestimated. Hence, it is difficult to disentangle the differential impact on the level and kind of knowledge gained through these different channels (school, parents, friends,...) and sources (school materials, television, newspapers, journals, Internet, ...).

Research into knowledge and gaps in knowledge on demographic processes, and into the perceptions that students have by the end of their secondary school career on current and future demographic trends in the world, is of unarguable importance to sociologists, demographers and education specialists. The results of this kind of research can be used in order to improve the quality and the reach of education on population, for example by producing adapted instructional material.

European Observatory for Population Education and Information ("EOPEI")

In 1993, the "European Observatory for Population Education and Information" (EOPEI) was established as a network of research centres, with the aim of initiating and stimulating interdisciplinary scientific research in the field of "population education and information" and to promote collaboration among European universities, population institutes and educational institutes in developing scientific work in this area. "EOPEI" was established in answer to recommendations formulated by a number of European experts during a meeting on "Population Education and Development in the European Region" organised by UNESCO in

1991. This meeting was part of the preparatory activities for Europe for the UNESCO/UNFPA “International Conference on Population Education and Development” which was held in Istanbul in 1993 (Gani, 1996).

The Observatory wants to contribute to consciousness-raising on population issues and wants to expand awareness and knowledge of the dynamics of demographic processes and their relations to society, socioeconomic development and environmental problems (Gani, 1996). The Observatory’s initial activities had two goals: the study of the didactic approach to population-related problems in European educational systems along with conducting comparative research in this area, and the analysis of the accessibility and the diffusion of demographic information among a wider audience in the various countries. These goals nevertheless had a basic factor in common: the concern to bring into focus the existing European education and information activities on population-related matters in order to improve them (Rossi and Sabatino, 1997). One of EOPEI’s specific aims is the improvement of school curricula on population issues. By means of surveys in different European countries (Flanders, France, Italy, the Netherlands, Greece, United Kingdom), EOPEI tried to instigate examination of this issue. A comparative analysis of the results of the different countries is expected to stimulate reflection on the way population topics are dealt with in educational programmes throughout Europe.

Aims and design of the EOPEI-survey

The research teams in the different participating countries first tried to obtain an image about the knowledge and the aspects on which knowledge is inadequate or lacking. The concept of ‘knowledge’ is not being used in its encyclopedic or exact meaning; it rather links up with what can be called a “socio-demographic basic culture” (Gani, 1995). Research into knowledge pertaining to population issues cannot ignore the level of perceptions that students have regarding these issues and the opinions that they form on these issues during their school career. An attempt was made to obtain some information on the perceptions and opinions of young people with respect to specific demographic changes. The design of the core questionnaire was based on an analytical framework originating from the hypothetical relations among knowledge, perceptions and opinions. A research into the nature and strength of the relationship between the knowledge and the attitudes of young people can be instructive both for demographers and education specialists. Attitudes can be influenced, among others, by the level of knowledge one has; on the other hand, attitudes may in their turn influence the level of accurate knowledge. Furthermore, opinions may influence the actual and possibly the future behaviour of young people. This research topic is of particular importance in the process of investigating the extent to which societal attitudes are steered by objective knowledge or are rather determined by other factors. If attitudes are mainly dependent on the level of knowledge, an important effect of knowledge improvement can be expected. Tentative answers to these questions can help to clarify the role of the educational system in forming and steering societal attitudes and perceptions through the transfer of knowledge. Notwithstanding the fact that societal attitudes are not only formed by objective knowledge transfer or demographic education, it is insightful to wonder whether a relationship can be identified among general demographic knowledge, knowledge of specific groups and perceptions about the societal role and position of these groups.

The research was conducted among students in the final or pre-final classes of secondary education.² The national questionnaires have been constructed, taking into consideration, the

² In the Netherlands, only students having chosen ‘geography’ as a subject were selected.

specific demographic background (immigration from poor countries, ageing, trends in family life, breakdown of traditional patterns,...) in the countries. The questionnaire was mainly composed of multiple choice questions³ and had four parts. First, the students' general knowledge on population issues (population sizes in the world, in the European Union and in their own country; fertility and mortality in world regions, population dynamics, ...); second, their knowledge and perception of the issue of population ageing and intergenerational solidarity; third, their knowledge on migration flows, the number of immigrants in their country and their opinion on the presence of immigrants; and fourth, their knowledge and perception on changes in family structures, and attitudes on marriage and the family.

Empirical results

The results presented here pertain to the surveys conducted in the Flemish region in Belgium, the Czech Republic, France, Italy, and the Netherlands.⁴ The total sample size of the country-based samples pooled together was 6,412 students. Before proceeding to the core question of this contribution, i.e., the relation between knowledge and attitudes, some general results pertaining to knowledge and perceptions are presented.

Knowledge of population size, population dynamics and demographic characteristics of regions in the world

The level of knowledge concerning population issues is quite varied. Students have a fair knowledge about the population size in the world and in their own country, but much less so about the total population size in the European Union. Around 80% correctly state the world population total and the population size of their own country, whereas only 41% know the number of inhabitants within the EU. Issues of population dynamics are much less known than mere population numbers. Just over 60% of all students are aware of the growth pattern of world population since 1700. The concept of "demographic transition" is only known by 42% of the students. Being asked about the average number of children and the life expectancy as currently observed in the most important regions in the world, students tend to underestimate fertility and to rather overestimate life expectancy for sub-Saharan Africa, i.e., they tend to have a more 'positive' perception of the demographic situation in this continent than the real one actually is. For Latin America, on the other hand, students tend to overestimate fertility and to underestimate mortality, i.e., they do not fully realise the steps already achieved in the demographic transition. Only one quarter of all students has a correct idea about the distribution of the population in the three classical age groups (0-14, 15-59, 60+); they especially overestimate the number of older persons. However, 70% correctly state the causes of the ageing of the population. The number of immigrants is not well known. Only 27% of the students have a correct idea about the number of immigrants in their country. In general, this number is overestimated. In addition, students only have a vague idea about the countries of origin of the most important migrant populations in their country.

Notable in these results is the rather systematic 'weak' position of Italy and also, although less so, of the Netherlands. With respect to world population issues, the French students are the best performers. A very good performer as well is the Czech Republic, especially with regard to EU issues and issues of the own country. Another somewhat surprising result is that female students overall gave fewer correct answers than male students. This phenomenon is observed in all countries, regardless of the topic considered, and even after controlling for study

³ With the exception of some questions pertaining to enumerating specific countries.

⁴ The surveys in the UK and in Greece were conducted at a later date and could not be included in these preliminary results.

orientation. The difference is always in favour of boys, although it is not constant. This finding is surprising in view of the fact that final failure rates are generally higher for boys than for girls, as is also observed in other regions of the world.

Total knowledge, knowledge on ageing and knowledge on migrants

When breaking down the mean values of the total score of knowledge on all population facts⁵ by country (Table 1), we see the following rank order of the countries involved in the survey.

Table 1. Ranking of countries by mean scores of total knowledge on population, knowledge on ageing and knowledge on migrants (scale of 1 to 100)

Country	Total knowledge	Knowledge on ageing	Knowledge on migrants
	Mean score	Mean score	Mean score
France	56.1	38.0	34.7
Italy	38.9	28.8	19.8
Czech Republic	52.5	32.9	-
The Netherlands	48.8	30.5	57.1
Flanders (in Belgium)	49.5	37.7	39.2
Entire Population	49.2	33.6	30.2

France ranks highest, followed by the Czech Republic, closely followed by Flanders and the Netherlands; Italy ranks lowest. With respect to knowledge on ageing⁶, it is again France ranking highest, followed by Flanders, the Czech Republic, the Netherlands and Italy. Knowledge on migrants⁷ is best in the Netherlands, worst in Italy, with France and Flanders taking an intermediate position.

An analysis of variance of the group means shows that, with respect to total knowledge and knowledge on ageing, almost all countries have significantly different mean scores. With respect to knowledge of migrants, all countries have significantly different scores. These country differences are revealing in that different educational programmes may lead to different levels of knowledge on different topics. This topic is worth investigating when the precise contents of demographic matters within the different educational packages in the different countries are well known, as well as the extent to which students have been 'exposed' to this knowledge at the time of interview. Given the design and scope of this survey, this topic cannot be thoroughly looked into. Also, the heterogeneity of the present sample (e.g., Dutch students are those who have chosen a specific geography orientation) does not allow for correctly assessing the impact of the different educational programmes.

⁵ The knowledge items included in the total score calculation are: population size of the world; growth pattern of world population since 1700; demographic transition; ranking of regions according to number of children per woman; ranking of regions according to life expectancy; average number of children in 5 regions of the world; average life expectancy in 5 regions; most populous country in EU, least populous country in EU; population size of EU; population size of own country; age structure of own country; causes of ageing of population; countries of origin of migrants present in country; first country of origin of migrants; percentage of immigrants in country; definition of sustainable development.

⁶ The knowledge items included in the calculation of the score on ageing are: age structure, causes of ageing, life expectancy in 5 regions of the world.

⁷ The knowledge items included in the calculation of the score on migrants are: countries of origin of migrants and proportion of immigrants in total population size.

From this descriptive analysis, it is obvious already that levels of knowledge vary considerably by country. Country is probably a variable with a highly predictive power in explaining knowledge differences. This evidence is confirmed through the multivariate analyses, as is shown in Table 2. After controlling for a series of relevant determinants, we see a very strong effect of the country variable. The effects of all the independent variables considered to be relevant were assessed by means of a multiple regression analysis. Given the variables available in the EOPEI-survey, we looked into the impact of country, sex, age, occupation of the father (which is used here as an indicator of social class), type of studies (general or technical), origin of the parents (both born elsewhere or not), nationality of the student, and living situation of the student (with both parents or with one parent only). In examining the power of a variety of variables in determining the value of the total knowledge score, only the significant variables are retained in the analyses. First, forward regression was used to determine the level of significance of the variables when all entered into the regression equation. From this model it appeared that the living situation of the students (with both parents or not) and the origin of their parents (both foreign born or not) do not have a significant influence on their knowledge level. Also, the attitude variables ‘solidarity towards the aged’ and ‘tolerance towards new family types’, when recoded into two categories, did not show any significant influence. Finally, the significant variables were entered into the regression equation in order of their importance.

Table 2. Common contribution of independent variables in explaining total knowledge and total knowledge on migrants

	Total knowledge score *		Knowledge score on migrants*	
	Multiple correlation	R ²	Multiple correlation	R ²
Total model	0.53	0.28	0.40	0.16
Incl. country	0.43	0.18	0.34	0.12
Incl. sex	0.47	0.22	0.37	0.14
Incl. occupation of father	0.48	0.23	n.s.	n.s.
Incl. type of studies	0.52	0.27	0.38	0.15
Incl. tolerance towards migrants	0.53	0.28	0.40	0.16
Incl. age of student	0.53	0.28	n.s.	n.s.

* Except the Netherlands and the Czech Republic

A multiple regression model was built in which the variable “occupation of father at the time of the interview” was included as an independent variable, as a possible indicator of social origin. The variable was recoded into ‘upper class and independent’ and ‘lower class and inactive’. The country variable was used as a dummy variable for each of the countries that were taken up in the analysis. Beside the country of residence and occupation of the father, we distinguish four additional characteristics significantly related to total knowledge. The type of studies (‘general’ or ‘technical’) was included as a possible explanatory variable relating to the pedagogical context. The analytical model also included demographic features of the respondents (three age groups ‘below 18’, ‘18’ and ‘older than 18’, and sex). Finally, one attitudinal variable was added. In total, six blocks of variables were included in the multiple regression equation, in which the total knowledge score is the dependent variable.

In calculating the multiple regression coefficients, the Netherlands and the Czech Republic were excluded from the analysis because they had missing observations on the profession of

the father and the type of studies. Consequently, the analyses were carried out separately for these two countries. Table 2 gives an overview of the extent to which the total knowledge is determined by the country variable, and by personal characteristics of the students and characteristics of their family of origin. When all the variables are included in the regression equation, the total model correlation with the first indicator (total knowledge) amounts to 0.53, and 28% of the total variation in the total knowledge is explained by our model.

The country seems to be the most important factor in determining differences in knowledge; 18% of the observed variability in total knowledge can be explained by the set of country variables. We can assess the relative importance of the other independent variables by considering the increase in R^2 when a variable is entered into the equation that already contains the other independent variables. All other explanatory variables together add 10 percentage points to the explanation of differences in knowledge. Among those, sex and type of studies are the most important. Girls and older students tend to have a lower degree of knowledge; students whose fathers belong to the lower professional classes or whose fathers are inactive have lower scores; students from technical courses will have lower scores; and students showing more tolerance towards migrants have higher scores. Tolerance towards migrants is the only significant attitude-variable, but this variable hardly causes any increase in explanatory variance. Also, age and occupation of the father hardly add anything to explaining the variance in total knowledge, although these variables are significant at level $p < 0.05$.

The multiple regression evidence shows that sex and inter-country differences are the most important predictors for variations in total knowledge on population. It can, therefore, be concluded that the country-related pedagogical context is more important as a determinant factor than social origin or type of studies.

When discussing the relationship between knowledge and attitudes more extensively, we will try to assess the possible interaction effect of these variables. Interaction effects come into play when the main effect of one group variable is different for the different categories of other group variables.

In the analyses carried out for the Netherlands and the Czech Republic separately, all the variables were used, except for the variables 'occupation of father' and 'type of studies'. It was found that the different variables contribute in a similar way to explaining the variation in the dependent variables. In other words, the additional effects of each of the subsets were comparable to the effects in the original analysis. Considering these indicative results, it can be reasonably expected that the contribution of these variables would be very similar to their contribution in the other countries.

In a similar analysis with knowledge of the elderly as the dependent variable, insufficient variance was explained or the explanatory variables were not significant. The only significant effect seemed to be coming from the same attitude variable, i.e., tolerance towards migrants. Higher tolerance towards migrants predicts higher scores on knowledge of ageing.

When knowledge of migrants was the dependent variable, the total model correlation is 0.40. Age, living situation, profession of the father, parental place of birth, solidarity towards the aged and tolerance towards new family types had no significant effect. Country is again a very discriminating factor, while sex and type of studies are significant but don't add much to the explanation of the variance in the knowledge score. Girls have lower knowledge scores on

the migrant topic, as do technical students. More tolerance towards migrants means also better knowledge on migrants.

The relationship among awareness, knowledge, attitudes and socio-demographic characteristics

Is there a relationship between knowledge and attitudes? In its classical meaning, the concept of “attitude” is usually described in the social sciences as “a hypothetical construction pertaining to regularities in feelings, thoughts and behavioural dispositions of an individual with regard to some aspect of his environment. The feelings point at an affective component, the thoughts point at a cognitive component and the behavioural dispositions point at a willingness to act” (Billiet et al., 1984). An individual’s attitude towards a societal problem follows from a confrontation with a societal problem and the knowledge about this problem. This confrontation evokes a process of the formation of knowledge and perception. The perception gives rise to thoughts and feelings, not only pertaining to the problem, but also to its causes. In other words, attitudes contain two dimensions: first, an attitudinal dimension: cognitions and emotions towards the problems, the solutions, the causes and the responding policies, and second, a dimension of behavioural disposition which is expressed through the willingness to act. We hypothesise that attitudes of young people are formed, among others, by their knowledge of population issues attained at school. To what extent can the variability of attitudes of students be explained by the variability of their awareness of demographic trends? We also hypothesise that negative attitudes towards specific population trends and groups are related to a lack of knowledge on these trends.

On the basis of the EOPEI-data, we investigated whether there is a relationship between the objective knowledge on specific demographic processes and population groups and individual attitudes towards these groups and processes. If the attitudinal variable is considered to be the dependent variable, and knowledge is the independent variable, the effect of correct knowledge can be assessed. However, objective knowledge is not the sole determining factor in attitudinal formation. The effects of other variables such as; type of studies, gender and family context must be considered as well. It is assumed that, attitudes are not only the result of an objective “transfer” of knowledge in school, but of broader pedagogical and societal processes. Attitudes of young people are formed by life experiences within a context of socialisation at school, family and society.

Table 3 shows the order of countries when breaking down the mean scores on the three constructed attitude scales (see Appendix) by country.

Table 3. Mean scores on attitude scales by country

	Solidarity towards the elderly (1 low - 10 high)	Tolerance towards migrants (1 low - 10 high)	Tolerance towards new family types (1 low - 10 high)
Flanders	5.7	5.4	5.2
Czech Republic	6.7	n.a.	4.1
France	5.4	5.4	4.1
Italy	5.8	5.3	3.8
The Netherlands	5.9	n.a.	n.a.
Entire population	5.9	5.4	4.3

All countries have significantly different mean scores on the solidarity scale, except Italy, Flanders and the Netherlands. These countries do not show any significant difference in mean

scores on the scale measuring attitudes towards migrants. All countries differ significantly from one another with respect to the scale of tolerance towards new family types, except France and the Czech Republic.

Knowledge on ageing and attitudes of intergenerational solidarity

An analysis of the opinions on the elderly as a social group can reveal different aspects of intergenerational relations. In a context of economic crisis, attitudes of gerontophobia (Dooghe, 1989) could develop. Given the fact that perceptions of specific realities by specific population groups could influence the way these realities are dealt with in political and social terms, this can have serious consequences. “Solidarity” can be defined as the willingness of social groups in society to support specific needs of other social groups. Giving evidence of an attitude of solidarity also implies that one does not reason solely in terms of personal interests. In this view, 17 to 18 year-old students can be considered to be a group which has potential solidarity with the elderly. From the survey, it is seen that attitudes towards the elderly are ambivalent. Among all students, 42% think that ageing is an undesirable evolution, while 52% think it is an inevitable evolution. Students who think it is an undesirable evolution tend to overestimate the share of the elderly in the age structure of the population of their country. The negative image that one has on ageing may influence the idea that an individual has about their actual importance and partly explains why the elderly's proportional share of the population is overestimated. In addition, the lack of good knowledge about the percentage of the elderly in the population may influence image formation about the elderly and thus the nature of solidarity between generations. With regard to intergenerational relations, P. Bourdieu stressed that “the boundaries between youth and old age are in all societies a battle game” (Bourdieu, 1981). In a context of increasing unemployment and worries among young people about their professional future, the question of the competition between the young and old in the labour market is particularly revealing in the light of research into intergenerational solidarity. To what degree do young people feel that the elderly are entitled to a competitive position in the labour market? The survey shows that a large majority of the students deems they have priority in labour compared to the elderly: 69% state that the elderly need to make room for the younger people in the labour market. This opinion has the highest prevalence in France (78%) and in Italy (72%). Notwithstanding their objections against the presence of the elderly in the labour market, a majority of 56% assigns an equal right to labour to the elderly. This attitude indicates that young people do give evidence of solidarity on a theoretical level, but when it comes to daily reality - in this case the labour market - this attitude changes. The results give evidence of a strong feeling of anxiety towards older generations by youth faced with the difficulties of establishing professional careers and also faced with the future duty of taking care of the elderly. Fully, 76% are of the opinion that children need to take care of their aged parents. The meaning of this duty, however, is immediately put into perspective when we see that 80% are of the opinion that the government is primarily responsible for the care-taking and housing of the elderly. A small minority of 10% feels that aged parents should live with their children. Thus, it is shown that solidarity is situated at a rather indirect level: the elderly have rights, but shouldn't be in the labour market at the expense of the young. Aged parents shouldn't live with their children; yet a majority thinks that children have the duty to take care of their aged parents. It is primarily the government that has to take care of the elderly, of their well-being (labour), care, and housing. Intergenerational solidarity seems to be situated at an indirect or institutional level, rather than on a personal level. Solidarity may not be exerted at the expense of the well-being of the young. Young people do not want to bear the burden implied by fulfilling the needs of the elderly with respect to labour, care and housing.

Determinants of intergenerational solidarity

The solidarity of youngsters with regard to the elderly was measured through their opinions on three items: the position of the elderly in the labour market, their right to labour, and the role of children towards their aged parents. Assuming that the answers to these questions are indicators of solidarity, a solidarity scale was constructed, from 1 (low solidarity) to 10 (high solidarity). Opinions of students vary across their socio-demographic characteristics, their social environment, etc. However, often an interrelation exists between these characteristics. We observe that students from lower social classes are over-represented in the technical classes and children of middle and higher social classes are generally attending more general classes. There also is a correlation between sex and type of studies: girls are over-represented in the general classes. Multiple regression analysis allows for distinguishing the proper effects of the different influencing variables on the students' opinions. In a regression analysis where the score on the scale of solidarity towards the elderly was the dependent variable, almost none of the variables considered were significantly related to the score on the solidarity scale (Multiple $R=0.21$; $R^2=4\%$, $p \leq 0.05$). Also the knowledge variables were not significant. Only the type of studies (technical students having lower degrees of solidarity) and attitudes towards migrants (higher tolerance towards migrants predicting higher solidarity towards the aged) were significant.

The results of analyses of variance and t-tests confirm these findings in more detail. No significant differences by age are observed, nor by parental place of birth or nationality of the students. There is not a significant relationship between total knowledge and solidarity: the three knowledge groups (bad, medium and good students) are not significantly different from one another. There is no significant relation with sex ($R=0.0230$, $p=0.111$), meaning boys and girls don't differ significantly in their solidarity attitudes towards the elderly. There is no significant relation with the occupational class of the father⁸. There is no significant correlation between knowledge on the aged and solidarity towards the aged⁹. As was expected, there is a significant relation with the country variable. An analysis of variance shows that there are significant differences between countries as shown in Table 4.

Table 4. Differences among countries with regard to mean scores of solidarity

Group mean		France	Flanders	Italy	The Netherlands	Czech Republic
5.3745	France					
5.6851	Flanders	*				
5.8277	Italy	*				
5.8829	The Netherlands	*	*			
6.6898	Czech Republic	*	*	*	*	

(*) Indicates significant differences

Solidarity is highest among students in the Czech Republic. French students have the lowest mean score on solidarity.

⁸ When separate items of the scale are investigated, e.g., the presence of the elderly in the labour market, opinions do seem to be linked with social class and with study orientation. Students from popular social origin in France (manual workers, etc.) are less willing to share the labour market with the elderly; this effect persists when other factors are held constant; technical students also have more problems with the competitive position of the elderly in the labour market (Baccaïni and Gani, 1997, p. 2).

⁹ Also, when an extended knowledge scale was calculated for the Czech Republic and France (containing an extra item on definition of the ageing of the population), no significant relation was found.

There is a significant relation with the type of studies ($R=0.0689$, $p=0.000$). Hence, there are significant differences by study orientation.

Table 5. Differences among study orientations with regard to mean scores of solidarity towards the elderly

Group mean		Technical + sports	Scientific	Economics	Literature + modern languages
5.3735	Technical + sports				
5.5579	Scientific				
5.6205	Economics	*			
5.7950	Literature + modern languages	*	*		

(*) Indicates significant differences

No significant interaction effects are observed.

Knowledge and attitudes towards migrants

The attitudes towards migrants are of an ambivalent nature as well. Among all students 42% believe that the presence of immigrants causes an increase in unemployment. However, at the same time, 66% are of the opinion that immigrants should be able to participate in local elections. Immigration from poor countries seems to be largely accepted: 72% of the students believe that immigration should not be stopped. However, a vast majority of these (63%) believe that immigration should be organised by quotas.

Determinants of tolerance towards migrants

The tolerance of the students towards migrants was measured through their positioning on ten items (see Appendix).

Table 6. Common contribution of independent variables in explaining tolerance

	Tolerance towards migrants*	
	Multiple correlation	R^2
Total model	0.34	0.11
Incl. type of studies	0.20	0.04
Incl. total knowledge, knowledge migrants	0.25	0.06
Incl. solidarity towards the aged, tolerance towards new family types	0.31	0.10
Incl. country of birth of father	0.33	0.11
Incl. occupation of father	0.33	0.11
Incl. age	0.34	0.11
Incl. country	0.34	0.12

* Except the Netherlands and the Czech Republic

As shown in Table 6, differences in study orientation explain 4% of the variability in tolerance towards migrants. Technical students give evidence of a lower tolerance towards migrants as a social group. The knowledge variables together add percentage points to the variance explained. Among them, total knowledge is the most important. Students with better total knowledge will have higher tolerance scores. This is also the case for students with

better specific knowledge on migrants, although the effect is less pronounced. Knowledge of ageing is only significant at $p=0.144$. Attitude variables have predictive power as well. When attitude variables are entered into the regression equation, the R^2 increases by an additional 4 percentage points. Within these, solidarity attitudes add most to the additional explanation. When students show higher solidarity towards the aged they will be more tolerant towards migrants. Also, when students are more tolerant towards new families, they will have a more tolerant attitude towards migrants. This indicates that, attitudes already present, and all other variables remaining constant, provide unique information about attitudes towards migrants, information that is not available from the other independent variables. No interaction effects are observed with other variables, so it may be assumed that the attitude variables operate independently.

When the father is born elsewhere, students are more tolerant towards immigrant groups, although an important interaction effect with the country variable is noted. Social class has a small effect. Students whose father belongs to lower social classes are less tolerant, as are older students. But age only has a very small effect. This is also confirmed through the multiple analysis of variance, where age is not significant as a main effect. No significant differences are observed according to living situation, sex or country.

Analysis of variance and t-tests confirm these results. All three groups of total knowledge are significantly different from one another in their tolerance scores towards migrants ($p=0.050$). The better students have an average score on the tolerance scale of 5.8, while students in the lower knowledge group have an average score of 4.9. When students are divided into three knowledge groups (low-medium-high performance) with respect to specific knowledge on the migrant issue, a significant difference is observed with respect to attitudes of tolerance. Students in the lowest group (score below 30 on the knowledge scale) have an average score of tolerance of 5.1, students in the higher knowledge group (score above 50) have an average tolerance score of 5.7. Only the best students differ significantly from the two lower score groups. Students whose father was born elsewhere differ significantly in tolerance attitudes from students whose father was born in the country of current residence. General students (5.5) differ from technical students (4.6). When profession of the father is taken into account, it appears that only the students whose fathers belong to the upper classes (score 5.6) differ significantly from the students whose fathers belong to the class of independent workers (score 5.1) and the lower classes (5.2). Students whose father is inactive or unemployed, and whose social class is hence unknown, have an average score of 5.6. Also from the multiple regression evidence there only appeared a small effect generated by the occupation of the father. The small effect of this variable might operate through the country because a small interaction effect is noted (although only significant at $p=0.12$).

The country variable adds no additional explanation when added to the regression equation. But when interaction effects are investigated, we observe that the country variable interacts significantly with the type of studies. Thus it probably operates jointly with the type of studies in influencing the tolerance attitudes of students. At that, the main effect of type of studies is only significant at level $p=0.16$ (with a small F-value = 1.9). But this doesn't mean that tolerance is unaffected by the type of studies since this variable is included in the interaction terms. The effect of type of studies may operate differently within the different countries.

One can wonder whether the data indicate a relationship between knowledge as such and the perception of migrants and whether they attribute evidence for the hypothesis that opinions are influenced by the level of knowledge one has. Does the level of knowledge play a direct role itself on the opinions or is there only an indirect effect? We have seen indeed that study

orientation and, to a lesser extent, social class have some power in explaining differences in attitudes of tolerance. Also, the level of total knowledge is strongly related to the study orientation and social environment; and we have seen that the level of knowledge on migrants is influenced by study orientation. Observing this, one could suppose that the link between knowledge and opinions is only mediated through the combined effects of social origin and study orientation: on the one hand, the weaker students in terms of knowledge on population are over-represented in the less favourable social environments and in the technical orientations. On the other hand, students from these classes and orientations tend to have a stronger tendency to express low tolerance. The question to be posed here is whether knowledge acts as an independent determinant or is mediated through the effects of study orientation and social class in determining attitudes of tolerance.

From the analysis of variance with tolerance as the dependent variable, we note that the knowledge of migrants operates jointly with country (interaction effect significant at level $p=0.057$). This may explain the relatively small explanatory power of knowledge on migrants in the multiple regression evidence. In its turn, country operates jointly with the type of studies (interaction effect significant at $p=0.000$), explaining also the relatively small explanatory power of the country variable in the regression analysis. The effect of knowledge of migrants on tolerance differs strongly by study course. Knowledge on migrants has a stronger effect on tolerance in technical classes. Total knowledge has a stronger effect in general classes.

Table 7. Average tolerance score, by level of knowledge and type of studies

	Students with bad knowledge on migrants	Students with good knowledge on migrants	Students with bad total knowledge	Students with good total knowledge
General	5.4	5.8	5.1	6.0
Technical	4.6	5.2	4.7	4.9

It is as if the acquisition of correct knowledge on migrants plays a more decisive positive role on opinion formation of students in technical classes than on the opinions of students in general classes. On the other hand, the effect of general knowledge seems to be slightly stronger among the general classes. Clearly, there is an independent effect of total knowledge, not interacting with any of the other variables. The better students are informed on general demographic facts, the more tolerant they are. It can be stated that the chances for successful integration are judged as rather poor by students having a lack of knowledge in general. Also, study orientation and social milieu each have their own effects. With social milieu being constant, the contrasts in attitudes of tolerance among students in different study orientations remain significant, and the other way around. But these two effects interact equally. When contrasts in opinions by study orientation are considered within each social class, a much stronger effect of type of studies than of social class is noted. This means that the contrasts in opinions are more pronounced between students from technical and general courses than between sons and daughters from higher and lower social milieus (manual workers, unemployed, etc.). Whatever the social class, it is always the students from general classes where the strongest contrasts in opinions are noted.

Table 8. Percentage of students with high or low tolerance, by study orientation, by social class

	Lower and inactive		Upper and independent	
	% High tolerance	% Low tolerance	% High tolerance	% Low tolerance
General	49.6	50.4	54.0	46.0
Technical	33.1	66.9	40.7	59.3
Total	45.3	54.7	51.4	48.6

Tolerance towards new family types

Familism is a multi-dimensional concept (Lesthaeghe and Meekers, 1986): First, tolerance of non-conformism in family formation and dissolution, and second, the meaning attached to parenthood. Despite greater tolerance with respect to non-marital cohabitation, single mothers, divorce, and one-parent families, family and parenthood are still highly valued by a large majority of the European population (Höpfinger, 1991). Our survey results confirm this observation for the young population.

With respect to changes in family structures, 81% of the students believe that the increase of non-married couples is a positive evolution or is at least acceptable. The country where students are least favourable with respect to this phenomenon, is Italy, where only 62% of the students believe it to be “good or acceptable”. Only 14% of the students consider the increase in the number of divorces as a positive evolution and only 34% consider the decrease in the number of children as positive. Further, it is observed that favourable attitudes towards marriage and parenthood appear to persist among young generations. The majority of young people intend to form unions and to have children. Thus, young people do not seem to reject tradition family formation and reproductive behaviour.

Determinants of tolerance towards new family types

A scale of tolerance towards new types of families was constructed on the basis of the students’ opinions on 8 specific changes in the sphere of family life that have become more prevalent in recent decades in several European countries (see Appendix).

Table 9. Common contribution of independent variables in explaining tolerance towards new family types

	Tolerance towards new family types	
	Multiple correlation	R ²
Total model	0.42	0.18
Incl. country	0.39	0.15
Incl. tolerance migrants	0.41	0.17
Incl. sex	0.41	0.17
Incl. living situation	0.42	0.17
Incl. type of studies	0.42	0.18

Country is the most important variable in explaining the variability in tolerance towards new family types. Other variables with a significant impact on the variation in tolerance in this area are sex, type of studies, living situation and the migrant-attitude variable, although most

of them do not add much to the R^2 once country is included. Girls will have more tolerant attitudes towards new living arrangements due to changes in family structures. Technical students show less tolerance in this respect than general students. When living with only one parent, the probability of higher tolerance increases. When students are tolerant towards migrants, they also are more tolerant towards new family types. Solidarity towards the elderly has no predictive power. The knowledge variables have no significant explanatory power, nor does the place of birth of the parents.

The analyses of variance confirms and provides some detail on these results. Italian and Czech students appear to be less tolerant than the others. When the three groups of knowledge on migrants (low - medium - good) are considered, it is noted that only the highest knowledge group (4.7) differs significantly from the lowest knowledge group (4.2). There is a significant difference ($p=0.000$) among students living in different family settings (with both parents or not) in the attitudes they express towards alternative, new living arrangements and family types.

Table 10. Differences between students in different living situations with regard to their score on the scale of tolerance towards new family types

Group mean		With both parents	One parent without partner	One parent with partner
4.2639	With both parents			
4.5964	One parent without partner	*		
4.7113	One parent with partner	*		

(*) Indicates significant differences which are shown in the lower triangle

The living situation of the students, their sex, country, knowledge of migrants and tolerance towards migrants all have significant main effects. The type of studies is significant only at level 0.097. But significant interaction terms are noted. The country variable operates in interaction with the type of studies ($p=0.051$). The type of studies (divided into two categories, technical and general), adding only little to the explained variance in the regression equation, operates jointly with the knowledge on migrants (significant at $p=0.017$), the latter variable not showing a significant effect in the regression analysis. Knowledge of migrants and tolerance towards migrants both have significant effects, but their joint effect are significant as well. The interaction term of type of studies with the tolerance variable is significant at 0.097.

Conclusions

Given the variation in the answers across countries, it can be hypothesised that differences in the school curriculum are responsible for the observed differences in knowledge. But it is very unlikely that the school curriculum alone is responsible for the differences observed between boys and girls. We examined the question whether the knowledge acquired in the course of schooling influences opinions concerning ageing. The positions in favour of solidarity intergenerational relations, in terms of employment, and duties of children towards the elderly, do not diminish significantly among students having weak knowledge on population issues. There is a significant relation between knowledge and perceptions on migration issues. Supportive evidence for this hypothesis already emerged from national data analyses carried out in Flanders, France and the Netherlands (Van Peer and Moors, 1997;

Baccaïni and Gani, 1997.1). It can be stated, that a better understanding of the migrant issue would be a good way to prepare for a multicultural society. The step to a better knowledge on migrants could, therefore, contribute to a modification of attitudes of young people on the migrant issue and its consequences. A similar finding on the relation between education attitudes towards migrants was observed from the "Population Policy Acceptance" study. "Age, and above all, education strongly affect attitudes towards immigration. Younger and better-educated people appear to be much more open-minded and tolerant than older, less well-educated people. The PPA study shows that the greatest fears about immigration are concentrated in those sectors of the population which are more exposed to competition with immigrants in the labour market. Education and school programmes are the most important environments for the promotion of integration and tolerance, an aspect which should be taken into account in policy-making" (Palomba and Moors, 1998).

The issue of a relationship between knowledge and attitudes gains even more importance in the light of the hypothesis of a relationship between attitudes and behaviour. The ongoing interaction between information and demographic education produces opinions about the present and future development of the population. In their turn, the opinions and attitudes of ordinary people towards population problems are a fundamental variable of the social climate of births, marriages or migration, i.e., demographic behaviour which more closely reflects individual beliefs and hopes. Social-psychologists repeatedly point out that attitudes do not exert direct but rather indirect influence on behaviour. The variable through which the indirect influence occurs differs from theory to theory. "Expectancy-value theories" (Fishbein, 1967; Korman, 1974) stress the role of subjective expectations. People can highly value the positive effects of their behaviour, but at the same time have the subjective expectation that their behaviour will hardly be of any influence on the realisation of these effects. When evaluating these values and expectations, a positive attitude will not be translated into desirable behaviour. The same logic is found in the "locus of control" of Lefcourt (Lefcourt, 1982) or the "self efficacy" of Banduras (Banduras, 1982). In order to transpose attitudes into behaviour, an individual must be convinced that his own actions really matter for achieving the desired end. There must be a feeling that the aim of the behaviour is lying within the "personal control" or within the "self efficacy". According to the "theory of reasoned action" (Ajzen and Fishbein, 1980), behaviour cannot be directly explained from attitudes, but from behavioural intentions. Behavioural intentions are not only dependent upon attitudes, but also on subjective norms or social norms in which the supportive, disapproving or neutral influence of the environment is present.

In the literature, the relationship between awareness, attitudes and behaviour on the one hand, and social-demographic characteristics on the other hand, one can find about four hypotheses. The first can be described as an 'age hypothesis', the second as a 'social-class hypothesis', the third as a 'gender difference hypothesis', and the fourth as a 'residence hypothesis'. In our data, we can find some evidence for the social-class hypothesis. It is generally stated that, social class, measured among others by education, professional prestige, and income, etc., is positively related to awareness about societal problems (population awareness, environmental awareness,...). This hypothesis is supported on the one hand by the observation, that people from middle and higher social classes are the most social-politically active segments in society; a higher societal awareness among these classes is generally perceived as a derivative of a general societal concern. On the other hand, one usually points to Maslow's "hierarchical needs theory" (Maslow, 1970) to interpret this positive relationship. According to Maslow, the concern for societal issues is a luxury which can only appear when basic needs such as food, housing and economic security are fulfilled. Since people from middle and higher social

classes have less worries about basic needs, they can allow themselves to pay more attention to non material aspects.

Social class is important, as our survey results confirm, but it is not as important as study orientation. However, a selection may be in play here, since students from lower classes generally attend technical classes more frequently than students from higher classes. One of the achievements of the school reforms in the direction of comprehensive education in several European countries, has been, among others, the weakening of the “social origin” factor and its impact on study choices and careers. Continuous assessment and personal guidance of pupils has been improved. The reforms were expected to remove the inequalities of social class and the unfair distribution of both educational and social chances. However, according to some education specialists, the removal of the social and economic barriers did not necessarily guarantee equal access to education for all. Notwithstanding the introduction of liberal structures to democratise educational opportunities, there remains implicit and explicit mechanisms within the school and in the school curriculum that continue to reinforce inequalities. According to some, the democratisation process has reached only the ‘input’ stage of the educational system, while the actual ‘process’ of schooling as well as the ‘output’ of the system are still untouched. In pedagogical terms, interesting results have been achieved, but as regards its social objectives these reforms continue to raise questions. Some experts state that comprehensive education unintentionally contributes to concealing the social and economic factors causing the problems (Wielemans, 1991). Especially in a competitive society, comprehensive education still suffers from pressures. Some observers even question the comprehensive principle and consider it to be of a weak value in an increasingly competitive society.

The social and economic characteristics of Western societies have changed considerably since the golden 60s from which the reform emerged. Economic pressures on the macro level have exerted pressures on the feasibility of the comprehensive system. Immediately after the first oil crisis in 1973, attitudes changed drastically. Economic hardship in the 1980s and 1990s gave rise to a neo-liberal competitive mentality which has forced reformers in several countries to look for compromise. New pressure groups became increasingly powerful and the ‘social’ objectives of the reform became outmoded as people turned to a competitive economic model and abandoned ideals such as ‘equality of opportunity’ or ‘development of all talents’. The extreme view argued that economic progress could be achieved more easily through a selective and competitive school system. Thus, the expensive comprehensive education should be avoided, and the elite should not waste time in a school in which education is concerned with social attitudes such as cooperation, tolerance, social awareness, etc. However, the importance of attitudinal formation can not be questioned. Attitudes towards social groups are linked with the willingness to support policies geared at supporting these groups and their integration into society. Our survey results show that knowledge does play a role in attitudinal formation. From this point of view, a call for more attention in school curricula to issues of population, which is one of EOPEI’s goals, is legitimate. This goal can be achieved with the moves going on towards more interdisciplinary work, as is the case, for example, in Flanders, Netherlands, and the Czech Republic. The cognitive content of population education should be integrated within the various subjects in an interdisciplinary fashion.

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Appendix: Scale construction of solidarity and tolerance indicators

Indicator 'Solidarity towards the elderly' (Alpha = 0.5448)

- Item 1. "The elderly should make room for their younger colleagues on the labour market"
- Item 2. "It is the children's duty to take care of their aged parents"
- Item 3. "The elderly have the same right to labour as the young"

Indicator 'Tolerance towards migrants' (Alpha = 0.9914)

- Item 1. "Migrants have right to keep their cultural identity"
- Item 2. "Migrants must adapt to the culture and value system of the receiving country"
- Item 3. "Migrants cause an increase in criminality"
- Item 4. "Migrants help to maintain the level of the population of the receiving country"
- Item 5. "Migrants contribute positively to mixing of cultures"
- Item 6. "Migrants cause unemployment among the population of the receiving country"
- Item 7. "Migrants should have voting rights in local elections"
- Item 8. "Migration policy must aim at return of migrants to their countries of origin"
- Item 9. "Migrants have the same rights to housing, education and labour"
- Item 10. "Mixing of young migrants and autochthonous young people in schools is positive"

Indicator 'Tolerance towards new family structures' (Alpha = 0.9896)

- Item 1. "Increase of non-married couples"
- Item 2. "Increase of couples without children"
- Item 3. "Decrease of number of first marriages"
- Item 4. "Increase of divorces"
- Item 5. "Increase of children in reconstituted families"
- Item 6. "Increase of children in lone parent families"
- Item 7. "Increase of people living alone"
- Item 8. "Decreasing number of births"