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2

Methodological Challenges in Cross-National Research: Countries, Participants, and General Procedures

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As pointed out in chapter 1, cross-national research is confronted with a wide range of problems (Berry, Poortinga, Segall, & Dasen, 1992). Some methodological problems result in differences between groups that should not be taken as indicators of cultural or national differences without closer examination. In this chapter, we argue that many of these problems are inherent in cross-national research and are better conceived of in terms of challenges. We also examine methodological issues in the cross-national project in great detail in order to illustrate some of these challenges.

One of the typical problems in cross-national research is that it is hard to determine if a measure that works well in one cultural setting will be valid in another. This is partly due to translation problems, but it is also a consequence of different representational systems in different countries. Concepts from one culture might have another meaning, be rather uncommon, or even meaningless in another

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culture (Lonner, 1990). Thus, measurement equivalence is a concern and issues of cross-cultural measurement receive a good deal of attention.

Less attention is paid to the issue of sampling procedures, potential sampling differences, and/or biases. Given, for example, that different countries have different educational systems, trying to control sampling differences by including the same types of schools in different countries may, in fact, lead to problems as to how representative the samples are for the student populations in different countries. That is, sample similarities across countries may be obtained at the expense of representativeness within each country. On the other hand, representative samples in each country could produce heterogeneity between the samples as to school contexts.

The two issues raised here are, actually, tightly connected to one another. For example, the appropriateness of an instrument and the meaning of certain concepts may depend more on characteristics of the sample than on characteristics of a society or culture. Factors such as the educational climate or curriculum in certain types of schools, the family background, or socioeconomic status of participants, may vary within a country as well as between countries. Given that a particular background variable is likely to vary in each of the countries involved, selecting samples on different levels of this variable in different countries would necessarily lead to a confounding of sample particularities with culture.

In this chapter, we introduce the Euronet samples and the general procedures in detail; we also discuss some of the challenges that seem to be inherent in cross-national research. The samples are presented and compared in terms of: typical background variables, such as age, gender, and family settings, and additional information received from the researchers who participated in the study.

GENERAL PROCEDURE

From the beginning, the Euronet study was designed as a cross-national study. Well aware of the many pitfalls of such studies, the researchers attempted to bring under control some of the factors that usually interfere with cultural explanations. The general procedure in organizing the study was of great importance in order to ensure as much standardization as possible without becoming coercive. Actually, too much rigidity could have been detrimental and might have produced artificial differences between the countries.

The topics of interest were decided on at an initial meeting of the participants in the research project. The researchers agreed that coordination would be ensured by a team of researchers at the University of Berne, Switzerland. The procedures for data collection, data coding, punching, processing, and analysis were developed by the coordinating team. Furthermore, two meetings were organized after the data collection, providing all researchers with an opportunity to discuss problems that occurred as well as strategies of data analysis. In order to obtain a detailed

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description of all samples, especially with respect to their representativeness, about 3 months after the data was collected, the researchers were interviewed and asked to give detailed, written information on issues such as the school system in their country, the accessibility of the subjects, the familiarity of the subjects with surveys, or problems that occurred with the instruments or some specific concepts.

The answers to these questions serve as rough approximations of differences in the life settings of the adolescents in the various countries. Although they cannot be used as reliable independent variables in the analyses, they help with the interpretation of the results of the study. In addition, they provide some guidelines for future cross-cultural and national studies of the same type.

The methodological conditions agreed to by the Euronet project were as follows:

1. The translation of the instruments were checked using back translations.
2. In each country, the researchers selected at least 200 subjects.[1]
3. The samples included about 50% girls and 50% boys.
4. The samples included about equal parts of younger (around 14 years of age) and older (around 16 years of age) adolescents.
5. Subjects were recruited in public schools and the samples were representative of adolescents in schools in the respective countries (no further specification was given as to types of schools or tracks).

However, sampling was not always that consistent across countries. For example, although all students were to be selected from public schools, there was easy access to a private school in Russia that seemed to be comparable to public schools. Therefore, the Russian data were collected in this school.

The timing of data collection is another example. The surveys were administered on a day after a normal full day of school. This procedure was crucial in order to ensure comparability on questions of students' time use because a yesterday questionnaire was used. However, according to the data on time spent in school on the day before the survey was conducted (see chap. 3), it appears that this procedure was not always followed. In fact, in some countries, conditions set by the schools forced the researchers to compromise, accepting classes on a day not following a full school day. These subjects were excluded from the time-use analyses.

Such problems do not necessarily influence the results in any significant way and can possibly be ignored. However, we think that they are typical of cross-national research and should therefore be reported. In fact, the cultural differences of interest in cross-national studies are also characteristics of the researchers who engage in the project and who are themselves bearers of cultural traditions. This necessarily produces differences in the research procedures and has to be addressed

[1]The reason for the rather small sample size required was that no special research funds were available at this time. The research started on the sheer enthusiasm of colleagues from East and West, shortly after the fall of the iron curtain (see chap. 1).

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in the research process. In line with this argument, we think that differences in procedures and sample composition, for example, can themselves be considered findings, indicating possible cultural differences.

COUNTRIES AND PARTICIPANTS: THE ISSUE OF SAMPLING

The study is comprised of 13 samples representing either different countries (political units) or language groups within one country (French and German speaking adolescents in Switzerland; see also chap. 9). The origin of the samples is indicated in Table 2.1. The data were collected during the spring of 1992 (the Norwegian data were collected in May, 1993). The whole data set includes 3,250 subjects. The Eastern (defined here as Central and Eastern European) and Western countries contributed about one half of the subjects each (51% from Eastern countries and 49% from Western countries).

An additional sample was added (May, 1993) that included adolescents from a Hungarian minority living in Romania (Transylvania). Because of its uniqueness, this last sample was not treated as a Euronet sample in most analyses presented in this volume. Data from the Transylvanian sample is used in chapter 9 to examine the minority issue specifically.

TABLE 2.1

Sample Description (n) According to Country of Origin, Age, and Gender

			Age			
Country	*Girls: n (%)*	*Boys: n*	*Up to 14 yrs: n*	*Over 14 yrs: n (%)*	*Missing Age or Gender*	*Total*
Bulgaria	127 (54.0)	108	135	100 (42.6)	1	**236**
CSFR[1]	106 (42.7)	142	91	157 (63.3)	0	**248**
Finland	100 (48.3)	107	58	149 (72.0)	1	**208**
France	106 (58.9)	74	66	114 (63.3)	0	**180**
Germany	164 (61.7)	102	125	141 (53.0)	1	**267**
Hungary	238 (41.6)	334	259	313 (54.7)	0	**572**
Norway	150 (49.2)	152	147	155 (51.3)	3	**305**
Poland	110 (54.7)	91	91	110 (54.7)	0	**201**
Romania	119 (55.6)	95	111	103 (48.1)	1	**215**
Russia	98 (51.9)	91	58	131 (69.3)	2	**191**
G-Switzerland[2]	128 (54.9)	105	112	121 (51.9)	1	**234**
F-Switerland[3]	114 (61.0)	73	94	93 (49.7)	0	**187**
USA	118 (58.1)	85	71	132 (65.0)	3	206
Total	678 (51.8)	1,559	1,418	1,819 (56.2)	13	3,250

[1]CSFR = Czechoslovakian Federal Republic.
[2]G-Switzerland = German-speaking Swiss sample.
[3]F-Switzerland = French-speaking Swiss sample.

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Note that the CSFR sample was comprised only of Czech adolescents. However, because they were still citizens of the CSFR at the time of the study, we chose to use the CSFR abbreviation throughout the volume. Also, even if the correct designation of the two Swiss samples would have been "French-speaking Swiss adolescents" and "German-speaking Swiss adolescents," as a matter of convenience, the terms French–Swiss and German–Swiss are more often used in the text and in tables and figures.

Size of Samples, Age, and Gender

As is seen in Table 2.1, most samples were of approximately the same size—*n* around 200. However, some samples departed from the norm and the sample sizes varied from a low of 180 to a high of 572. Such differences are important if one wishes to pool the data over countries in some analyses. This should not be done unless one has tested whether the larger samples would bias the results in one way or another. Furthermore, whereas Eastern and Western countries contributed about one half of the students each (1,663 students, or 51%, from Eastern countries and 1,587 students, or 49%, from Western countries), it should be noted that Hungary contributed 34.4% of the subjects in the Eastern sample. When we take into consideration that Hungary actually belongs to the Central European tradition, as CSFR also does, data from the Eastern part of the study should not be pooled together without considering this bias. Furthermore, effect sizes (not only significance level) should be taken into consideration when differences are found between some samples and not between others, given that the larger samples are involved.

In addition, whereas the distribution of gender is acceptable on the level of the entire sample (51.8% girls and 48.2% boys, computed on the basis of valid answers only), this becomes more complicated when analyzing age. Given that students repeat some classes in some countries and not in others, and given that children may start 1 year earlier or later than what is the norm in their country, the samples included subjects aged 13 to 17 (0.7% were younger than 13 and 3.6% were older than 17). The 15-year-olds were as frequent (22%) as the 14- and 16-year-olds (26% and 25%, respectively). We decided to set the cutpoint for the two age groups of adolescents at 14 years. That is, the older group of adolescents is composed of subjects older than 14 and is slightly overrepresented (43.8% up to and including 14 years of age and 56.2% over 14 years). A closer look at Table 2.1 also shows that gender, as well as age is not equally distributed in all samples. This again may be of great importance when the results from the different countries are compared if age and sex are correlated with the dependent variables.

Cross-tabulations were conducted for each sample (2_{gender} x 2_{age} groups) and Chi-squares were computed in order to examine possible additional problems of distribution. Significant values were obtained in four samples: Germany ($X^2 = 4.01$, $p < .05$; younger boys were underrepresented), Hungary ($X^2 = 9.66$, $p < .01$; older boys were overrepresented), Romania ($c^2 = 6.52$, $p = .01$; younger girls were

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overrepresented), and French-Switzerland ($X^2 = 6.19$, $p < .05$; older girls were overrepresented and older boys were underrepresented).

These findings make it necessary to control for these two variables when gender or age effects are found with respect to some dimensions. For example, it is well-established in Western studies that girls score lower than boys on self-esteem instruments (see Alsaker & Olweus, 1993). Therefore, gender should always be used as a covariate in cross-national analyses if the outcomes of interest are, in some way, related to self-esteem. Similar recommendations apply for variables that may be sensitive to age effects (e.g., future orientations; see chap. 5).

To illustrate this point, comparison between countries of self-esteem scores were conducted, first for girls and boys pooled together, followed next by separate analyses for each gender group. The results showed that French adolescents were significantly lower on self-esteem than were American, German, Norwegian, and German–Swiss adolescents. However, this was only true for the French girls; French boys did not significantly differ from other adolescents in terms of self-esteem scores. However, it should also be noted that the North American and German samples included more girls than boys and were among those with the highest self-esteem scores. In addition, the two samples including more boys than girls (Hungary and CSFR) were among the low self-esteem samples. Therefore, it does not seem that the gender bias affected the results in any dramatic way. Nonetheless, all results were carefully examined for artifacts due to sample biases in age and gender.

In all countries, the researchers sampled their subjects according to the expected age of students in different grades. Because there are differences between countries as to the modal ages of students at given grade levels, there was some variation among the samples as to the grade level from which the students were recruited. Younger students came from the 7th through 9th grades, and older students from the 9th through 11th grades in the different countries (see Table 2.3 later). That is, our standardization as to chronological age worked well, but it produced heterogeneity in terms of social age (grade level).

Procedure of Data Collection

In all countries, data were collected in the adolescents' ordinary classrooms and questionnaires were used. The study was presented as a cross-national project on adolescence, with the aim of getting information about adolescents' daily activities, feelings, and thoughts in different countries.

No instruction was given as to who should administer the questionnaires. In general, data were collected by the researchers themselves or by research assistants. However, there were exceptions to this rule. In some countries, the questionnaires were given to the teachers who administered them to the students (Hungary and France). Also, in one sample (France), some of the students were allowed to fill out the questionnaires at home. Typically, teachers were absent from the classroom during survey administration, but this was not always the case. In Poland, they

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helped the researcher to administer the questionnaires. Because the questions were not of any intimate character, the presence of the teacher was not expected to influence the answers. However, the activity of the teacher may have introduced some achievement aspect to the situation and possibly jeopardized (in the mind of the students) the credibility of the researchers' statements on confidentiality. But again, in some countries, the presence of the teacher may have seemed normal to the students; thus, his or her absence could have also been a signal that something special was going on. An overview of differences in the procedures used is presented in Table 2.2.

Permission to conduct the study was obtained from the head of the school in all countries. Permission from teachers, parents, and students was only necessary in some countries. Answers from the students were anonymous in all countries, and

TABLE 2.2

Procedures: Sample Description According to Country of Origin, Who Administered the Questionnaire, and Familiarity With Surveys

Country	*Role of the Teacher During Data Collection*	*Who Administered the Questionnaires?*	*Permission Had to Be Obtained From*[1]	*Familiarity With Surveys*
Bulgaria	Not present	Researcher and colleague	HS	Urban: High Rural: None
CSFR	Not present	Psychology students	HS	None
Finland	Not present	Research assistant	HS	Low
France	Some classes: Active	Psychology student/Teachers Some classes: Home	HS	Used to
Germany	Present, not active	Psychology students	HS, P, and S	Some degree
Hungary	Active	Teachers	HS	Used to
Norway	Not present	Research assistant, two all the time	ECA, HS, T, P, S, and data protection committee.	High
Poland	Present, helped	Researcher	HS, S	Low
Romania	Not present	Researcher	HS, T	Very low
Russia	Not present	Researcher	HS	High
German Switzerland	In general, not present	Research assistant	HS, S	Used to
French Switzerland	In general, not present	Research assistant	HS, S (difficult to obtain)	Used to
USA	Present	Research assistants	ECA, HS, T, P, S, and human subjects review committee.	Used to

[1] From whom the research team needed permission to collect data. ECA = Educational central administration in town or district; HS = Head of school; T = Teachers; P = Parents; S = Students themselves, i.e., the students had to be told clearly that they were free to participate or not.

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assurance of confidentiality was given. As is seen in Table 2.2, the U.S. and Norwegian studies had to go through many administrative units before the students were allowed to participate. Because the questionnaires did not pose any ethical problems, these administrative steps did not play any role as to the data finally collected. However, such differences in administrative procedures produce differences when the issues are more personal or considered intimate. Also, the fact that parents had to give their permission in some countries but not in others can produce differences. The need for parental consent may vary depending on the issues studied, but inevitably introduces some selection bias, the most common being the systematic exclusion of lower Socioeconomic status (SES) groups (Klepp, 1995). Given the restrictions applied in some countries, the samples in these countries cannot always be characterized as representative of the general population they are drawn from. In fact, they can only be considered representative of the population of parents who were willing to let their children participate.

Representativeness

Beside gender and age, the students were asked to indicate whether they frequented a high school (i.e., gymnasium or academic type school) or a vocational school. In Czechoslovakia and Hungary, additional types of schools (i.e., technical training) were added to the list. Also, researchers were asked to answer questions focusing on the kinds of schools used in the study, the SES of the students attending these schools, and the percentage of students attending different types of schools. As to SES, all but the Russian sample can be considered as reasonably mixed samples. Also, when ethnicity was mixed in the population, it was also mixed in the sample (U.S. and German samples especially). An overview over the types of schools used is given in Table 2.3.

As noted earlier, researchers were asked to select schools that would provide representative samples of the adolescent population in their country or area. As shown in Table 2.3, the instruction was not always followed. The Russian sample, as noted earlier, can only represent a small fraction of the Russian population. In addition, students attending high school (general theoretical orientation) were often overrepresented when compared to the approximate distribution in the populations. This, however, was not true for all samples. In Finland, students frequenting vocational schools were included in accordance with the distribution in the general population[2]. Thus, this sample, probably highly representative of the population of adolescents in Finland, differs from others in the study because it includes a higher percentage of students from vocational schools than do the other samples. It should also be noted, that in some countries, adolescents aged 14 to 16 years do not have any choice as to the type of school they attend (e.g., Norway) or they have a choice

[2]In Finland, there are about 10% of adolescents who drop out of the system and do not enter any school the year after comprehensive school. Those adolescents, however, often enter some vocational school later on. Therefore, the distribution of adolescents in the sample is to be considered representative of the population of adolescents that age.

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TABLE 2.3

Sample Characteristics: Country of Origin, Grade in School, Type of School (Approximate Percentage of Adolescents in These Schools in Parentheses), and Familiarity of Students With Surveys

	Younger Students		Older Students		
Country	*Grade*	*Type of School[1] Used in the Study (Estimated Percentage of Students Attending These Schools in the Population)*	*Grade*	*Type of School[1] Used in the Study (Estimated Percentage of Students Attending These Schools in the Population)*	*Percentage of Students in the Present Study*
Bulgaria	8	Elementary (100)	11	SH (40)	72
				Technical (40)	28
CSFR	8	Elementary (95)	10	SH (Gymnasium, 25)	75
				Vocational (50)	19
				Special Secondary (25)	6
Finland	8	Junior High (100)	11	SH (48)	43
				Vocational (33)	57
France	8	College / JH (90)	11	SH (60)	100
Germany	8	SH (Gymnasium, 20)	10	SH (Gymnasium, 20)	66
		Realschule[2] (30)		Realschule[2] (30)	34
Hungary	8	Elementary (100)	10	SH (Gymnasium, 18)	38
				Technical (25)	39
				Vocational (43)	20[3]
Norway	7	Junior High (100)	9	Junior High (100)	100
Poland	7	Elementary (100)	9	SH (30)	89
				Vocational HS (40)	11
Romania	8	HS (20)	10	SH (20)	80
				Industrial HS (20)	20
Russia	9	SH, special sample[4]	11	SH, special sample[4]	100
German Switzerland	7–8	Elementary (30)	9–10	Elementary track (30)	30
		JH (70)		Secondary track (50)	40
				Gymnasium/SH (20)	30
French Switzerland	7–8	JH (100)	9–10	SH (90)	85
				Vocational School (10)	15
USA	8	JH (100) or Middle HS	10	SH (x)	100

Note. X = missing information.
[1]Elementary = All elementary, primary schools; JH = Junior high school; HS = High school; SH = Senior high school, gymnasium, i.e., general theoretical curriculum.
[2]Realschule is the middle track in an institutionalized tracking system providing three major tracks.
[3]In Hungary, 3% of the older adolescents still went to elementary school.
[4]The sample consisted of students from families of artists, scientists, and intellectuals. It was not possible to find out what percentage of the adolescent population attends these schools.

between different types of high school only (e.g., German Switzerland). In other words, achieving the goal of obtaining representative samples of adolescents in so many different countries may inevitably result in other systematic differences between the samples. Therefore, in planning such a broad study, one should definitely decide on what is most important—to have samples that are representative of a certain age category in all respective countries or comparable samples in terms of specific

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educational tracks. If the level of schooling were to be chosen as a selection criterion, one should be aware of the fact that this might introduce a biased gender distribution in some countries when certain tracks or types of schools are included.

With respect to this study, we are confident that the samples are at least fairly representative of adolescents enrolled in some type of high school education, and this population, for the most part, is equivalent to the general population of adolescents in the 14- to 16-year-old's age range.

Background Variables

The students were asked questions about the type of area they lived in (urban, suburban, or rural) and who lived with them (same apartment).The persons listed were their mothers (or stepmothers), fathers (or stepfathers), siblings, grandparents, and other relatives.

Except for two countries, the adolescents came from urban and suburban areas. In most samples, the percentage of adolescents living in a rural area varied between 4% (United States) and 23% (Germany). The two exceptions were the French (57%) and the French–Swiss samples (42%), which included more adolescents from rural areas.

The samples varied in terms of one-parent versus two-parent families, from a low of 75% of the adolescents living with two parents (U.S. sample) to a high of 93% (Poland). The U.S. sample had significantly fewer two-parent families than did the Polish sample as well as the Bulgarian sample (91%; the results are based on an overall one-way analysis of variance, followed by a Scheffé's test of pairwise differences). The data were also analyzed for differences in living with one's mother (or stepmother) or one's father (or stepfather). There were no significant differences between the samples when it came to mothers (92% was the lowest rate, French Switzerland, and 99% the highest, German Switzerland and Russia). As for fathers, the differences paralleled the one-parent—two-parent comparison (77% was the lowest rate, United States, 92% and 94% the two highest rates, Bulgaria and Poland). These results and the following results on other family members are presented in Fig. 2.1.

Another interesting difference was found between the Romanian and Russian samples in contrast to all other samples. The adolescents from these two samples had significantly fewer siblings. Thirty-nine percent of the Romanian subjects and 46% of the Moscow adolescents said they had siblings. In all other samples, the percentages varied from a low of 72% (Bulgaria) to a high of 85% (CSFR).

As for grandparents, the pattern was very clear. The Russian (31%), Bulgarian, and Polish adolescents (both 21%) reported significantly more often than did most other adolescents that their grandparents lived with them. This family setting was also relatively usual in Romania (16%). The difference between Romania and the three Eastern countries mentioned earlier was not significant. Finland was at the other end of the distribution with .01%. Interestingly, other relatives were mentioned only in Romania (12%). In the other countries, they were never mentioned by more than .07% of the adolescents.

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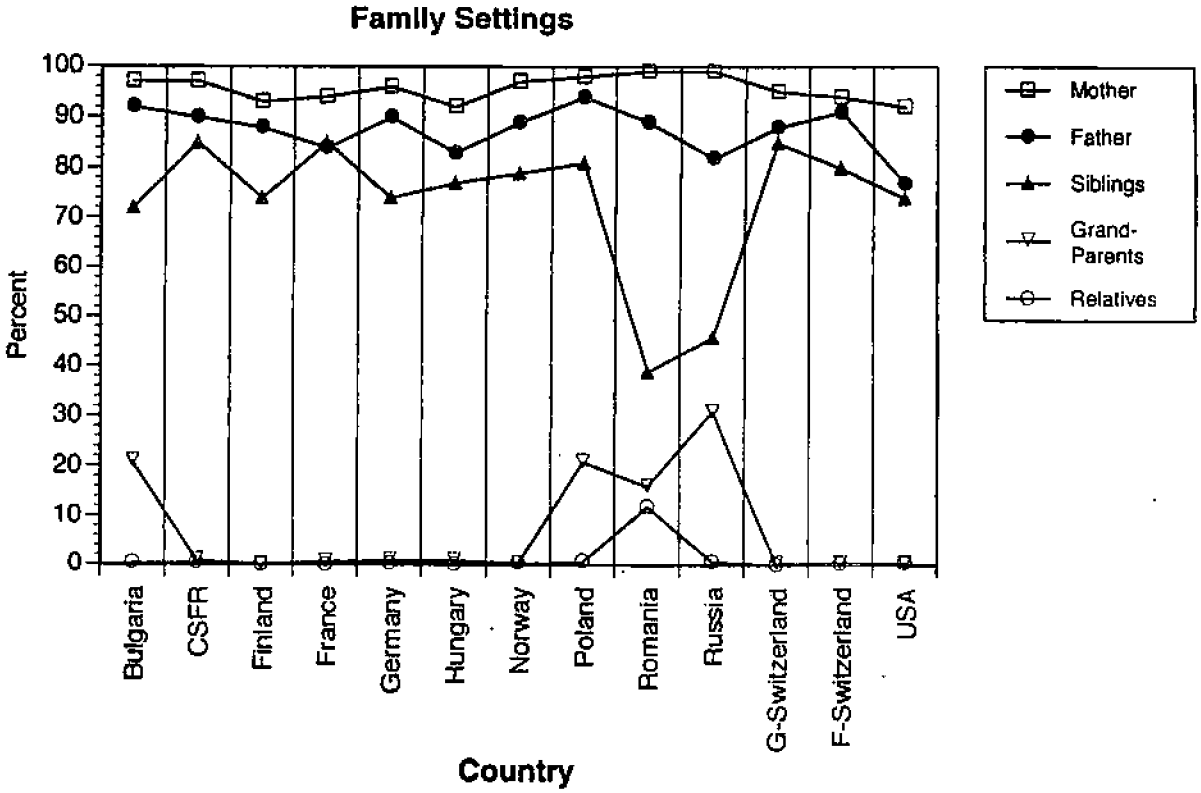

FIG. 2.1. Family members living together with the adolescents in the different countries.

We can speculate that the lower percentage of Russian adolescents who live with siblings might be due to the special population from which they were drawn (higher educational level), whereas it is rather unexpected in Romania, because the explicit policy of the government had been to augment birthrates. These differences create a clear picture of the living settings of adolescents and of different traditions in these countries. The clear gap between the four Eastern countries (not Central European) and all other countries is of particular interest in this context. In terms of their daily life, the presence of grandparents and other relatives restrict the space allocated to each person in the family and consequently, the adolescents' possibilities to have a private space. On the other hand, living near the older generation may increase the responsibility one feels for taking care of older parents at a certain stage in life. This is reflected in the adolescents' expectations about their future (see chap. 5).

OTHER FACTORS THAT MAY PRODUCE DIFFERENCES BETWEEN THE SAMPLES

Instruments and Issues

Especially in surveys with children or adolescents, the wording of questions and the choice of topics are crucial. Actually, the often-used back translation technique

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cannot guarantee equivalent meaning of the instruments. In order to be relevant to subjects, questions have to be worded in ways that are directly understandable to them (i.e., according to the cultural or subcultural unit they belong to). This, in turn, often implies a wording that departs from the original formulation. Therefore, in order to be useful, back translations should take such cultural differences into account. As an illustration, we mention surveys on adolescents' nutritional habits; what is considered a healthy habit in one country may in fact not be relevant in another country just because of totally different eating traditions. For example, Norwegian students only eat sandwiches in their regular classroom during the school day, whereas Swiss or French students are accustomed to a warm meal and often go home around noon. Therefore, a question about meals can only be formulated either in general terms (see chap. 4) or in minute detail, respecting all possible cultural habits.

Most instruments used had already been utilized in national projects. These were instruments tapping daily hassles, future orientation, the way adolescents react to stressful events, their control beliefs, and their general subjective psychological well-being. In addition, a method for assessing the adolescents' daily activities was designed for the study, in order to get information about the concrete differences in adolescents' daily lives in the different countries.

A subgroup of researchers representing different countries jointly decided on the topics to study and instruments to use. This step was intended to ensure that the issues to be examined were of relevance to the participants in the respective countries. This was typically true. However, the researchers from France, Romania, and Russia reported that the adolescents had difficulties in answering some questions on control beliefs about school. In those settings, having an influence on topics to be taught was not part of student's representation of what one can control. The Czechoslovakian, Finnish, German, Hungarian, and Polish researchers also reported some problems with the control beliefs questions. These latter difficulties seemed to be related to the format of the instrument, but were not apparent in the other samples. Also, some researchers (American, Hungarian, Norwegian, and Romanian) reported difficulties with the format of the time-use instrument. Another interesting issue is that some students in Bulgaria reported difficulties in using the response formats as they were formulated: "very true," "somewhat true," "somewhat false," and "totally false." For these students, "true" could only be "true" and not "somewhat" or "very" true. Thus, not only the wording of the questions is important, but also the choice and wording of the categories for responding.

Beside the control beliefs about school, these different types of difficulties encountered by students did not show any clear between-country pattern. Therefore, it would have been difficult to prevent them on a general basis. However, they can serve as an illustration of the issue previously addressed, that is, a good translation alone does not suffice. Concepts may be more or less relevant and equivalent words may have slightly different meanings even within European cultures. Such difficulties typically resulted in missing data rather than in specific patterns of results.

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Familiarity With the Procedure

The procedure (and the setting) used to collect the data may in itself be familiar or unfamiliar to the subjects. Whereas many Western European students living in larger cities with a university are likely to have participated in surveys earlier and to be familiar with answering questionnaires, this may not be the case everywhere. Checking small boxes to express one's meaning may be rather alienating to children who have never done it before.

As shown in Table 2.2 (Column 5), the students' familiarity with surveys varied to a great extent from sample to sample. Also, one sample (Bulgaria) was composed of some adolescents who were not used to surveys at all and some who were highly familiar with this kind of research.

The School Context

Because school classrooms were the setting for sample recruitment and the data were collected in this environment, we felt it was necessary to understand the role played by the school and the relationship between teachers and students in the different countries. The role of the school, the teacher, and the relationship between students and teachers may actually be good markers of cultural differences. We therefore asked all researchers to give us a general idea of the school climate, the status of school in the general population in their country, and so on.

As is seen in Table 2.4, according to the researchers, there are differences among countries regarding the role of teachers. Whereas most researchers answered that the primary role of the teacher is to communicate knowledge (teacher as instructor), in Norway, Switzerland, and the United States, the teacher also plays an important role as a counselor or is at least expected to help the students and to listen to their personal problems. Also, whereas the relationship between teachers and students is characterized as "relaxed" in Norway, it is described as "distant" in CSFR, and the teacher is clearly not expected to be a friend in Bulgaria, where he or she is no more than an educational authority.

On the basis of these data , Bulgaria, CSFR, France, and Romania can be grouped together as countries, where the school atmosphere is characterized by instrumentality and authority. French Switzerland, to a certain extent, can also be included in this tradition. Norway, the United States, and German-Switzerland would be labeled as countries with a school system focusing more on emotional and social variables as well as using a cooperative, democratic educational style. The remaining countries are less extreme and can be placed somewhere in between.

Interestingly, parents seem to have very little influence on what is going on in school, except for Finland and possibly Switzerland. This in itself may not be of crucial importance to all variables. However, when it comes to adolescents' beliefs about their possibility to influence their school life, such differences are important

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TABLE 2.4

Status of the School, Teacher-Student Relationships, and Teacher-Parent Relationships According to Researchers

Country	*Status of School in the General Population*	*Teacher-Student Relationship/Primary Role of Teachers (RT)*	*Teacher-Parent Contact/ Parents' Influence*
Bulgaria	Very important	Teachers are authorities, not friends. School is not a friendly place. RT = Teaching	Parent committees do exist, but they have no real influence
CSFR	Respected, important	Distant relationship	Monthly meetings
Finland	High	Teacher-oriented, nonauthoritarian to permissive climate	Parent councils and cooperation with teachers
France	Very important	Authoritarian, RT = Teaching	Active parental organizations exist, but one-way communication: Teachers inform parents
Germany	Very important but ambivalent attitudes	Democratic, neutral atmosphere	Information meetings, low parent participation. Parents have the last word in the choice of school track.
Hungary	Basic value	Friendly atmosphere RT = Teaching	Information meetings, once or twice a year, but parents have no important role
Norway	Ambivalent attitudes	Friendly, relaxed climate RT = Instructor and Counselor, Socialization	Meetings twice a year, individual meetings once a year, but parents have no important role
Poland	Very important	Collaborative climate RT=Teaching	x
Romania	x	Neutral climate RT = Transmission of knowledge	No regular meetings
Russia	Important	Varies with teacher	Meetings twice a year, parents do not have any influence
German-Switzerland	Very important	Friendly atmosphere RT = Instructor & Counselor	Regular meetings, parents have more and more influence
French-Switzerland	Very important	Traditional / authoritarian to some extent RT = Instructor and counselor	Less influence than in German-Switzerland
USA	Relatively low	Friendly atmosphere, social place RT = Instructor and Counselor	No formal regular contact at high school level

Note. x = missing information.

in order to understand differences on the country level. Noting that parents have some influence conveys a sense of indirect control at least. Living in an authoritarian school system, where not even parents have any influence, represents a situation of extremely low control.

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CONCLUSION

One may pose the question whether the finding that some samples did not correspond exactly to the prescriptions given by the coordination team is worth discussing. Actually, in a typical national study including a few samples, unequal distribution of gender or age, for example, would be treated as a flaw of the study and may also be an indication of a laissez-faire attitude on the part of the researcher. However, in the case of large cross-national studies, we proposed that this is part of the researchers' reality and that it might be an indicator of genuine differences among the countries included.

For example, there may be differences in gender distribution in different schools in different countries. Therefore, if some specific types of schools are to be included where the gender distribution is skewed, the sample will necessarily be skewed toward an overrepresentation of one gender or the other. In other words, sample differences and unequal distributions are an inherent element of cross-cultural research. They should be taken seriously, but it should not be a reason to dismiss a study. Sample differences may reflect errors, but they should not merely be conceived of as such. On the contrary, they may carry interesting information as to the cultural context for development that should not be thrown away.

In this study, girls were overrepresented to a certain extent in France, Germany, the French-speaking part of Switzerland, and the United States. If we look at Table 2.3, we find that there are no evident reasons to expect the higher representation of girls in these samples, except possibly their willingness to participate. Nonetheless, one may wonder if there are more dropouts among boys in high schools and if there would be more boys in vocational schools in these countries. Actually, we found that especially older girls were overrepresented in French Switzerland, whereas older boys were clearly underrepresented; only 15% of the older sample came from vocational schools (corresponding to the distribution in the population). In France and in Germany, the types of schools used in the study (all general theoretical high schools) only represent one half of the adolescent population. There may actually be an unequal distribution of gender across different types of schools, which is reflected in this sample. In conclusion, the unequal representation of gender may be due to sampling fluctuations, reflect a general, real skewed distribution in the school population of the countries included, and be confounded with the types of schools involved.

When it comes to age groups, the same questions may be raised. The two rough age groups were chosen on expectations of age distribution in different grades in the different countries. In a country like Norway, where all students start school at the same age, and follow the normal progression for 9 years (almost without any exception), it is no wonder that the two age groups are very homogeneous. This, however, cannot necessarily be true in countries with highly differentiated school systems. In most other countries, one must expect a much larger age variation at each grade level.

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How Should One Choose Samples?

Sample differences may be inherent in cross-national research, but it does not mean that we should stop trying to standardize the sampling procedure. Therefore, the first question one should ask is about the aim of the comparative study. What is going to be compared? Is it likely to be affected by cultural traditions? In this case, samples should be chosen to represent the different cultural traditions one wants to compare and must be allowed to differ on some other variables. Let us take an example: Assume that one wants to compare the effect of living in settings, in which gender roles are more or less conservative or in which women's rights are more or less taken seriously, on the development of girls at puberty. As a first step, we may find countries in which equality of genders is highly developed and other more traditional countries. However, we have to take into account that these attitudes and practices may be changing even in the traditional countries. Accordingly, there may be great variations between subgroups (e.g., social class or level of education). The most progressive subgroups in traditional countries may indeed have much more progressive attitudes than the majority of people living in a less traditional country. This, in turn, means that we have to be careful in the selection of the samples and may even have to choose different social or educational subgroups in different countries. In such a case, we do not compare countries per se, we compare attitudinal settings that are best represented through subgroups in different countries. The attitudinal background varies between countries and is confounded with the country background. The countries are primarily bearers of different attitudes.

On the other hand, if one wants to compare the living conditions of a given age group in different countries more generally, as we did in the Euronet study, the most appropriate sampling method is the one of representative samples of adolescents at a certain age. All variables that vary between the countries are of interest and serve to describe the settings and cultural backgrounds in which adolescents live. They may also serve as explanations as to differences in dependent variables (e.g., psychological states, attitudes, etc.) and in relations between variables.

However, we may also restrict the comparison concerning only particular subgroups in order to avoid systematic differences between samples. For example, we could have chosen high school students from the beginning. The school type would have been constant and we would have compared high school adolescents in different cultural settings. The danger of such a procedure is that existing differences between countries may be minimized. This is actually one of the questions we have to ask regarding our samples because high school students were generally overrepresented. On the other hand, the overrepresentation of high school students perfectly corresponds to the population in some countries but not in others. Therefore, one may also look for maximized differences that typically depend more on differences between adolescents on various school tracks than on differences due to some specific cultural background.

In conclusion, it is clear that the sampling procedure, like all methodological steps in a research project, depends on the issues of interest, and clear criteria should

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be worked out on this basis. However, to be sure that samples fit with the criteria we set up, a very high degree of coordination seemed to be necessary. Researchers in different contexts are accustomed to different procedures and misunderstanding may easily arise. Concretely, this means that a group of researchers should collectively assure the coordination of the different projects and actively take part in the sample selection in all countries involved, discussing the pros and cons of different solutions regarding the issues to be studied.

Meaning of Representativeness

Until now, the issue of representativeness seems to be a relatively easy one. We have discussed it only in relation to the school system. However, one may ask what is a representative North American sample, what is a representative European sample, or what is a typical 14-year-old German boy. As discussed earlier, there may be great variations between subgroups within one country. Therefore, when the sample comes from a certain living area, one may ask whether this area is representative of most other areas in the country. Choosing adolescents from rural areas in the North of Finland or of Norway would definitely not produce a representative sample for these countries. On the other hand, the urban samples in the southern part of these countries might represent far more adolescents but clearly not all.

Therefore, representativeness has to be qualified. Even if we speak of the U.S. sample, the Russian sample, and so forth, we have to keep in mind that these samples are representative of certain adolescent populations in their countries of origin. This implies that one should be careful in generalizing differences between samples to differences between countries. However, when findings are replicated in several samples that are connected to one another in some way (e.g., the two Swiss samples, the two Scandinavian samples, or the Central European samples), they may be seen, with more confidence, as indications of possible cultural effects and interpreted in this way.

What Is Culture? What Is Sample?

In this study, we found differences in the researchers' reports on the role of school and the educational climate in their countries. These differences are not linked to the samples. They represent differences at the level of society. Nevertheless, we all know that schools vary and that the educational and social climate of schools vary with headmasters, teachers, and the population of students frequenting the schools (i.e., low versus high SES, high-risk area, etc.). Therefore, we can expect the samples to reflect the educational system of the country, but we must be aware of possible sample pecularities.

What is true for the educational system is also true for other variables collected on an aggregate level. Therefore, ideally, when a variable is to be used as an

independent cultural variable, it should be measured along with the other variables, to make sure that the sample is representative of the cultunit to be studied.

The use of the same instruments in a wide range of samples at the same time makes it possible to compare the results much more directly than has often been the case in cross-cultural comparisons. Thereby, it strengthens the reliability of conclusions as to what may be called *universal* and as to the influence of cultunits. However, as shown throughout this chapter, sampling problems occur and are partly inherent in cross-cultural research. Therefore, in order to ensure a test of cultural effects, comprehensive efforts should be made to enhance the comparability of the samples involved and the measurement of the cultural background variables. Otherwise, confounding sampling errors with cultural differences or uncertainty regarding what can be considered an independent cultural variable would most probably attenuate any conclusions about cultural effects.

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